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THE IMPACT OF POPULATION AND ECONOMIC GROWTH ON THE ENVIRONMENT OF NEW JERSEY

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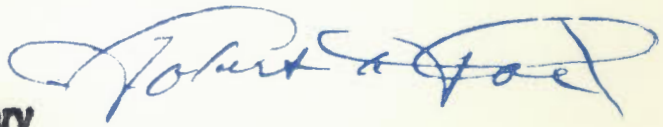
April, 1965

It is with a great deal of pleasure that we present this study of the population and economy of New Jersey, undertaken as a part of the expanded Statewide Planning Program. Over the years, New Jersey has achieved immeasurable benefits from its strategic location along the Eastern Seaboard. Its economy has flourished; its industrial base has become widely diversified; and it has attracted a predominance of "growth" industries, such as chemicals, electronics, and research activities. The State's population has also exhibited significant increases, paralleling the growth of its economy.

This growth has not been without its problems, however. In recent years, for example, the consumption of land for development has proceeded at a rate three times that of the growth in population. New schools must be built, open space and recreational areas must be protected, new highways must be constructed, and ways to insure the continued health and prosperity of the State's economy must be found. These things cannot be effectively accomplished in haphazard, "hit-or-miss" fashion, but require a comprehensive approach at the local, county, regional and State levels. The Statewide Planning Program, of which this present report forms an important part, is designed to meet this challenge at the State level by providing guidelines for the future growth and development of New Jersey.

The purpose of this report is to examine the trends and conditions manifested by the State's population and economy as expressed by a wide range of experts on the subject, and the role which New Jersey has played and is likely to continue to play in the growth of the nation and the urban region of which it is a part. The material presented has been reviewed, in detail, by the Population and Economy Subcommittee of the Governor's Interdepartmental Committee for State Planning, and it is the consensus of this group that this report satisfactorily represents, in summary fashion, the present conditions and possible future trends with regards to the population and economy of the State.

Since this report is offered in the hope of stimulating further discussion and clarification, comments and appraisal of the material put forward are invited and encouraged.

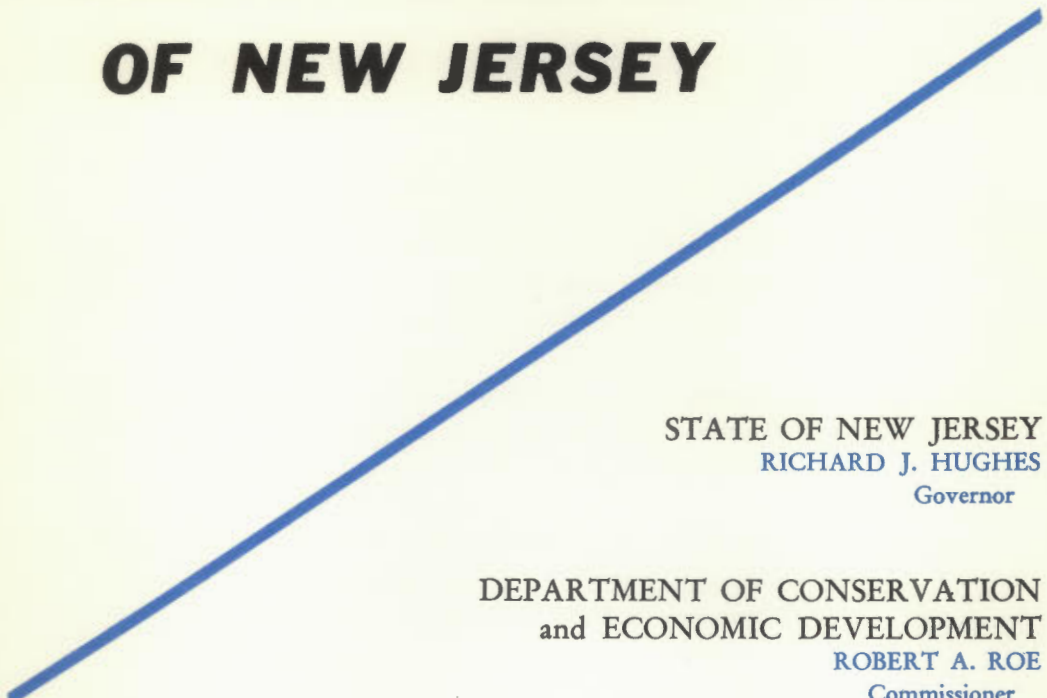

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THE IMPACT OF POPULATION AND ECONOMIC GROWTH ON THE ENVIRONMENT OF NEW JERSEY



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This study is a part of the expanded Statewide Planning Program. It has been prepared for submission to the Governor's Interdepartmental Committee for State Planning. This Committee, representing the Governor and Chief administrative officers of each of the fourteen Departments of State Government, convenes regularly in order to study and analyze problems related to the physical development of the State. The objective of the Committee is to develop a farsighted unified approach towards these problems on the part of all State agencies.

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The Planning Staff also wishes to express their appreciation to the following persons who attended various meetings of the Subcommittee as alternate representatives of their agencies:

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Waldo McNutt, Department of State

Miss Ann Halkovich, Department of Health

William Duryee, Department of Conservation and
Economic Development

Phillip H. Burch, Jr., Rutgers, The State University

*deceased

ABOUT THIS REPORT . . .

Over the past three hundred years, New Jersey has grown from a sparsely populated rural settlement to a position as the most urbanized state in the nation. During this period, many diverse forces have combined to produce the environment found in the State today. Agriculture, as the prime economic force, has given way to industry as the basis for the State's economy; waves of immigration have raised the State's population density from under 25 persons per square mile to well over 800; innovation in transportation and communications now permit rapid access between all parts of the State and between New Jersey and the rest of the world; new building materials and construction techniques have reshaped New Jersey's skyline.

These changes in the State's population and economy have amplified the need for directing this growth along the most desirable lines. Thus, planning in New Jersey has become more than merely one of many governmental functions. Rather, it is a necessity for assuring the optimum utilization of the State's natural and man-made resources.

The Division of State and Regional Planning operates under a legislative mandate to promote the orderly development of the State's physical assets by:

- 1 assembling and analyzing pertinent facts regarding existing development conditions and trends;
- 2 preparing and maintaining a comprehensive guide plan and long term development program for the future improvement and development of the State;
- 3 undertaking the task of achieving fuller coordination of the development activities of the several State departments; and
- 4 stimulating, assisting, and coordinating local, county, and regional planning activities.

In fulfillment of this mandate, a series of planning studies have been undertaken leading to the formation of a State Development Plan. The purpose of this report, which is a part of the over-all Statewide Planning Program, is to review various economic and population studies and reports, so as to provide a basic summary of the current trends and future potentials of these vital aspects of New Jersey's future development.

The first step in this analysis involved the compilation and organization of all existing data and projections, including materials available from the various departments and agencies of State government, county and local master plan studies, publications of the Bureau of the Census and other federal agencies, and any other available books and articles. In essence, this phase of the analysis involved a reporting of what has been said to date concerning New Jersey's population and economy.

The second phase of the work consisted of comparison, correlation, and evaluation of the available materials. Thus, it was often necessary to depart from strict reporting and enter into analytical narrative, so as to interrelate the sources and determine their validity. It was also necessary to integrate all of the available data and trends into a comprehensive unit indicating current thinking and pointing out possible weaknesses or data deficiencies requiring further research and analysis.

To this end, the Planning Staff was assisted by the Population and Economy Subcommittee of the Governor's Interdepartmental Committee for State Planning, which has met on a regular basis over the past two years, in order to review and comment on the materials to be included in this report. Thus, this report represents the collective agreement of the expertise of the various departments of State government, as to the current status and emerging trends of New Jersey's population and economy.

From this phase of the analysis evolved a report of considerable scope and size, of which this present report is an abridgement. In its complete form, the analysis examines the various aspects of New Jersey's population and economy in as much detail as possible, given the amount and depth of the available information. Copies of this more detailed report are available to those who wish to delve more deeply into various aspects of the analysis.

Since the basic intent of the inventory phase of the Statewide Planning Program is to establish the foundation for long range planning, uniformity of data is a paramount consideration. For this reason, 1960 was used as a cut-off date for most of the data, exceptions being where more current data served to clarify emerging trends.

It must also be pointed out that this report is not an economic base study for the State of New Jersey. Such a study, however, would undoubtedly provide an important element in the formulation of a Statewide Development Plan.

The materials presented in this report are organized in five chapters, as follows:

Chapter One — "New Jersey and the Nation": explores some of the more important implications of national growth trends, as they relate to the population and economy of New Jersey, and the role which New Jersey has played in the development of the nation, as a background for the more detailed discussion of the State's population and economy.

Chapter Two — "New Jersey and Megalopolis": examines the writings of Jean Gottmann and other authors on the subject of the vast urban area stretching from Maine to Virginia, including its characteristics as a unit, and its relationship to New Jersey.

Chapter Three — "New Jersey—Its People": provides a compilation and interpretation of basic data dealing with New Jersey's population, including a breakdown and analysis by its various component parts.

Chapter Four — "New Jersey—Its Economy": discusses the trends in the State's economy and the changes which have occurred over time, with emphasis placed on the manufacturing, retail and wholesale trade, agriculture, and other basic segments of New Jersey's economy.

Chapter Five — "The Counties of New Jersey": presents the various aspects of the population and economy, as they are manifested in the twenty-one counties of the State.

The next step, following this report, will involve an evaluation of current population and economic expectations, in light of the other phases of the Statewide inventory—natural resources, land use development trends, open space, transportation facilities, and policy decisions in the public and private sectors—and the development of recommendations for more refined projections and techniques for assessing growth potential, so as to plan for the optimum use and benefits of this growth.



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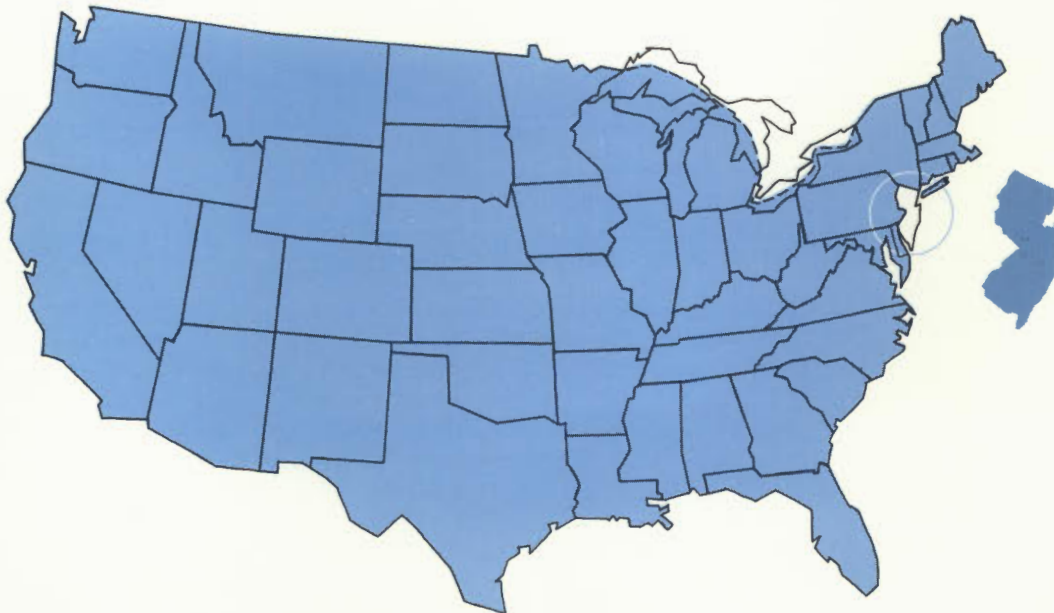
CHAPTER ONE

New Jersey and the Nation



The economic health of the State of New Jersey, to a great extent, is influenced by a number of complex and varied national events and policies. Since the State's economy transcends its own boundaries and even the boundaries of the two metropolitan regions of which it is a part, it is touched by changes and influences on a national level. It is estimated, for example, that over 30 percent of the State's manufacturing employment is involved directly or indirectly with export activities. National policy decisions to support the development of port facilities elsewhere in the country, thereby diverting a portion of maritime commerce from the eastern seaboard ports, have their implications in the ports of New Jersey. Similarly, a substantial percentage of New Jersey's industries depend upon national defense contracts for a part of their manufacturing output. Should these contracts be awarded to other parts of the country, significant adjustments would have to be made in certain segments of the State's economy.

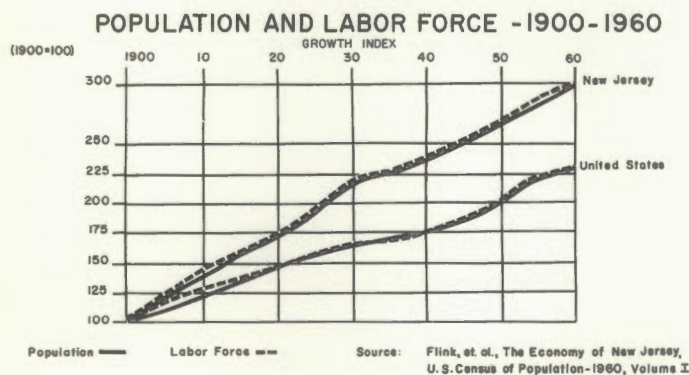
Not only do national policy decisions — i.e. export-import matters, defense spending, interstate transportation programs, and the like — influence the economy of New Jersey, but so do major social changes on a national level. The burgeoning middle class which has come to characterize the American people has had its ramifications in New Jersey.



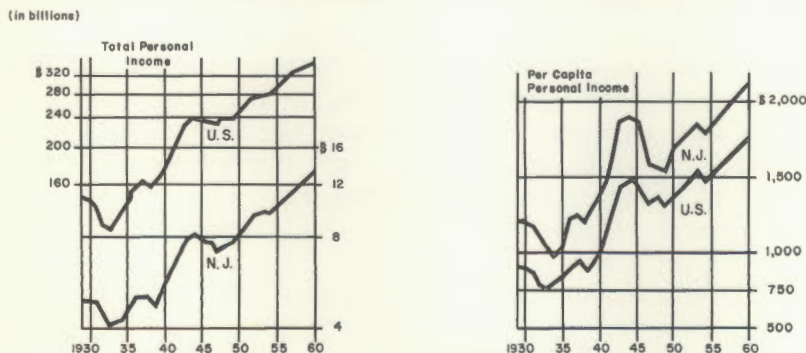
Such descriptive catch phrases as "urban sprawl", "TV culture", "suburban morals", "Depression babies", which social philosophers have added to our vocabularies, exemplify the multitude of social changes which have occurred in the United States in the past 50 years. All of these changes have had their impact on New Jersey and on its growth and development.

Similarity Between New Jersey And The Nation

Furthermore, it has been said that New Jersey, in its economic diversification, bears a striking similarity to the nation as a whole. The "industrial mix" of New Jersey, for example, is so diversified and has such a high degree of national market orientation that it reflects, quite like a barometer, the changes and trends in the national economy. Note, for instance, the similarity between State and national trends in population, employment, and income presented in the following chart. It is further apparent, in percentage form, that there was a similarity between the employment structure of New Jersey and that of the nation in 1961. The notable exceptions being New Jersey's higher-than-national-average proportion in agriculture. The significance of this similarity lies in the fact that the more nearly the patterns found in state data reflect those of the nation, the more accurately national predictions can be applied to New Jersey situations.



REAL PERSONAL INCOME New Jersey and the United States (at 1947 prices) 1929-1960



Source: Flink, et al. The Economy of New Jersey, page 152 Department of Commerce, Office of Business Economics, Survey of Current Business, August 1961

Percentage Employment in United States and New Jersey — 1961

	Manufact.	Trade	Utilities	Service	Finance	Const.	Govern.	Other
United States	30.1	21.0	7.3	13.9	5.1	5.1	16.3	1.2
New Jersey	38.6	19.0	7.4	13.0	4.6	5.1	12.1	0.2

Source: Department of Labor, Employment and Earnings, Bureau of Labor Statistics, 1962.

New Jersey Is Often The Forerunner

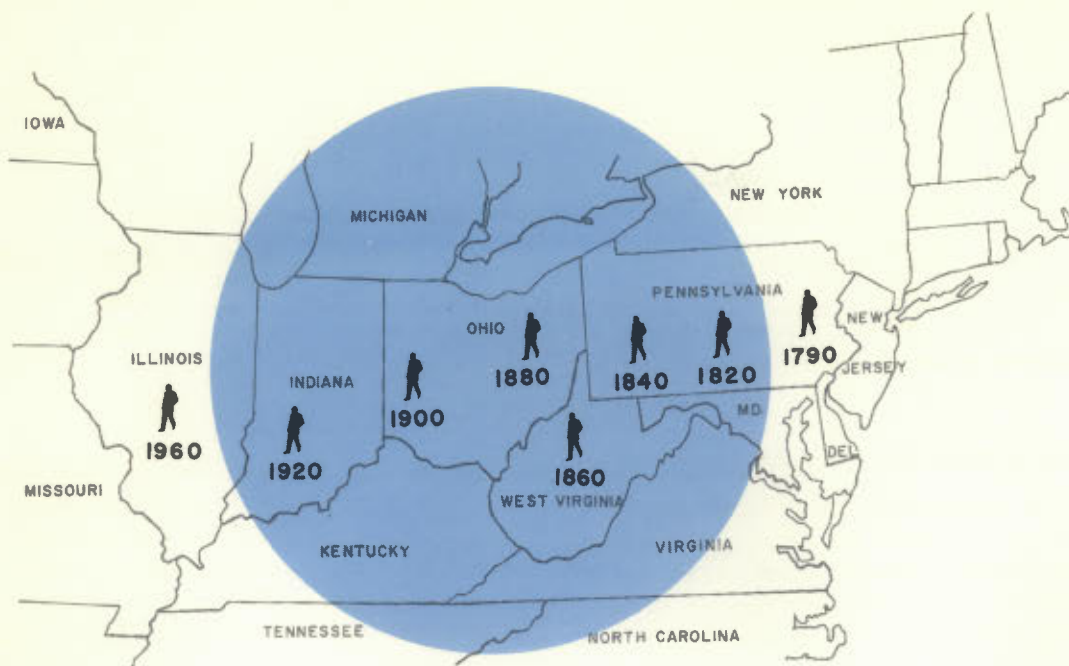
While the similarities in trends between New Jersey's economic activities and those of the nation are evident, there are cases where events have occurred first in New Jersey and have heralded, rather than followed or paralleled, national changes. Most notable among these is the national shift in employment status since 1900, away from poorly paid manual labor jobs toward better paid employment requiring less physical effort. This occurred in New Jersey early and has continued at a faster rate than nationally.

Between 1900 and 1920, while farm employment in the State declined by 11.2 percent, white collar and professional workers in New Jersey increased by 162 percent as compared with a rise of 106 percent nationally. Further, between 1900 and 1960, New Jersey's white collar employment experienced an over-all increase of 652 percent; a figure 232 percentage points higher than the nation's increase in this category during this same period. In the period from 1950 to 1960, skilled crafts employment in New Jersey rose by 11.7 percent as compared to a national increase of only 4.7 percent.

At mid-century, New Jersey passed another important milestone, somewhat earlier than the American economy. The proportion of people employed in the goods-producing industries — manufacturing, agriculture, mining — dropped below the 50 percent level. According to the 1950 Census the service sectors of the State's economy accounted for a little more than one-half of all gainfully employed workers. By 1960, this percentage had risen to over 60 percent of the total labor force.

Not only is the economy of New Jersey statistically similar to that of the nation, but the State's deviations from the national economic patterns may often have an eventual impact upon these patterns. Growth trends experienced by certain New Jersey industries, such as chemicals and plastics, electronics, instruments, and pharmaceuticals, following the Second World War, for example, show significant deviations from the national pattern. This stems from the fact that the growth of these industries in the State was well in advance of national trends. As these industries grew and expanded their operations, however, the national trends began to "catch up" with those of the State. Today, while New Jersey has retained its leadership in these fields, the deviations between the State and the nation are now less apparent.

The fact that New Jersey is often a pioneer in events having national implications is evident in many other respects, not the least of which are the social changes which often result from technological advances. Many of the technological developments which have resulted in significant social changes in the nation were first developed in New Jersey and then spread nationally. Examples would include the electric light, radio, television, the telephone, the typewriter, motion pictures, steam engines, and more recently, the first atomic research project to be sponsored by private enterprise. This is also true not only for employment patterns and important technological advances, but with regard to essential changes in the land use patterns of the urban environment.



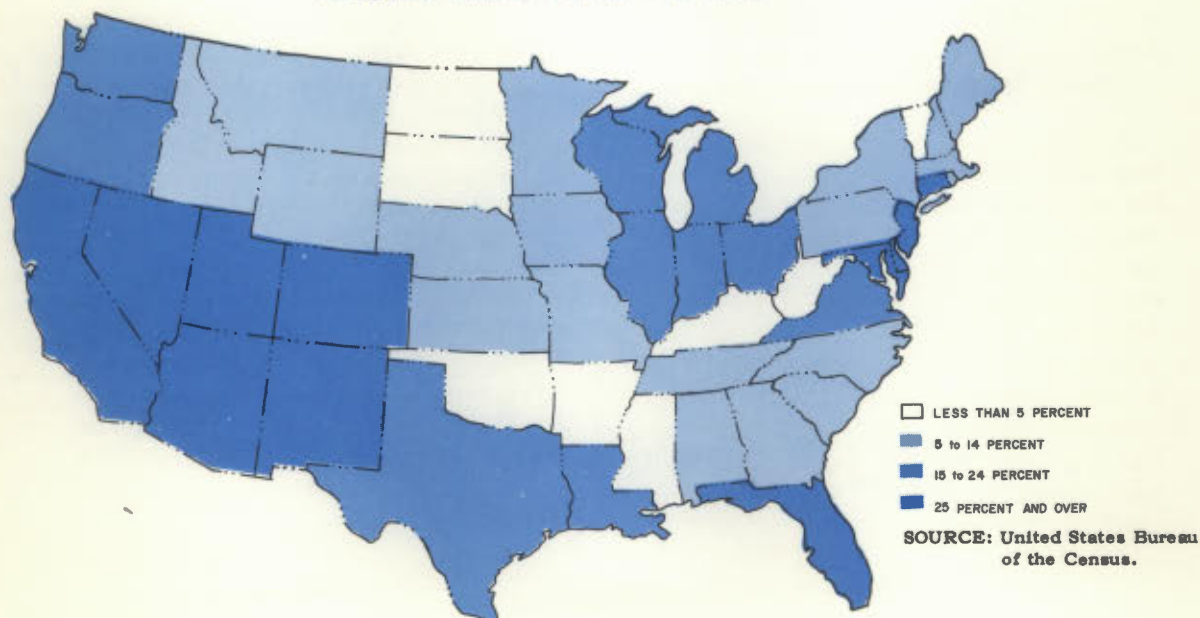
U. S. CENTER OF POPULATION 1790-1960

GROWTH PATTERNS — THE NATION AND NEW JERSEY POPULATION

In the period since the framing of the Constitution, the population of the United States has increased from under 4 million people in 1790 to over 190 million. With this growth the "center" of population has moved steadily westward, as illustrated by the map above. In the decade between 1950 and 1960, the far West dominated the growth patterns of population, as shown on the map below.

Although the far West was growing at a phenomenal rate, New Jersey has kept pace and as shown on the following table, since the Civil War, the population of New Jersey has grown at a rate equal to or more often greater than that of the nation as a whole.

POPULATION CHANGE 1950-1960 — BY STATE



While it took over 250 years for New Jersey's population to reach the three million mark, in the past forty years, the second three million people have been added to the State's numbers. It is further estimated that the next three million will be added in thirty years or less, swelling New Jersey's population to over nine million by 1990.

POPULATION GROWTH — THE UNITED STATES AND NEW JERSEY, 1790-1960

Year	United States	Percentage Increase over the ten year period	New Jersey	Percentage Increase over the ten year period
1790	3,929,214	—	184,239	—
1800	5,308,483	35.1%	211,149	14.6%
1810	7,239,881	36.4	245,562	16.3
1820	9,638,453	33.1	277,575	13.0
1830	12,866,020	33.5	320,779	15.6
1840	17,069,453	32.7	372,859	16.2
1850	23,191,876	35.9	489,703	31.3
1860	31,443,321	35.6	672,073	37.2
1870	39,818,449	26.6	907,149	35.0
1880	50,155,783	26.0	1,131,116	24.7
1890	62,947,714	25.5	1,444,933	27.7
1900	75,994,575	20.7	1,883,669	30.4
1910	91,972,266	21.0	2,537,167	34.7
1920	105,710,620	14.9	3,155,900	24.4
1930	122,775,046	16.1	4,041,334	28.1
1940	131,669,275	7.2	4,160,165	2.9
1950	150,697,361	14.5	4,835,329	16.2
1960	178,464,236	18.4	6,066,782	25.5

Source: Statistical Abstract of the United States, 1962.

It must be recognized that New Jersey, as every other state, is highly dependent upon the general level of growth and prosperity at the national level. The nation's growth, in turn, is a composite of the growth trends of the fifty states. Because of the apparent similarity between the growth patterns of New Jersey and those of the nation, an important aspect concerning the future prosperity of the State can be gleaned through an examination of the various projections which have been advanced for the United States.

Future Growth Patterns — The Nation And New Jersey

Although it is difficult to predict what the child-bearing habits of American people will be in any future decade, many distinguished academicians have attempted to peer into the future to see what the population of the United States is likely to be in ten, twenty, or even forty years.

Based on these various projections, an increment of between 22.5 and 34.25 million people can be expected within the next ten years, with an additional 28.3 to 45.75 million by 1980. In less than 40 years, by the year 2000, several estimates suggest that the nation's present population will more than double!

POPULATION PROJECTIONS FOR THE UNITED STATES

1960	1965	1970	1975	1976	1980	2000
178,464,236 ^a	196,217,000 ^a 196,056,000 ^b	214,222,000 ^a 214,251,000 ^b	234,810,000 ^b 207,000,000 ^{c1} 220,000,000 ^{c2} 228,000,000 ^{c3}		258,079,000 ^b	
		207,500,000 ^{a1} 213,800,000 ^{a3} 214,000,000 ^f		240,000,000 ^d	230,800,000 ^{a1} 260,000,000 ^{a2} 260,000,000 ^f	375,200,000 ^e

		Population Projections to 2000 ^g		
		Low	Fertility Rate Medium	High
Death Rate	High	262,516,000	332,239,000	377,486,000
	Low	272,178,000	342,673,000	388,444,000

- a. United States Bureau of the Census;
- b. Zitter, M., Siegal, J.—"Illustrative Projections of the Population of the United States by Age and Sex 1960-1980"
- c. Martin, Harold A.—"Our Urban Revolution" *The Saturday Evening Post*, January, 1960
- d. Technical Supplement #8, National Economic Projection Series, February, 1962, National Planning Association
- e. Bogue, Donald, *The Population of the United States*, Free Press, Glencoe, Ill. 1959
- f. Hauser, Phillip, *Population Perspectives*, Rutgers University Press, New Brunswick, New Jersey, 1960
- g. Social Security Administration, "Illustrative United States Population Projections" Actuarial Study #46, May 1957

- 1. Low
- 2. Medium
- 3. High

At present, New Jersey accounts for approximately 3.4 percent of the total population of the United States. If New Jersey continues to grow at a rate parallel to that of the nation as a whole, it may be expected to have a population of between 6,885,000 and 7,269,200 by 1970 and between 7,847,200 and 8,840,000 in 1980. This assumes that New Jersey's growth will just keep pace with that of the nation; however, as it has been shown over the past several decades, the State's growth has been somewhat in advance of the national trends.

Future Distribution Of Population

At present, 89 percent of New Jersey's population resides in "urban areas" as defined by the Bureau of the Census. It has been predicted that the nation's population will soon follow the same pattern.

However, like New Jersey, most of the nation's population growth in this last decade has occurred in the suburban areas, with the same attendant problems, as have been found in New Jersey:

In the same 1950-1959 period during which central cities gained 1.5 percent in population, the suburbs spurted ahead by 44.0 percent. Because suburban growth is horizontal and eccentric, rather than vertical and central, it consumes more land per capita than city growth. Consequently at the very time we are multiplying most rapidly, we have hit upon the most space-clogging form of community growth.¹

The dimension of the future national growth has been forecast as follows:

The impact of horizontal growth of our metropolitan areas on land use appears destined to effect tremendous changes during the next four decades. Assuming an over-all average population density of new

growth areas at 2,500 persons per square mile, merely the expansion of the 300 metropolitan areas forecast for the year 2000 would consume some 55,000 square miles of additional land surrounding these centers — an area equal to seven and one-half times the entire land area of the State of New Jersey, and approximately equal to the whole State of Illinois.²

While vast urbanization is expected nationally, the further urbanization of New Jersey is likely to occur at a rate even faster than that of the nation.

Since 1930 the urban areas of the State have grown almost 77 percent: from 816 to 1,444 square miles. Perhaps even more significant, this urbanization of rural land is progressing more and more rapidly each decade. Of the 628 square miles added since 1930, well over half (56.3 percent) occurred in the eight years from 1950 to 1958.³

Thus, a cycle evolves whereby the suburban areas become urban areas in their own right.

1. Edward Higbee, *The Squeeze*, 1960, page 4.

2. Jerome P. Pickard, *Metropolitanization of the United States*, Urban Land Institute, Research Monograph 2, 1959, page 8.

3. Rutgers University Planning Service, *Rural Planning*, Rural Advisory Council, N. J. Department of Agriculture, 1961.

National Shifts in Population and Per Capita Income

With the western shift in national population has come significant changes on a broad regional basis. Statistically these changes are manifested in changes in family and individual median income figures, in housing, and in net migration of both general and minority-group population. These changes are illustrated below, for the period from 1950 to 1960.

New Jersey's median family income in 1950 (\$3,720) and in 1960 (\$6,786) was substantially higher than either the national average or the average for the "Northeast". Although New Jersey's percentage increase in per capita income was slightly below that of the nation (48.7 percent), in 1960 as in 1950 New Jersey's per capita income was higher than that of the nation in absolute terms. (1950 — \$1,792; 1960 — \$2,665).

NATIONAL CHANGES IN POPULATION CHARACTERISTICS BY BASIC CENSUS DIVISIONS

	Northeast	South	North Central	West
Median Family Income				
1950	\$3,365	\$2,248	\$3,277	\$3,430
1960	\$6,043	\$4,384	\$5,779	\$6,561
Percent Change 1950-60	79.6%	95.0%	76.4%	91.3%
Income Per Capita				
1950	\$1,733	\$1,129	\$1,588	\$1,643
1960	\$2,573	\$1,754	\$2,290	\$2,513
Percent Change 1950-60	48.5%	55.4%	44.2%	53.0%
Net Gain or Loss from Migration 1950-60				
Total Population	+ 335,000	- 1,405,000	- 121,000	+ 3,850,000
Non-White Population	+ 541,000	- 1,457,000	+ 558,000	+ 332,000
Rental Vacancy Rate 4th Quarter, 1961	4.0%	9.4%	8.6%	9.5%
Homeowner Vacancy Rate 4th Quarter, 1961	0.8%	1.5%	1.2%	1.2%

Source: Statistical Abstract, 1961 and 1962

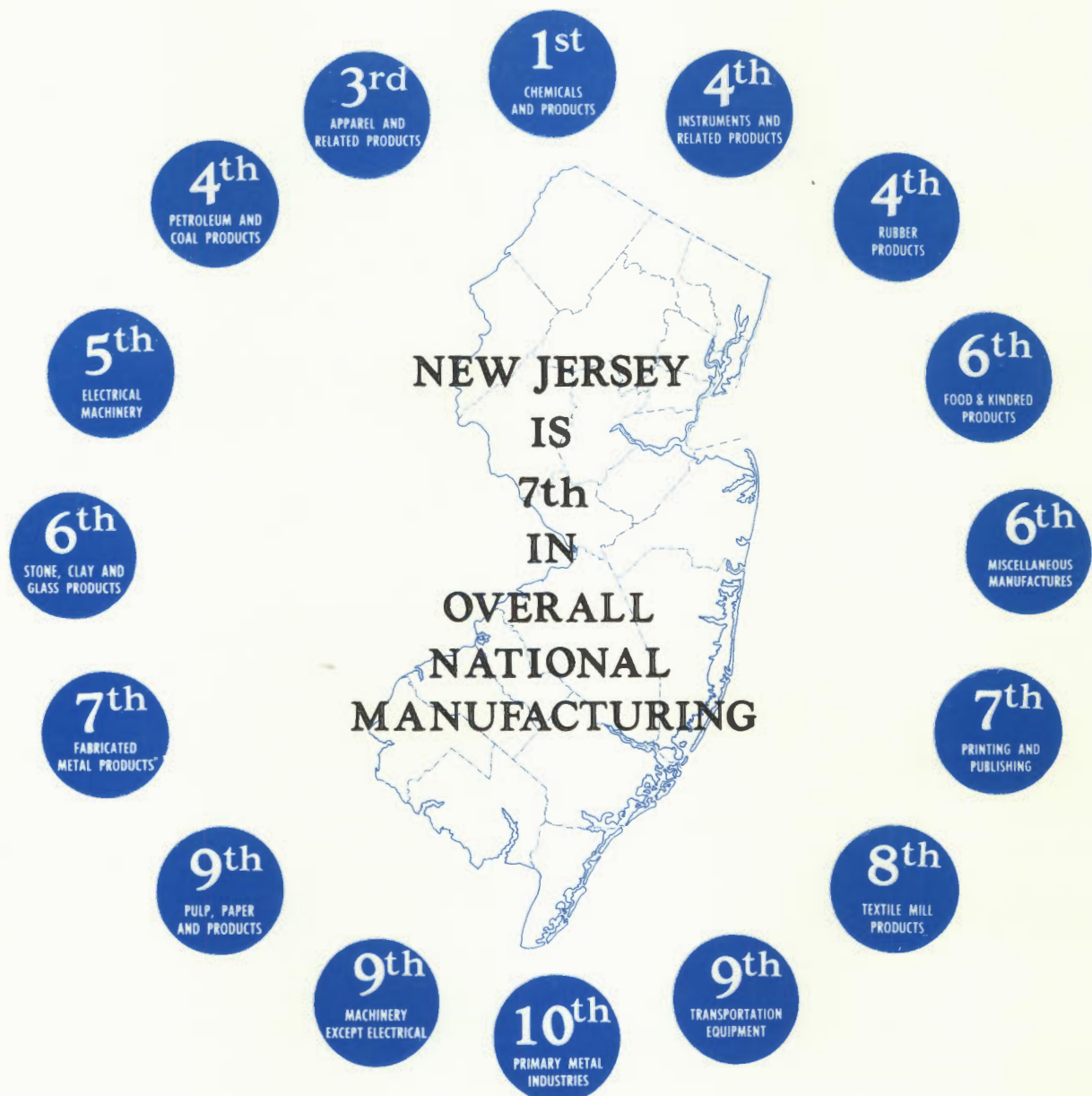
MANUFACTURING

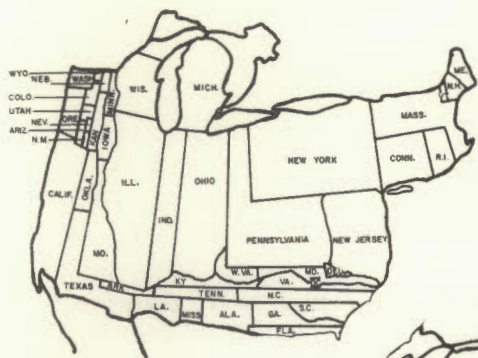
Value Added by Manufacturing⁴

While New Jersey's population increased during the decade from 1950 to 1960 at a rate higher than that of the nation, the

State's percentage increase in value added by manufacture during this period was slightly less than that of the nation. Nevertheless, on a state by state basis, New Jersey in 1958, maintained its seventh place rank in the nation in value added by manufacture. Since 1904, New Jersey's rank has varied between 6th and 7th place — never less, never higher.

4. Value added by manufacture is the excess of value of output over the cost of operations.

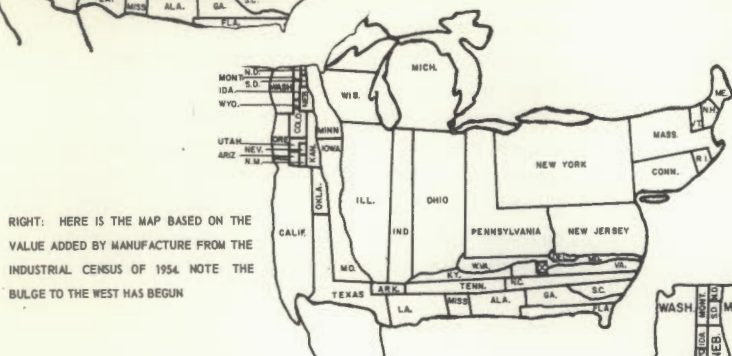




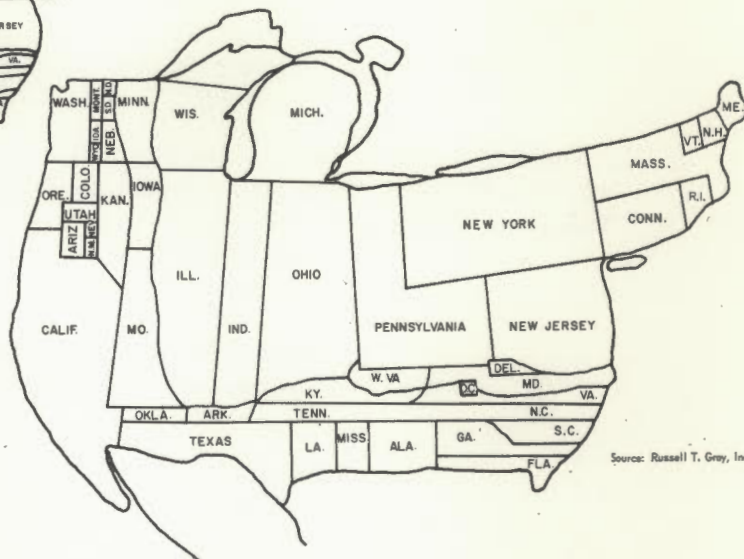
LEFT: THIS MAP WAS MADE ON THE BASIS OF THE 1947 FIGURES. CALIFORNIA HAD FOR SOME TIME SHOWN ACTIVE GROWTH. REMEMBER THAT ANY CHANGES IN SIZES OF STATES ON THIS MAP DOES NOT NECESSARILY INDICATE GROWTH OR LOSS. THE STATE SIZE CHANGES ONLY IN RELATION TO OTHER STATES.

INDUSTRIAL MAPS OF THE UNITED STATES

- 1958 -



RIGHT: HERE IS THE MAP BASED ON THE VALUE ADDED BY MANUFACTURE FROM THE INDUSTRIAL CENSUS OF 1954. NOTE THE BULGE TO THE WEST HAS BEGUN



Source: Russell T. Gray, Inc.

The above maps show the industrial relationship of each state to every other state for 1947, 1954, and 1958. These maps were drawn on the basis of value added by manufacture as reported in the Industrial Censuses issued by the U. S. Department of Commerce in those years. The size of each state has been exaggerated to show its relationships to the other 47 continental states in terms of value added.⁵

5. The firm of Russell T. Gray, Inc., Chicago advertisers.

Over the long term, New Jersey's percent of the total national value added by manufacture has traditionally remained constant, between 5 and 6 percent. Between 1909 and 1958, on the other hand, the New England States dropped from 14 percent to 7 percent; the three Middle Atlantic States dropped from 35 percent to 25 percent; while New York and Pennsylvania, taken together, declined from 30 percent to 19 percent. These are relatively large decreases; yet New Jersey has remained relatively stable in spite of the fluctuations and general downward economic trends found in the region (Middle Atlantic States) of which New Jersey is a part.

While there has been a general drift of population favoring the western portions of the country, with manufacturing tending to follow the long-term population movement, New Jersey has not been as adversely affected by these trends as has the greater urban region of which it is a part. There are several reasons for this; some of the most evident being as follows:

- *industrial diversification*
- *the presence of numerous "growth" industries*
- *the State's central location within the world's greatest market area*

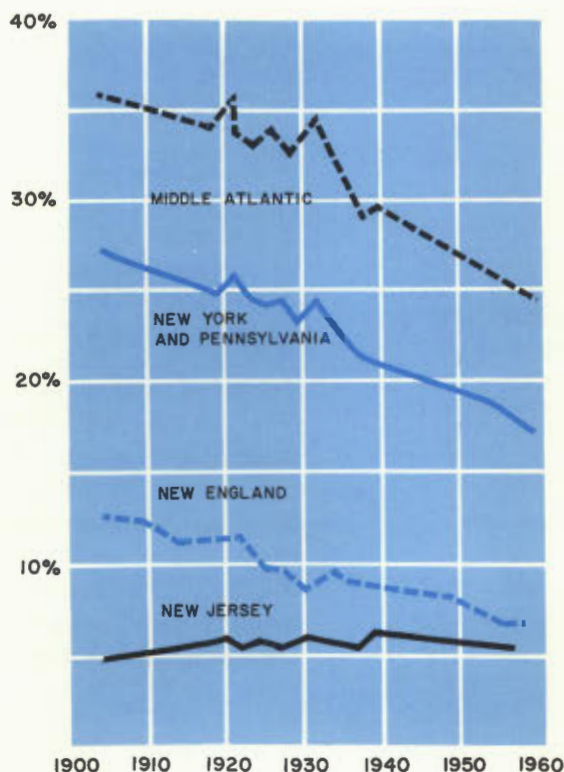
These factors will be considered in detail subsequently; suffice it to say, however, that with these advantages, there is little to in-

dicade that New Jersey's competitive position nationally will not continue to be strong. With regard to the diversification of New Jersey's industry, the following quotation is noteworthy:

Of all industrial states, New Jersey comes the closest to the national pattern of diversification. The degree of diversification is especially significant. First, it means that the fortunes of the state's manufacturing sector are not tied to the cyclical ups and downs of one or two dominant industries. Second, the very presence of a highly diversified industrial structure establishes at least the nuclei of growth industries.⁶

6. S. J. Flink, *The Economy of New Jersey*, Rutgers University Press, New Brunswick, N. J., 1958.

VALUE ADDED BY MANUFACTURE
percent of the U. S. total for selected areas



SOURCE: Statistical Abstract.

Manufacturing Employment and Productivity

In 1960, New Jersey had 845,580 employed manufacturing workers out of a total employed labor force of 2,345,496 persons.⁷ These workers, comprising the largest single industrial category within the State, form the economic foundation for New Jersey as a whole. This figure also represents an increase of 13.7 percent from 1950 when the number of persons employed in manufacturing in New Jersey was 743,809.

**Growth Measures For Manufacturing
In New Jersey and the United States
1899-1947**

	Value Added by Manufacturing	Manufacturing Employees	*V.A./M.E.
New Jersey	1870%	230%	8.13
United States	1490%	192%	7.76

*V.A./M.E. (Productivity Ratio) — Percentage change in Value Added 1899-1947 divided by percentage change in manufacturing employment 1899-1947.

(Adapted from Richard A. Easterland, "Basic Tables on Manufacturing Activity, by State, 1869-1947", unpublished manuscript, quoted in Flink, op. cit., p. 195).

As the accompanying table further indicates, during the period from 1899 to 1947 New Jersey realized a greater gain than the nation in not only value added by manufacture and manufacturing employment but in productivity per worker.

In terms of current levels of labor productivity, figures for the year 1960 show that the United States produced a value added by manufacture of \$164,032,000,000 with a manufacturing labor force of 16,762,000 for a productivity of \$9786 per worker. New Jersey, on the other hand, produced a value added of \$8,632,000,000 with 845,580 manufacturing employees for an average per worker productivity of \$10,208.48.

7. U. S. Bureau of the Census, *U. S. Census of Population: 1960 General Social and Economic Characteristics, New Jersey, Final Report* PC(1)-32C.

OCCUPATIONAL STRUCTURE

In the past 140 years the economic base of the United States has changed from primarily agricultural to highly industrial. The nature of this change is easily seen from the fact that only 8.6 percent of all employed persons were in agricultural occupations in 1960 as compared with almost 75 percent in 1820. This predominant shift in industrial activities has brought with it significant changes in the occupational composition of the nation's working force.

The data in the following table show the changes in occupational composition that have occurred in the labor force during the past fifty years. This table also presents an index of net redistribution in occupations. This index may be interpreted as a measure

**Percent Distribution of Employed Workers,
by Occupational Groups, 1910-1960**

Occupation	1910	1920	1930	1940	1950	1960
Nonfarm	67.6	74.6	78.7	82.5	87.9	91.9
Professional & Semi-Professional	4.3	4.9	6.0	6.9	7.2	11.2
Proprietors, Managers, & Officials	6.4	6.7	7.5	7.8	10.4	10.6
Clerical & Sales	10.3	13.7	16.3	17.2	19.0	21.3
Skilled Workers & Foreman	11.3	13.4	12.9	12.8	12.9	12.8
Semi-skilled	14.3	16.0	16.3	17.9	20.9	18.0
Unskilled	21.0	19.9	19.7	19.9	17.5	18.0
Farm	32.4	25.4	21.3	17.5	12.1	8.1
Operators & Managers	16.1	15.3	12.3	10.4	7.0	4.2
Laborers	16.4	10.1	9.0	7.1	5.1	3.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
Index of net Redistribution	8.1	4.8	3.9	7.8	11.0	

Source: U.S. Bureau of the Census.

of displacement, as it indicates the percent of workers in any decade who would have had to move to another occupation in order to make the distribution identical with that of the previous decade.⁸

The most dramatic trend illustrated by this table, of course, is the decline in both farm operators and managers and in farm laborers. Here again New Jersey would appear to be a forerunner of national trends with respect to the decline in farm employment and the underlying causes for this decline.

The highly competitive land use situation in New Jersey, brought about by rapid urban expansion, has forced those "family-type" farmers wishing to stay in agriculture to adjust to smaller holdings in the inlying areas or to seek large parcels at some distance from the urban markets. Since the urban areas offer a greater opportunity to supplement farm income with off-farm employment, many family-farm operators have become content to retain their smaller holdings in anticipation of rising suburban land prices. Their land has become their "retirement policy".

8. Albert J. Reiss Jr. and Paul K. Hatt, *Cities and Society*, The Free Press, Glencoe, Illinois, 1957, page 425.

Another area of change in the occupational structure of the United States in which New Jersey can be considered a precursor relates to the professionalization of jobs. These increases are most notable in such areas as sciences, engineering, government, etc. As has been pointed out, New Jersey's white collar employment has increased by 652 percent since 1900, as compared to a national increase of 420 percent.

During the fifty year period covered by the preceding table, it may also be seen that the skilled worker and foreman occupations (blue-collar jobs) have remained fairly stable in growth, while the semi-skilled worker occupations have shown a substantial increase and the unskilled category a significant decrease. The growth of the semi-skilled occupations during the past fifty years has been largely at the expense of the unskilled category rather than the skilled.

The over-all significance of this change lies in the diffusion of some skills to a larger segment of the labor force. Technology has reduced the need for as large a proportion of the labor force in the unskilled and highly skilled categories while increasing the demand for workers in semi-skilled occupations. Since technology undoubtedly will continue to make inroads on worker skills, the semi-skilled group may well become the largest single occupational group in the nation's labor force.

SUMMARY OF NATIONAL FINDINGS

The data suggests that there is a close parallel between trends occurring at the national level and those experienced in New Jersey. Often these trends have occurred first in New Jersey and have then spread nationally. Rapid suburbanization and its counterpart, "urban sprawl"; the decline of agricultural employment, the rise of off-farm employment, and the intensification of farming practices; the stabilization of basic manufacturing activities and the growth of secondary and tertiary industries; the rise of semi-skilled and the stabilization of skilled jobs — in all these trends New Jersey has been the forerunner of the nation.

With the westward movement of population and the growth of the Far Western States have come relative declines to the states of the Atlantic Seaboard. New Jersey, because of its industrial diversity, the presence of numerous "growth" industries, and the State's central location within the world's greatest market place, has achieved an economic stability which has enabled the State to maintain a strong competitive position in the national economy.

Whether this favorable position is likely to continue and what the effect will be on the State's economy can only be determined after a thorough examination of the greater economic region of which New Jersey is a part and, more importantly, the trends and conditions manifested by the State's population and economy.

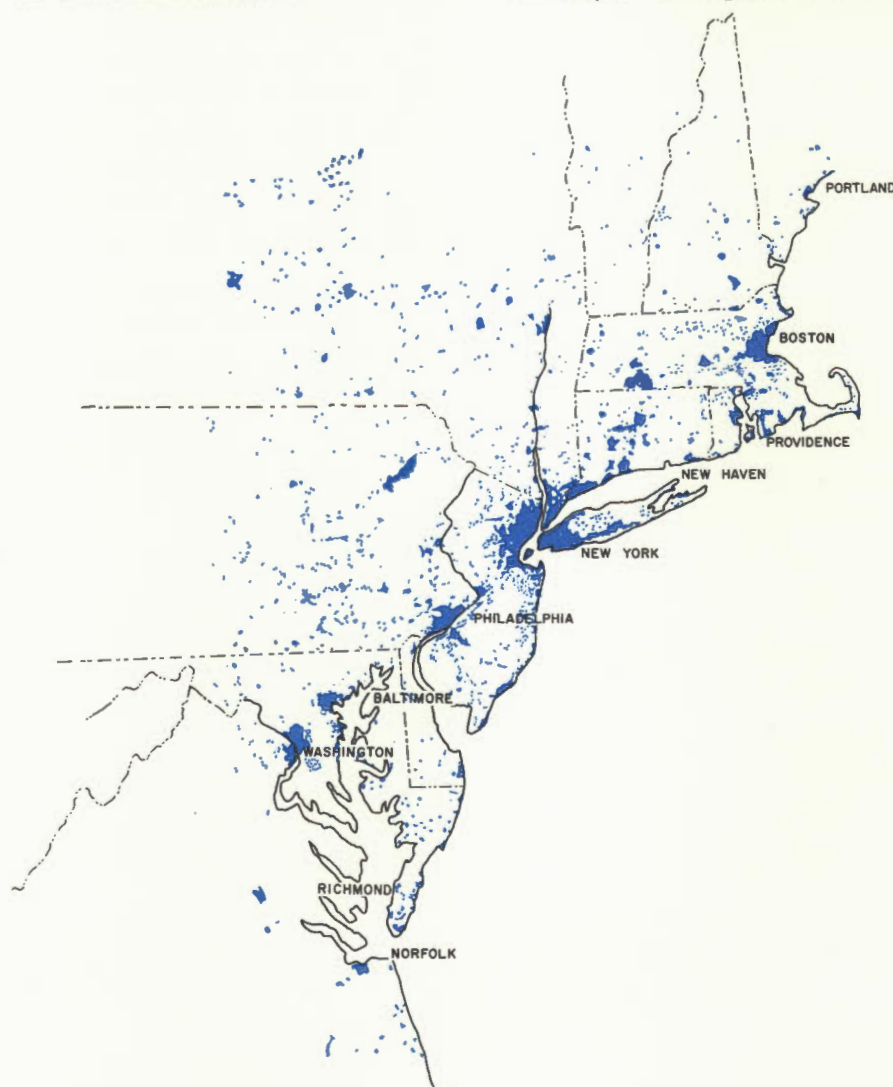
CHAPTER TWO

New Jersey and Megalopolis



In order to understand the great diversity and complexity of New Jersey's economy, and its dependency upon a framework of regional and national conditions, it is necessary to examine the relationship of the State to its regional environs. New Jersey's economy is heavily dependent upon its accessibility to both markets and resources. Its value as an industrial state has been predicated upon its favorable location.

Centered between two of the nation's largest cities, New Jersey enjoys convenient access to the markets and resources of both of these urban complexes. The State also forms an important segment of the Atlantic Metropolitan Region, an area which is, in the main, the political, economic, and cultural headquarters of the nation. The Atlantic Metropolitan Region, because of its highly developed transportation network, is also



the most accessible of the nation's major regions. As such, it has remained economically competitive with respect to two major locational factors of economic growth: 1) its access at competitive costs to certain types of raw materials of production; and 2) its access at competitive costs to attractive market areas. This region contains 20 percent of the nation's population and over one-fourth of its manufacturing activity. The area, the birthplace of American history, has an excellent inland and water transportation system which made for an early and continued growth.

Recently, this great urban complex, which stretches along the Atlantic seaboard from southern Maine to Washington, D. C., has been christened with a special name — *MEGALOPOLIS*. Megalopolis is the name which the ancient Greeks gave to the town which they hoped would become the largest city-state in Greece. History tells us that it remained a relatively small town. This certainly is not true of its modern-day name-sake.

For the purposes of this study, the definition provided by Jean Gottmann in his book *Megalopolis*⁹ has been selected for the limits of this urban complex.

Megalopolis evinces twelve traits which, when taken together, stamp it as unique among the metropolitan areas of the nation. These are cited here because in each, with the exception of number six, New Jersey, as a state, parallels the special characteristics of the larger metropolitan complex. The unique traits of Megalopolis are summarized as follows:

1. Great population size, high density, high degree of urbanization and suburbanization.
2. Reliance upon manufacturing as the major source of employment and livelihood.
3. Comparative absence of mineral and fuel resources and other raw materials.
4. Brisk international trade, coastal shipping and port activity.
5. Highly developed system of inland transportation, with easy access to all regions.
6. Administrative and governmental control of economic activities throughout the Nation.
7. A manufacturing industry that is highly diversified, but which concentrates on consumers and nondurable goods.
8. A high concentration of professional, business, and cultural activities.
9. A high proportion of foreign-born population and native-born population of mixed nationality.
10. Substantial population growth.
11. High average incomes and high average level of living.
12. An agriculture highly specialized in cash crops, poultry, and dairy farming and organized for immediate sale of perishable farm products in metropolitan markets.¹⁰

9. Jean Gottman, — *Megalopolis*,— Twentieth Century Fund, New York, 1961.

10. Donald J. Bogue, and Calvin L. Beale, *Economic Areas of the United States*, Free Press of Glencoe, Inc., New York, 1961, pages 7-14.

POPULATION OF MEGALOPOLIS

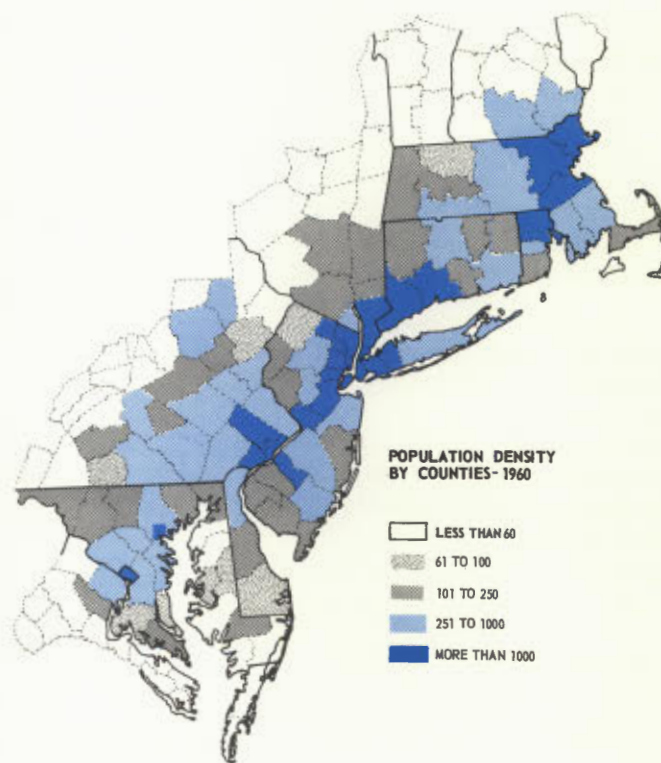
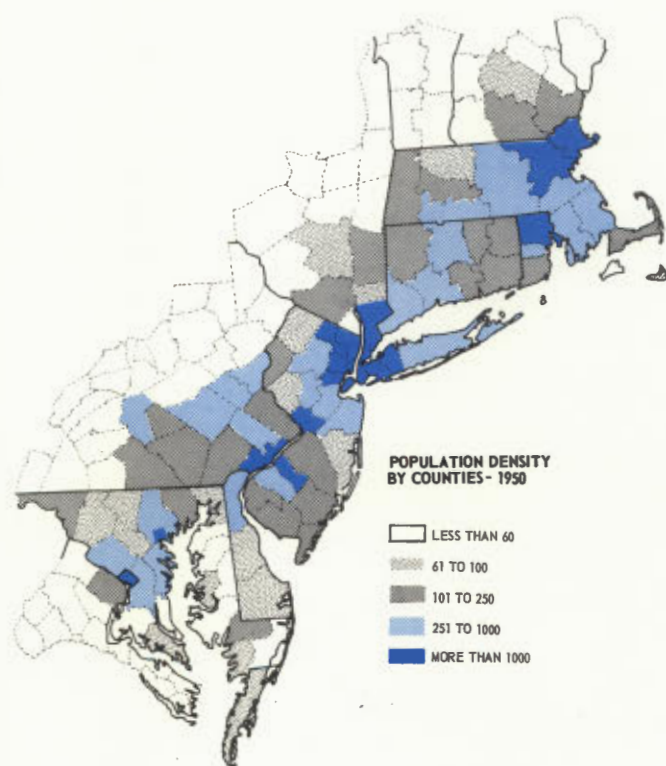
As stated in the list of twelve traits, Megalopolis is an area of great population. It is, in fact, one of the largest and most heavily populated contiguous urban areas in the world. Estimates of the 1960 population of Megalopolis range from 30,000,000 to 38,000,000.

Various estimates have also been made for the total land area of Megalopolis ranging from 51,000 square miles to 54,000 square miles. In 1910, the area now defined as Megalopolis contained over half of the metropolitan population of the United States. In 1960 it was estimated that "... 20 percent of the total American population was living in this narrow strip of land".

POPULATION DISTRIBUTION IN MEGALOPOLIS

In 1950, the average population density in Megalopolis was approximately 600 persons per square mile. By 1960, the average density had increased to 710 persons. The density spread of Megalopolis during the twenty-year interval from 1940 to 1960 can be seen by a comparison of the two maps which follow.

It is obvious that the string-like pattern of the higher densities follow the most accessible transportation routes. This phenomenon, which has accounted for the historic development of the region, apparently was still operating strongly between 1940 and 1960. Only recently have the interstices begun to fill, with the pattern of development along the major transportation routes becoming even more intense than in the past.



SOURCE: County and City Data Book.

In New Jersey, the Megalopolitan spread along the major routes of transportation has led to the following observations and expectations:

In New Jersey, construction of the New Jersey Turnpike and the Garden State Parkway already has given impetus to residential and industrial development along a north-south corridor in Bergen, Hudson, Union, Monmouth, and Middlesex Counties. With the northerly extensions of both routes to the New York State Thruway in Rockland County, and with the construction of a branch of the Garden State Parkway extending southward from Union County, dispersion of residential development throughout Rockland, Bergen, southern Passaic, Middlesex, Union, and Somerset Counties may be expected to increase.¹¹

Population Density¹²

In 1950, the State of Rhode Island, with 749 persons per square mile, was the most densely populated of the states within Megalopolis, with New Jersey (643), Massachusetts (596), Connecticut (410), Maryland (237), and Delaware (161) following in that order. The states of New York, Pennsylvania, Virginia, Vermont, and New Hampshire, only parts of which lie within the region, had population densities of 309, 233, 83, 41, and 59 respectively. The portions of these states within Megalopolis, however, had considerably higher densities than that of most of the state as a whole.

By 1960, Rhode Island and New Jersey, with 812 and 808 persons per square mile respectively, vied closely for the number one position not only in Megalopolis, but in the nation as a whole. Massachusetts (655), Connecticut (517), Maryland (314), and Delaware (226) followed in that order, with the greatest increases in density being experienced by Delaware (a 40.3 percent increase) and Maryland (32.3 percent).

THE DEMOGRAPHIC CHARACTERISTICS OF MEGALOPOLIS

In 1960, the average Megalopolitanite was 30.8 years of age, he lived in a single-family house with 2.28 other people, and he and his family had an income of \$5,848. Only 41.2 percent of the adult population of Megalopolis had completed their high school education. It is quite likely that he worked in manufacturing (31.4 percent of the labor force was employed in manufacturing), although he might be employed by a retail or wholesale trade establishment (17.4 percent of the labor force worked in this sector of the economy).

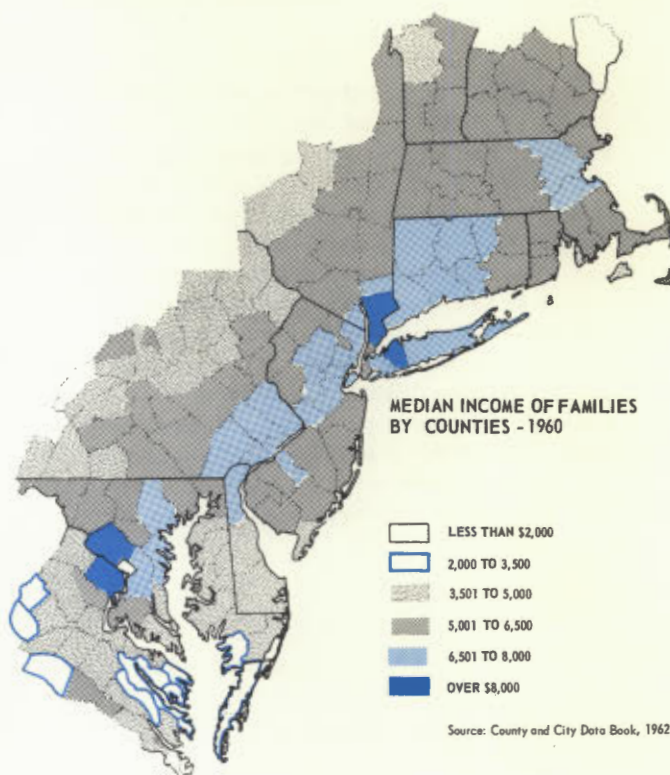
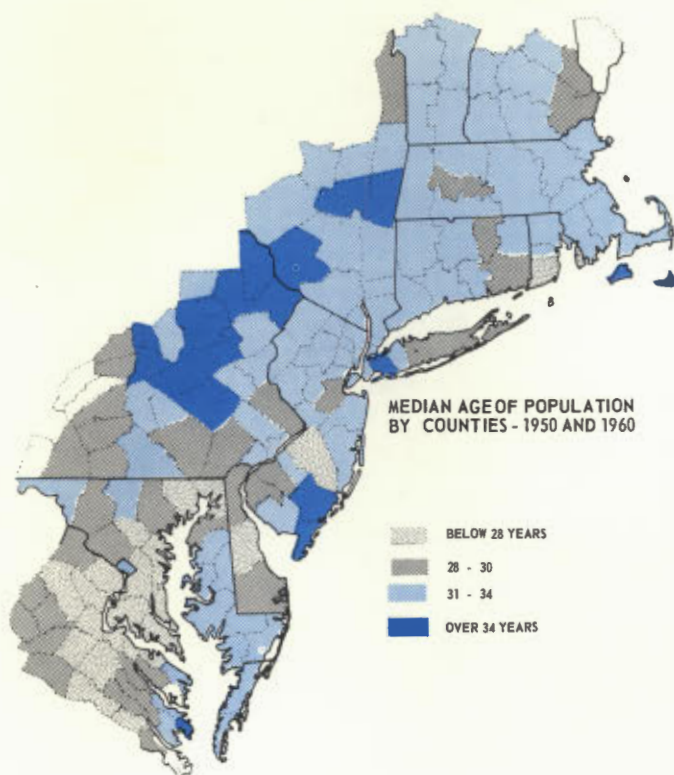
By way of comparison, the average resident of New Jersey in 1960 was a little older (32.4 years of age) and had an only slightly larger family (average New Jersey household size in 1960 was 3.3). His family's income was considerably higher than that of the average Megalopolitanite (\$6,786), and 40.7 percent had a high school education.

Age, Income and Education

The population in the majority of the counties of Megalopolis in 1950 had a median age of from 31 to 34. South of Philadelphia, however, the median age of the population was somewhat lower, reflecting the higher birth rate of the Negro population in the Southern rural areas. A section of New York State, north of Manhattan Island, centering on the Hudson River appeared to have the greatest concentration of population over the median age of 34. In addition, this higher median age was evident in some of the "re-moter" areas of Megalopolis, such as Atlantic and Cape May Counties in New Jersey, where the younger people had been moving away in significant numbers during the forties.

New Jersey State Library

11. Regional Plan Association, *Population, Economic, and Land Use Studies*, 1956, page 21.
12. Based on data presented in Table 9, *Statistical Abstract of the United States: 1961*, U. S. Bureau of the Census, page 12.

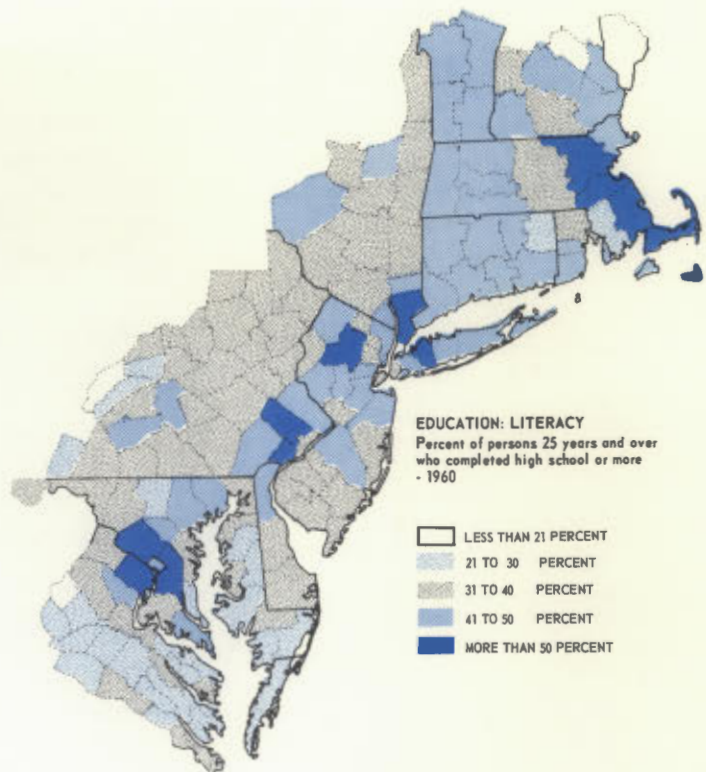
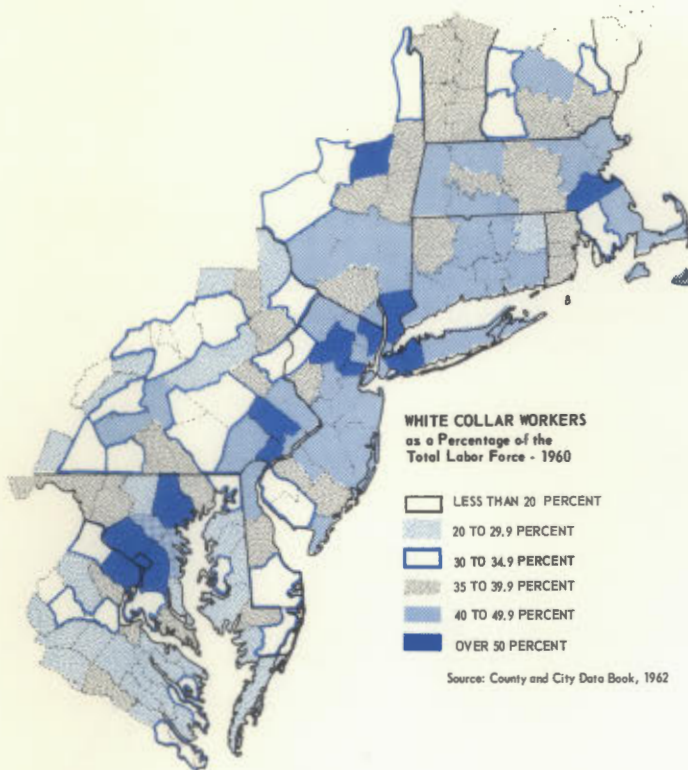


Source: County and City Data Book, 1962

By 1960, evidence of the movement to the suburbs by young couples is provided by the decline in median age of certain counties which surround the major urban cores of Megalopolis. The clearly recognized suburban and exurban areas registered median ages from 32.1 to 33.9. In Suffolk County, where the population increased by 141.5 percent, the median age declined from over 34 years of age to 30 years of age. In New Jersey, Middlesex County received substantial numbers of "out-migrants" from older

cities of the New York Metropolitan Region, while Gloucester and Burlington Counties, in a similar position with regards to the Philadelphia area, experienced significant declines in the median age of their residents paralleling the population increases in these areas in the past decade.

While it has been pointed out that the median income of the Megalopolitan families in 1960 was \$5,848, in the axial-belt counties the median family income is in excess of



\$6,500. At the other end of the scale, the concentrations of relatively low median incomes are found in the more rural areas on the southern and western fringes of the region.

As might be expected, there is a close parallel between median family income and the percentage of the resident labor force in white-collar occupations.

A comparison of the maps reveals that

thirteen counties and the District of Columbia in the axial belt of Megalopolis had over 50 percent of their resident labor force in "white-collar" occupations, while twelve others had over 45 percent of their resident labor force in this category in 1960. These counties again are clustered about the major cities of the region.

For the first time in the nation's history a numerical dominance of "white-collar" workers in the total non-agricultural labor

force has been recorded. This "evolution" of the labor force from agriculture to "white-collar" has introduced and will continue to introduce deep changes in the national way of life.

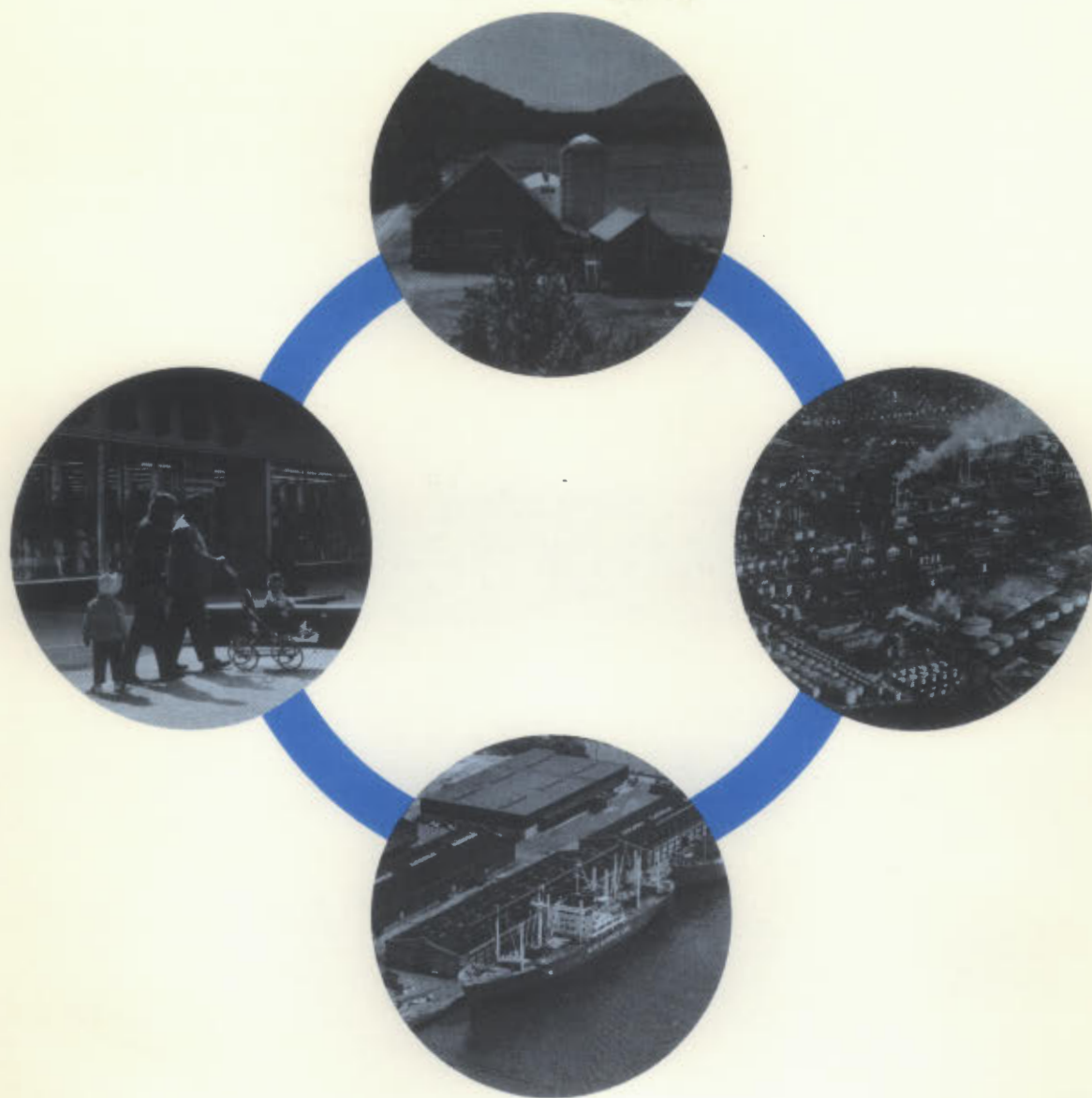
In 1940, only one county, Montgomery in Maryland, had among its adult population more than 50 percent who had completed high school, while only a few more, mainly suburban counties in close proximity to the urban cores, could boast over a 30 percent rate of "literacy".

By 1950, a significant change had taken place. While only three counties, Nassau in

New York State and Norfolk and Nantucket in Massachusetts, joined Montgomery in having over 50 percent of their adult population with high school diplomas, in most of the counties in the axial belt more than 30 percent, and in the suburban rings of the major cities, more than 40 percent, of the adults had completed high school.

According to the 1960 Census, thirteen counties in Megalopolis have exceeded the 50 percent mark, with all of the counties in the axial belt, except the most urban, such as Philadelphia and Essex and Hudson Counties in New Jersey, above the 40 percent level.





THE ECONOMIC FORCES OF MEGALOPOLIS

AGRICULTURE IN MEGALOPOLIS

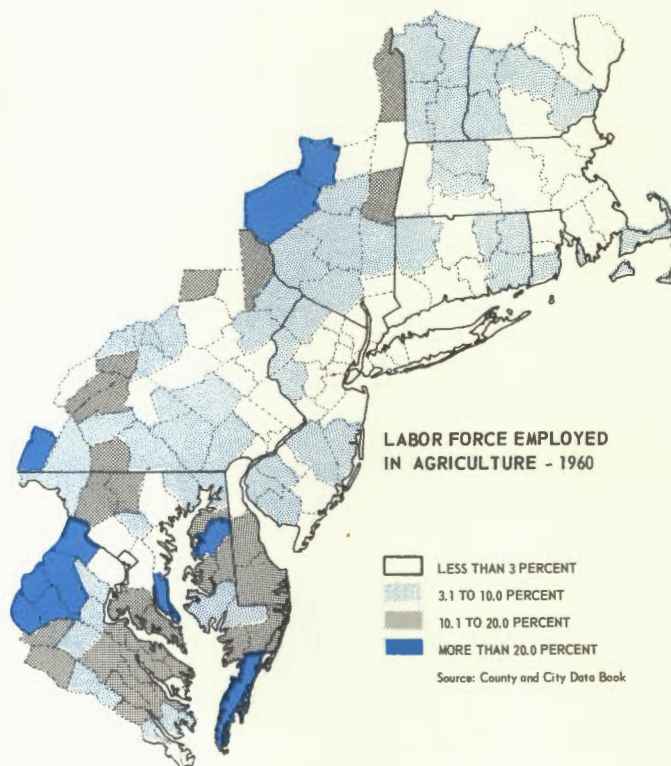
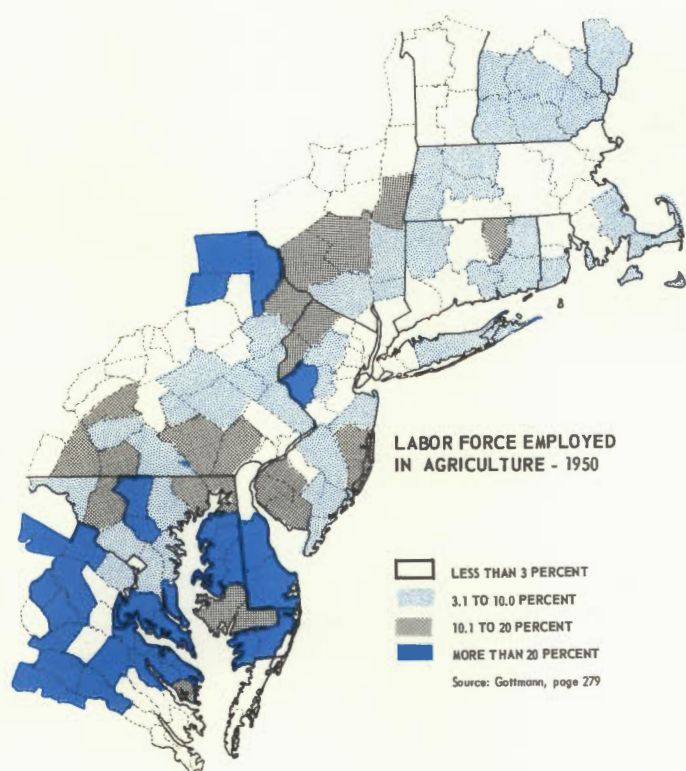
Agriculture, by occupying more acres than cities and suburbs do, still dominates the land shape in large sectors of Megalopolis. However, megalopolitan agriculture has long been in decline as shown by the maps on the following pages.

In 1950, only one county in New Jersey, Hunterdon, had over 20 percent of its labor

force in agriculture, while six counties, Sussex, Warren, Ocean, Gloucester, Salem, and Cumberland, fell in the 10 to 20 percent range. By 1960, the percentage of agricultural employment in Hunterdon fell to 9.7 percent, while the six counties, which in 1950 had over 10 percent of their employment in farming, joined Burlington County in the 3 to 10 percent category.

The decline in the percentage of the labor force employed in agriculture has been paralleled by a decline in the number of farms. The following maps provide a county by county comparison between the number of farms in 1954 and 1960. In over half of the counties in New Jersey, the decline in the number of farms between 1954 and 1960 was great enough to drop them one category in the breakdown.

While the decline in farms may not appear as pronounced as in New Jersey, similar trends are evident in other parts of Megalopolis. In Massachusetts, for example, six counties experienced a great enough decline in the total number of farms to drop a category in the rankings. In Connecticut, while only two counties experienced significant declines in the number of farms, these represent two of the more important agricultural

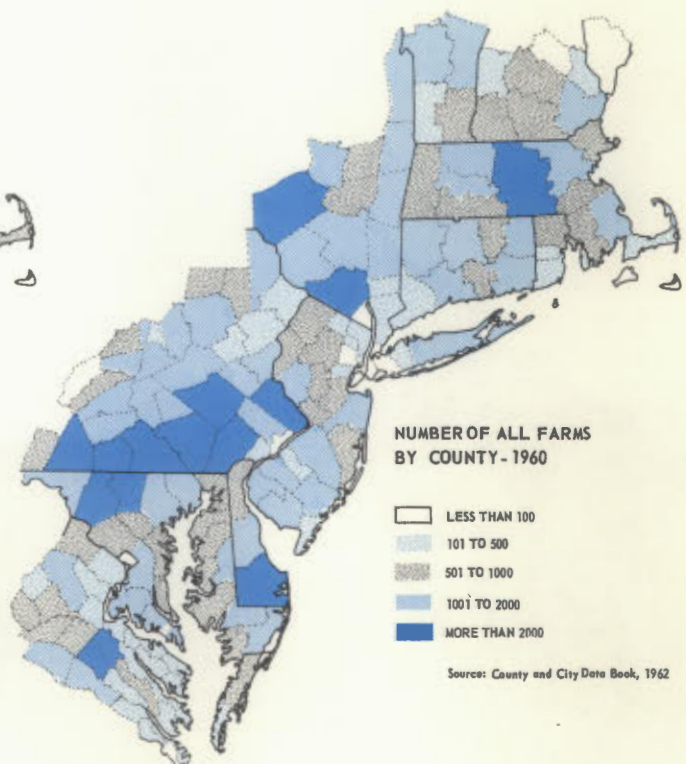
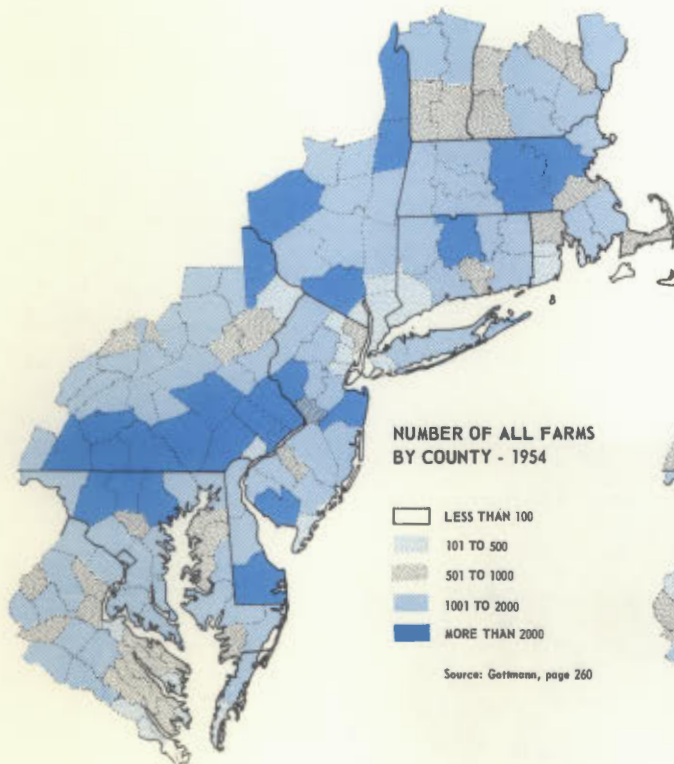


areas in the Connecticut Valley. Similar trends may be seen in the counties which surround Baltimore and Washington, D. C.; the most striking decline occurring in Fairfax County, Virginia, where the number of farms declined from over 1,000 to less than 430.¹³ In each of these areas extensive sub-

urbanization has occurred with the expansion of major metropolitan centers of Megalopolis — Boston, Hartford, and the Baltimore-Washington complex.

While agriculture in Megalopolis has been on the decline as measured by employment and number of farms, it is still a vigorous and expanding industry in terms of production per acre and per farm. Commercial farms on the urban fringe, which usually specialize in livestock or in crops of high

13. U.S. Bureau of the Census, *County and City Data Book, A Supplement to the Statistical Abstract*, U.S. Department of Commerce, Washington, D. C., 1962.



value such as market vegetables, fruits, and nursery materials, are particularly productive:

In average value of farm products sold per acre, New Jersey, Rhode Island, and Connecticut lead all other states in the Union. Eight counties in Megalopolis are among the first hundred in the United States in the value of all farm products sold. On the basis of productivity per acre, the entire Megalopolitan area is one of the foremost agricultural districts in the United States. It is matched only by the best irrigated valleys of the Pacific states and by the leading fruit and vegetable counties of Florida.¹⁴

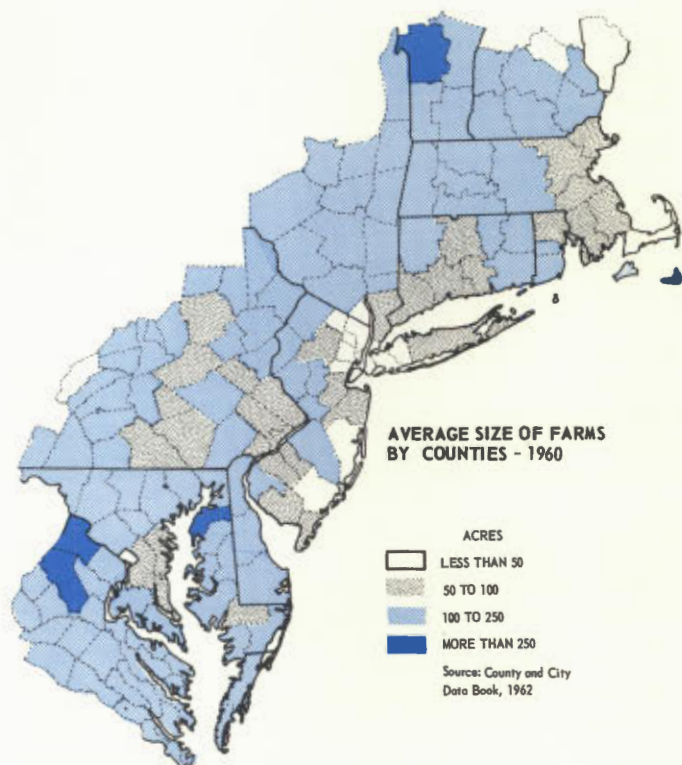
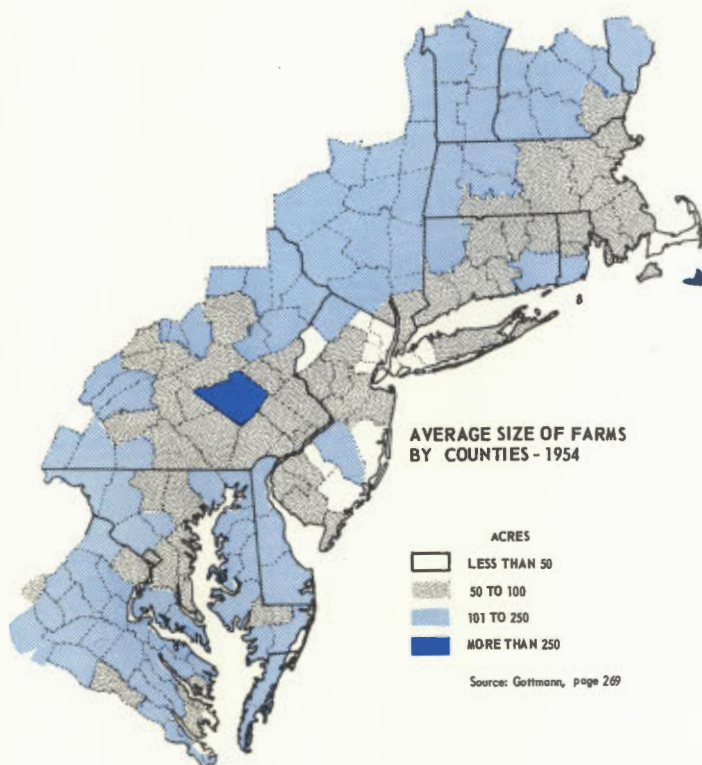
14. Jean Gottmann, *op. cit.*, p. 261

While Megalopolis comprises only 1.8 percent of the land area of the continental United States and only 1.87 percent of the nation's farm land, it accounts for over five percent of the total national agricultural product.

As a general rule, the farms of Megalopolis are smaller than the national average. Only in seven counties in Megalopolis does average farm size exceed the national average of 242 acres, while most of the farms in Megalopolis average from 50 to 100 acres in size.

The Future of Agriculture in Megalopolis

Technology and economic competition in farming are important factors governing the future of agriculture in Megalopolis. A number of agricultural conservationists and some farmers are alarmed at the rate at



which farmlands are disappearing in Megalopolis. In metropolitan areas, the rate at which land has been taken out of farming was about twice as great during the five-year period from 1949 to 1954 as it was during the twenty-year period from 1929 to 1949.

The preservation of agriculture close to metropolitan centers has frequently been justified on the grounds that a food supply must be assured in the event of a major catastrophe. However, it has been noted that:

For the food supplies to fail, one has to visualize the breakdown of the commercial, cultural, political system on which the whole structure of Megalopolis is founded and in the event of such a catastrophe, much more than the supply of food would be at stake.¹⁵

Further, arguments maintain that while there will continue to be a decline in farming in Megalopolis, the total demise of agriculture in the region will not occur in the foreseeable future:

If one were to project future trends solely on the basis of what is now happening to farmlands, it would seem that agriculture should become extinct in Megalopolis. However, from earlier analyses of the types of husbandry that are prominent in Megalopolis, it might reasonably be assumed that this will not happen.¹⁶

One of the more recent concepts, which is gaining favor among conservationists, planners, agricultural economists, and others who are concerned over the disappearance of farmland, evolves from the growing need for open space as a break in the urban landscape which sprawls out from the major centers of Megalopolis, a concept which would appear to have considerable merit.

MANUFACTURING IN MEGALOPOLIS

One of the foremost traits of Megalopolis is the heavy reliance upon manufacturing as the major source of employment and livelihood. Although the recent urban growth of Megalopolis would appear to be less dependent upon manufacturing activities and more upon a diversified economy than in the past:

Nevertheless, manufacturing remains . . . the most important supplier of jobs of all the principal occupational categories throughout the whole area, and the total employment figures are still growing.¹⁷

It is often said that Megalopolis has been losing manufacturing activities to other areas of the country to the point where it no longer represents as important a part of the nation's manufacturing economy as it once did. In relative terms this is true, as it reflects the general trend toward a much wider distribution of industries throughout the country. In the early 1900's, the area which is now defined as Megalopolis accounted for about 50 percent of all manufacturing employment in the United States. By 1954, however, only 28 percent of the nation's wage-earners in manufacturing were to be found in Megalopolis.

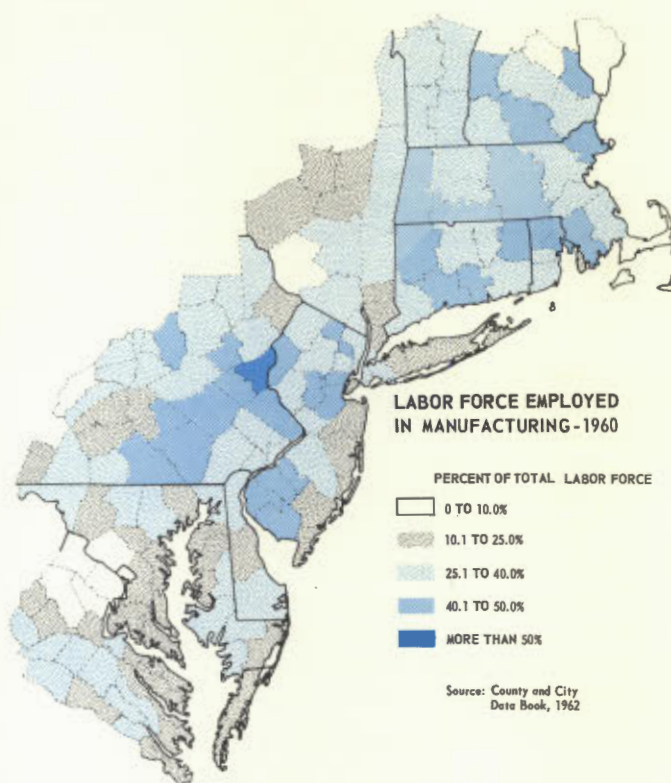
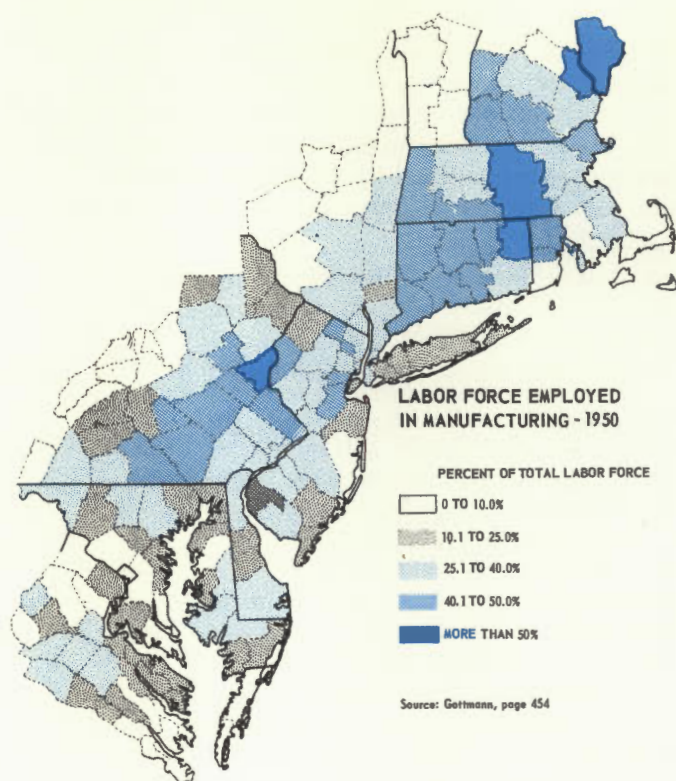
In absolute terms, on the other hand, both in numbers of employees and in value added by manufacturing, industrial activities are greater than ever in Megalopolis as a whole. Megalopolis in the mid-fifties accounted for 27.9 percent of the nation's annual average number of employees; 27.3 percent of the nation's payroll; 28.1 percent of the wages paid to production workers; and 26.4 percent of the nation's value added by manufacturing.¹⁸

15. Jean Gottmann, as reported in "Open Space in Megalopolis and New Jersey, With Particular Reference to Agriculture", an unpublished monograph by Bernard Gross.

16. Jean Gottmann, *Megalopolis*, *op. cit.*, pages 324-25.

17. *Ibid.*, page 455.

18. U.S. Bureau of the Census, *U.S. Census of Manufacturing: 1954*, U.S. Department of Commerce, Washington, D. C.



The outward movement of industry, common to all metropolitan areas, is perhaps most pronounced in Megalopolis. The maps at the top of the page, illustrating the distribution of the labor force engaged in manufacturing by counties in 1950 and 1960, point up two significant trends. First, between 1950 and 1960, in a number of suburban counties in Megalopolis, the increase in the percentage of the total labor force engaged in manufacturing has been sufficient to raise the county one level in the five-category breakdown. The causes of this increase lie, in part, with the outward move-

ment of population, including substantial numbers of manufacturing workers, seeking homes in the less developed suburban areas which surround the urban centers.

The second trend which is apparent from this data is the decline in the percentage of the total labor force employed in manufacturing in certain other areas of Megalopolis. Two possible causes of this decline might be suggested. The first evolves from the more diverse mix of suburban residents in certain sections of Megalopolis.

The second interacting cause stems from the apparent shift of production functions from the main axis of Megalopolis to the outer limits, particularly in the southern portion of the region.

The Distribution of Manufacturing in Megalopolis

The following maps attempt to show the current predominant location of industry in Megalopolis. This is, of course, at best an extreme over-simplification of the intricate and complex patterns of industrial distribution in this region.

One aspect of local specialization illustrated by this map is that those industries generally linked with the consumer are more in evidence in Megalopolis east of the Hudson River, while the "heavier" types of industry show a greater relative concentration west of the Hudson.

While the absolute number of firms in Megalopolis have increased during the past decade, average employment per firm has declined. This is often cited as an example of the effects of automation — with greater automation, fewer workers are necessary, therefore employment per firm declines. It is also important to note that Megalopolis, among all the sections in the country, lost the greatest number of large manufacturing establishments (those employing 1,000 or more) during the past decade. Only in New York State and Maryland were slight increases experienced. With fewer large employers, the labor force must be distributed over a greater number of firms, thereby resulting in a per-firm employment decline.

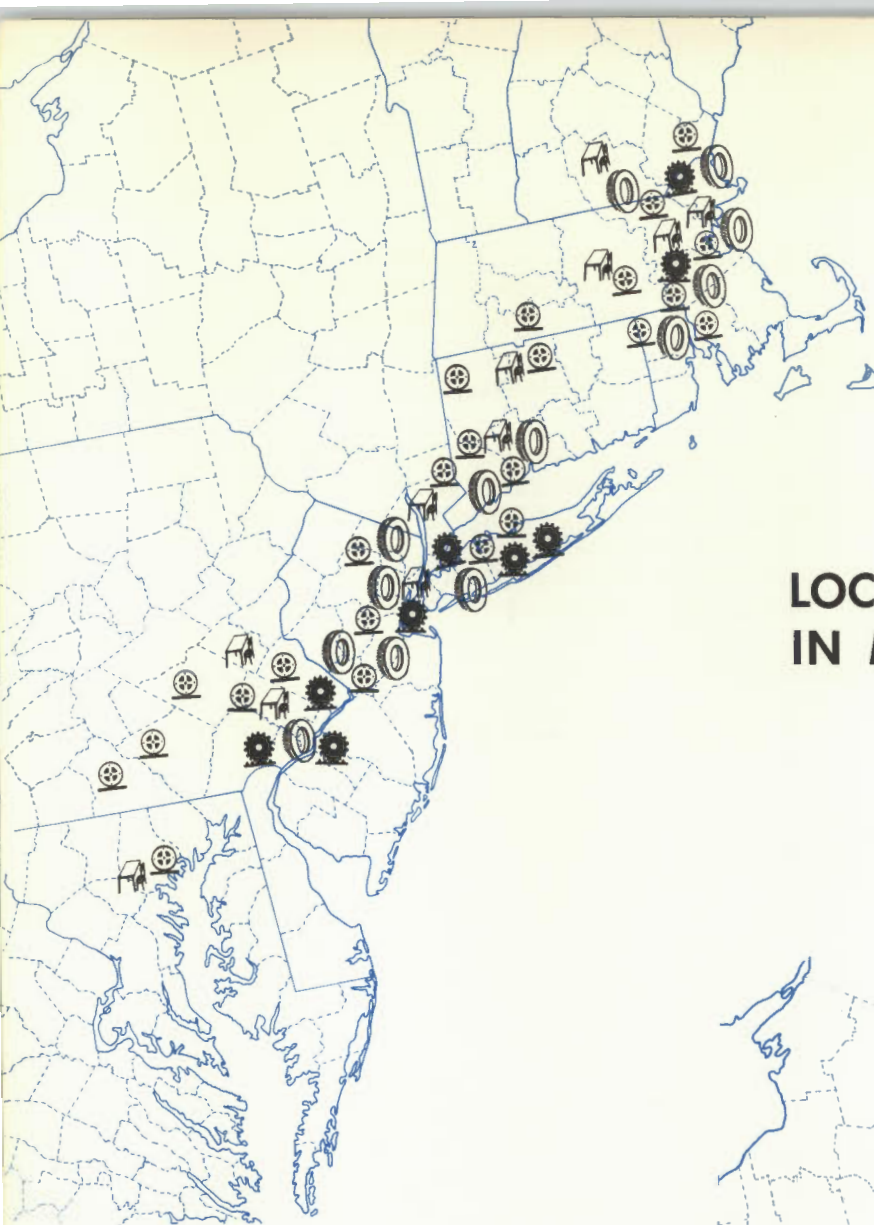
This trend is a part of the shifting emphasis in Megalopolis toward the "lighter" products and finished goods for mass consumption.

The Factors Influencing Plant Location in Megalopolis

If any one single factor were to be cited as the major element contributing to the location of manufacturing activities in Megalopolis it would have to be transportation. Major transportation facilities accelerate the decentralization of industrial activities; and this trend may be expected to continue. As in the past, this outward migration of industry will be at the expense of the older core areas.

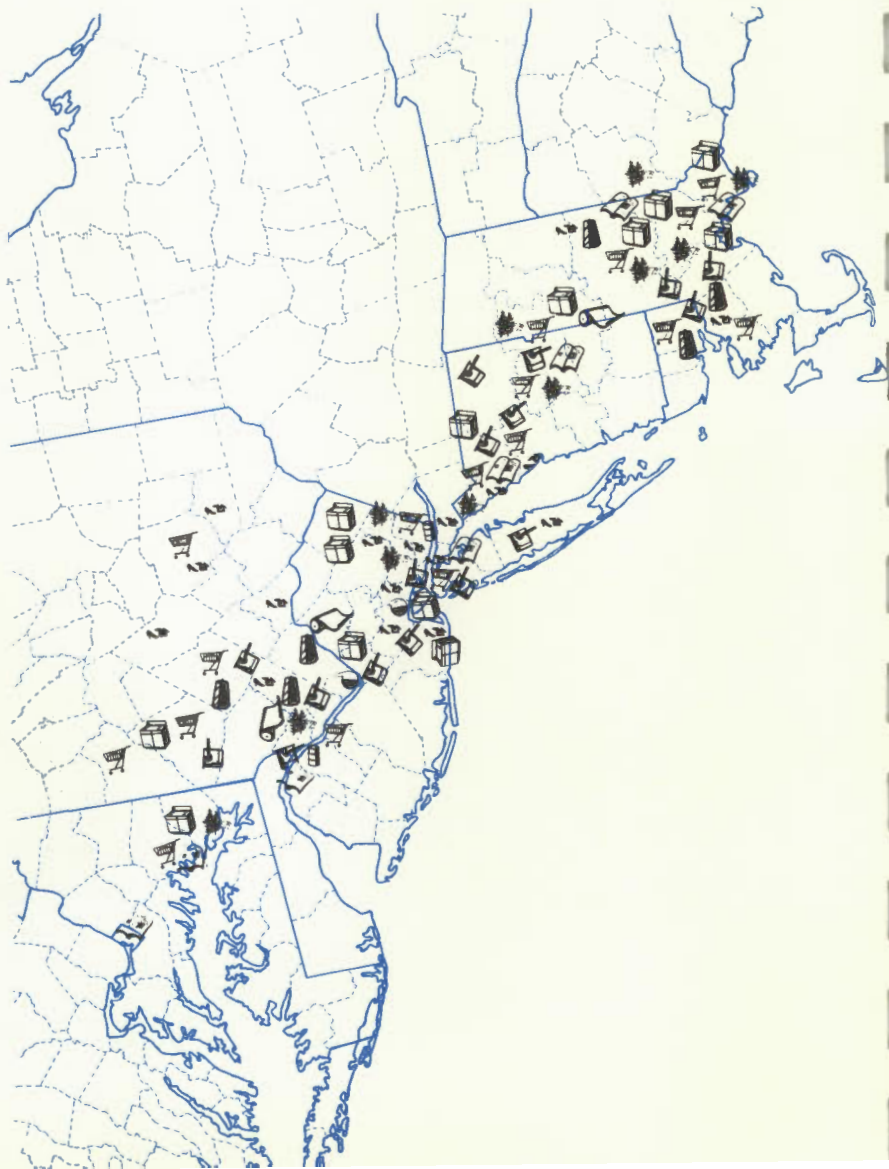
Although recent technological advancements and social evolution have contributed to the dispersion of industry, at the same time other forces have motivated certain kinds of production to cluster around the older urban centers of the Northeastern seaboard. These "centripetal forces" include the attraction of the consuming market, extremely well-organized transportation systems, other industries that serve as suppliers or consumers, and the abundance of a qualified labor force. It is the ability of the region's industries to modify and improve their products to counter outside competition from areas with lower wage differentials that substantially accounts for the present prosperity of manufacturing activities. Further, the "incubator" aspects of the region have enabled it to attract other new and fast-growing activities to take the place of those which have moved out.





LOCATION OF INDUSTRY IN MEGALOPOLIS

-  APPAREL
-  CHEMICALS
-  ELECTRICAL GOODS
-  FABRICATED METALS
-  FOOD PRODUCTS
-  FURNITURE
-  MACHINERY
-  PETROLEUM & COAL
-  PRIMARY METALS
-  PRINTING & PUBLISHING
-  PULP & PAPER
-  RUBBER PRODUCTS
-  TEXTILES
-  WOOD PRODUCTS



The Shifting Role of Manufacturing in Megalopolis

In the suburbanization of manufacturing and the changing distribution of the labor force engaged in manufacturing, there has been a shift in Megalopolis away from production functions and toward non-production activities. This trend does not mean that production is going out of Megalopolis. The basic function of manufacturing — the mass production of standardized goods — still goes on, of course, but it plays a declining role in the region.

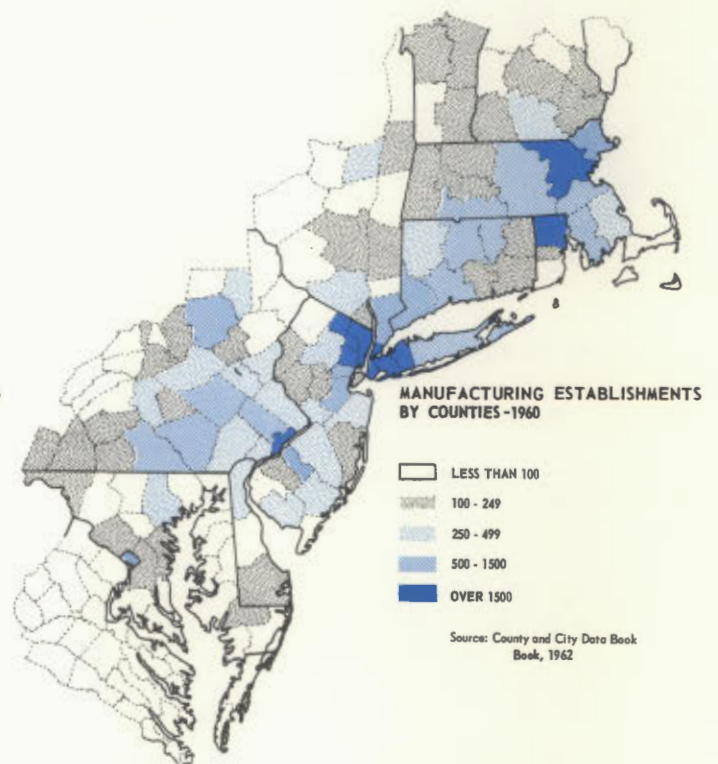
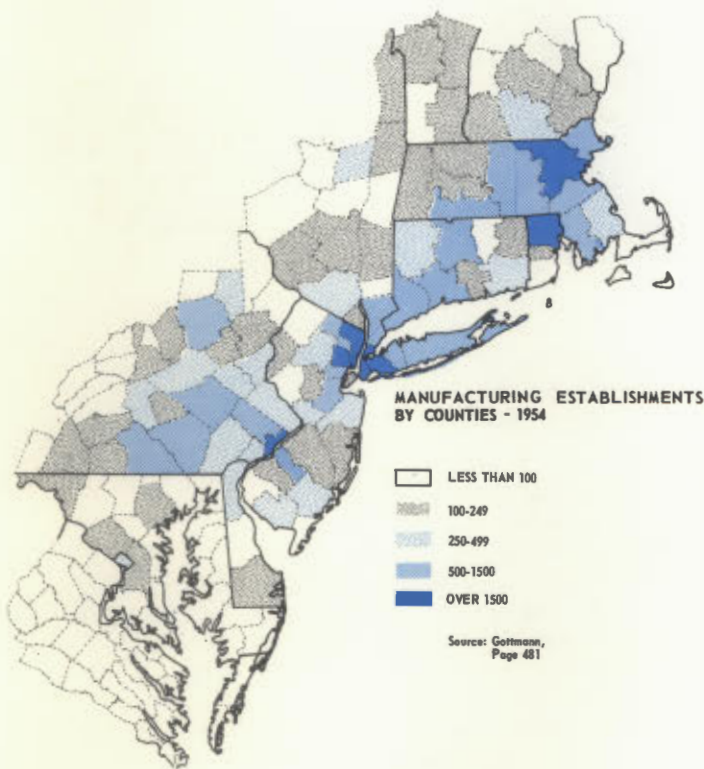
Thus the relative role of manufacturing as an employer is decreasing in Megalopolis

... Manufacturing ... remains an essential element of the region's prosperity, although it may no longer spearhead its growth.¹⁹

COMMERCE IN MEGALOPOLIS

The commercial organization of Megalopolis is perhaps the most complex in all the world. Although in terms of the labor force, wholesale and retail trade and selected services employ fewer persons than manufacturing, these commercial activities together

19. Jean Gottmann, *Megalopolis*, *op. cit.*, pages 498-500.



closely parallel manufacturing in terms of the proportion of the national employment in their fields (about 27 percent of the nation's employment are in each of these categories).

One aspect of the commercial organization of Megalopolis which makes it so difficult to analyze is the wide variety of activities which fall into this sector of the economy. In addition to wholesale and retail trade activities, the commercial organization includes transportation and communication, corporate and business legal counsel, accounting, advertising, real estate, banking, brokerage, insurance, and other financial activities.

Over the past two decades the major cities' share of the nation's retail sales has steadily declined. This has been accelerated by the location of branch facilities of the main retailing outlets of the cities in the surrounding suburbs. In such instances, potential growth of the central business district has been lost to the surrounding shopping centers.

The "scatteration" of retail trade and selected services has an important bearing on the future economic and physical development of Megalopolis and its sub-parts. From an economic point of view, it means that those portions of the region experiencing extensive suburban development (such as



Retail Trade and Selected Services

Since retail activities exist to serve the mass of the population within Megalopolis, they are generally consumer-oriented. In the past when consumers were concentrated in the areas of higher population density, such as the major cities of Megalopolis, retail trade and service activities were also relatively concentrated. However, since the end of the Second World War, with the outward expansion of population, the balance of retailing has experienced a shift toward a more uniform distribution.

New Jersey) can also anticipate a significant increase in job opportunities in the field of retail trade.

From a physical development standpoint, the suburban shopping center must compete with other forms of land use for suitable space in which to conduct its activities. The development of a shopping center in a particular community means increased demands for municipal services (sewer, water, police and fire protection), which result in increased municipal costs. In most cases, however, these costs are more than compensated for by the increased rateables which the shopping center brings into the community.

While suburban shopping centers can take some of the trade away from the central business districts of the major cities of Megalopolis, certain specialized functions appear to be firmly established in the hubs of urban activity. The spread of suburban development is too great to justify the duplication of all the services of the central city in the shopping centers of the suburbs.

The future of retail and selected service trades in Megalopolis would appear to be shaped by diametrically opposite factors. On the one hand there is the scatter of consumer-oriented retail activities following the population into the suburbs. On the other hand, there are the efforts of the downtown merchants to make the central business district more attractive and accessible to their customers, which, among other things, further strengthens the position of certain specialty shops, personal service establishments, and professional offices.

Wholesale Trade

Nowhere else in the country is there such a massive and continuous concentration of wholesale activities as in Megalopolis.

This concentration results from the sheer size of the region's wholesale market and from the diversity of activities located in Megalopolis. Since wholesale handling of bulky merchandise requires extensive warehouse facilities and reasonable accessibility for trucking, there is a tendency for wholesale activities of this nature to spread outward from the center of the metropolitan areas to locations where land is cheaper and congested downtown streets can be avoided.

While there has been decentralization of wholesaling from the older central districts, it would appear that these activities still prefer to locate as close as possible to the downtown core areas. For example, from 1929 to 1954 while Manhattan's relative share of wholesale employment was declining, the other four boroughs of New York City experienced an increase from 11.7 to 16.5 percent, and Hudson and Essex Counties' share rose from 6 to 9 percent.

Maritime Commerce in Megalopolis

In terms of various measures of maritime commerce, the ports of Megalopolis lead the nation in every respect with the important exception of outbound shipments. In 1960, out of a grand total of 51,375 vessels entering all U.S. ports, with an aggregate net registered tonnage of 162.8 million tons, the ports of Megalopolis accounted for nearly 25 percent of the vessels and 45 percent of their tonnage.²⁰

While many factors, in combination, would seem to point to the continued health of maritime commerce in Megalopolis, there is the possibility that the relative importance of this trade may gradually decline as the needs and resources of other sectors of the nation's economy grow. In the face of internal and external competition, it would seem desirable that some sort of division of labor be worked out among the ports of Megalopolis.

The Changing Roles of Commerce in Megalopolis

Perhaps the most significant trend apparent in the commercial system of the region is the adaptation of retail trade to the outward movements of the population. Wholesaling in the region is faced with a complex set of circumstances which has resulted in declines in some areas and increases in others, decentralization of some activities and concentration of others. In many instances, retail establishments are being served directly by the manufacturer, by-passing the wholesaler completely. In other cases, manufacturers have chosen to deal directly with the consumer by establishing their own retail outlets. These innovations will have an important bearing on the future of retail and wholesale trade activities in the region.

What, then, is the future of commerce in the urban areas in light of the tendency of trade activities to scatter, following the consumer into the suburbs? Mr. Gottmann has

20. U.S. Department of Commerce, *Statistical Abstract*, *op. cit.*, Table 817, page 595.

suggested that the answer lies in the increasing importance of management in modern distribution:

While the flow of materials from production to consumption becomes more and more independent of the business districts of the central cities (except for certain goods of high value and small volume, the management of the swelling flow of materials requires increasing employment and activity in the hubs of commerce.

The expansion of employment in the "white-collar" professions and the increase in the use of a diversity of services are the two factors that have in recent years forced more concentration of economic activities, of the commercial or managerial categories, in the expanding downtowns and the rising lines of skyscrapers in Megalopolis.²¹

FUTURE PATTERNS IN MEGALOPOLIS

What are likely to be the future trends in economic and population growth in Megalopolis and its sub-parts? The following are but a few of the many significant forecasts as to the direction which this growth might take, and the ramifications of this growth upon the land use patterns of the region.

Jean Gottmann foresees the future pattern of Megalopolis as follows:

Expansion proceeds in many directions, all around the outer fringes. Consolidation of the urban land use within the 1950 limits goes on at the same time . . . (but there is) a relative saturation of most of the areas within Megalopolis between Philadelphia and Boston. Although a great deal of new construction still goes on in those parts, the more striking increases appear in the southern section of Megalopolis and an expansion in the Virginia Tidewater and northern Piedmont seems unavoidable.

21. Jean Gottmann, *Megalopolis*, *op. cit.*, page 564.

Thus Megalopolis is pushing southward and southeastward. It may indeed reach Richmond and Norfolk some day in the foreseeable future.

Another set of directions, this time inland and breaking away from the fateful axis of U.S. 1, may be inferred from an attentive examination of the distribution . . . of the metropolitan areas in the northeastern section of the United States, between the Atlantic Seaboard, the Great Lakes and the Ohio Valley.²²

Harold Martin, in poetic-like prose, sees the Megalopolis as a "seamless web that knows no boundaries",²³ and foresees the fate of the urban centers of Megalopolis as follows:

For many a lesser city of Megalopolis . . . the future is less bright. The ambitious prairie youth still comes to town, finds Helen and kisses her. Then he marries her. And as soon as the second baby is on the way, he scurries off to a little ranch house in the country as quickly as he can sign the mortgage papers and find a moving van. It is a migration to which not even . . . Manhattan is immune; and New York itself, once a great concentration of all sorts and conditions of men, may in time become the habitat only of the very rich, the very poor, the childless and the strange.²⁴

Equally firm in his convictions is Mr. Edward Higbee:

In the Northeast, the physical fusion of large metropolitan complexes has already begun. The suburbs of Washington tangle with those of Baltimore. Baltimore is advancing upon Wilmington. Although Wil-

22. Jean Gottmann, "Megalopolis, or the Urbanization of the Northeastern Seaboard", *Readings in Urban Geography*, University of Chicago Press, 1960, page 54-55.

23. Harold A. Martin, "Our Urban Revolution," *The Saturday Evening Post*, January 2, 9, and 16, 1960, page 84.

24. *Ibid.*, page 27.

mington and Philadelphia are separated by state lines, they are physically in each other's arms. New Jersey complains that it is but a rendezvous between the offspring of Philadelphia and New York. Boston, while isolated in mind, is becoming linked to New York via Providence, Worcester, Hartford, New Haven, and Bridgeport. Here is the beginning of a regional city hundreds of miles in length which could become such a tangle of haphazard development as to defy dissection. That nine states and thousands of local government units, each with its own prerogatives for taxing, spending, and licensing, should jell into one contiguous built-up lump is intellectually frightening and fiscally mad.²⁵

That Megalopolis will continue to spread and grow along the eastern seaboard and reach into the adjoining areas to the west is generally agreed. That this urban growth will require guidance if the present and future generations are to harvest any of the benefits of this growth is also acknowledged.

While Megalopolis is one of New Jersey's prime assets, it has given to the State a massive urban development that has brought with it certain responsibilities. In viewing the Megalopolitan trends, a number of questions must be asked of the future:

What will New Jersey's role be in the future growth of Megalopolis?

What pressures will Megalopolis exert on New Jersey?

How can regional (Megalopolitan) influences be translated into desirable land use policy?

How can the transportation demands of Megalopolis be planned to promote the development of desirable patterns of land use?

What role will New Jersey's transportation network have in the growth of the region?

And most importantly, if the future growth of Megalopolis is not properly guided, what will be the impact on the environment and living conditions in New Jersey?

There are thousands of individual governments within Megalopolis, each with its own prerogatives. New Jersey, and all of its local governments, form but a part of these. However, the New Jersey part — because of its location — is under more pressure than any other area in Megalopolis. The economic advantages that could accrue to New Jersey from a coordinated statewide approach to guide the resulting growth are manifold. However, the problems that could result from unguided growth are as numerous.

25. Edward Higbee, *The Squeeze*, *op. cit.*, pages 6-7.

CHAPTER THREE

New Jersey - Its People



New Jersey, with an estimated 833 persons per square mile (1962), is the most densely populated state in Megalopolis and the nation. The major concentration of the State's population, roughly 80 percent, live in the eleven counties which form a rather narrow strip running between New York and Philadelphia. Although New Jersey's population is characterized as being predominately urban, it is in fact a composite of the full spectrum from rural-farm, through exurban and suburban to urban. As Jean Gottmann has pointed out, New Jersey's urbanization is an enigma to many students of urbanology:

In New Jersey, no city had a population of even half a million in 1950. However, the state as a whole was suburbanized enough, either by its own central cities (14 of which had over 50,000 inhabitants each, enough to serve as the core of a standard metropolitan area) or by the great across-the-river cities of New York and Philadelphia, to average 643 inhabitants per square mile, a density quite close to that of Belgium-Luxembourg, with about twice New Jersey's area.²⁶

26. Jean Gottmann, *Megalopolis*, *op. cit.*, pages 27-28.



In the past, New Jersey's growth in population has been predicated upon the continual provision of substantial numbers of employment opportunities in manufacturing and the allied basic industries. People tend to gravitate toward those areas where there are sufficient jobs to support themselves and their families.

As was pointed out in the previous chapter, employment in manufacturing in Megalopolis has been experiencing a gradual decline over the past several decades. During this period, although New Jersey's manufacturing economy has remained relatively stable, an increasing proportion of the State's labor force has turned to retail trade and the services for employment.

In the next two chapters, trends in the diversity of New Jersey's population and its economy will be explored in an effort to gain a better understanding of the resultant ramifications of these trends in population and economic growth on the State's physical environment.



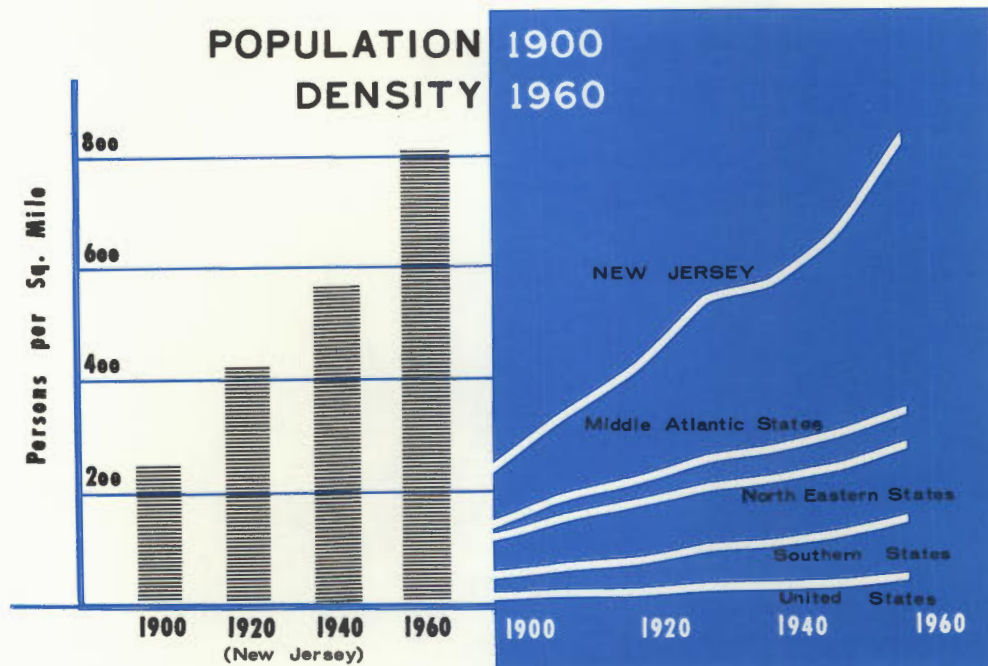
NEW JERSEY'S POPULATION EXPANSION

The population growth of New Jersey has never been so dramatic as within the decade between 1950 and 1960. The numerical increase of 1,231,453 people during this period was the greatest of any decennial period in the history of the State, and represents a number roughly equivalent to the total population inhabiting New Jersey at the turn of the century. The percentage increase of 25.5 percent has been exceeded only twice before in New Jersey during any decennial interval since 1900: by a 35 percent increase which occurred between 1900 and 1910, and again, by a 28 percent increase occurring between 1920 and 1930.

From where have these 1,231,453 people come? The 1960 Census shows that 639,748 or roughly 51.9 percent of the increase during this ten-year period resulted from a gain in the surplus of births over deaths (natural increase), while 591,705 (48.1 percent) moved to New Jersey from other states.²⁷ The fact that nearly 50 percent of New Jersey's growth in population has resulted from in-migration has had a significant bearing upon the physical development of the State during this past decade. Many of these people moved to New Jersey seeking an escape from the congestion of urban living. Within the State, a similar movement has occurred, with an exodus of people from the more highly urbanized portions to the surrounding suburbs. More than 168,000 people moved out of Hudson and Essex counties during the fifties, while Bergen County was the recipient of the largest number of new residents as a result of migration — some 153,407 people.²⁸

27. U.S. Bureau of the Census, *U.S. Census of Population: 1960, General Population Characteristics*, New Jersey. Final Report PC(1) — 32B, Washington, D.C., 1961.

28. *Ibid.*

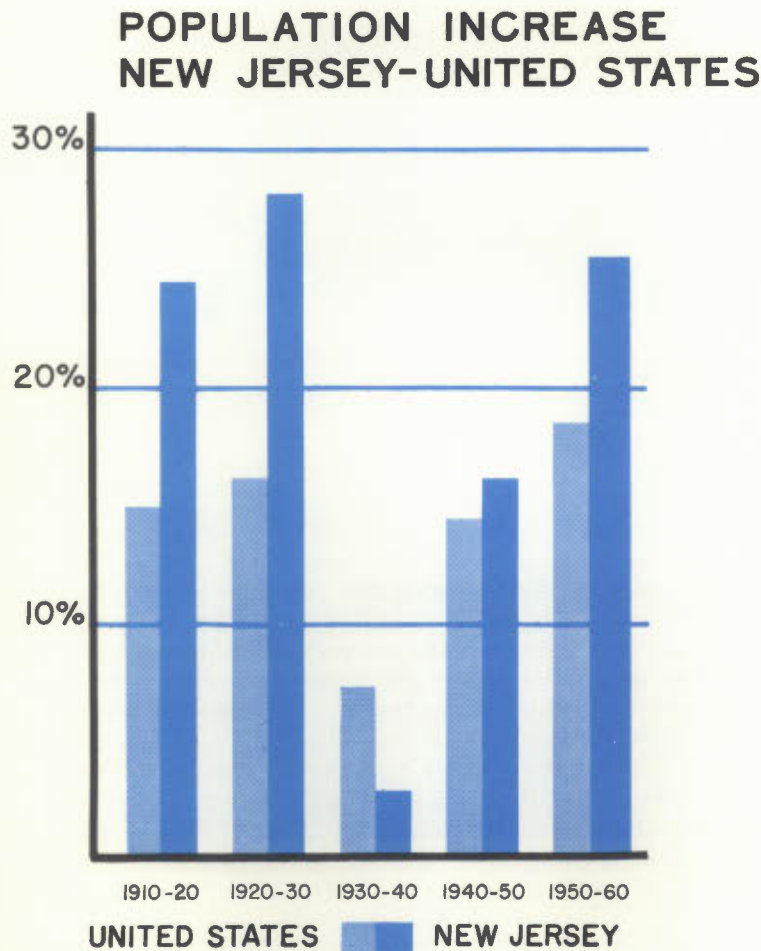


SOURCE: United States Bureau of the Census.

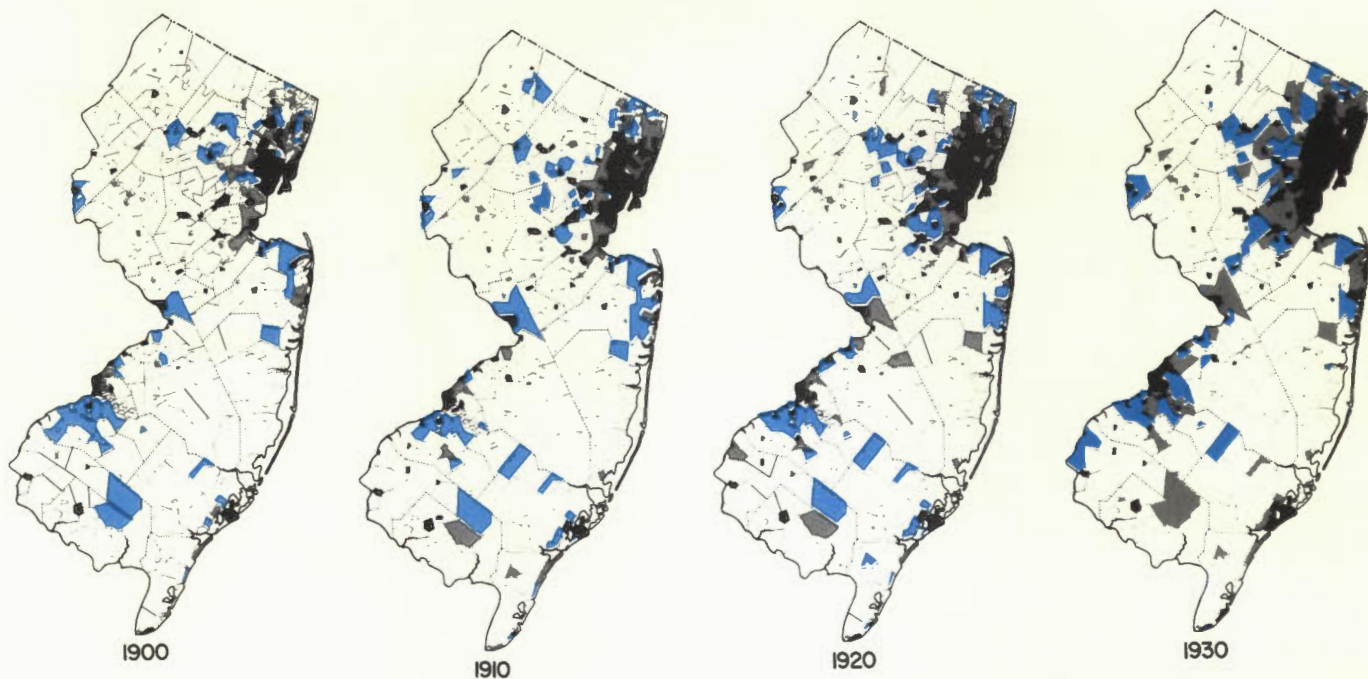
Population Density in New Jersey

Since the beginning of the twentieth century, New Jersey's population has increased at each census interval at a rate higher than that of the nation as a whole, with the exception of the Depression decade. Traditionally, New Jersey has been one of the most densely populated states in the Union. In 1960, the average population density for the State was 808 persons per square mile, representing a density well above the national average of 50 persons.

Of equal significance with population growth and density, however, is the way in which these people are distributed throughout the State. Some 336 municipalities in the State, or more than half of its 568 municipalities, are far more densely populated than the 1960 State average of 808, while 29 New Jersey cities have a population density of 10,000 persons per square mile or more. West New York, for example, with its 39,497 persons per square mile in 1960, is even more densely populated than either Brooklyn or the Bronx in New York City and is in fact, the most densely populated city in the nation.

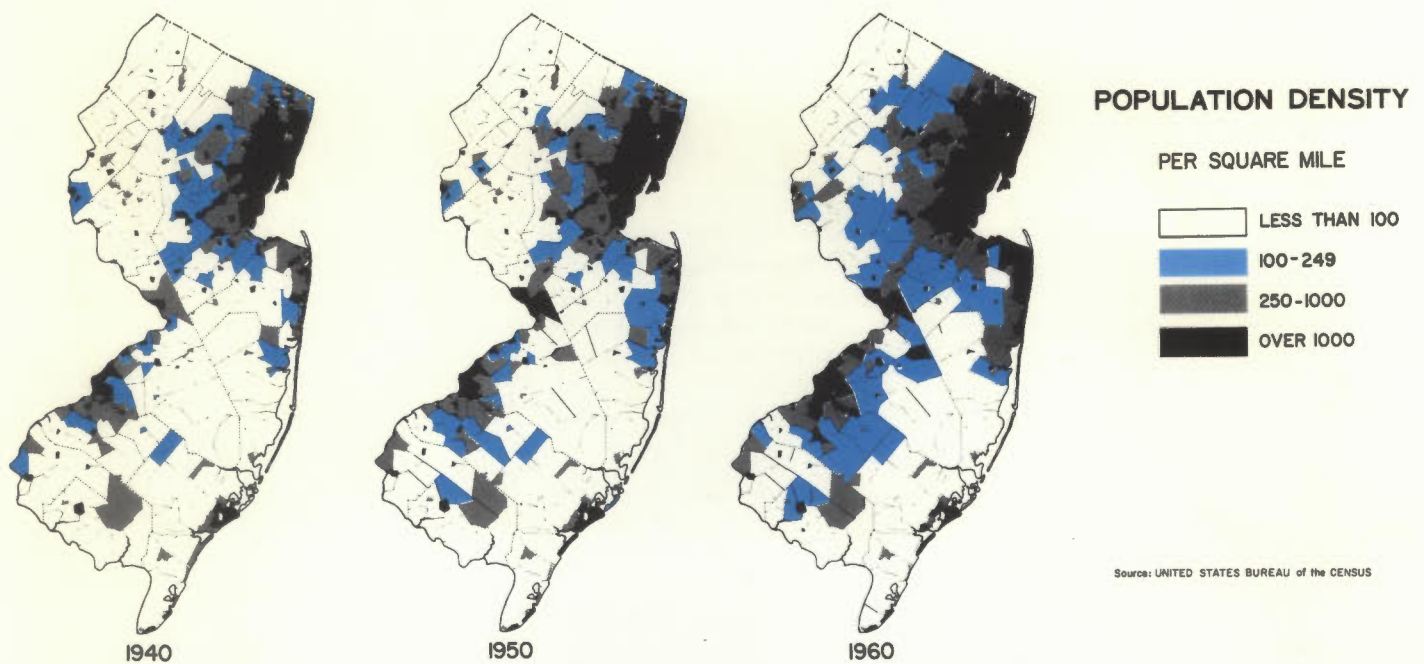


SOURCE: United States Bureau of the Census.



LAND USE RAMIFICATIONS

During the past several decades the increase in developed land in New Jersey has been even more startling than the increase in people. Between 1920 and 1930, the New Jersey corridor between New York and Philadelphia first became substantially urbanized. Since the lands along U.S. Routes 1 and 130, which form the axis for this corridor, were relatively flat and free of developmental obstacles, they stood invitingly awaiting subdividers. The ranges of the Watchung Mountains to the west of the then urban portion of the State served as a deterrent to westward expansion, and further channeled development into the corridor. By 1950, 74.5 percent of the State's population was living in urbanized areas; nearly half again as large a percentage as the national average of 56.6 percent.



The second significant decade of growth occurred between 1950 and 1960 when the suburban population explosion which followed the Second World War became most evident. With the improvement of the State's highway system and the relative freedom of movement afforded by the age of the auto, previous natural obstacles to development were readily overcome. New Jersey's population spread in all directions, with the most notable increases occurring in the suburban ring of counties surrounding the Newark-New York urban complex — Bergen, Morris, Somerset, Union, and Middlesex counties — and the tri-county area of Gloucester, Camden, and Burlington of the Philadelphia-Camden metropolitan area.

Between 1930 and 1960 urban development (areas having a density of over 2,000 persons per square mile) just managed to keep pace with the rate of expansion of population, increasing by 50 percent. Over this thirty year period suburban growth (areas having between 500 and 2,000 persons per square mile), on the other hand, consumed over 410,000 acres of land.²⁹ This represents an over-all increase of 150.5 percent, a figure three times as great as the increase in population during this 30-year period.

Over half of this suburban development occurred between 1950 and 1960; and of this, nearly 60 percent went into small lot suburban subdivisions of single-family homes. During this same ten-year interval, 7,000 farms disappeared from the New Jersey countryside, representing a reduction in farm land of over 447 square miles, an area roughly equal in size to that of Bergen and Passaic Counties.

"As the population has increased, more and more lands have gone from the forest to the plow and from the plow to the bulldozer as the expanding population seeks new places to live and work."³⁰ While this growth, stimulated by the general good health of the New Jersey economy, is likely to continue, and is welcome, its impact will be felt upon the land and upon the resources of the State, and must be accommodated.

Faced with such a prospect, we can only echo the conclusions of Dr. John Brush of Rutgers, the State University:

. . . the increasingly dominant urban-industrial character of the State as a whole should give cause for rational planning of future land use.³¹

29. New Jersey Department of Conservation and Economic Development, *The Need for a State Recreational Land Acquisition and Development Program*, An exploratory report prepared by the Land Use Committee, November, 1960, page 3.

30. *Ibid.*, pages 2-3.

31. John E. Brush, in Flink, *The Economy of New Jersey*, *op. cit.*, page 41.



THE DEMOGRAPHIC COMPOSITION OF NEW JERSEY'S POPULATION

Age And Sex

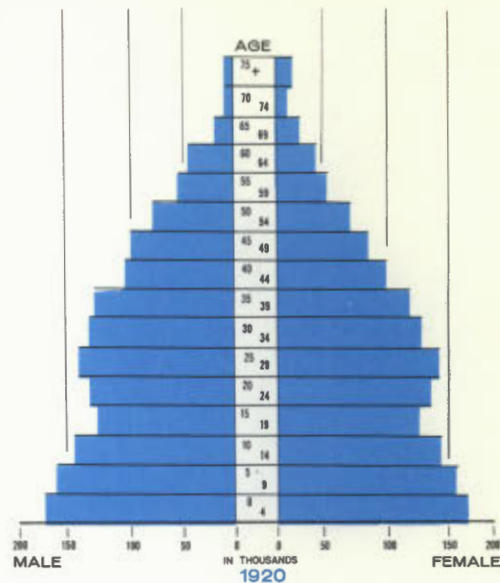
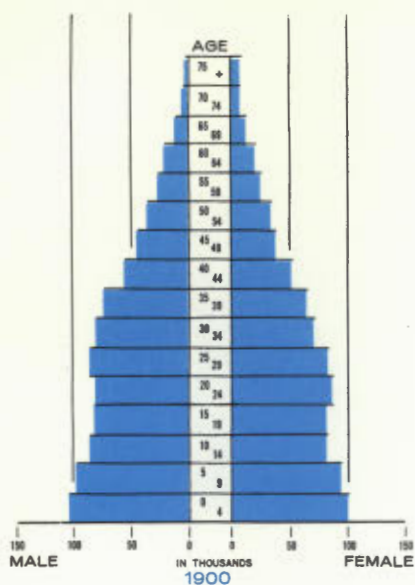
Perhaps even more indicative of the future impact of growth on New Jersey is the age structure of the current population. Thus, while the total population of the State increased by nearly 26 percent during the fifties, the numbers of persons age 5 to 19 years increased by 57 percent. This was the largest single age group increase in New Jersey during this period, and is an increase 16 percentage points higher than the national growth in this same age group.

What this points to, apart from the current demand for school facilities, is that as this age group reaches the family-formation and home-buying stage, and many will within the next five years, there will be a suburban land demand in New Jersey unlike any in its long and rich history. The entrance of this group into the job market will also have a profound effect upon the employment opportunities which have to be provided in the future.

The following charts illustrate the age composition of New Jersey from 1900 through 1960. Notice the pyramid-like shape of the chart for 1900, which shows many babies, few elderly people, and a diminuation of each age group as it grows older. Compare this chart to the box-shaped chart for 1960. While these changes in the age structure of the State's population may signify that we are on the threshold of a society with a high representation of all ages, of considerable significance is the higher representation among the very young and the very old.

With the exception of the Depression years, young children have never been scarce, but the elderly — until recently — always have been. Forty years ago (1920), persons over 65 years of age constituted only 4 percent of the population. Today this group represent 9.2 percent of the total. Pre-school children in New Jersey — the very young — increased 40 percent during the past decade (as compared to a 25 percent increase nationally), while the numbers of senior citizens, persons over 65, in New Jersey in-

AGE-SEX COMPOSITION 1900 1920



SOURCE: United States Bureau of the Census.

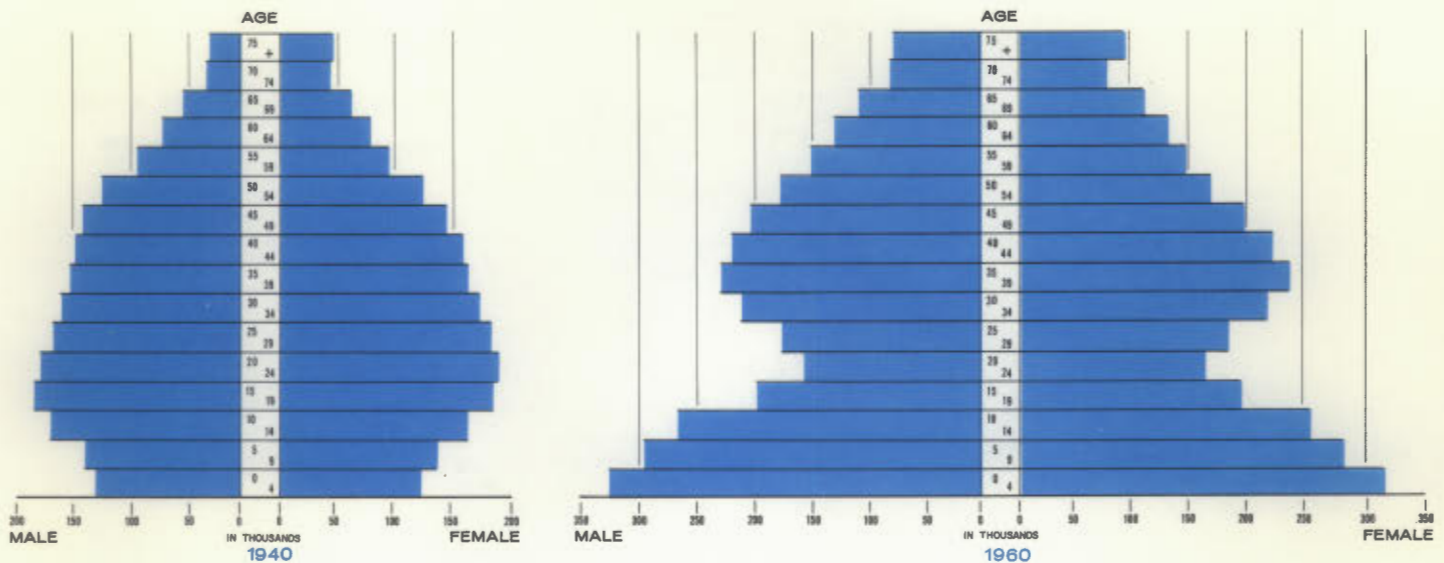
creased by 42 percent during this ten-year period. As might be expected, the distribution of the "very young" and the elderly is not uniform throughout the State.

At the same time, as persons in the very young and the elderly age groups were increasing, persons in the employment ages (18 to 64 years of age) were decreasing proportionately. In 1950, for instance, this latter group constituted 65 percent of the total population of the State; in 1960 this group represented 58 percent of the population.

Based on current trends and conditions, it would seem likely that representation in the very young and the elderly age groups will continue to increase. A recent report showed that the State of New Jersey had a ratio of two births for every death in 1962. This ratio is slightly higher than in the past, and current seers foresee this trend continuing, resulting in further increases in the very young and the elderly.

The impact of these trends can be expressed in terms of increased demands for

AGE-SEX COMPOSITION 1940 1960

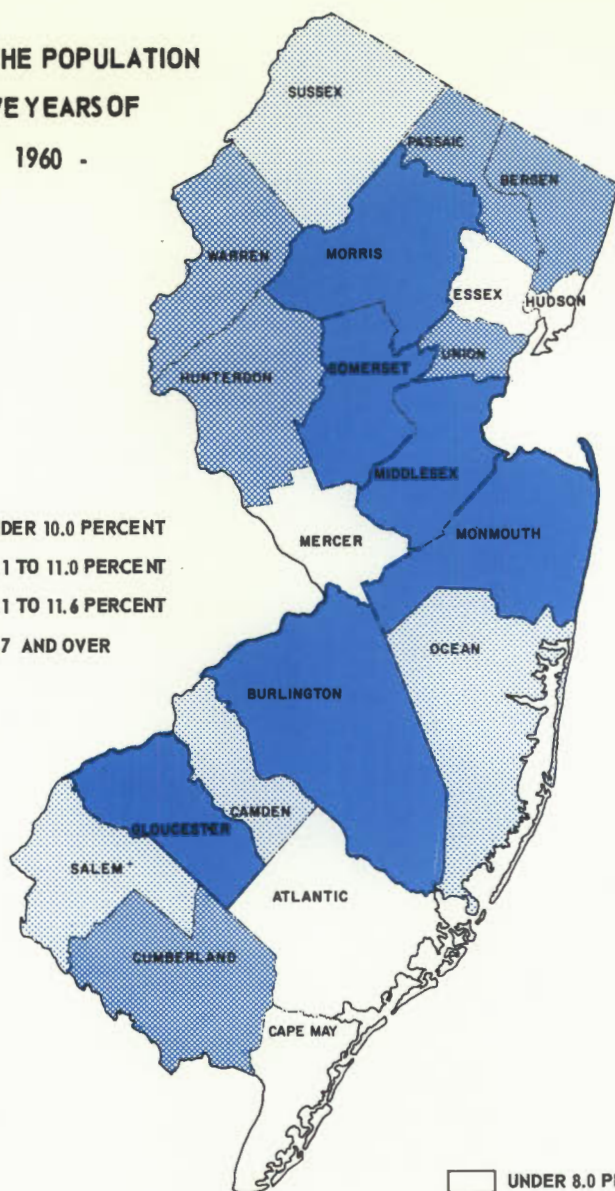
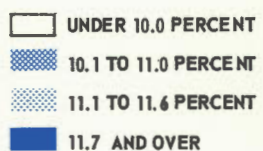


public facilities. The Department of Education, for example, anticipates a total enrollment of some 1,753,000 students in New Jersey's secondary public school system by 1980.³² Since the present school system accommodates about 1.1 million students, this means that new facilities must be developed to handle 650,000 more students in the next twenty years, in addition to the replacement of facilities which by 1980 will be inadequate or obsolete.

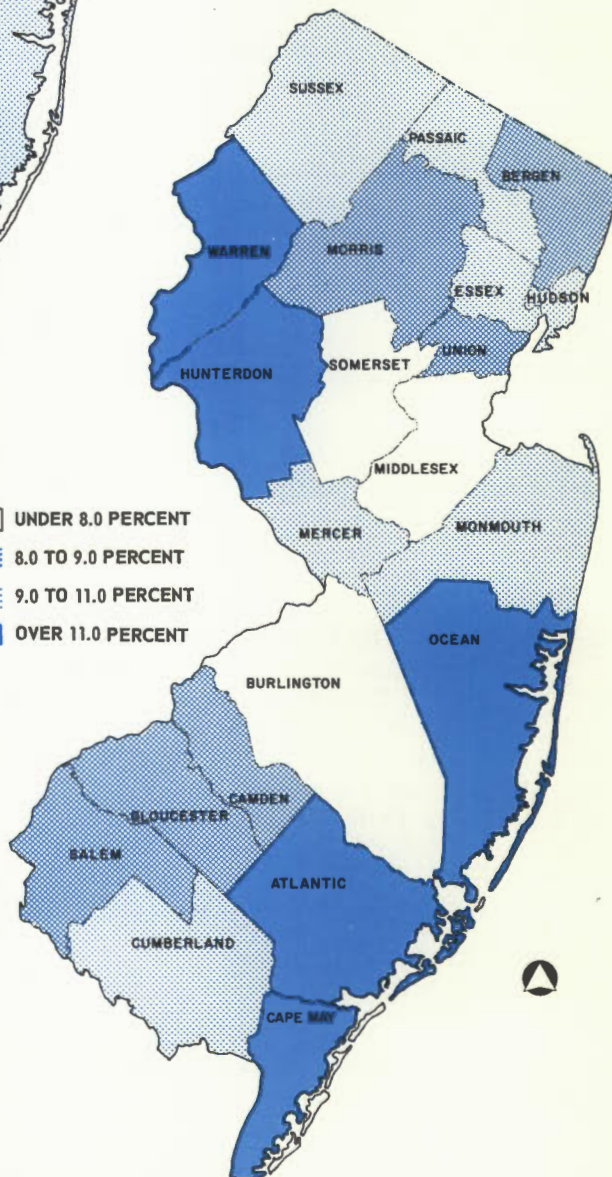
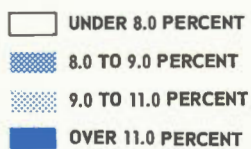
32. Based on information supplied by the N. J. Department of Education, January, 1963.

In less than twenty years, some 300,000 more persons will reach retirement age. Many will remain to live out their lives in New Jersey. This will mean that increased demands will be placed on our hospitals and public health services to care for these older people in the population. It will also mean that certain spheres of the economy will begin to cater more to the needs of this segment of the population. There is already evidence, for example, of "retirement colonies" being promoted along the Jersey coast. The "segregation" of older people into these areas will have a significant impact, not only on the people themselves, but on the community in which they live as well.

**PERCENT OF THE POPULATION
UNDER FIVE YEARS OF
AGE - 1960 -**



**PERCENT OF THE POPULATION
OVER SIXTY-FIVE YEARS OF
AGE -- 1960**



SOURCE: United States Bureau of the Census.

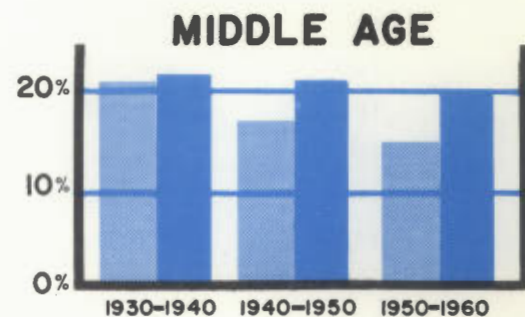
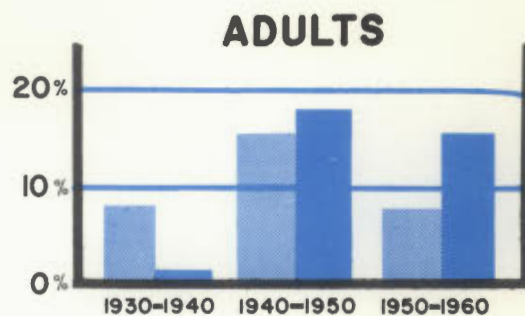
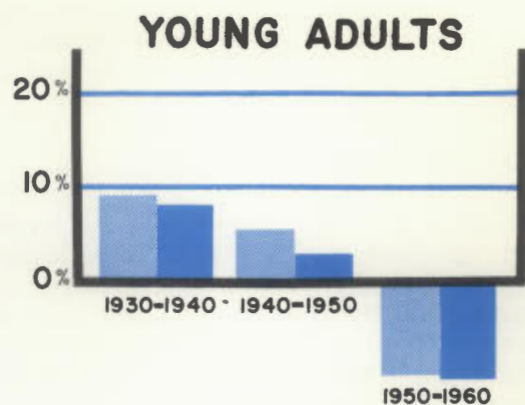
Young Adults, Adults, and Middle Age

From the accompanying chart it may be seen that the percentage increases in New Jersey for the categories of "Adults" (30 to 44) and "Middle Age" (45 to 64) were greater during the past decade than comparable increases for the nation as a whole. However, between 1950 and 1960, New Jersey experienced a decline in the "Young Adult" age group of 20 to 29 years of age. This decline of 10 percent closely paralleled the national decline of 9 percent for this period.

There are certain economic ramifications which stem from these shifts in the various age groups of the population. These revolve about the patterns of consumer habits. For example, it is during "Adult" age period that the majority of the "durable goods" of the family are purchased — a house, major appliances, the second automobile, etc. The physical location of these people, therefore, has an important bearing on the State's economy. With recurring frequency, the money spent in the suburbs is also made in the suburbs, a fact which is of growing concern to the urban businessmen.

In contrast, the "Middle Age" segment of the population has reached the final stage of the family cycle, labelled by some sociologists as the "launching stage." It is during this period that the children pass from adolescence to young adults and are "launched" by the parents into jobs, marriage, and adult autonomy.

After an intense burst of spending on the children (for education, social development, wedding expenses, etc.) it is possible for the "Middle Age" adult to begin to purchase "luxury items" and to save for "that extended vacation" or "that home at the shore" and/or for his eventual retirement. This again has an important bearing on the economy. With the "launching" of the last offspring, middle age couples may decide to take up smaller living quarters and move back into urban areas for the "convenience of apartment living." Many, however, may choose to remain in their established homes.



UNITED STATES NEW JERSEY

SOURCE: United States Bureau of the Census.

It is the "Young Adults" age group which represents the family-forming, job-seeking, home and appliance-buying segment of the immediate decade. The general over-all decrease of persons in the Depression-born age group has had its ramifications in the national economy. The current decline in home-buying activity, for example, may also be attributed to the fewer numbers of couples in the home-buying segment of the population.

Males And Females

In New Jersey, as seen from the accompanying chart, the ratio between males and females has fluctuated to a significant degree during the past eighty years, with an upward trend in the percentage of males reaching a peak in 1910 and then continuing downward to the present day.



NEW JERSEY POPULATION BY SEX, 1880-1960

Year	Males	Females	Males per 100 Females
1880	559,922	571,194	98.0
1890	720,819	724,114	99.5
1900	941,760	941,909	99.9
1910	1,286,463	1,250,704	102.9
1920	1,590,075	1,565,825	101.5
1930	2,030,644	2,010,690	101.0
1940	2,069,159	2,091,006	99.0
1950	2,382,744	2,452,585	97.2
1960	2,971,991	3,094,791	96.0

Source: U.S. Bureau of the Census.

It is also significant that there is a marked difference in age group composition between New Jersey's male and female population. Thus, the median age of the male population is 31.5 years while that for the females is 33.2 years. This is caused by the greater female survival rate, especially in the older age groups. Also of interest is the fact that there are more males than females in the lower age groups, as seen from the following table.

MALES PER 100 FEMALES BY AGE GROUP, NEW JERSEY, 1960

Age	Males	Age	Males
under 5 years	103.4	45-49	97.1
5- 9	103.9	50-54	97.4
10-14	104.9	55-59	95.4
15-19	102.0	60-64	88.7
20-24	95.0	65-69	83.9
25-29	94.2	70-74	81.6
30-34	93.6	75 & over	69.1
35-39	92.4		
40-44	95.4		
Total all ages 96.0			

Source: U.S. Bureau of the Census.

Minority Groups in the Population³³

In 1960, there were 606,384 foreign born white persons living in New Jersey representing a decrease of 24,377 from 1950 when the figure was 630,761. In both years, Italy was the largest contributor, with Germany and Poland in second and third place respectively.

33. For the purpose of the following discussion, the term "minority group" is defined herein as any group falling within the U.S. Census classification of "foreign born white" and/or "non-white".

Total Foreign Born White Population in New Jersey 1910-1960

Year	Total
1910	658,188
1920	738,613
1930	844,784
1940	695,810
1950	630,761
1960	606,384

Source: U.S. Bureau of the Census; 1950, 1960.

Unlike the foreign born white population, since 1880 the State's non-white population has experienced constant gains in both absolute figures and percentage of the total population.

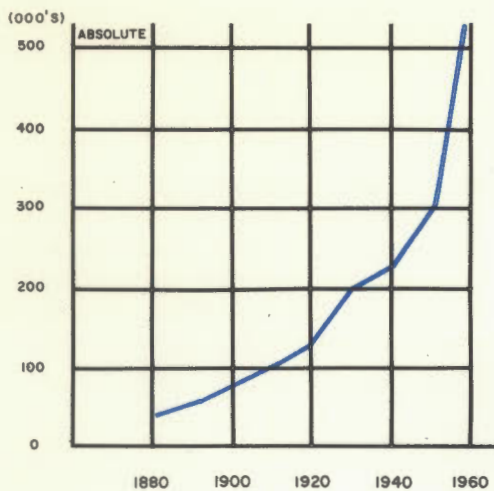
For the most part, suburbia has been found to be less apt to receive non-white settlement than other sections of the State. As example, in 1960, 91.6 percent of the non-white population were located in urban areas, while only 88.6 percent of the total population were in areas so classified.

A corollary of this is the fact that the non-white percentage of population and percentage increase over time has been most pronounced in highly urban areas. The cities of Camden, Elizabeth, Jersey City, Newark, Paterson, and Trenton have non-white pop-

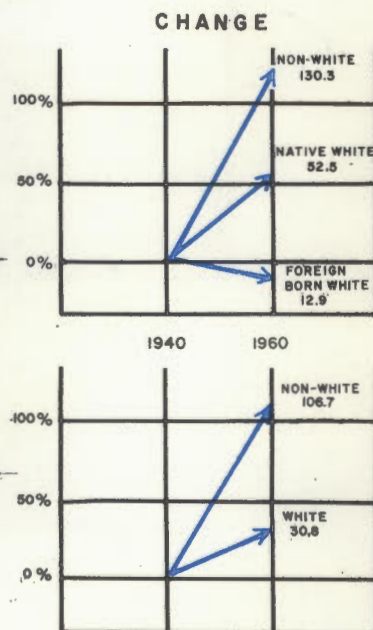
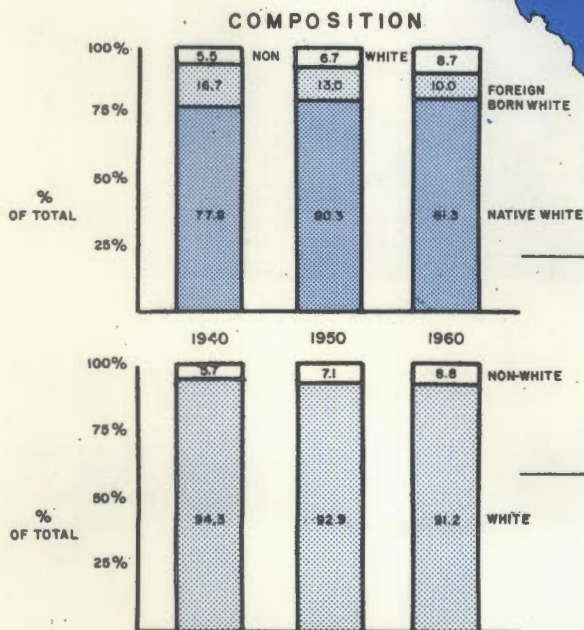
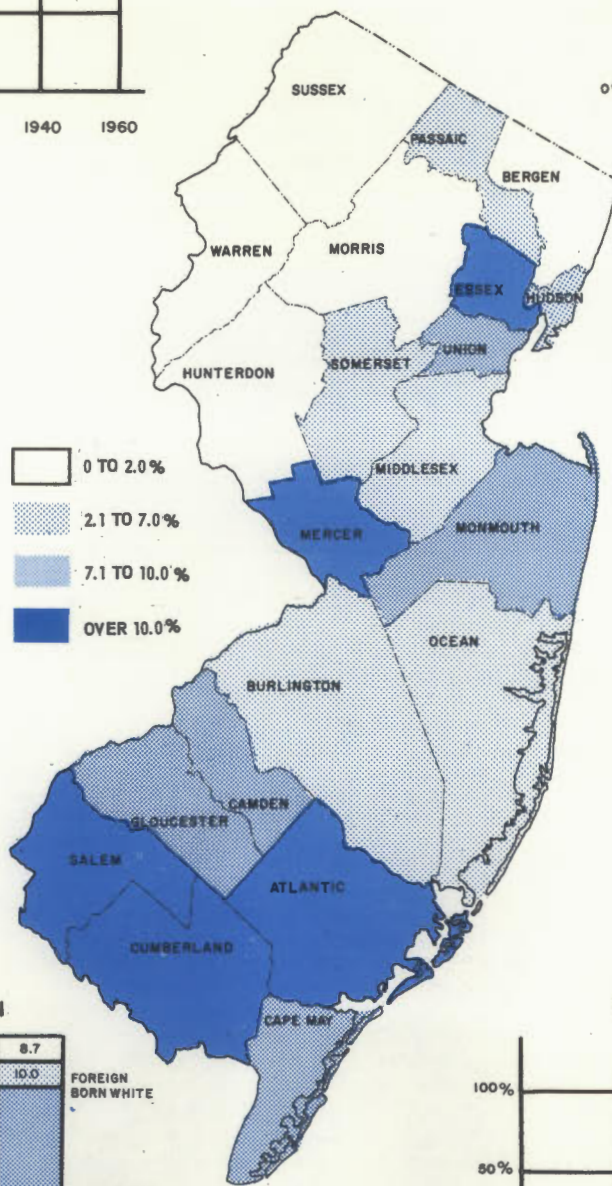
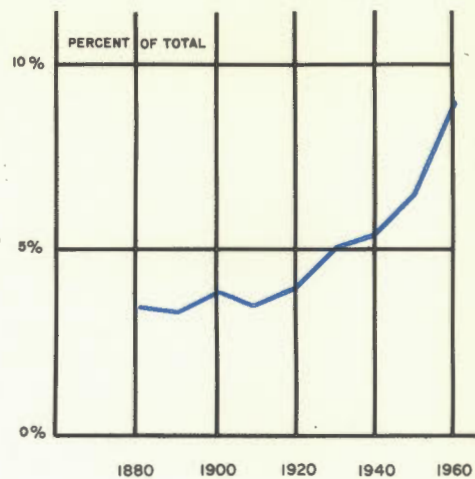
ulations of over 10 percent of total population, Newark being high with 34.3 percent. Newark and Paterson show the highest relative increases in non-white population from 1940 to 1960 with gains of 200 percent and 390 percent respectively.

The percentage change figures for the State as a whole show the rapid emergence of the non-white segment of the population. Thus, from 1940 to 1960, the non-white population in New Jersey increased by 130 percent as compared to a 53 percent increase in the native white population. The percentage of white and non-white in the labor force also reflects these trends. The short- and long-run implications of these trends must be taken into consideration in terms of the future population and economy of New Jersey.





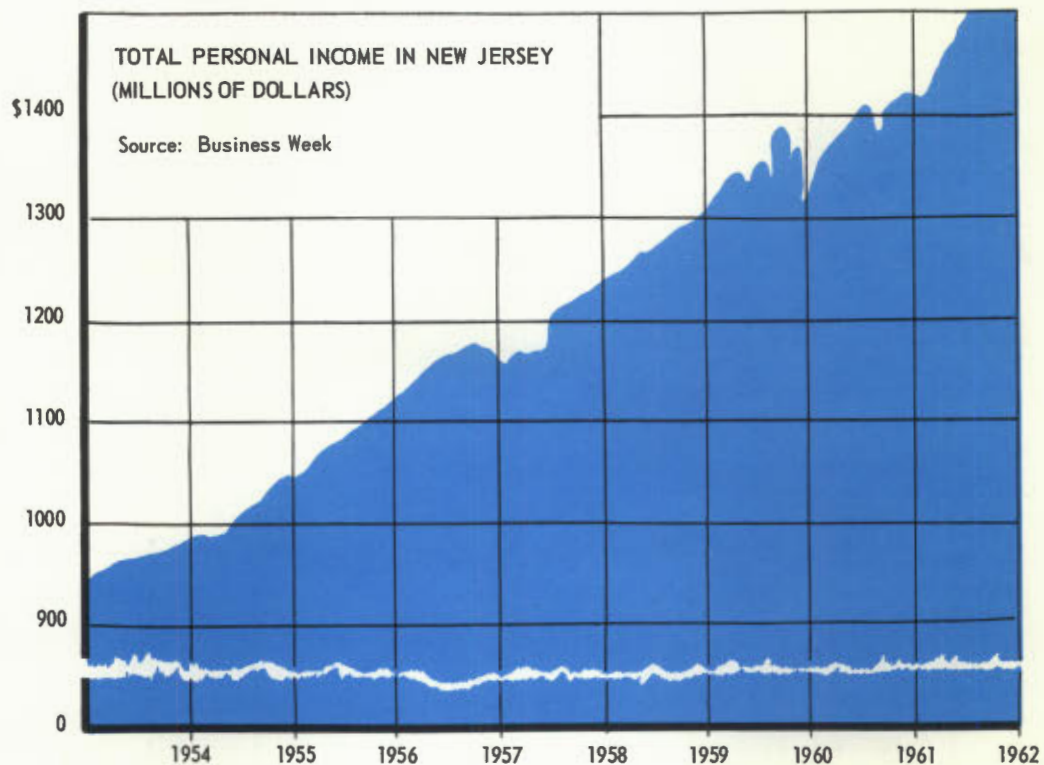
NON-WHITE POPULATION IN NEW JERSEY



Personal Income in New Jersey

Another ramification stemming from the increased members of white collar workers in New Jersey's labor force is the impact on personal income. As was pointed out in Chapter 2, Megalopolis is the highest income market in the nation, with an estimated average income in 1960 of \$7,200 per household. The residents in this area represented over \$121 billion of effective buying power after federal taxes and annual retail purchases in this area were estimated to be in

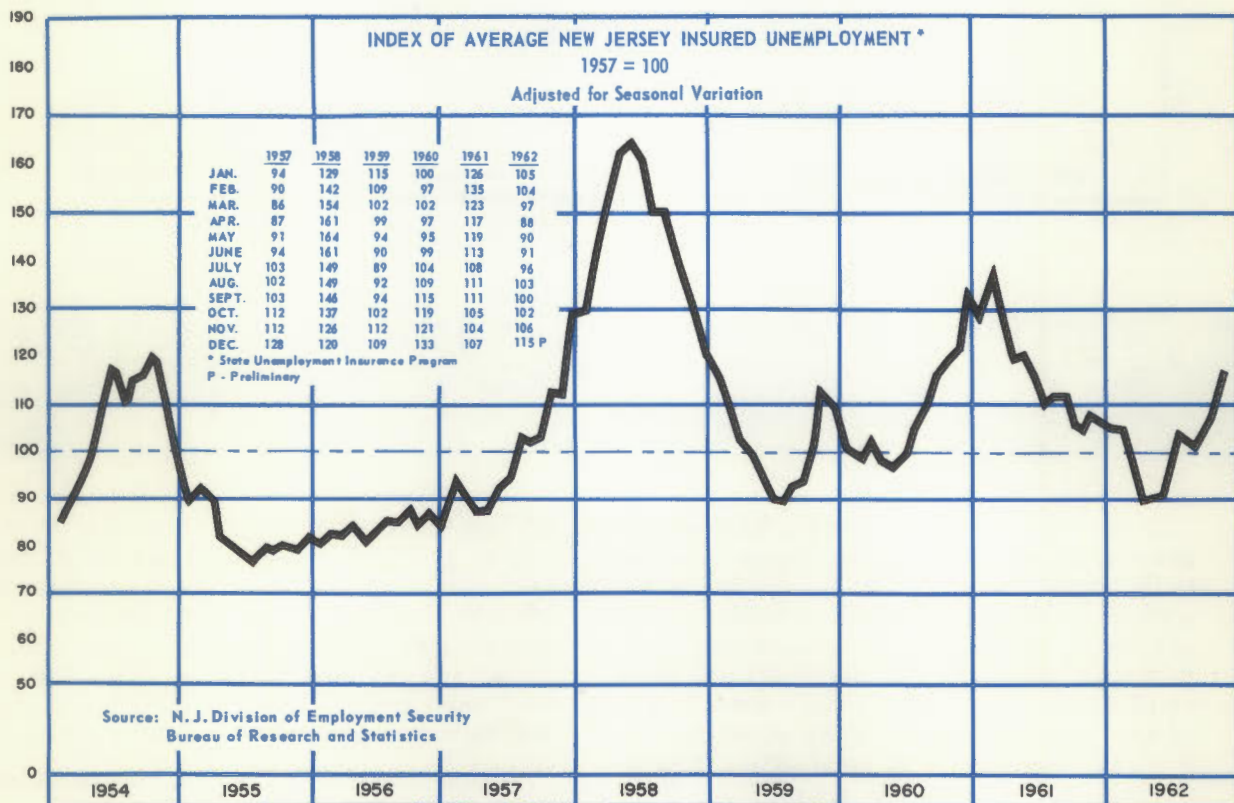
excess of \$67,000,000,000 in 1960. New Jersey, itself, presents an important market for all types of products, with one of the highest effective buying incomes in the nation: \$7,837 per household in 1960. Current figures would suggest that present effective buying power for the average New Jersey household is substantially above that of the 1960 figure. With the increase in white collar workers in the State's labor force it has been estimated that personal incomes in New Jersey will continue to rise.



THE COMPOSITION OF THE LABOR FORCE

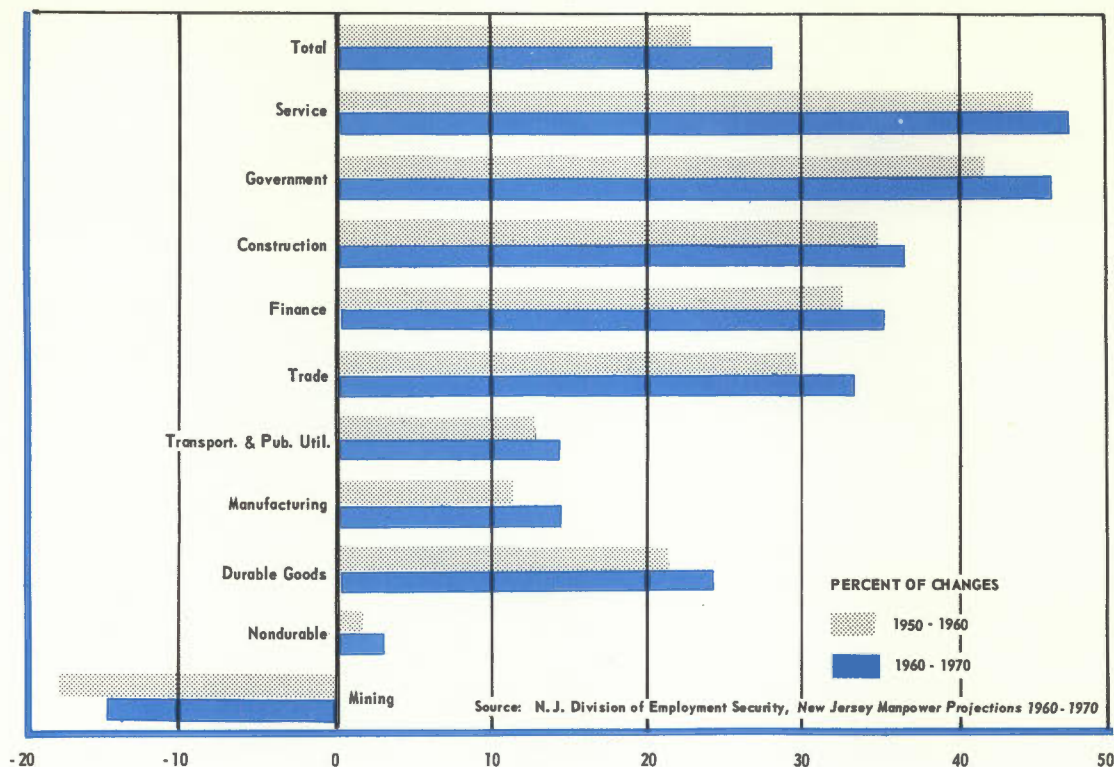
New Jersey's labor force is larger now than at any time in the past. Although it is difficult to obtain an accurate count of employment in the State at any one time due to variations in methods of reporting, it is estimated that the work force currently numbers in excess of 2.6 million persons. While it is also difficult to measure the exact level of unemployment during any given period due to seasonal variations, over the past

years approximately 94 percent of the State's labor force has been employed, adjusting for seasonal and business cycle variations. It may be seen from the following chart that three major peaks of unemployment have occurred during the past nine years: during the recession of 1958, and during the lesser recessions of 1954 and the winter of 1960-61. Between these peaks, the highest level of employment occurred in 1955 and 1956, with relatively stable periods in 1959 and early 1960 and again in 1961-62.



NONAGRICULTURAL EMPLOYMENT CHANGE BY INDUSTRY

Percent change 1950-1970



During the fifties the State's labor force grew by an estimated 18 percent, a substantially larger gain than that for the nation as a whole, which grew by only 12 percent. The greatest increases during this ten-year period occurred in the non-manufacturing segment of the labor force with over 300,000 non-manufacturing jobs being added to the State's non-agricultural employment totals.

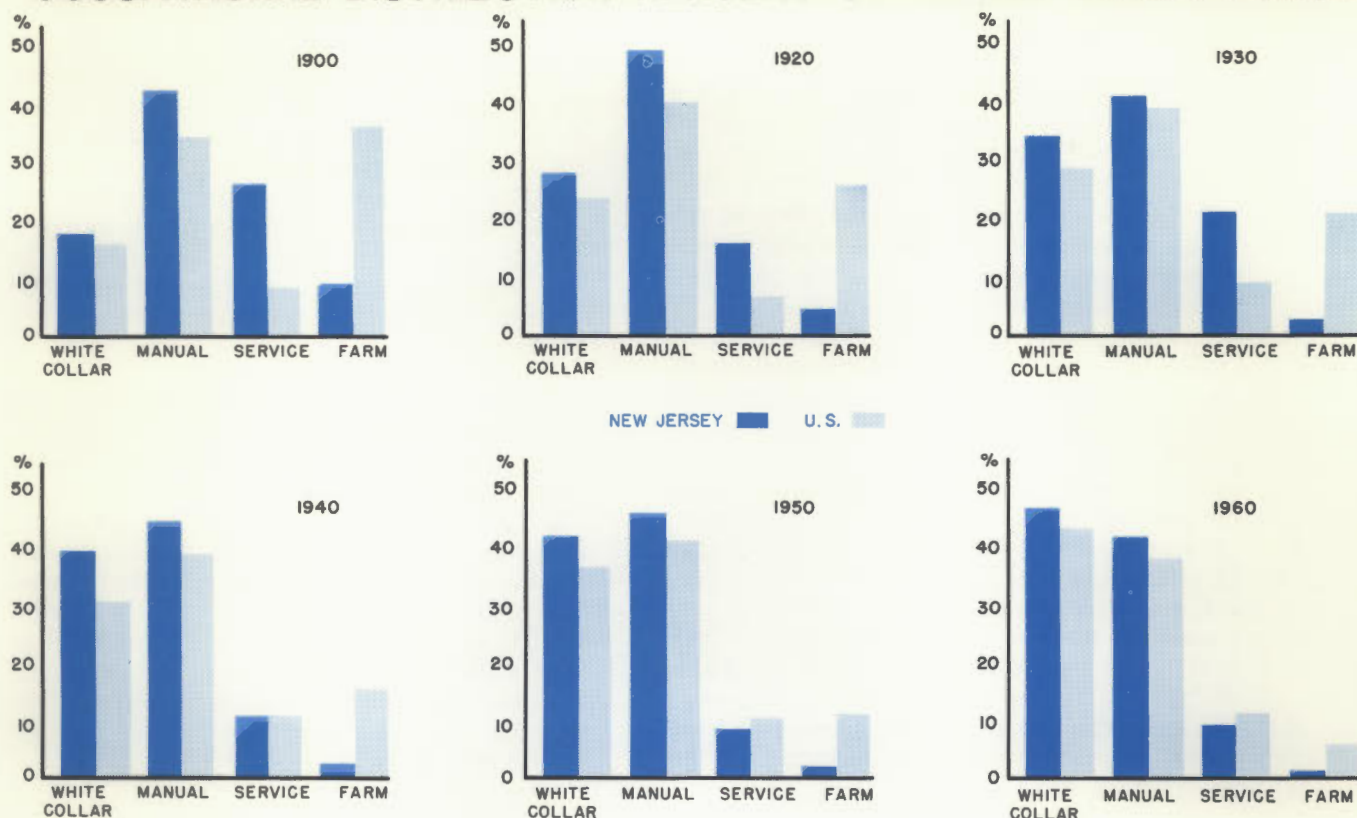
A report prepared by the New Jersey Department of Labor and Industry on the State's manpower potential³⁴ projects a pop-

ulation increase during the sixties of 1.3 million people, a relative increase of 22 percent, and an increase in the labor force of 570,000 workers, a rise of 23 percent. The above chart, adapted from this report, illustrates the manner in which these 570,000 additional workers will be distributed over the various segments of the labor force.

A general conclusion which may be drawn from this data is that while New Jersey is likely to continue as a manufacturing state, significant changes are occurring in the oc-

34. Division of Employment Security, *New Jersey Manpower Projections 1960-1970*, Research Series No. 4, September 1961.

OCCUPATIONAL DISTRIBUTION-PERCENT OF TOTAL LABOR FORCE



SOURCE: United States Bureau of the Census; and Statistical Abstract.

occupational structure and new employment patterns are emerging. As will be discussed in the following pages, these changes are likely to have an important bearing on the future economy of the State and on its physical development.

During the last decade, New Jersey experienced its greatest occupational gains in persons engaged in the professions. The State's gain of 46.8 percent was 4.4 percentage points higher than national averages.³⁵

35. All data for occupational categories were drawn from the 1960 Census, *General Population Characteristics, New Jersey* and from the *Statistical Abstract 1961*.

The second largest gains were made by salesworkers and clerical personnel. Here again, gains in New Jersey were in advance of those for the nation, with relative increases in salesworkers being over two and one-half times as great as national averages (31.2 percent in New Jersey as compared to 12.2 percent for the nation). The only category commonly grouped with the "white-collar" occupations in which increases in New Jersey were below those for the nation was "managers, officials, and proprietors". This group in New Jersey increased by only 1.8 percent between 1950 and 1960, while na-

tionally it increased by 4.9 percent. However, taken as a whole, the white-collar segment of the State's labor force increased by 27.8 percent as compared to a 23.1 percent increase nationally.

Paralleling national trends, the greatest decline in the State's labor force has occurred in the field of agriculture. Farming now occupies only 1.2 percent of the State's total labor force as compared to 6.4 percent nationally. However, since the Depression, New Jersey's relative rate of decline has been consistently below that of the nation.

It is also significant that the "blue-collar" segment of the labor force (manual and service), which once accounted for over 70 percent of the total labor force in the State, now provides jobs for slightly more than 50 percent of all workers. In particular, persons employed as laborers dipped sharply in number (declining by 13.8 percent) during the past decade, while craftsmen and operatives showed only slight gains. However, as a result of the continued emphasis on manufacturing in the State's economy, the manual category of employment in New Jersey increased by 4.1 percent between 1950

and 1960 while experiencing a 2.1 percent decline nationally.

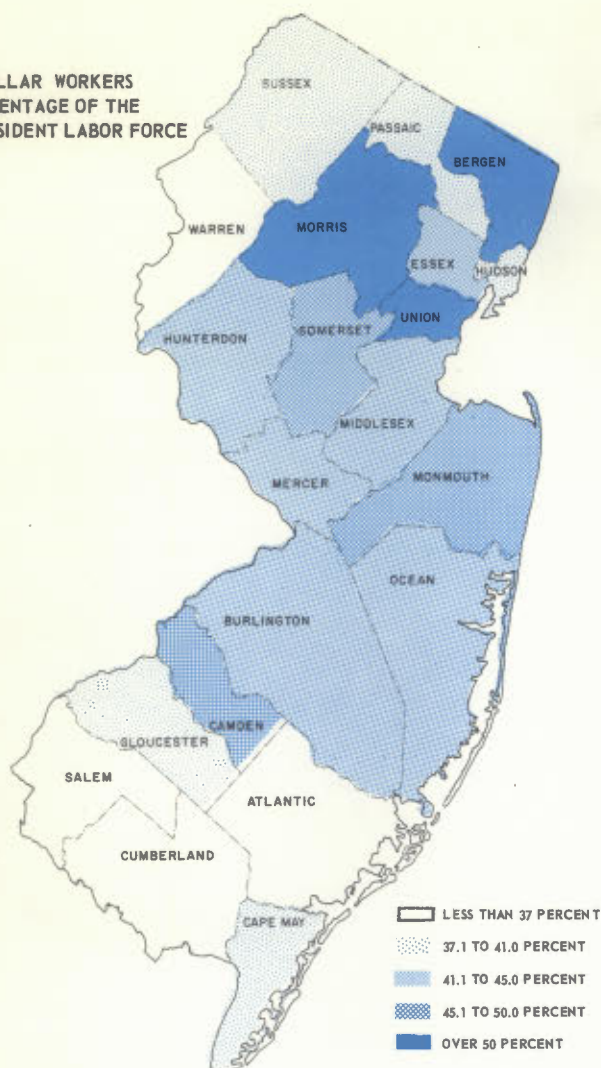
Women in the Labor Force

A significant factor of analysis concerns the increase of women into the labor force. Recent estimates place the female labor force in New Jersey at 811,200 or 35.6 percent of the State's female population over the age of 14. Not only is one-third of New Jersey's female population over 14 years of age in the labor force, but according to the 1960 Census, one-third of the State's labor force is women.

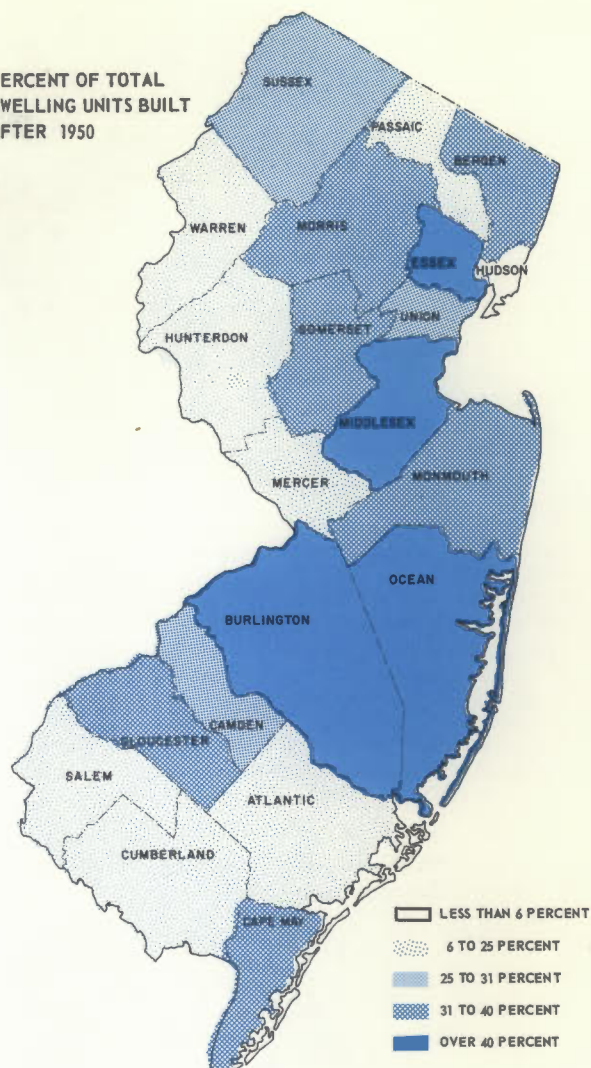
While the emergence of women as a significant percentage of the labor force may, in part, be due to sociological phenomena stemming from desires for greater female independence, it imparts a very real economic significance within the State. Industries can locate throughout the State with knowledge that a skilled local labor force will be readily available. It is probably no small coincidence that New Jersey has become a center for manufacturing and research operations requiring delicate operations which can be performed more effectively by women.



WHITE COLLAR WORKERS
AS A PERCENTAGE OF THE
TOTAL RESIDENT LABOR FORCE



PERCENT OF TOTAL
DWELLING UNITS BUILT
AFTER 1950



SOURCE: County and City Data Book.

Ramifications

It would appear that the white-collar worker, who now accounts for 44.9 percent of the State's total labor force, is setting the pace for the future. Changes in the professional, managerial, clerical, and sales categories reflect a shift in the occupational structure and employment patterns in the State. Growth in the number of research facilities and consumer-oriented retail trade establishments, for example, provide additional evidence of this shift. Further expansion of present business activities will undoubtedly create a demand for more white-collar workers, particularly in sales and administration. It is anticipated that despite a continued emphasis on manufacturing by 1970 white-collar occupations in the State will be in the majority.

There is an interesting parallel between the distribution of the white-collar labor

force and the more recent development of residential areas, as measured by dwelling units built after 1950. As was pointed out in the discussion of Megalopolis, the members of the white-collar occupational group, more so than any other, are characterized as suburban single-family homeowners. They demand, more avidly than any other occupational group, the best possible living facilities for their families and educational facilities for their children.

If, in fact, the white-collar worker is also the suburban dweller, then the increased demands for workers in this segment of the labor force in the next decade will further accelerate suburban development, bringing with it a number of related problems. The demands which this group will place upon the land for living space and upon tax revenues for increased public facilities must be recognized.



MORE HOMES

Assuming that the average family size in New Jersey will remain at about 3.00 persons per household, by 1980, nearly 1,000,000 dwelling units will have to be added to the current housing supply to meet the potential demands of the 3 million people that will be added to the population. Under present suburban residential land use development trends, this will result in the consumption of some 340,000 acres of land, an area roughly equal in size to Bergen, Hudson, Essex, and Union Counties.



MORE PUBLIC INVESTMENT

It is further evident that public expenditures arising from population growth and those involving replacement of existing facilities vary considerably from the urban core to the suburbs.

Since most of new development in the State will occur in the suburban areas, the major portion of this fiscal burden will fall to areas which may not be sufficiently equipped to handle many of the service demands which this growth will bring.

THE POPULATION IMPACT

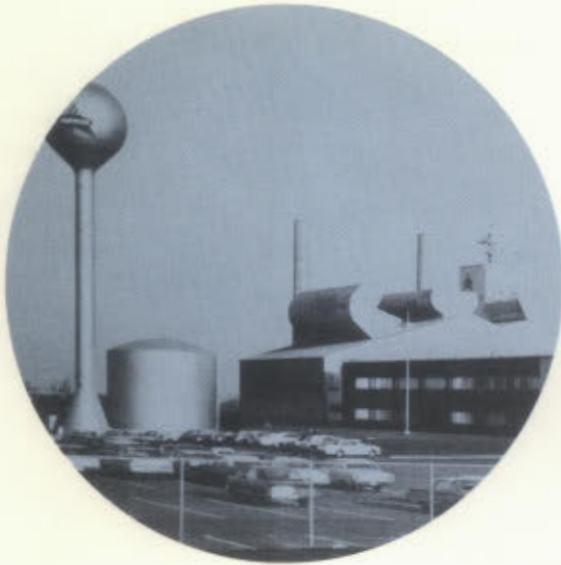
It has been estimated that New Jersey's population in 1980 will be somewhere between 8 and 10 million. In order to give some idea of the impact that this further expansion of population during the next twenty years will have on the physical and economic environment of the State, a population level of 9,000,000 for 1980 was selected as a basis for some rough calculations.



MORE URBAN RENEWAL

Further, if we assume that it would be desirable to provide each family with a reasonable standard of housing, an additional 500,000 dwelling units will be required to eliminate those units which are presently substandard (according to the definitions of the U.S. Bureau of the Census) or which will be substandard because of age and deterioration by 1980.





MORE JOBS

At present, over one-third of New Jersey's population is a member of the State's labor force. If this level of employment opportunities is to be maintained during the next two decades, nearly a million new jobs must be added to our present labor market to accommodate the anticipated three million increment in the population. An increasing number of these wage earners will be seeking employment in the white-collar job categories.

MORE SCHOOLS

It has been estimated that over half of our population growth in the next twenty years will result from natural increases. This will mean that our elementary and secondary school system must be equipped to accommodate over a million and half students by 1980. Since the present enrollment in the State's public schools is just over one million students, classrooms must be built to house 500,000 new students in addition to the replacement and modernization of existing facilities.



MORE LEISURE TIME

With a predicted shorter work week, an increase in the demand for a variety of recreational outlets can be anticipated. It has been estimated that over 172,000 additional acres of recreational land will be needed at the State, county, and local levels to accommodate current deficits and to meet future demands.

As the State's population continues to grow, various pressures brought about by this growth will become more acute. The solutions must be found in order to keep pace with the growth of the problem.

CHAPTER FOUR

New Jersey - Its Economy



New Jersey has long been regarded as one of the most prosperous states in the nation. It ranks close to the top in per capita income. Its living standards are exceptionally high. It has had, it has today, and there is every reason to suppose that it will continue to have an unusually strong economy. Its location, its technological skills, its excellent transportation facilities and a variety of other factors make for strength and make for confidence.³⁶

Measured by the yardsticks of population, labor force and per capita income, New Jersey's past performance shows exceptional signs of strength and growth. For example, the State's labor force grew by an estimated 18 percent between 1950 and 1960, a substantially larger gain than that of the nation as a whole, which grew by only 12 percent. The State's

36. Joseph E. McLean, former Commissioner of the Department of Conservation and Economic Development in *The Economy of New Jersey*, Salomon J. Flink, editor, Rutgers University Press, New Brunswick, 1958, page xxvii.



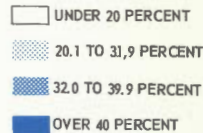
population grew by 25.5 percent during this same period as compared to a 19 percent increase nationally. New Jersey, with an average household income of \$7,837 in 1960, has one of the highest effective buying incomes in the nation.

The development which has occurred in New Jersey during the past several decades has been accompanied by a number of significant, although not always readily discernible, changes in the structure of the State's economy. It is the intent of this chapter to examine some of these changes as illustrated by statistics for the decade from 1950 and 1960. As with Chapter 2, each basic segment of the economy will be examined in turn with an attempt being made at the conclusion to provide an outlook as to the future of the State's economy.

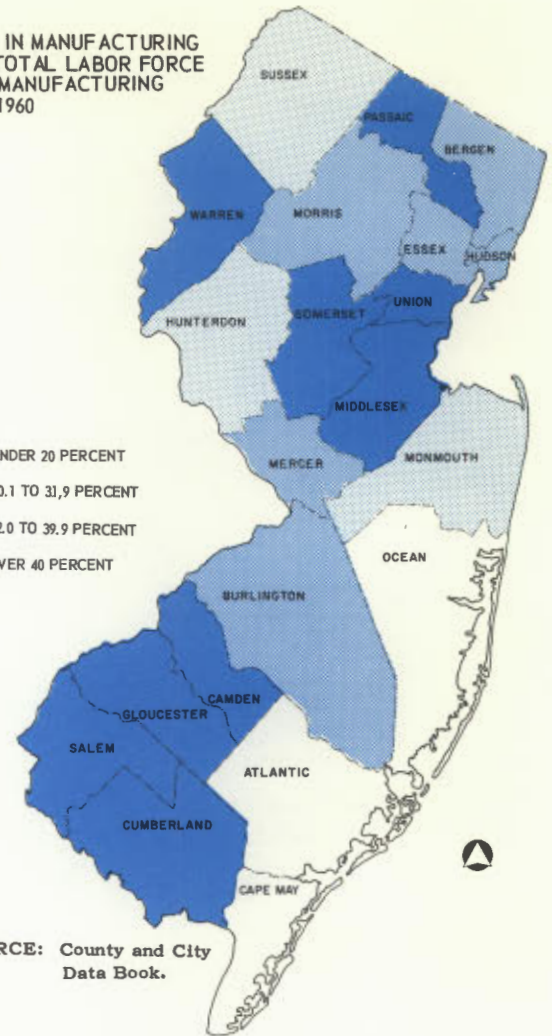
LABOR FORCE IN MANUFACTURING
PERCENT OF TOTAL LABOR FORCE
EMPLOYED IN MANUFACTURING
BY COUNTIES 1960

MANUFACTURING IN NEW JERSEY

Almost every type of industry can be found among New Jersey's manufacturing activities. Sixty-two of the nation's seventy-five largest industrial corporations have operations in the State. The products of these industries range from precise electronic instruments to turbine engines, from Schiffli lace to heavy machinery, from china to petroleum products, from soup to ships. New Jersey ranks number one in the nation in the production of chemicals and allied products, and is a leader in the manufacture of apparel, instruments, electrical machinery, food products, textiles, and a diversity of other items. While there have been certain industrial trends in the State since the end of the Second World War which may ultimately have an important bearing on the economic welfare of its people, New Jersey has continued to grow in most areas of manufacture. The diversification of products in New Jersey has contributed to a stable economy, and has provided a variety of employment opportunities for New Jersey's labor force.



SOURCE: County and City
Data Book.



One out of every three people in New Jersey is employed in the non-agricultural labor force. On a national basis, it has been estimated that an industry employing 100 men provides direct support for 400 persons and indirect support for 650 to 1100 people.³⁷ In New Jersey, it has been estimated that every 100 manufacturing workers provide support for nearly 800 people.

Although manufacturing employment in New Jersey increased by only 11 percent between 1950 and 1960 (as compared to a national increase of 15 percent), over 36 percent of the State's total labor force is employed by manufacturing firms. However, the State is currently undergoing significant changes in the orientation of its manufacturing activities. During the past decade a number of New Jersey's major industries have remained static or have shown declines in the various indices which measure industrial growth. This is most notable among the producers of non-durable goods, such as apparel and foodstuffs. Various manufacturing activities, on the other hand, have experienced significant increases in value added by manufacturing, numbers of firms, employment, and salaries and wages. For the most part, these growth industries included the producers of durable goods, such as fabricated metals and machinery.

37. Gunnar Alexanderson, "City-forming and City-serving Production," *The Industrial Structure of American Cities*, Univ. of Nebraska, 1956.

Growth, Static, and Declining Industries*

Despite the generally "healthy" status of manufacturing in New Jersey, certain industries, previously regarded as major employers, are on the decline, while others have remained static, unable to keep pace with the State's expanding industrial picture. In general, there has been a shift in the industrial character of the State away from the more highly market-oriented industries, such as apparel, textiles, and foodstuffs, toward a more diverse industrial base which includes many high sale-value, high wage-value concerns. While the loss of industry in the former categories has created an unemployment situation in certain parts of the State of vital concern to both private citizens and governmental officials, the further diversification of the industrial base should provide a more stable employment situation in the long run.

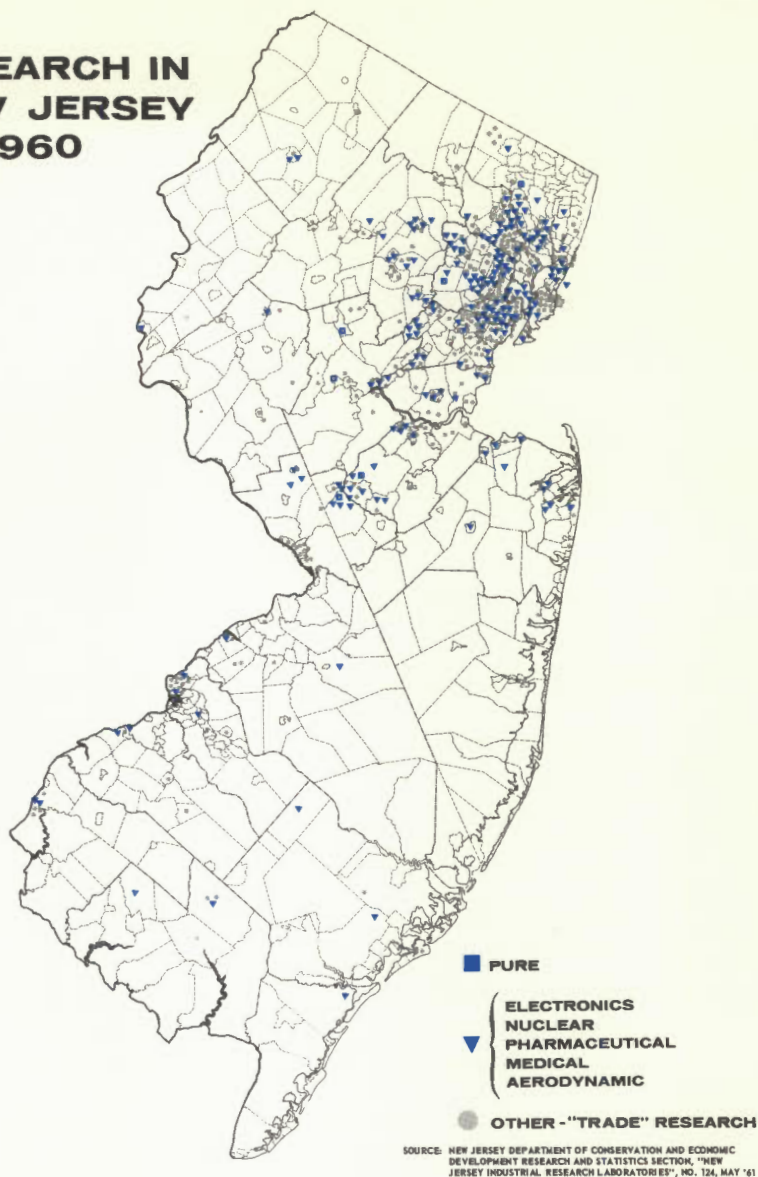
GROWTH INDUSTRIES	STATIC INDUSTRIES	DECLINING INDUSTRIES
electrical goods & machines	apparel	tobacco
fabricated metals	foodstuffs	petroleum & coal
chemicals and pharmaceuticals	primary metals	textiles
instruments	furniture & fixtures	leather
transportation equipment	pulp & paper	
rubbers & plastics		
machinery		

While certain components of a general industrial category may show marked rises, losses in other areas may result in the over-all impression of a relatively-static situation or even a decline. The stone, clay, and glass industry is an excellent example of this situation. The glass-making industry in the southern portion of New Jersey has grown over the years to emerge as a major employer in this sector of the State. However, in other areas of the State, the ceramic industry has experienced declines which counter-balance this trend. The over-all picture results in a somewhat distorted view of the general "health" of the industry.

In the past several years, there has been a substantial increase in research and development type activities in the State. Although this form of industrial activity cannot be considered a major source of industrial employment, because of the nature of its operations, it represents high wage-value concerns. However, since research activities cover a wide range of industrial categories, it is difficult to analyze the impact of their growth in the same terms as the other industries.

*A "growth industry" is one which has exhibited marked increases in all measureable indices of manufacturing activities; a "declining industry" is one which has shown both absolute and relative losses as measured by these indices; a "static industry" is one which has experienced little or no change in its relative position.

RESEARCH IN NEW JERSEY 1960



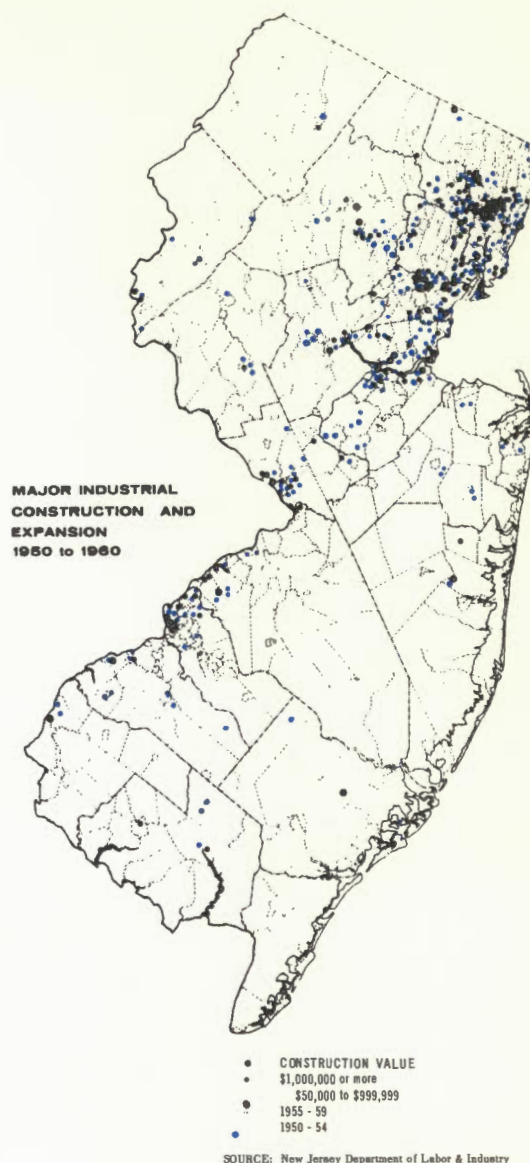
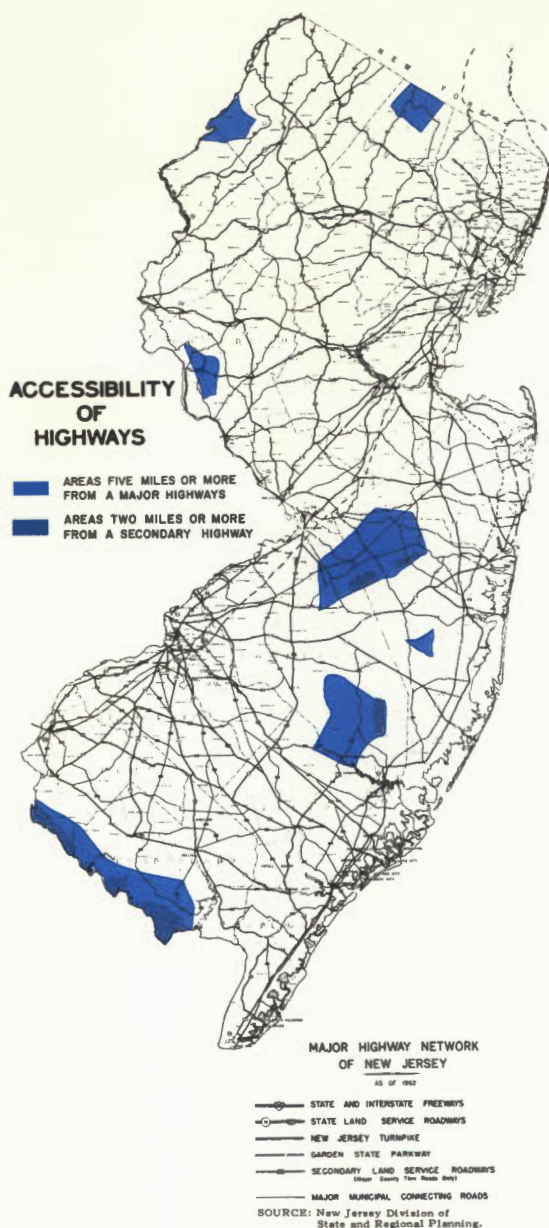
However, the vitality of New Jersey's industry depends upon the continued progress of these research activities. New Jersey's strategic location in the heart of the world's greatest urban region and the numerous research support industries located in the State are two of the more important factors for New Jersey's favorable "research climate". Research activities are especially intense in close proximity to the State's various universities, colleges, and graduate schools, since these educational facilities provide the tools of research and insure a continuing supply of able engineers and technicians. In addition, New Jersey has a reserve of skilled labor. Its vocational education programs enroll over 38,000 every year, and new courses and schools are being established in all parts of the State. Finally, New Jersey's social, cultural, and natural amenities give the State an "unparalleled plus" in its efforts to continue to attract research activities to the State.

Land Use Ramifications

The gradual shift in the industrial character of the State from the production of non-durable goods to the production of durable goods will have an important bearing on the future land use patterns of industrial development. For the most part, the "growth industries" of New Jersey are large land users. The trend toward the single-story, rambling industrial plant is most apparent among such industries as chemicals, electronics, instruments and plastics manufacturers. Static and declining industries, on the other hand, are generally intensive land users, usually conducting their activities in multi-story factory buildings in the more urban areas. The following chart provides a general classification of New Jersey industries by land use categories.

INTENSIVE LAND USE	INTERMEDIATE LAND USE	EXTENSIVE LAND USE
Tobacco Manufacturing Textile Mill Products Apparel Leather Goods Fabricated Metals Machinery, Non-elec. Instruments Printing and Publishing	Food and Kindred Products Furniture and Fixtures Pulp and Paper Products Rubber and Plastics Fabricated Metals Machinery, Non-elec. Electrical Goods Instruments	Lumber and Wood Chemicals Petroleum and Coal Stone, Clay and Glass Products Primary Metal Products Transportation Equipment

At present, the average growth industry of the State requires a site of approximately 11 acres for the establishment of new facilities, plus an additional 3 or 4 acres allowance for expansion. This space requirement is over two and a half times as large as the present average industrial site in the State. While smaller parcels undoubtedly will still be in demand by certain forms of development, in general larger tracts of land must be assembled to provide adequate space for future industrial development.



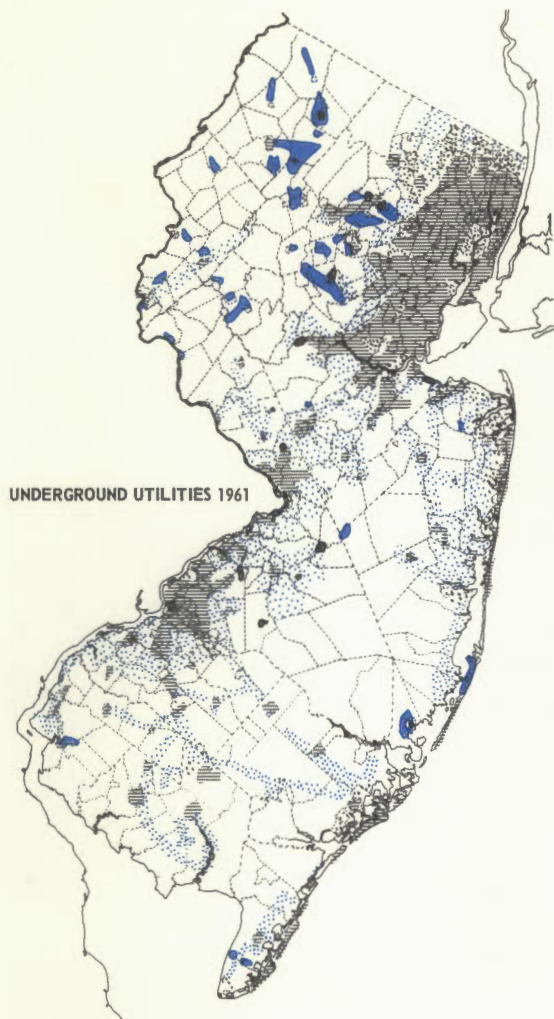
TRENDS IN INDUSTRIAL LOCATION³⁸

Transportation facilities, space for expansion, labor procurement and retention, accessibility, land costs, site potential, productivity and wages of labor, taxes, advertising and prestige factors, and social amenities all play an important part in the complex de-

cisions of plant location. Although there seems to be no definite order in which these various factors are considered, the factor of transportation is perhaps the most important single element, since it plays a vital role in several other major demand factors.

New Jersey is fortunate in having a highly developed system of both primary and secondary roads. As the map shows, only a few isolated areas are not within five miles of a major highway route. These areas are in the sparsely inhabited sections of the State. Often these areas have secondary road facilities which could be readily devel-

38. This section is based on Chapter 3 of a report entitled: *Supply and Demand Factors of Industrial Land Use*, published by the Division of State and Regional Planning, October, 1963.



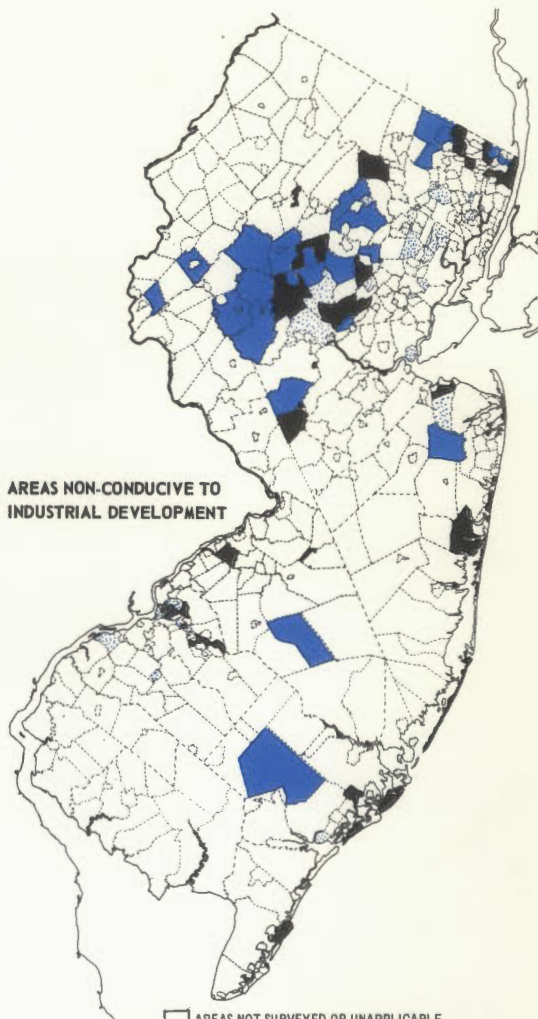
UNDERGROUND UTILITIES 1961

- | | |
|--------------|-----------------------------|
| □ NO SERVICE | ▤ WATER AND GAS ONLY |
| ■ WATER ONLY | ■ SEWER AND WATER OR GAS |
| ▤ GAS ONLY | ▤ ALL UNDERGROUND UTILITIES |

SOURCE: Division of Environmental Health, New Jersey Public Utility Companies, Fire Insurance Rating Organization of New Jersey, Individual Municipal and County Records.

oped, should the demand arise. With very few exceptions, as the map indicates, the entire State is within two miles of secondary road facilities.

Railroad facilities are also of primary concern in plant location. Even those industries which do not regularly utilize rail facilities usually seek to locate on rail lines because of the increased potential re-sale value of the site. Again New Jersey is fortunate to have some twenty-one railroads with a network of over 5,000 miles of track crisscrossing the State.



AREAS NON-CONDUCTIVE TO INDUSTRIAL DEVELOPMENT

- | |
|---|
| □ AREAS NOT SURVEYED OR UNAPPLICABLE |
| ■ PREDOMINATELY LARGE LOT RESIDENTIAL ZONING |
| ▤ INDUSTRIAL LAND DEPLETED (OVER 80% SATURATED) |
| ■ INDUSTRY PROHIBITED BY ZONING |

SOURCE: Division of State and Regional Planning, Zoning in New Jersey Vol. 2, 1960, Land Use Survey, 1960.

In addition to the many complex factors already mentioned, there are a number of corollary factors which enter into a company's selection of plant site in a particular location. The series of maps on these several pages illustrate some of these factors.

As new industrial facilities become established, there emerges a demand for certain ancillary firms to locate nearby, especially if the established plant is a major producer of finished products—a phenomenon known as "linkage".

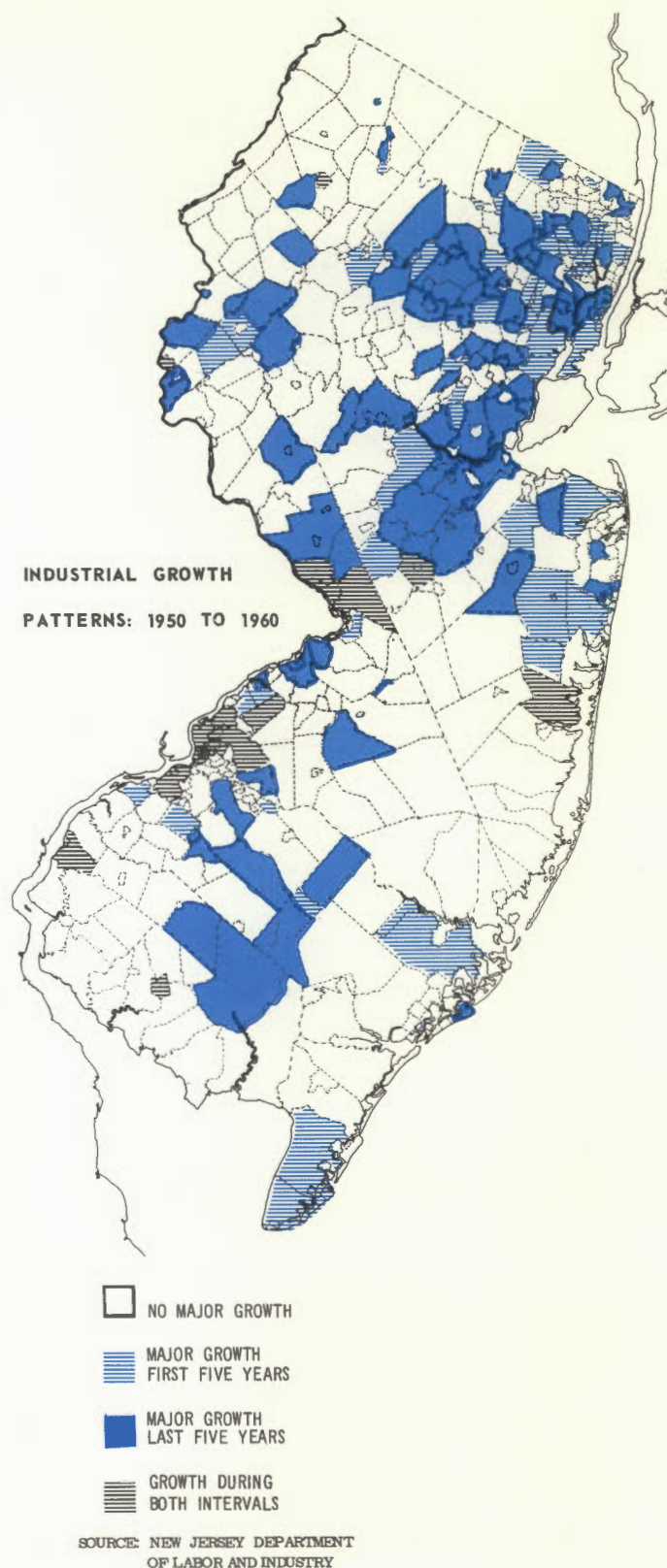
In selecting a site, a company must carefully study the availability of power and fuel, the existing water supply on and near the site, and the adequacy of disposal facilities. Sites served by public facilities (sewer, water, gas, and electricity) are in a greater demand than those areas where the expense of providing such facilities must be borne, in part, by the developer.

Conditions have emerged in certain sections of the State which make these areas non-conducive to industrial development. These conditions include the depletion of industrial lands and prohibitive zoning.

The foundation of New Jersey's industrial growth has been its close proximity to the great market areas of the eastern seaboard. In the early days of the State's industrial development, an abundance of sites were to be found in the inlying areas — in Union, Essex, Hudson, Passaic, and Bergen counties — and prime sites in these areas were rapidly consumed. Today, industries are locating further out from the urban core along the major lines of transportation which serve the State.

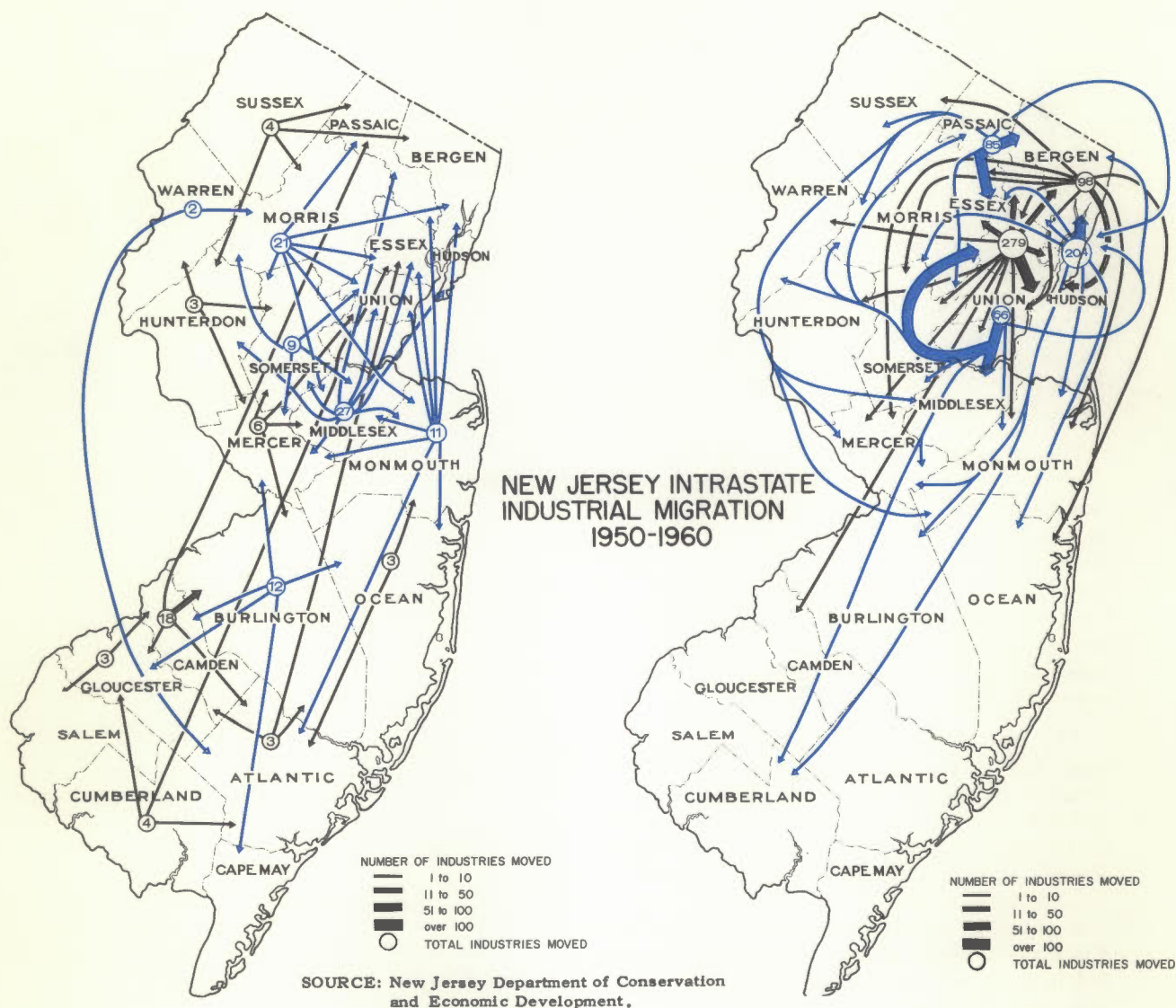
The growth industries of the State — electronics, pharmaceuticals, plastics, chemicals, fabricated metals, instruments, and research — are among those seeking sites beyond the congestion of the core areas. These industries require large quantities of land for their operations, since their plants often are of the modern one-story variety with extensive grounds for employee parking and eventual expansion.

The major industrial growth during the past ten years has occurred in the less densely populated suburban areas such as Bergen, Morris, and Somerset counties and in the open areas of Middlesex, Union, and Passaic counties. This trend may be expected to continue, with further industrial expansion into the more rural areas of the State. Evidence of this movement is already apparent in parts of Monmouth, Hunterdon, Warren, and Burlington counties.



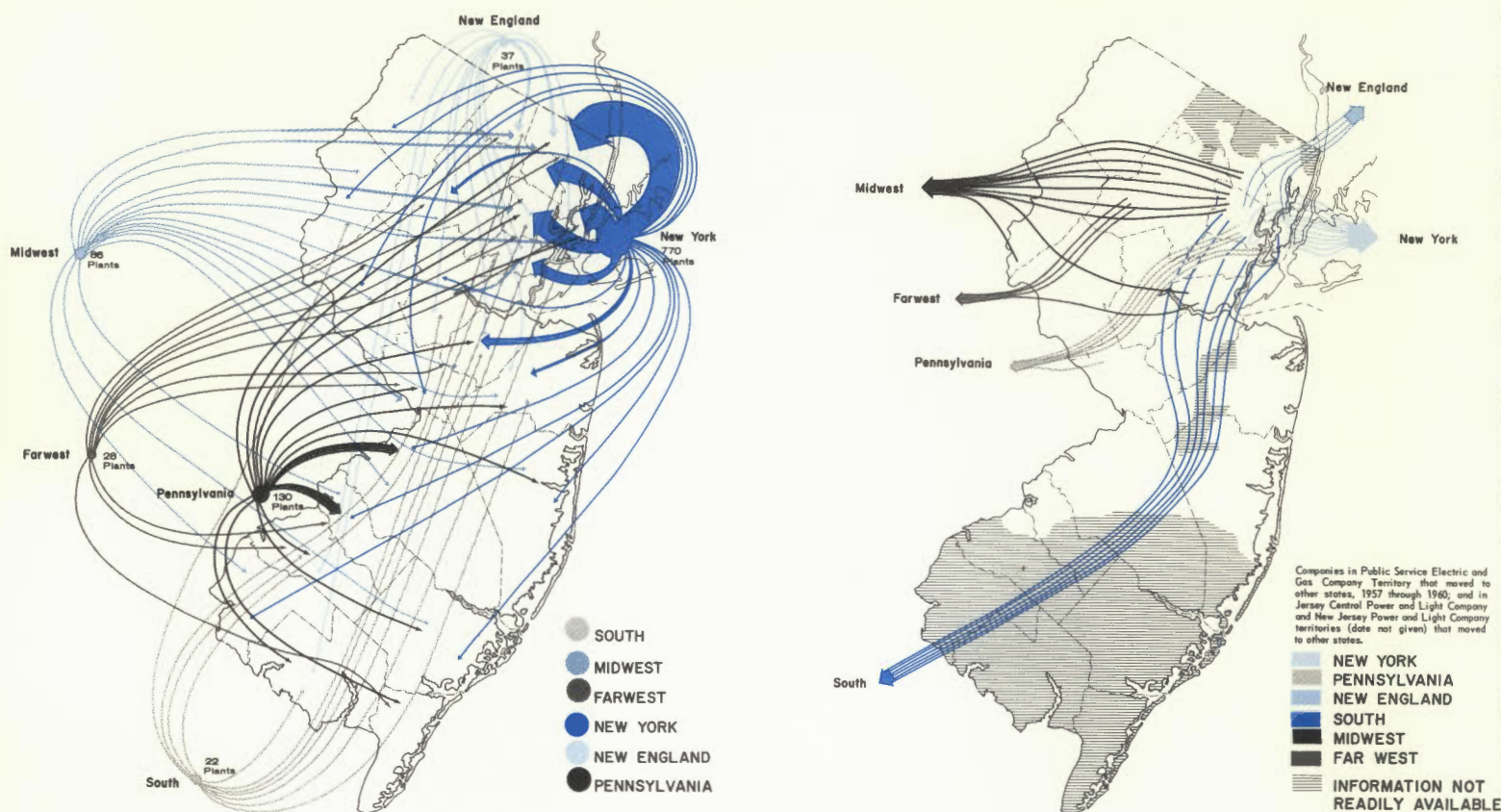
Industrial Migration

Evidence of the emerging trend of industry to locate on sites beyond the built-up urban areas is already apparent from the data on new industrial construction and expansion during the past decade. The unavailability of suitable sites for expansion in the inlying areas of the State has also forced existing manufacturing activities to seek new locations in outlying areas. Many urban firms have found themselves "locked-in" by other forms of development, and have turned to the suburbs to find adequate space for expansion, for employee and customer parking, and for warehousing and shipping activities. To retain the State's existing economic base in manufacturing, steps must be taken to insure an adequate supply of *suitable sites* with reasonable access to both markets and labor supply.



According to available statistics, there were over 850 shifts of industrial operations from one New Jersey county to another between 1950 and 1960. Union County gained 113 additional plants from inter-county industrial shifts during the last decade, while Hudson and Essex counties suffered the largest net losses of firms — 123 and 167 respectively. Essex County lost the bulk of its out-migrants (over half) to neighboring Union County, while most of Hudson County's loss (again over 50 percent) was Bergen County's gain. The county to county shifts which have taken place in the past ten years are shown on the above maps.

INTERSTATE INDUSTRIAL MIGRATION - 1950-1960



SOURCE: New Jersey Department of Conservation and Economic Development.

During the past ten years over 1,000 firms have moved into New Jersey from out-of-state. Over 70 percent of these firms came from New York, while 12 percent came from Pennsylvania, 8 percent from the Midwest, 4 percent from New England, 3 percent from the Far-Western states, and 2 percent from the South. Most of these firms (83 percent) settled in Northeastern New Jersey. The map illustrates the trends in in-migration.

An analysis of trends in out-migration of industry is also vital to any study concerned with the economy of the State. However, although a fairly accurate record of industrial in-migration and inter-county movement of industries is available, information regarding the movement of industry away from New Jersey in favor of other states or regions is difficult to obtain in a complete and comprehensive form. Without such data, it is difficult to obtain an accurate picture of the economic balance of industrial activities in the State.

Some indication of the amount of industrial migration to areas outside of the State can be obtained from an examination of the records of public utility companies, since the shutdown of a plant means a termination of service. Unfortunately, this information is not comparable to data

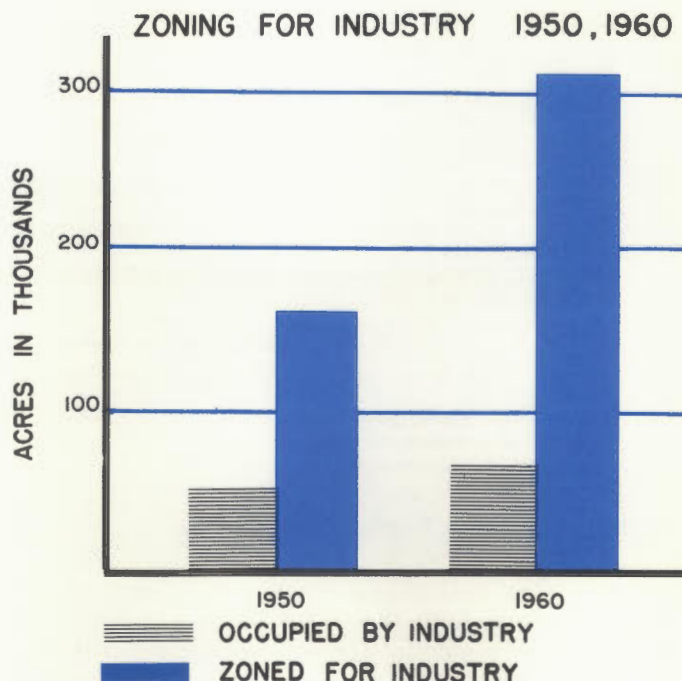
on in-migration or inter-county movements since the migrating firm may share quarters with other firms, and therefore service would not be terminated. In other instances, the realtor of the plant site may choose to retain service after the industry moves.

Records of public utility companies show that between 1957 and 1960 some 42 firms and over 6,300 employment opportunities left New Jersey. The trends suggested by this rather scant sample, closely parallel those suggested by the more complete information obtained on industrial in-migration and county shifts. Essex and Hudson counties suffered the greatest industrial out-migration, largely to New York State.

ZONING FOR INDUSTRY³⁹

Since the economic prosperity of the State depends, in large measure, upon an effective pattern of industrial development, an adequate supply of land suitable for industrial use is vital to the future growth and development of New Jersey. A comparison of 1950 and 1960 data discloses that the acres occupied by industry increased from about 52,000 acres to slightly under 65,000 acres. This represents an increase of about 25 percent, thereby keeping pace with the population growth during this period. However, the percentage of land occupied out of the total supply of land zoned for industrial use declined from 30.6 to 20.8 percent. This decline is accounted for by the extensive zoning activity which took place in the fifties. During this ten-year period, nearly 140,000 acres of land were zoned for industrial use, an increase of nearly 85 percent over those areas zoned in 1950.

From this analysis, it would appear that on a Statewide basis there is an adequate supply of land set aside for future industrial development. As might be expected, however, this supply is not uniform throughout the State. Further, much of the land zoned for industrial use is not truly suited to the needs of industry, while other more desirable sites for industry are rapidly being consumed by other forms of land use.

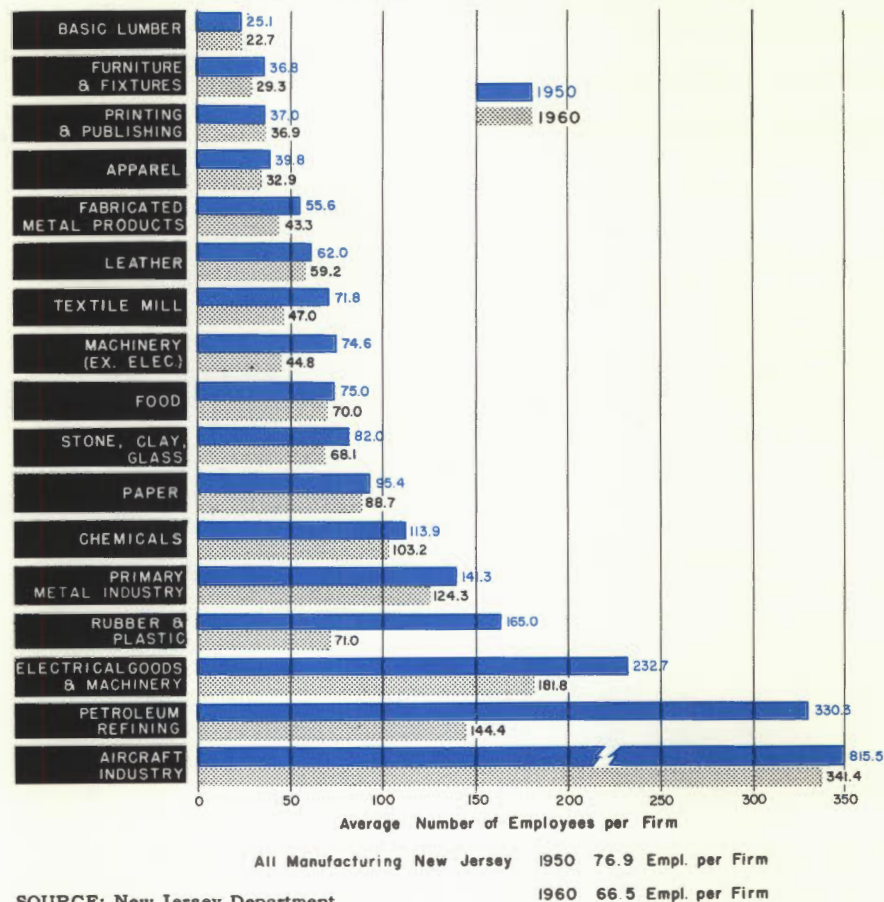


39. For a more detailed discussion of industrial zoning trends see: *Supply and Demand Factors of Industrial Land Use*; N.J. Division of State and Regional Planning.

There is a potential deficiency of land for industrial development in two of the major industrial counties of the State — Essex and Passaic. An acute shortage may also be expected in Bergen, Hudson, Camden, Union, and Middlesex counties as the supply of land diminishes with the expansion of other forms of land use. Even in Morris, Monmouth, Somerset, and Gloucester counties, the rapid outward expansion of development is likely to greatly diminish the existing supply of land to the point where by 1985 industry will be forced into a highly competitive situation for space for development.

In the rural areas of the State, the potential supply greatly exceeds the potential demand. In large measure, this accounts for the high State average. Thus, while the State appears to have an excess of available and/or desirable land, in reality, the excess of vacant lands in the less densely populated areas of the State camouflages the potentially acute situation in the urbanized areas.

DECREASING EMPLOYMENT INDUSTRIES - 1950-1960



SOURCE: New Jersey Department of Conservation and Economic Development.

Decline in Average Employment Per Firm

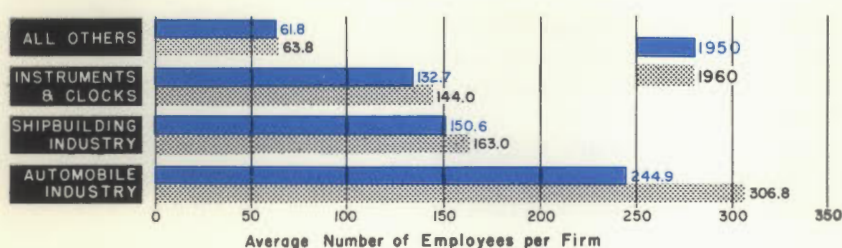
Although both manufacturing employment and the number of manufacturing firms have increased during the past decade, New Jersey manufacturing is employing fewer workers per firm, on the average, than was the case in 1950. The average number of employees per firm in 1950 for all covered manufacturing employment was 77 workers; today the average is 67 workers per firm.

There are several possible causes for this decline. Increased application of the principles of automation could well be a partial explanation for this trend.

Automation, however, is not the only factor in the decline of per firm employment. Many of the 2,000 additional manufacturing firms which have located in New Jersey in the past decade were small in size and employment.

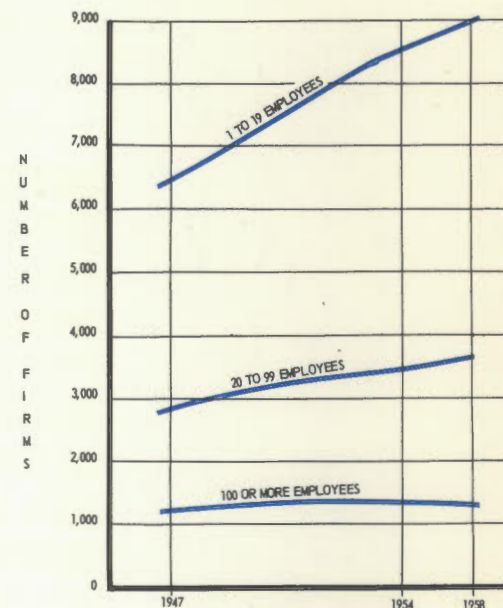
An increase in the smaller employment units (1-19 employee category) has reduced the over-all employment averages throughout the State by increasing the number of firms without a parallel increase in employment. Further, trends in manufacturing growth support such possibilities, since the location of large employer units is often followed by an increase in locational activities by smaller units linked to the larger firms.

INCREASING EMPLOYMENT INDUSTRIES - 1950-1960



	1950	1960	% INCREASE
TOTAL FIRMS:	10,243	12,251	19.6
EMPLOYEES:	787,480	814,157	3.4

SOURCE: New Jersey Department of Conservation and Economic Development.



RELATIVE GROWTH OF INDUSTRIAL FIRMS BY EMPLOYMENT SIZE 1947 - 1958

If an accurate measure of these trends could be found, and if the newer factories are truly "small" in nature, this fact might indicate another change in the nature — or the perspective — of New Jersey as an industrial State. Finally, this could indicate the normal relative decline which often follows a period of inflation. Economists point out that economic abnormalities may create erratic periods in the normal economic cycle, which might be reflected in employment data.⁴⁰ Further study and analysis must be undertaken to determine the scope of influence and the degree of interrelationship among these various factors.

NEW JERSEY'S FUTURE INDUSTRIAL GROWTH

The economic well-being of New Jersey depends not only on the retention and expansion of existing manufacturing activities, but upon the attraction of new firms as well. As the labor force of the State continues to expand with the increase in population, new job opportunities in industry must be created. Since it is unlikely that present manufacturing activities in the State will be capable of expanding their demand for workers sufficiently to meet this potential supply, new industries moving into New Jersey must fill this gap.

40. Paul A. Samuelson, *Economics*, McGraw-Hill Book Company, New York, 1955, pages 681-684.

COMMERCE IN NEW JERSEY

The wide variety of activities which fall into the commercial sector of the economy makes it difficult to analyze all of its complexities. Furthermore, shifting locational patterns of commercial activities add complications to the analysis of this sector of the economy over any period of time. The emergence of large suburban shopping centers, the decline of small "specialty" activities in the central business districts, the increase in general merchandise or "all-under-one-roof" facilities, the more frequent "direct contact" between manufacturer and consumer, and other similar trends in commercial activities are not always readily discernable from area-wide statistics gathered in the various censuses of business or other basic tabulations.

One of the clearest ways in which the importance of the commercial sector of the State's over-all economy can be expressed is in terms of employment opportunities. Records of the Department of Labor and Industry indicate that in 1963 nearly 920,000 workers were employed in the State's commercial organization. This represents over 44 percent of New Jersey's non-agricultural employment. The following table provides a breakdown of commercial employment for two periods following the 1960 Census.

From this table it may be seen that firms engaged in Retail Trade activities are the biggest employers in the commercial sector of the State's economy, with Services a close second. This latter category has made significant gains in the last several years, increasing by 45 percent between 1950 and 1960.⁴¹ As the standard of living continues to improve, further increases in service activities are projected, so that by 1970, this category is likely to be the number one employer in the commercial sector of the economy.⁴²

CATEGORY	Total Employment in Thousands	
	Sept. 1961	Sept. 1962
Retail Trade	281.0	289.7
Wholesale Trade	96.5	97.2
Service	271.2	284.0
Transportation and Utilities	151.3	152.3
Finance, Insurance and Real Estate	92.2	93.4
TOTAL	892.2	916.6

41. N.J. Division of Employment Security, *New Jersey Manpower Projections 1960-1970*, Research Series No. 4, September 1961, page 12.

42. *Ibid.*, page 12.

RETAIL AND WHOLESALE TRADE

This sector of the State's economy performs two important functions:

Viewed from the perspective of production, it serves as the indispensable final link in the chain that extends from manufacturer to consumer. Looked at from the market angle, the distributive trades function as stimulators to the consumption of goods and services and thus as the catalysts for the makers of goods.⁴³

The population growth of the State and the increased prosperity of its citizens have been the major forces behind the expansion of trade activities in New Jersey. For trade activities to function most efficiently, however, the consumers served should be congregated in urban places. New Jersey, as the nation's most urbanized state, presents significant concentrations of population to attract and stimulate retail and wholesale trade activities.

Employment in Retail and Wholesale Trade

Retail and wholesale trade activities are the second most important employer category in the State, with over 20 percent of the non-agricultural labor force. Due to the smaller size of the employer units, there are more than four times as many firms in this segment of the economy as there are manufacturing firms.

With the State's total annual buying income up 33.1 percent and per household buying up 37.9 during the past decade (1952-1962), annual retail sales in the State increased by 46.6 percent. This substantial increase in retail sales activities and the parallel growth in wholesale trade have cre-

ated a significant number of job opportunities in this sector of the economy. According to the Department of Labor and Industry, employment in retail and wholesale trade increased 32.9 percent, from 295,000 to 392,900 between 1952 and 1962.

Volume of Retail Business

The volume of retail business provides one of the major barometers of a state's economic climate. For one thing, it reflects the level of spendable income which is generated by the several economic sectors . . . For another, the translation of spendable income into actual purchases indicates the degree of optimism, or pessimism, which prevails among the income recipients in relation to future earning prospects.⁴⁴

This "two-dimensional perspective" is shown in the following table of the percentage growth of retail business in New Jersey and the United States between 1929 and 1958.⁴⁵

	Number of Firms	Retail Sales	Average Sale per Store
United States	17.8%	362%	241%
New Jersey	13.9%	456%	388%

New Jersey has an average of 11.6 stores per thousand population as compared with 10.1 stores per thousand for the United States (based on 1958 estimates projected to 1962). Many of the retail outlets in New Jersey, however, tend to be small in size. This is particularly true in the seashore and resort areas of the State where many of the retail establishments are of the concessionaire variety.

43. Edward Gerish, in Flink, *The Economy of New Jersey*, *op. cit.*, page 379.

44. *Ibid.*, page 380.

45. U. S. Bureau of the Census, *U. S. Census of Business*, 1929 and 1958.

Relative Shifts in Retail Activities

The tables on the adjoining page provide several important indices of the relative growth and the shifts of retail trade activities in New Jersey. By examining each of these tables individually and then by inter-relating them, it is possible to obtain a clearer picture of the relative importance of various retail trade activities to the State's economy. The following tables provide a measure of retail activity, based on data for gross value of retail sales; number of establishments and the use of labor, as measured by total employment for the various categories of retail firms.

From the standpoint of *gross value of retail sales*, all categories showed substantial increases during the period from 1948 to 1958. In terms of absolute gains, food stores, with an increase of over \$760,980,000, and automotive dealers, with an increase of over \$419,039,000, were the leading categories.

New Jersey experienced only a minor gain in *total retail firms* during the decade between 1948 and 1958. In general, this over-all minor gain may be attributed to the significant decline in the number of food stores in the State, which offset the gains made by other retail establishments. To a large extent, the loss of establishments in the food stores category may be traced to the emergence of large chain-stores, especially in the suburban portions of the State, which have forced smaller establishments out of business.

The third measure of retail activities concerns *the use of labor*. Three categories — food stores, furniture and home furnishings, and non-store retailers — showed declines in employment between 1948 and 1954, while general merchandise and lumber, hardware, and farm equipment dealers showed only

minor increases in employment. However, with the exception of the lumber, hardware, and farm equipment grouping, all of these categories made sufficient recoveries during the late fifties to retain their position in the over-all retail employment standings.

An examination of the data in the accompanying tables provides a means of evaluating the relative strength of the various categories of retail trade. The leading categories would appear to be automotive dealers, food stores, and gasoline service stations. Similarly, food stores, while experiencing only moderate percentage gains in the volume of retail sales between 1948 and 1958, maintained their over-all high ranking.

At the other end of the scale, non-store retailers, eating and drinking establishments, and apparel and accessory stores manifested the least favorable position. Between these two extremes, the other five categories were arrayed in a fairly uniform manner. The following table lists the eleven basic categories of retail trade according to the accumulative ranks received in the individual indices.

- Automotive Dealers
- Food Stores
- Gasoline Service Stations
- Furniture & Home Furnishings
- General Merchandise
- Drug Stores
- Other Retail Stores
- Lumber, Hardware & Farm Equipment
- Apparel and Accessory Stores
- Non-Store Retailers
- Eating and Drinking Establishments

INCREASE IN RETAIL SALES, 1948-1958
(in '000)

Absolute Rank 1958	Establishments	1948	1954	Percent Increase 1948-54	1958	Percent Increase 1954-58	1948-58
1.	Food Stores	\$1,157,042	\$1,568,730	35.5	\$1,918,022	22.3	65.8
4.	Eating and Drinking Est.	464,062	592,105	27.6	668,789	13.0	44.1
5.	General Merchandise	357,550	434,905	21.6	609,410	40.1	70.4
9.	Lumber, Hardware and Farm Equip.	280,708	392,214	39.7	400,809	2.2	42.8
2.	Automotive Dealers	590,797	980,738	66.0	1,009,836	3.0	70.9
7.	Gasoline Service Stations	195,527	323,278	65.3	445,331	37.8	127.8
6.	Apparel and Accessory Stores	389,958	481,080	23.4	563,855	17.2	44.6
8.	Furniture and Home Furnishings	263,242	344,097	31.0	433,861	25.9	64.8
11.	Drug Stores	115,852	152,097	31.3	197,576	29.9	70.5
3.	Other Retail Stores	533,843	669,062	25.3	783,244	17.1	46.7
10.	Non-Store Retailers	32,217	205,853	539.0	244,359	18.7	658.5
	TOTAL ALL FIRMS	\$4,380,798	\$6,144,769	40.3	\$7,275,092	18.4	66.1

INCREASE IN NUMBER OF RETAIL ESTABLISHMENTS, 1948-1958

Absolute Rank 1958	Establishments	1948	1954	Percent Increase 1948-54	1958	Percent Increase 1954-58	1948-58
1.	Food Stores	19,091	15,288	-19.9	14,602	-4.5	-23.5
2.	Eating and Drinking Est.	14,148	13,472	-4.8	14,486	7.5	2.4
10.	General Merchandise	1,765	2,103	19.2	2,348	11.7	33.0
8.	Lumber, Hardware and Farm Equip.	2,529	2,741	8.4	3,025	10.4	12.0
9.	Automotive Dealers	2,267	2,371	4.6	2,707	14.2	19.4
4.	Gasoline Service Stations	6,133	5,403	-11.9	6,257	15.8	2.0
5.	Apparel and Accessory Stores	5,613	5,631	0.3	5,754	2.2	2.5
6.	Furniture and Home Furnishings	3,068	3,226	5.1	3,652	13.2	19.0
11.	Drug Stores	1,731	1,760	1.7	1,742	-1.0	0.6
3.	Other Retail Stores	8,589	9,471	10.3	10,443	10.3	21.6
7.	Non-Store Retailers	198	3,453	-	3,361	-2.7	-
	TOTAL ALL FIRMS	65,132	64,919	-0.3	68,377	5.3	5.0

INCREASE IN RETAIL EMPLOYMENT 1948-58

Absolute Rank 1958	Establishments	1948	1954	Percent Increase 1948-54	1958	Percent Increase 1954-58	1948-58
2.	Food Stores	38,044	37,556	-1.3	45,318	20.7	19.1
1.	Eating and Drinking Est.	44,434	49,633	11.7	56,351	13.5	26.8
3.	General Merchandise	31,575	31,828	0.8	37,861	19.0	19.9
9.	Lumber, Hardware and Farm Equip.	11,448	11,665	1.9	11,940	2.4	4.3
6.	Automotive Dealers	16,386	20,565	25.5	20,760	0.9	26.7
8.	Gasoline Service Stations	7,712	9,139	18.5	12,133	32.8	57.4
7.	Furniture and Home Furnishings	13,327	12,420	-7.3	15,104	21.6	12.7
11.	Drug Stores	6,408	7,158	11.7	8,775	22.6	36.9
10.	Non-Store Retailers	7,358	6,490	-11.8	43,785	36.4	6.7
4.	Apparel and Accessory Stores	19,928	22,538	13.1	25,748	14.2	29.2
5.	Other Retail Stores	16,725	18,665	11.6	21,964	17.7	31.3
	TOTAL ALL FIRMS	213,345	227,657	6.7	299,739	31.7	40.5

Source: U.S. Census of Business, 1948, 1954, 1958.

Wholesaling

The development of wholesale trade is dependent not only on the growth of retail outlets, and indirectly on the expansion of population, but also upon the geographical and physical characteristics of a particular trade area.⁴⁶

In 1929, the 2,344 wholesale firms in New Jersey recorded sales just over \$1 billion. By 1958 the number of firms had risen by 251.4 percent to 8,236 and total sales had risen by 747.7 percent to \$8,477,140.⁴⁷

46. Edward Gerish, in Flink, *The Economy of New Jersey*, *op. cit.*, page 386.

47. Data on increases in wholesale establishments and sales drawn from *U.S. Census of Distribution, 1929* and *U.S. Census of Business, 1958*.

Two important trends have acted somewhat in counter to one another in the development of the State's wholesale activities during the past several decades. First there is the matter of out-of-state competition from other parts of the two major metropolitan areas which engulf most of the State. In general, wholesale trade establishments tend to concentrate in the core areas of high concentrations of population, so as to avail themselves of the services offered by such areas. On the other hand, land needs of many wholesalers for warehouse development have motivated these firms to locate in less congested areas, a fact which favors New Jersey over New York City and Philadelphia. High land costs and high rentals in the core areas have contributed to the shift of wholesale activities into the State.

RELATIVE CHANGES IN WHOLESALE TRADE ACTIVITIES FOR THE UNITED STATES, MIDDLE ATLANTIC STATES AND NEW JERSEY 1929, 1948, 1954, 1958

	Number of Firms	Percentage Increase		Sales (in billions)	Percentage Increase
1929	2,344	—	New Jersey	\$1.0	—
	37,913	—	Middle Atlantic	\$23.4	—
	168,262	—	United States	\$67.0	—
1948	5,695	143.0	New Jersey	\$3.5	250.0
	64,046	68.9	Middle Atlantic	\$57.8	147.0
	243,366	44.6	United States	—	—
1954	6,909	21.3	New Jersey	\$5.9	68.6
	59,985	6.3	Middle Atlantic	\$68.7	18.9
	252,127	3.6	United States	\$234.7	—
1958	8,236	19.2	New Jersey	\$8.5	43.7
	64,779	8.0	Middle Atlantic	\$79.7	16.0
	287,043	13.8	United States	\$285.9	21.7

Source: U.S. Bureau of the Census, *U.S. Census of Business* various years; *U.S. Statistical Abstract*.

WHOLESALE TRADE EMPLOYMENT: THE STATE

Type of Operation	1948	1958	Percent Increase 1948-58
Grocery, Confectionery, Meat, etc.	4,362	12,479	186.1
Drugs, Chemicals, and Allied Products	1,656	5,534	234.2
Farm Products	4,349	***	***
Beer, Wine, and Distilled Spirits	2,777	3,954	42.4
Tobacco and Products	944	1,080	14.4
Dry Goods, Apparel	818	2,306	181.9
Furniture, Home Furnishings	730	1,712	134.5
Paper and Products	1,297	2,516	94.0
Auto Wholesalers	2,891	8,090	179.8
Electrical Goods	2,581	7,810	202.6
Hardware, Plumbing-heating Equipment	2,793	4,053	45.1
Lumber, Construction Materials	3,297	4,404	33.6
Machinery, Equipment	4,162	13,186	216.8
Metals, Metal Work	1,792	***	***
Waste Materials	2,542	3,133	23.2
Other Merchants	3,819	7,312	91.5
Manufacturers Sales Branches	12,453	***	***
Petroleum Bulk	3,537	5,158	45.8
Merchandise Agents	642	***	***
Assemblers of Farm Products	1,274	***	***
TOTAL	60,356	87,794	45.5

***Not comparable due to change in definition.

Source: U.S. Census of Business: Wholesale Trade — New Jersey, 1948 and 1958.

CHANGE IN RELATIONSHIPS OF VOLUME OF WHOLESALE

TRADE 1954, 1958 — BY COUNTIES

County	Sales-1954 (\$1,000)	Rank	Sales-1958 (\$1,000)	Rank	Percentage of Increase in Sales 1954-58	Percent of State Total 1958
Essex	\$1,721,417	1	\$2,257,084	1	31.1	26.6
Hudson	1,032,180	2	1,217,376	2	17.9	14.4
Union	652,842	3	1,136,136	3	74.0	13.4
Bergen	513,561	4	1,126,548	4	119.4	13.3
Passaic	470,749	5	593,065	5	26.0	7.0
Camden	296,449	7	548,596	6	85.1	6.5
Middlesex	373,466	6	417,908	7	11.9	4.9
Mercer	228,104	8	295,280	8	29.4	3.5
Monmouth	107,299	9	122,713	9	14.4	1.4
Gloucester	70,104	11	116,812	10	66.2	1.4
Morris	60,863	13	101,668	11	67.0	1.2
Atlantic	96,518	10	98,363	12	1.9	1.2
Cumberland	60,612	12	90,735	13	49.7	1.1
Burlington	54,567	14	82,225	14	50.7	1.0
Somerset	40,129	16	81,010	15	101.9	1.0
Ocean	41,522	15	52,026	16	25.3	0.6
Hunterdon	24,652	18	42,794	17	73.6	0.5
Warren	31,049	17	41,853	18	34.8	0.5
Cape May	13,753	20	21,412	19	55.7	0.3
Sussex	14,429	19	19,074	20	32.2	0.2
Salem	13,323	21	14,462	21	8.5	0.2
STATE	\$5,917,588		\$8,477,140		43.3	100.2

CHANGE IN RELATIONSHIPS OF WHOLESALE ESTABLISHMENTS

1948, 1958 — BY COUNTIES

County	No. of Firms 1948	Rank	% of State Total	No. of Firms 1958	Rank	% of State Total	% Change 1948 1958	Rank of Change
Essex	1,866	1	32.6	2,080	1	25.3	11.5	21
Hudson	855	2	14.9	1,053	2	12.8	23.2	17
Bergen	339	5	5.9	966	3	11.7	185.0	2
Union	388	4	6.8	718	4	8.7	85.1	7
Passaic	582	3	10.2	706	5	8.6	21.3	18
Camden	249	8	4.4	429	6	5.2	72.3	9
Mercer	260	6	4.5	372	7	4.5	43.1	13
Middlesex	252	7	4.4	334	8	4.1	32.5	16
Monmouth	186	9	3.3	293	9	3.6	57.5	11
Atlantic	155	10	2.7	238	10	2.9	53.5	12
Morris	115	11	2.0	188	11	2.3	63.5	10
Cumberland	86	12	1.5	179	12	2.2	108.1	3
Ocean	61	13	1.1	111	13	1.3	82.0	8
Burlington	37	18	0.6	106	14	1.3	186.5	1
Gloucester	48	15	0.8	97	15	1.2	102.1	4
Somerset	48	15	0.8	97	15	1.2	102.1	4
Warren	61	13	1.1	73	17	0.9	19.7	19
Cape May	33	20	0.6	62	18	0.8	87.9	6
Hunterdon	40	17	0.7	56	19	0.7	40.0	15
Sussex	34	19	0.6	40	20	0.5	17.6	20
Salem	27	21	0.5	38	21	0.5	40.7	14

Source: U.S. Census of Business: Wholesale Trade-New Jersey, 1948 and 1958.

Wholesale trade is one of the fastest expanding aspects of the State's employment picture. The 45.5 percent rate of increase between 1948 and 1958 has continued into 1963, resulting in a current estimated total employment in wholesale trade activities of 97,200.

As in the manufacturing segment of the economy, the wholesale activities which have shown the greatest increases in employment opportunities are associated with the handling of drugs, chemicals, electrical goods, electronic products, instruments, and machinery. These categories all recorded over a 200 percent increase in employment between 1948 and 1958. Automobile wholesalers and dealers in grocery, confectionery, and meat products also showed substantial increases in employment during this period.

While it is difficult to generalize on the trends in wholesale activities without a more detailed study of each type of operation, one conclusion which seems readily apparent is that wholesale trade is continuing to play an increasingly important role in the economy of the State. This fact is further substantiated by the recent trends in the volume of wholesale trade in New Jersey. In the relatively short period between 1954 and 1958, the State's wholesale volume increased by 43.7 percent, over twice that of the nation as a whole and over 2½ times that of the Middle Atlantic States. Within New Jersey this above average increase has had an important impact on the growth of wholesale activities in the various counties of the State.

When measured in dollar volume and number of establishments, the five most populous counties of the urban northeast — Essex, Hudson, Bergen, Union, Passaic — took the lion's share in 1958 with total wholesale sales figures of \$2.257 billion, \$1.217 billion, \$1.126 billion, \$1.136 billion, and \$0.593 billion respectively. These five counties together accounted for nearly 75 percent of the State's total in wholesale sales and over 67 percent of the wholesale establishments in the State in 1958. As shown in the previous table, the picture changes somewhat, however, when growth in sales and number of firms are measured.

The Wholesale-Retail Trade Ratio

A significant measure of the balance of commercial activities is the ratio between the total dollar wholesale volume and the total dollar retail volume for a given area. In an area where there is a desirable balance between wholesale and retail trade activities, the total dollar volume at wholesale prices will be greater than retail sales at retail prices. This is a result of a "double accounting" which occurs in the tabulation of wholesale volume data.

. . . the components of a product may be "sold" wholesale several times in various forms before the finished product reaches the final consumer; i.e. as a raw material, then as a semifinished product, and later as a product, and later as a part of a completed product . . . Some commodities may pass through several different wholesalers before they reach the final retailer. Sales made by agents and brokers between manufacturers and wholesalers are thus included twice in total wholesale figures by the United States Census.⁴⁸

48. Edward Gerish, in Flink, *The Economy of New Jersey*, *op. cit.*, pages 397-398.

In 1958, the Census of Business reported a national wholesale trade volume of approximately \$200.4 billion, or a ratio of \$1.43 of wholesale for every \$1.00 of retail sales. As shown in the following table, although New Jersey's wholesale-retail trade ratio for the first time since Census of Business of 1939 exceeded 1.00, it remains considerably below that of the nation or the Middle Atlantic States.

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**WHOLESALE-RETAIL RATIO IN UNITED STATES
MIDDLE ATLANTIC STATES, AND NEW JERSEY**

1929-1958

	<u>United States</u>	<u>New Jersey</u>	<u>Middle Atlantic</u>
1929	1.36	.77	1.93
1939	1.31	1.46	1.83
1948	1.45	.81	2.05
1954	1.41	.97	1.96
1958	1.43	1.17	1.97

Source: Edward P. Gerish, *op. cit.*, Table II, page 399; U.S. Census of Business, 1958.

However, it is significant to note that while national and regional figures have shown only minor increases, regaining some ground lost between the high of the 1948 Census and the lower ratios of the 1954 Census, New Jersey's ratio has climbed steadily, gaining 16 points between the 1948 and 1954 censuses and 20 points between 1954 and 1958.

SERVICE INDUSTRIES

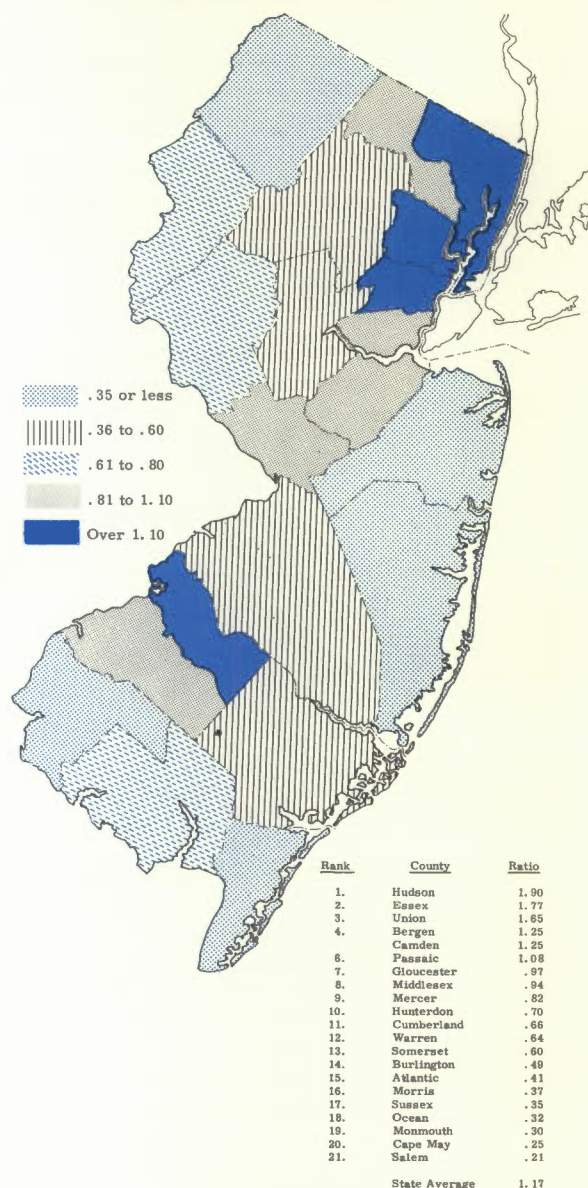
This is a broad industrial category that embraces highly contrasting types of activity. It includes seasonal hotels and entertainment . . . It includes New Jersey's rapidly expanding research industry . . . This category also includes laundry workers . . . It includes the medical, dental, and legal professions.⁴⁹

While some service establishments may sell commodities and some retail firms provide services, these activities are incidental to the actual operations of these categories. Perhaps the best distinction which can be made between retail establishments and service outlets is that customers purchase intangibles at service establishments, while they buy tangible goods from retailers. Several other features characterize the service industry.

Service businesses are not burdened with inventory. For the most part, services are perishable. They cannot be stored, but must be consumed at the point of sale. Frequently, there exists a close buyer-seller relationship, since most services must be performed at the place of business. Service establishments are distinctive in that they tend to market directly to their ultimate consumers. As a rule, no middlemen or auxiliary channels exist in the marketing of services.⁵⁰

In 1958, there were nearly 2½ times as many establishments providing "selected services" as there were manufacturing firms, and yet manufacturing accounted for over 8 times as many jobs. There are only twice as many retail establishments as there were service industries recorded by the Census in 1958, and yet the volume of retail trade was over 7 times that of the receipts of the selected services. While there were nearly 4 times as many service establishments in 1958 as there were wholesale outlets, wholesale trade activities had a volume of trade nearly 8 times that of the services, and with 20 percent fewer employees. In general, it

WHOLESALE RETAIL RATIO IN NEW JERSEY By Counties - 1958



SOURCE: United States Bureau of the Census; Census of Business.

49. *Ibid.*, page 399.

50. *Ibid.*, page 403.

may be said that the service industries are small employers with relatively small annual volume of business when measured in customer receipts. In 1958, the average employment in the selected service categories was less than three workers per establishment, with receipts, on the average, just over \$30,000 per firm. In fact, approximately half of all the service firms in 1958 were proprietary operations without payrolls.

Viewed from another perspective, however, the service industries are the fastest growing segment of the economy, with an estimated increase in employment of 45 percent between 1950 and 1960⁵¹ (selected services, which account for just over a third of the employment in the services categories, recorded a 52.2 percent increase between 1948 and 1958).

The phenomenal growth of business services during the ten year period between 1948 and 1958 in large measure accounted for the over-all vitality of the service industries in the State. This general category, which includes advertising agencies, stenographic services, collection agencies, machine rentals, employment agencies, sign painting shops, telephone answering services, and numerous other general business services, experienced nearly a 365 percent increase in employment, adding some 17,355 employees between 1948 and 1958.

Employment in personal services, on the other hand, remained relatively static between 1948 and 1954, and showed only minor gains during the ten year period between Censuses. While this category, which includes such things as barbers, beauty shops, funeral services, photographers, shoe repair shops, cleaning and pressing establishments, laundries, dress suit rentals, diaper services,

etc., retained its position as the number one employer among the service industries, employment in many of these categories has been on the decline since 1948. The over-all increase in the number of auto repair establishments between 1948 and 1958 was half that of the total percentage change in service outlets for the State as a whole, while hotels, motels, and tourist courts just kept pace with the State averages.

Although the "top eight" counties in the State; Essex, Bergen, Hudson, Passaic, Union, Monmouth, Camden and Mercer still account for over 70 percent of all service establishments and over 75 percent of all receipts and employment of service industries under study, only one of these counties — Bergen — managed to score among the top eight in terms of percentage increases in each of these categories. Further, of these "top eight" counties, only four — Bergen, Camden, Mercer, and Monmouth — recorded percentage increases in number of firms in advance of the State average; only five — Bergen, Essex, Mercer, Camden, and Union — exceeded the State average for the percentage increase in total receipts; and only two—Bergen and Monmouth—scored above the State average in terms of employment increases.

The growth counties are the suburban and rural areas of the State, amplifying the fact that many service industries are "consumer oriented". The location of service industries follows certain clearly discernible patterns. Small proprietary outlets are usually the first to locate in areas of burgeoning development. Once suburban development takes hold, the larger service establishments with payrolls are attracted by the greater concentrations of population, and the more successful of the smaller firms, which located in the area initially, begin to expand their employment. As the service industries become more firmly established, receipts tend to show the greater increase, and thus the cycle is completed.

51. N. J. Division of Employment Security, *New Jersey Manpower Projections 1960-1970*, *op. cit.*, page 12.

NEW JERSEY SELECTED SERVICE INDUSTRIES
1948-1958

Type of Activity	NUMBER OF ESTABLISHMENTS			EMPLOYMENT			RECEIPTS		
	1948	1958	Percent Change 1948-58	1948	1958	Percent Change 1948-58	1948 (\$1,000)	1958 (\$1,000)	Percent Change 1948-58
Personal Services	15,283	14,974	-2.0	29,826	34,423	15.4	184,983	299,612	62.0
Business Services	996	4,333	335.0	4,760	22,115	364.6	33,555	250,146	645.5
Auto Repair Services	3,342	3,939	17.9	4,766	8,962	88.0	55,217	133,129	141.1
Miscellaneous Services	2,628	4,883	85.8	3,966	5,426	36.8	39,275	93,449	137.9
Amusement, Rec. Services	1,566	2,801	78.9	9,529	7,537	-20.9	88,338	98,031	11.0
Hotels, Motels, Etc.	1,413	1,857	31.4	11,260	14,359	27.5	85,360	116,142	36.1
STATE TOTAL	25,228	32,787	30.0	64,107	92,822	44.8	\$486,728	\$990,509	104.0

Source: U.S. Census of Business, 1948, 1954, 1958.

THE RESORT INDUSTRY

New Jersey enjoys a national reputation as the "Playground of the East." Although this distinction stems primarily from the State's almost 120 miles of beach front along its Atlantic coast, New Jersey possesses a surprisingly large number of lakes and ponds which attract numerous weekend visitors and, with recurring frequency, year-round residents. Perhaps even more surprising to the out-of-state visitor, who knows New Jersey only by the highly industrialized north-eastern portion which he passes through on a trip along the New Jersey Turnpike, is the fact that nearly half of the State's land area is forest land. These forested areas provide ample opportunities for hunting and fishing and for boating and swimming. New Jersey has close to a quarter of a million acres of state-owned lands, approximately 75 percent of which consists of state-owned parks and forests. The current Green Acres program is designed to further expand the State's holdings of recreational lands, so as to meet the demands of the future for a variety of recreational experiences.

While most of the State's beaches are municipal property and, therefore, are available to the general public, in a number of areas the pressures of overcrowded use have forced communities to "restrict" the use of their beach facilities and to charge nominal fees to defray the costs of providing beach protection and maintenance. However, scores of summer colonies along the coast provide the occasional visitor and the weekend vacationer with numerous facilities for salt water bathing, fishing, and boating, while the boardwalks and night clubs provide a variety of night time recreational outlets.

In the northwestern part of the State over 800 lakes have attracted hundreds of small communities and real estate developments of varying sizes to their shores. With the completion of the Tocks Island project in Warren and Sussex counties in New Jersey and Pike and Monroe counties in Pennsylvania, the State's recreational attractions will be even further enhanced.

The resort industry plays a major role in the economy of the southeastern shore and the northwestern lakeland areas of the State.

In order to properly appraise the trends in retail activities as they relate to the resort industry, however, it would be necessary to separate those retail functions which are directly related to the resort economy from the general over-all retail functions which are tied to the year-round populations of these areas. However, such an analysis is not possible based upon the data which is currently available.

The continued growth of population, the shorter work week, and increasing mobility with its parallel trend toward travel suggest that, over-all, the resort industry may be expected to continue to expand. However, the vacationer of the future will also have a wider choice among resort areas. If New Jersey is to share in this growth and expansion, a more detailed analysis of the characteristics of the State's resort economy must be obtained.

MARITIME COMMERCE IN NEW JERSEY

New Jersey's strategic location on the Atlantic Coastline between two of the nation's largest ports, New York and Philadelphia, its transportation facilities, and its numerous manufacturing establishments have ideally structured the State to carry on a flourishing international commerce.

New Jersey has excellent and numerous port facilities available both within its boundaries and in nearby New York, Pennsylvania, and Delaware. Together, the Ports of New York and Philadelphia handle over 25 percent of the North Atlantic Coast's exports and 62 percent of its imports, with over 87,000,000 short tons of cargo passing through these ports annually.⁵² The Wilmington Marine Terminal, which serves the southwestern portion of the State, is rapidly expanding, and handled an estimated 1,000,000 tons of foreign cargo in 1961-62.⁵³

Within New Jersey, the Port of Newark has 31 deep water vessel berths, 30 miles of railroad sidings, and other new facilities.

In 1961, over 1,500 vessels were serviced in this Port. The Port of Newark employs over 4,000 workers and has an annual payroll of \$21 million. The new development plan for port Elizabeth will soon double the number of berths in the Newark-Elizabeth area, with the total of 62 berths capable of handling 11,000,000 tons of cargo a year. Along the Delaware River, the following New Jersey communities have commercial port facilities: Trenton, Florence - Roebling, Burlington, Camden-Gloucester City, Paulsboro, and Pennsgrove-Deepwater Point.

In 1960, there were over 500 New Jersey firms which had an annual export volume of at least \$25,000. The total value of exported manufactured products for that year was estimated at \$897 million. This volume of exports placed New Jersey in 7th position nationally, with a total share of 6 percent of the total United States exports. In a recent U.S. Department of Commerce study, the breakdown of exported manufactured products for the State was as follows: chemicals and allied products — \$207.7 million; transportation equipment — \$161.9 million; primary metals — \$85.5 million; electrical machinery — \$77.9 million; non-electrical machinery — \$70.8 million; petroleum and coal products — \$58.7 million; and instruments and related products — \$45 million.

Those establishments exporting manufactured goods employ more than 296,000 workers, or about 37 percent of all manufacturing employment in the State. The U. S. Department of Labor has estimated that over 93,600 jobs in New Jersey (in 1960), or 5 percent of total State employment, are directly attributed to export trade.⁵⁴ This includes 73,000 employed in manufacturing and 18,000 in associated service industries. In light of the important role which maritime commerce plays in the State's economy, efforts should be made to stimulate the level of the State's international trade in the import as well as the export field. A significant step in this direction was taken with the recent creation of the International Trade Section within the Department of Conservation and Economic Development.

52. N. J. Department of Conservation and Economic Development, N. J. Division of State and Regional Planning, *Waterfront Utilization in North-East New Jersey, 1962*, page 16.

53. Charles E. Morris, "Port of Wilmington," *Ports of Philadelphia*, Office of the City Representative, January, 1963, page 11.

54. William Duryee, "New Jersey's Role in International Trade", *The New Jersey Economic Review*, Vol. IV, No. 2, March-April, 1962.

THE FINANCIAL COMMUNITY

New Jersey is the only state in the Union in which the number of bank accounts exceeds the population.⁵⁵ In 1961, it was estimated that over 68,000 persons were employed in the field of finance.⁵⁶ Of this number, the greater portion (approximately two-thirds) were in the field of insurance (brokers, solicitors, agents, etc.), with commercial banking (about 29 percent), savings and loan companies (3 percent) and savings banks (2 percent) following in this order. However, since many insurance activities are combined with real estate or similar business it is difficult to determine an accurate count for total employment in finance. Each of these categories of the financial community will be discussed briefly.

With the growth of the State during the past several decades, the financial community has had to make certain adaptations, so as to be in a position to provide for the increasing needs of New Jersey's economy. In 1961, there were 247 commercial banks in New Jersey with total deposits of \$7.76 billion, representing a 65 percent increase of deposits in 1947, and 17.6 percent increase of deposit figures for 1956.⁵⁷ These gains are substantially higher than similar figures for the nation as a whole. In New Jersey between 1947 and 1960 savings and loan association assets rose from \$471 million to \$2,385 million, a 400 percent increase.

55. Eugene Aggar, in Flink, *The Economy of New Jersey*, *op. cit.*, page 424.

56. Department of Conservation & Economic Development, *New Jersey, A Digest of Employment*, Research Report No. 130, page 4.

57. Data for 1961 deposits from Federal Deposit Insurance Corp., *Annual Report, 1961*; 1947 & 1956 data from Ager, Eugene, *op. cit.*

Commercial Banks

At the end of 1961 there were 247 commercial banks in New Jersey. This figure represents a decline of some 29 banks over the total number in 1956. While the number of banks has been steadily declining over the past several years both nationally and in the State, the number of "branches" opening each year has continued to accelerate. As a result, the total number of banking offices has increased during this period.

In the over-all picture, the counties with the highest banking assets seem to cluster in and around the hub of the Newark metropolitan area. In 1958, the counties of Essex, Hudson, Bergen, Union, and Passaic represented two-thirds of the total bank assets in the State, while Essex County alone represented over 27 percent of the State's total assets. By the end of 1960, however, although these five counties still accounted for nearly 65 percent of the total assets of the State, Essex County's share had dropped to 25.9 percent, while the relative shares of Bergen, Union, and Passaic showed minor declines.

Mutual Savings Bank

Although the mutual savings banks stood up well during the Depression, and grew in size with the more recent expansion of the national economy, their number in New Jersey has decreased, from 27 in 1929, to 23 in 1956, to 21 in 1960. However, allowing for the changing conditions growing out of World War II, the New Jersey savings banks have maintained their strength vis-a-vis those of the rest of the nation, as illustrated in the following table.

**MUTUAL SAVINGS FUNDS AND PERSONAL INCOME IN UNITED STATES
AND NEW JERSEY, 1933-1960**

Years	(in billions) Savings Banks		Percent N.J. of U.S.	(in billions) Personal Income		Percent N.J. of U.S.
	U.S.	N.J.		U.S.	N.J.	
1933	\$ 9,500.0	\$ 333.0	3.51	\$ 47,100.0	\$ 2,172.0	4.6
1939	11,500.0	361.0	3.14	72,800.0	3,100.0	4.2
1947	17,700.0	505.0	2.85	189,100.0	7,200.0	3.8
1956	30,000.0	1,099.0	3.66	322,000.0	13,202.0	4.1
1960	36,000.0	1,347.0	3.74	400,002.0	16,256.0	4.1

Source: Agger, E., in Flink, The Economy of New Jersey; Federal Deposit Insurance Corporation; Survey of Current Business.

Savings and Loan Associations

There is no gainsaying the figures, the savings and loan industry in the United States has grown to a stature which must be re-organized for what it is, a tremendous and important aggregate of savings funds and reserves.⁵⁸

The forerunner of saving and loan associations were the building and loan associations, which were chartered under State law. However, as a result of the calamitous effects of the Depression, such associations have been federally incorporated and, along with the surviving state-chartered associations, belong to the Home Loan Bank System.

As the following table indicates, saving and loan associations have made a substantial recovery during the past decade following the low of the late forties.

58. The American Banker, March 13, 1957, as quoted in Eugene E. Agger, *op. cit.*, pages 431-432.

N.J. SAVING AND LOAN ASSOCIATION — TOTAL ASSETS

Year	Number of Associations	Assets
1933	1,532	\$1,088,710,000
1939	1,230	543,714,000
1947	501	433,451,000
1956	463	1,760,256,000
1960	431	2,429,480,000

Source: The New Jersey Savings and Loan League; U.S. Bureau of the Census, City and County Data Book, 1962.

As is the case with the other sectors of the financial community, the general health of insurance activities depends upon the over-all vitality of the economy. As the following table shows, New Jersey's gain in insurance business between 1929 and 1939 outstripped that of the nation by over 2½ times.

LIFE INSURANCE IN NEW JERSEY AND THE UNITED STATES
1929-1960 (in millions)

Year	U.S.	Percent Increase	N.J.	Percent Increase	N.J. as Percent of U.S.
1929	\$102,086		\$4,306		4.2
1939	111,569	9.3	5,337	23.9	4.8
1947	186,035	66.7	8,595	61.4	4.6
1956	412,630	121.8	18,508	115.3	4.5
1960	586,448	42.1	26,022	40.6	4.4

Source: Agger, Eugene E., op. cit., page 434; and Institute of Life Insurance, Life Insurance Fact Book, New York, New York, 1961.

Considering what has happened in the past, as well as the ready flexibility of the State's present financial machinery, there is every reason to expect that New Jersey financial institutions will continue to develop and adapt to meet expanding future demands.

THE FUTURE OF COMMERCE IN NEW JERSEY

The level of commercial activity experienced at any time by a given area is dependent on a great variety of factors, including size of the population, amount of disposable income, and the general condition of economic activity. In New Jersey, these factors are in the midst of a favorable growth period which shows no sign of slacking. Population increases are third highest in the nation while employment and income have risen accordingly. Thus, barring unexpected fluctuations in the national economy, the State's commercial community can prepare for a prosperous future.

THE CONSTRUCTION INDUSTRY

The construction industry effectively illustrates the expectations for the future growth and health of the economy of any given area. In New Jersey, the outlook is good, and thus the construction industry accounts for a significant portion of the State's labor force. In 1940, the experienced civilian labor force employed in construction activities amounted to 79,183. By 1960, this figure had risen by 63.9 percent, to 129,797.⁵⁹

Residential construction activities have been high in New Jersey as a result of the 25.5 percent increase in the State's population and the movement of people to the suburbs which characterized the decade from 1950 to 1960. While there has been a decline in the construction of single family homes in the past several years, this has more than been offset by a rise in apartment unit construction. Non-residential construction has kept pace with the growth of the economy, as has the construction of new industrial facilities. Adjusting for seasonal and cyclical fluctuations which strongly affect the construction industry, the overall prospects indicate continued growth of this most important segment of the State's economy. Projections of the New Jersey Division of Employment Security suggest that construction employment during the period from 1960 to 1970 will experience even greater gains than in the decade from 1950 to 1960.⁶⁰

GOVERNMENTAL EMPLOYMENT⁶¹

In 1960, there were 237,200 persons employed in governmental service in the State of New Jersey, representing a 41 percent in-



crease over employment statistics for 1950. Of this number, 56,500 were Federal employees, while 180,700 were employed by local and State government. Further, nearly half of the governmental employment at the State and local levels was in the field of education. Between 1950 and 1960 employment in the field of education increased by 73 percent.

Over the years, the federal employment has remained fairly constant. However, State and local governmental employment has been constantly on the increase. While New Jersey ranks fiftieth among the states with regard to per capita expenditures for State government, employment in this segment of the State's economy will undoubtedly play an increasingly important role. Based on the projections of the Division of Employment Security, it is anticipated that in the decade from 1960 to 1970 governmental employment will increase by 46 percent, with the most significant advances occurring in the field of education.

59. U. S. Bureau of the Census, *U. S. Census of Population: 1960 General Social and Economic Characteristics, New Jersey, Final Report PC(1)-32C*.
60. N. J. Division of Employment Security, *New Jersey Manpower Projections 1960-1970, op cit.*
61. Data cited in this section based on the New Jersey Department of Labor and Industry's report, "Nonagricultural Payroll Employment 1960-1963" and *New Jersey Manpower Projections 1960-1970*.



AGRICULTURE IN NEW JERSEY

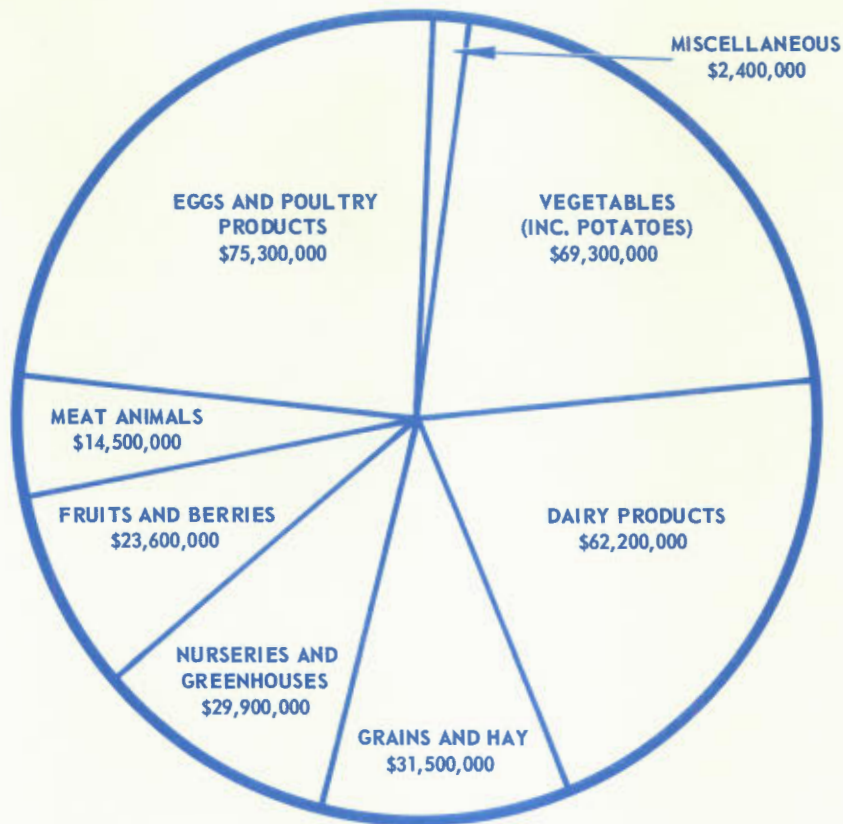
Agriculture has always been an important part of New Jersey's economy. In colonial days, when villages and towns were first emerging and expanding, certain rural areas in the State were major sources upon which the communities of this colony and nearby areas depended for a portion of their daily food requirements. Today, as then, New Jersey produces vast quantities of foodstuffs not only for its own population, but for the populations of other consuming areas along the Eastern seaboard as well.

Over the years, however, the inroads of urbanization have rapidly decreased the amount of land devoted to agriculture. There has even been speculation that the complete demise of agriculture in New Jersey will occur in the near future. Such a viewpoint, however, is entirely unfounded, since nearly 30 percent of the State's 1,431,000 acres is still devoted to intensive agricultural uses.

The importance of New Jersey's agricultural community is reflected in an estimated investment value of more than 1.5 billion dollars, which produces an annual product in excess of 330 million dollars, with approximately an equal amount of investment in employment and income in those industries supplying goods for farm production and marketing of agricultural yields.⁶² New Jersey ranks first in the nation in cash receipts per farm acre — \$214 in 1961. The national average in that year was \$31. In total cash receipts per farm, New Jersey ranks third nationally, with an average of \$20,240 in 1961. Outranking New Jersey in this respect were California and Arizona in both of which the average farm contains many more acres than does the average New Jersey farm.

62. Allen G. Waller and John W. Carncross, in Flink, *The Economy of New Jersey*, *op cit.*, page 509.

NEW JERSEY FARM PRODUCTS -- 1962
TOTAL VALUE -- \$308,700,000



SOURCE: New Jersey Department of Agriculture,
Crop Reporting Service.

Proximity to the unsurpassed metropolitan markets of New York and Philadelphia and to heavily populated consuming areas within the State provides New Jersey farmers with good outlets for their products just as these urban concentrations provide manufacturers with ample outlets for their wares. Considerable diversity is evident in New Jersey's agricultural economy. In addition to numerous general agriculture farms, in many sections of the State, highly specialized farming is apparent. Vegetable farms, poultry farms, dairy farms, fruit farms, and potato farms are centered in various areas of the State which are particularly adapted to the production of specific commodities. The State's varied topography and soil types account, in large measure, for the extent of this diversification of farming activities.

New Jersey's Soil Types

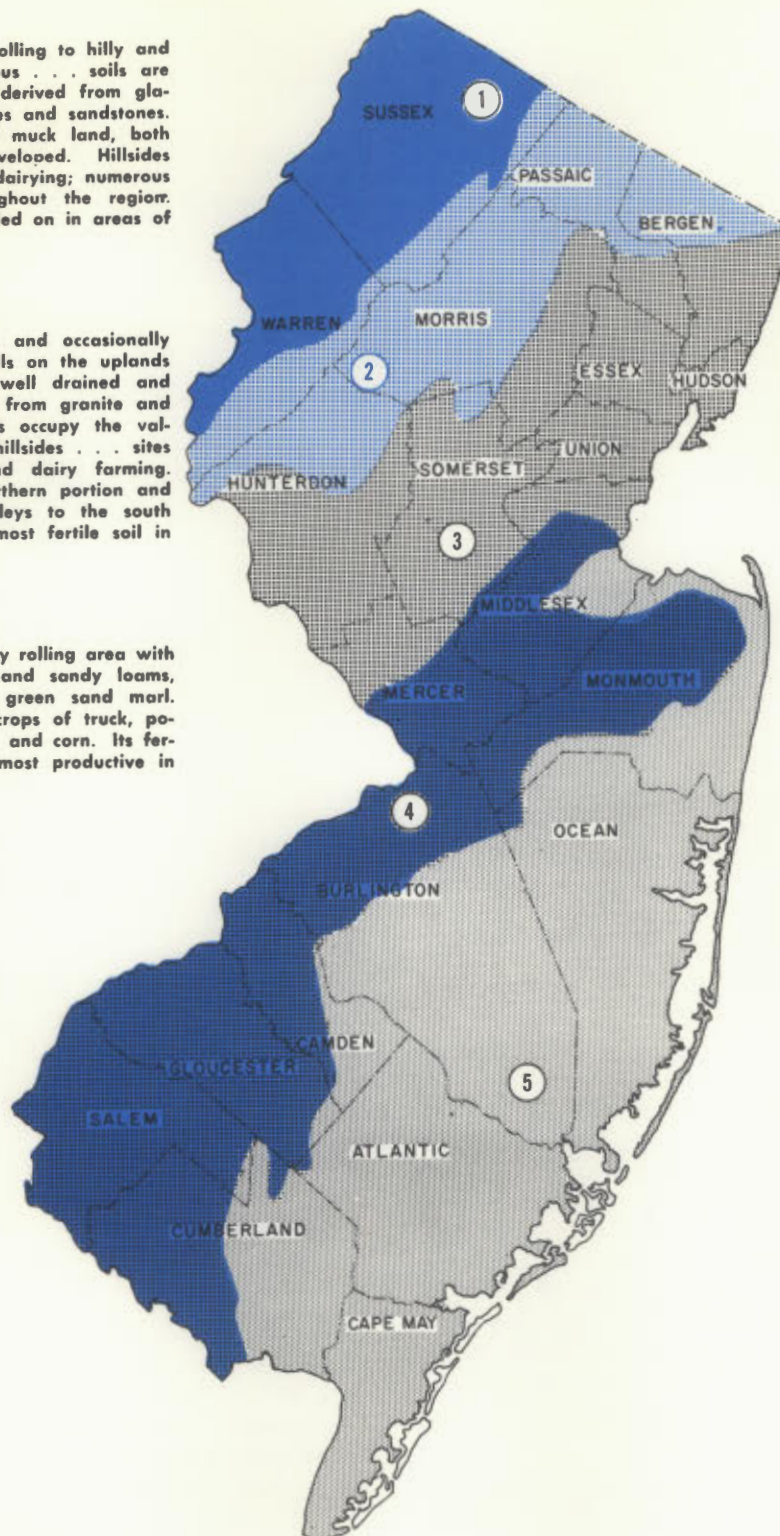
Since topography and soils are determining factors in the types of agricultural activities which may be carried on in different areas of New Jersey, it is important to understand the various characteristics of soil "zones" which are to be found in the State.

AGRICULTURAL SOILS

Zone 1 Topography rolling to hilly and occasionally mountainous . . . soils are predominantly heavy; derived from glacial shales, limestones and sandstones. Considerable areas of muck land, both developed and undeveloped. Hillsides and valleys used for dairying; numerous orchards found throughout the region. Market gardening carried on in areas of rich muck land.

Zone 2 Rolling, hilly, and occasionally mountainous area. Soils on the uplands predominantly heavy, well drained and usually loams derived from granite and gneiss. Limestone soils occupy the valleys. Gently sloping hillsides . . . sites for fruit orchards and dairy farming. Narrow valleys in northern portion and broader limestone valleys to the south contain some of the most fertile soil in Appalachian Province.

Zone 4 Level to gently rolling area with predominantly loams and sandy loams, sometimes containing green sand marl. Known for its large crops of truck, potatoes, tomatoes, fruit, and corn. Its fertile soils among the most productive in the country.



Zone 3 Gently rolling area with relatively low, stony ridges. Soils predominantly derived from red sandstone and shales . . . some grayish shales and sandstones. Soils of stony ridges result from disintegration of dense trap rock. Loams, rich in plant food, capable of producing large yields of hay, corn, grain, and forage crops.

Zone 5 Flat, level to very gently rolling area. Soils light and sandy. Noted for production of market garden crops, tree fruit, small fruits, cranberries, and poultry. With application of fertilizers, possible to produce crops from this soil of a greater value than those grown on the naturally rich lands of other states. Certain parts of this section non-agricultural in character and should remain in forest.

SOURCE: New Jersey Department of Agriculture.

AGRICULTURE BY TYPE

The Poultry Industry

New Jersey's poultry industry, consisting of market eggs, baby chicks, and poultry meat, is one of the principal elements of the State's agricultural economy. The State's 5,000 poultry farms produced 1.86 billion eggs in 1962. Within the State there are several concentrations of poultry production, as shown on the adjacent map. New Jersey is by far one of the most commercialized egg-producing areas in the United States. While the State presently has one of the highest percentage of larger-sized flocks in the nation, with further improvements in housing arrangements, mechanized feeding equipment, environment controls, etc. even larger-sized flocks may be anticipated.

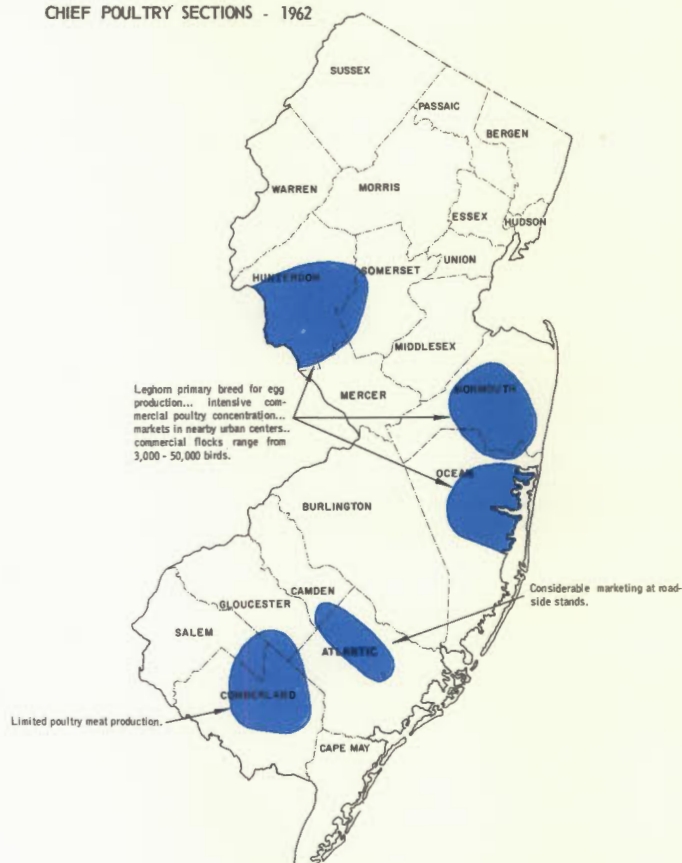
However, the poultry business is not one that can be engaged in and made profitable without capital and skill. The need to re-define and revamp the production and marketing phases in light of growing competition and technical change is the key element to the future growth of New Jersey's egg and poultry industry. The methods to achieve this are yet to be determined. Other problems include: 1) the need for tax relief programs on farm real estate and buildings; 2) research in all areas of marketing and production; 3) the role of farm labor on larger farms; and 4) the need for a continued program of research to control poultry diseases.

The Dairy Industry

Dairying is also one of New Jersey's most important branches of agriculture. New Jersey ranks high among the states in several branches of dairying. Although the number of cows kept for milk production has declined (from 158,000 in 1940 to approximately 128,000 in 1962), total production has increased steadily. This has resulted from increased milk production per cow — the record 9,280 pounds of milk per animal in 1962 ranked New Jersey third in the nation in this respect.

Two distinct types of dairy farming are found in New Jersey, with the industry being concentrated, in particular, in three sections, as shown on the map.

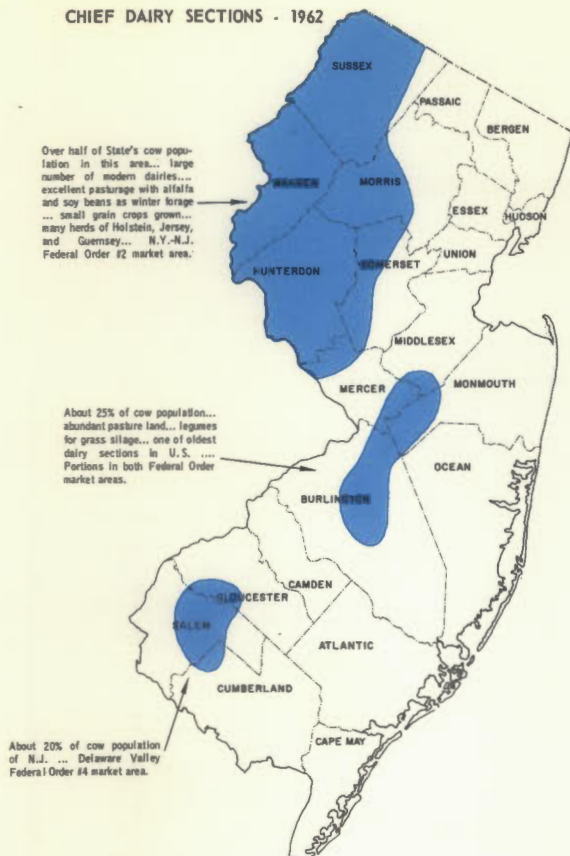
CHIEF POULTRY SECTIONS - 1962



New Jersey Crop Reporting Service, Circular 424, April 1963 (generalized)

The type of dairy farming that prevails in the northern part of the State consists primarily of dairying operations, with 90 percent or more of the receipts coming from the sale of fresh milk. Over half of the State's cow population is located in this area. In central and south Jersey, dairy receipts are often supplemented by cash crops such

CHIEF DAIRY SECTIONS - 1962



New Jersey Crop Reporting Service, Circular 424, April 1963 (generalized)

as potatoes, cannery tomatoes, vegetables for market, poultry and eggs.

In the future, it is likely that the State's dairymen will continue to raise the level of milk output as further improvements in machinery and equipment and advances in forage production, harvesting, and storing equipment are forthcoming. However, the State's dairymen will also continue to operate under rising costs and increased competition from out-of-state producers and much will depend necessarily on the long term outlook for milk prices. As a result of this increased competition, it is quite likely that the small-herd-owner will be forced to increase the size of his herd or withdraw as a supplier.

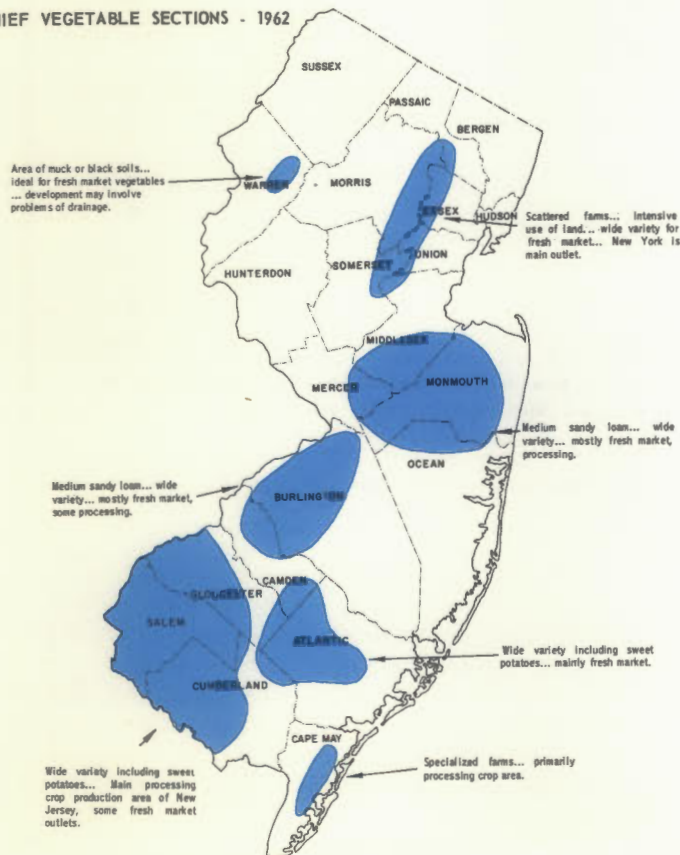
Vegetable Production

New Jersey has a number of factors in its favor which have substantially contributed to its nickname as the "Garden State" — varied soil types; favorable climate; proximity to large consumer markets; and knowledgeable farmers. There are more than fifty different vegetables grown in New Jersey and, as the table illustrates, New Jersey has ranked consistently high in national rankings in the production of over fifteen major vegetable crops.

Although vegetables are produced on a commercial scale in almost every county in the State, including the more urbanized areas of the northeastern portion, there are certain sections in which vegetable growing has become specialized.

Vegetable growing in the State may be grouped broadly into two classes: 1) market and truck gardening — highly developed in the northeastern section and in urban areas where land prices are high in close proximity to the consumer markets; and 2) processing-oriented production — particularly in the southern and central sections of the State. With the growing demand for larger quantities of vegetables of relatively uniform high quality for processing, a squeeze will be placed on the small growers who are not usually in a position to produce the quantity or quality likely to be demanded by the food processors. Thus, small producers may have to specialize or become involved in marketing directly to the consumer.

CHIEF VEGETABLE SECTIONS - 1962



New Jersey Crop Reporting Service, Circular 424, April 1963 (generalized)

**NEW JERSEY'S RANK IN THE NATION IN THE PRODUCTION
OF VEGETABLES**

	1936	1940	1962
Sweet Corn for market	1	1	4
Peppers for market	1	1	3
Asparagus	2	2	2
Beets for market	2	2	2
Eggplant	1	2	2
Lima beans for market	1	2	3
Barly Irish Potatoes	1	2	NA
Lima beans for process	3	3	NA
Snap beans for market	3	3	6
Carrots for market	5	4	NA
Cauliflower	5	4	9
Lettuce	7	5	5
Tomatoes for market	4	4	4
Tomatoes for process	4	4	3
Cucumbers for market	3	6	5
Spinach for market	4	5	2
Celery	5	5	6
Beets for process	5	5	NA

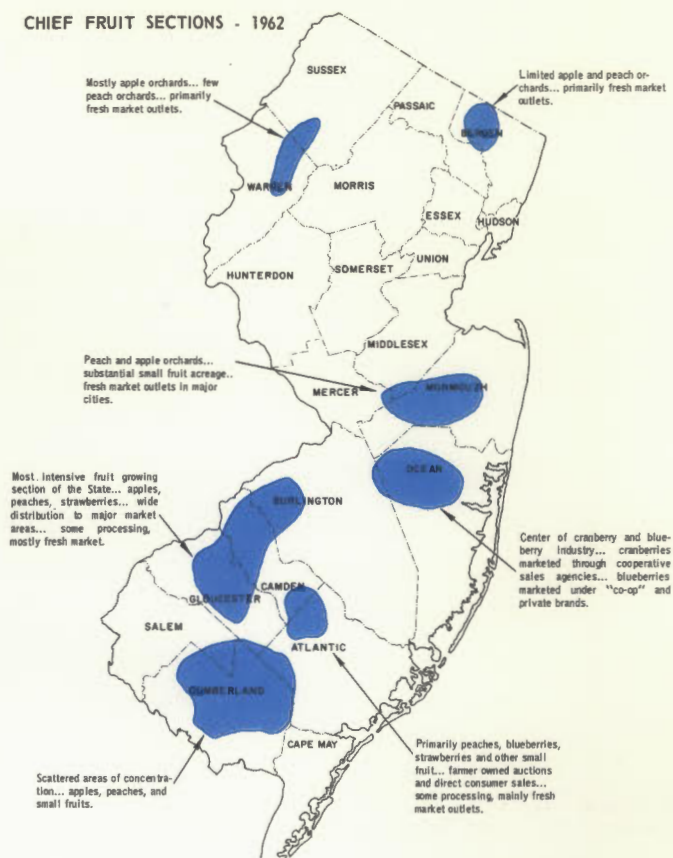
Source: 1936 and 1940 data — New Jersey Department of Agriculture, New Jersey — The Garden State, 1941, page 28
1962 data New Jersey Crop Reporting Service, 1962 New Jersey Agricultural Statistics, April, 1963.

Fruit Production

While small in size as compared with most other states, New Jersey has held a relatively high position, both in terms of quantity and quality, as a producer of tree fruits, small fruits, cranberries, strawberries, blueberries, and grapes. While temperate zone fruits may be successfully grown in almost every part of the State, major fruit growing sections in the State are shown on the adjacent map.

Forecasts as to the future of the fruit-growing industry in New Jersey project increases in peach and blueberry production, a moderate decline in apple production, and little or no change in the production of cranberries or strawberries. While lands devoted to berry production are relatively "safe" from urban encroachment, since they center in the more remote areas of southern New Jersey, the orchards of the northern and central portions of the State in many instances lie in the path of development. Efforts should be made to protect these areas to insure the continued stability of this segment of the State's agricultural economy.

CHIEF FRUIT SECTIONS - 1962



New Jersey Crop Reporting Service, Circular 424, April 1963 (generalized)

Field Crops and General Farming

While agriculture in New Jersey is largely characterized by specialization, there are about 440 farms that are general in nature. A general farm is one in which no one product furnishes more than 40 percent of the farm income. Such farms are scattered over the State rather than localized in particular sections. Those farms vary greatly in size and nature of production, consisting largely of milk, vegetables, grains, hay, fruit, potatoes, poultry, and eggs.

Miscellaneous Agriculture Enterprises

The production of horticultural specialties has increased significantly in recent years. By 1960, cash receipts from forest, nursery, and green house products totalled \$36,344,000.⁶³ Generally speaking, land in New Jersey is too valuable to be used extensively for livestock grazing. There are, however, some sheep raised in the high rolling lands of the north-western portion of the State and some raising of baby beef and fattening of steers while hog raising is now a minor enterprise. The annual value of honey produced by the State's 34,000 bee colonies is estimated at \$347,000.⁶⁴

63. New Jersey Crop Reporting Service, *New Jersey Agricultural Statistics*, 1961.
Jersey Agricultural Statistics, 1961.

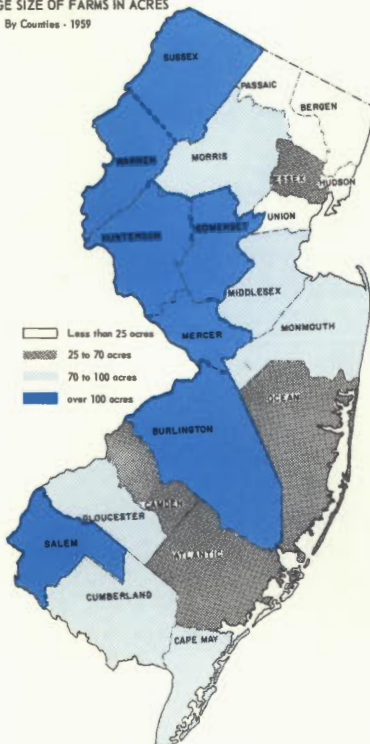
64. New Jersey Crop Reporting Service, *New Jersey Agricultural Statistics*, 1962.

AGRICULTURE BY COUNTY

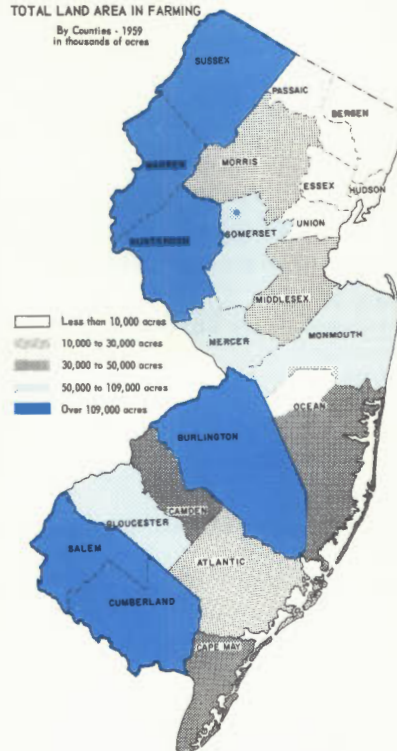
There are wide variations between New Jersey's twenty-one counties in terms of farming activities. The seven more rural counties have over 100,000 acres in farm land; in two of these counties — Hunterdon and Salem — farming is still the dominant form of land use (over 50 percent of total land area is thus utilized), while two others — Warren and Mercer — remain near the 50 percent level. At the other extreme, the heavily populated counties — Bergen, Essex, Hudson, Passaic, and Union — have less than 10 percent of their total land area in farms.

In six of the seven rural counties, the average size of farms in 1960 was over 100 acres. The seven rural counties account for over 55 percent of the total number of farms in the State and over 46 percent of the total agricultural employment in the State. By contrast the five most urban counties account for just over 5 percent of the total number of farms, but contribute nearly 15 percent of the total agricultural employment.

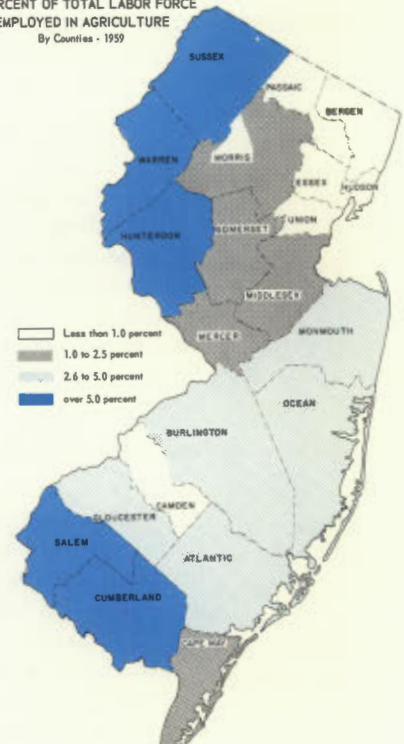
AVERAGE SIZE OF FARMS IN ACRES
By Counties - 1959



TOTAL LAND AREA IN FARMING
By Counties - 1959
in thousands of acres



PERCENT OF TOTAL LABOR FORCE
EMPLOYED IN AGRICULTURE
By Counties - 1959



SOURCE: County and City Data Book.

PROBLEMS FACING NEW JERSEY AGRICULTURE

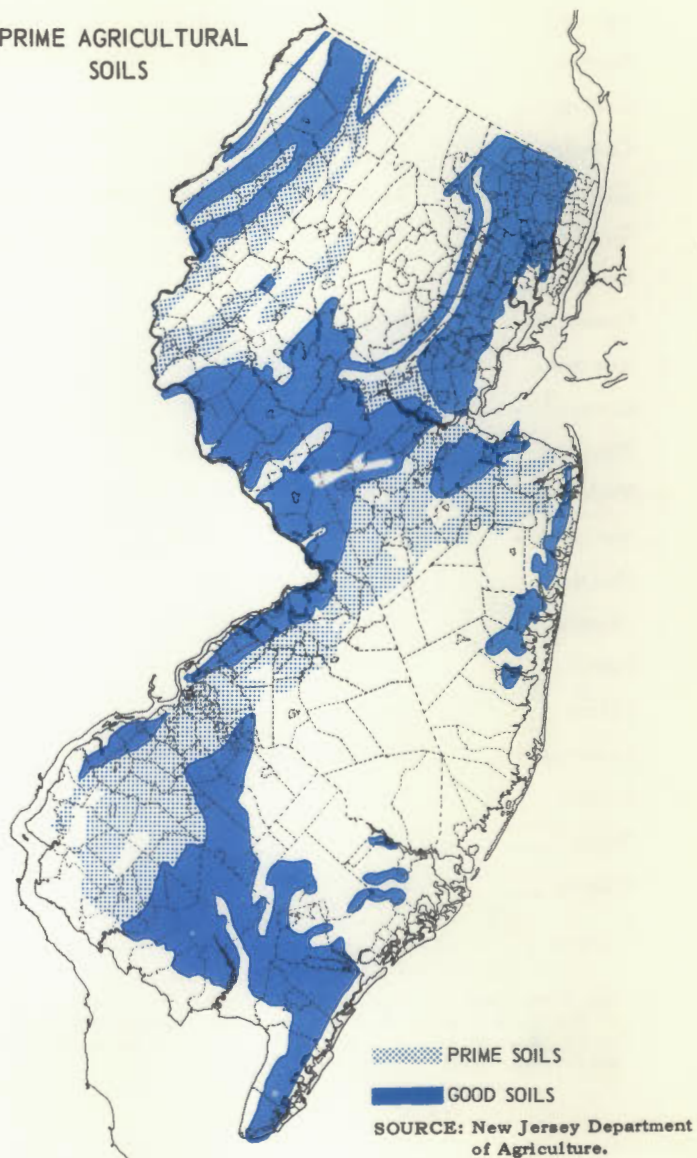
Perhaps the most crucial problem facing agriculture in New Jersey today is taxation. Taxes per acre in New Jersey are the highest in the nation and have increased nearly fivefold since 1945. The average farmer in New Jersey is reported to be paying more than \$1,100 a year in farm real estate taxes. Taxes per farm acre in New Jersey are ten times the United States average, four times what they are in New York and five times that of Pennsylvania. Comparing New Jersey farm taxes to those of two of its most competitive agricultural states, New Jersey's are two and a half times that of California and ten times that of Florida.

A second problem facing farmers in New Jersey is the "cost-price squeeze". While the cost of production has continued to rise over the years, prices received by New Jersey farmers have shown little increase and in many cases have even experienced declines. Farm wage rates have also risen sharply in the past two decades, while the problem of securing an adequate supply of trained farm help has become acute since the start of World War II. This shortage of farm labor has been further intensified by the steady migration of farm labor to higher paying jobs in the State's industries.

Decline in Agricultural Lands

Since 1930 over 500 square miles of New Jersey's agricultural lands have disappeared. Urban lands, on the other hand, have increased by over 77 percent, with over half of this increase occurring between 1950 and 1960. The number of farms in New Jersey have decreased from 25,378 in 1930 to 15,459 in 1960, a loss of nearly 10,000 farms in 30 years. Evidence of accelerated losses is reflected in the loss of over 3,500 farms in the

PRIME AGRICULTURAL
SOILS



NEW JERSEY CROPLAND — BY COUNTIES

County	1954 ¹ Acres (,000)	1959 ¹ Acres (,000)	Est. 1975 Acres (,000)
Atlantic	28.9	30.5	35.0
Bergen	7.9	4.7	2.5
Burlington	136.7	116.3	92.0
Camden	22.0	15.6	18.3
Cape May	11.3	10.9	21.3
Cumberland	88.8	97.5	109.3
Essex	—	—	0.8
Gloucester	75.2	68.1	87.7
Hudson	—	—	—
Hunterdon	134.3	110.0	71.2
Mercer	62.2	52.6	43.6
Middlesex	51.6	38.2	42.2
Monmouth	102.7	79.1	53.8
Morris	47.2	30.0	31.2
Ocean	23.1	10.1	21.8
Passaic	4.1	2.4	2.0
Salem	89.1	88.2	82.0
Somerset	66.9	47.5	41.0
Sussex	93.9	73.2	43.2
Union	2.3	2.0	0.5
Warren	96.8	80.0	65.3
State	1,145.0	957.2	864.6

1. U.S. Department of Commerce, 1959 Census of Agriculture, Bureau of the Census, Series AC59-1, Sept. 1960—includes cropland harvested, cropland used only for pasture, cropland not harvested and not pastured, and irrigated land in farm.

last 10 years to other uses. During this same ten year period (1950-1960) there has been a reduction of 238 square miles of farm land within the State; an area roughly equivalent to the size of Bergen County.

The Loss of Prime Lands

In the past, most of the best, or "prime" agricultural land in the State was beyond the reach of urbanization, except in some areas around the Camden, Trenton, and New Brunswick-Plainfield areas. Urban expansion, for the most part, had occurred on land not particularly suitable for high agricultural yields; therefore, it was of little consequence that the function of these lands changed from that of yielding produce to that of serving as a reservoir of land for urban development. More recently, however, urban expansion has begun to encroach upon the more fertile, prime soils of the State.

Over 40 percent of the State's prime agricultural lands have been lost to development! By the end of 1961, the loss or effectual loss of these lands due to the encroachment of surrounding urbanization was approximately 749 square miles or about 480,000 acres. By comparison, prime agricultural land, still open, amounted to only 1,010 square miles or about 646,500 acres.

THE FUTURE OF AGRICULTURE IN NEW JERSEY

If previous trends continue, a further depletion of agricultural lands would appear inevitable. Urban expansion in New Jersey is presently spurred by an annual increase of approximately 100,000 persons per year, requiring increasingly more land to provide needed facilities. Under this pressure, the eventual displacement of agriculture in those areas close to existing development seems imminent.

PROBLEMS, POTENTIALS, AND NEEDS

There are several problems facing the State which may be considered as obstacles to the future growth and expansion of the economy of New Jersey. For the most part, these problems are a by-product of the rapid growth which the State has experienced in the past.

Needs are distinguished from problems only in a relative matter. That is, today's needs if they are not properly met, may become tomorrow's problems. Needs grow out of the prospective growth of the population, while problems stem from past increments of population. For example, the spread of population to the suburbs has amplified the commuter problem by increasing the distance between home and work. This has given rise to the need for improved highways and mass transit facilities to expedite the movement of people and goods now and in the future.

New Jersey possesses considerable potential to provide solutions to the existing problems and to meet the emerging needs. Although space is at a premium in the urban areas of New Jersey, much of the State is still sparsely populated, providing ample space to accommodate people and industry. This available open space also provides ample potential for expanded recreational facilities to meet the growing demands for leisure time activities.

The Need for Developing and Maintaining Adequate Water Resources

It is expected that daily industrial demands will reach the 500 million gallon mark by 1975. The rising use of water on the part of the individual, as well as the expected increase in the number of individuals in the State has also created an estimated need for an additional 108 million gallons per day by 1965 for personal consumption alone. When commercial and service uses are added to this, the total additional amount of water required for non-industrial uses alone equals 125 million gallons per day.

The following table summarizes the additional water needs anticipated by 1975.

	1955 Level of Consumption	Increase in Consumption
Industrial Consumption	300m.g.p.d.	200m.g.p.d.
Non-industrial Consumption	290m.g.p.d.	225-250m.g.p.d.
Total	590m.g.p.d.	425-450m.g.p.d.

Source: Flink, *The Economy of New Jersey*.

Recent estimates of the State's water needs indicate that these early projections may be somewhat conservative.

Fortunately, New Jersey receives an annual average rainfall of 45-46 inches distributed equally over the twelve months of the year. However, this water must be efficiently captured, stored, and transported to serve its intended uses in the most optimum manner. This problem has become even more intense in recent years due to urbanization and the rapid building and development in natural storage areas. The State's current program to acquire, develop, and maintain reservoir sites, therefore, is vital to the future of New Jersey.

Atomic Energy

As of 1962 there were over 450 users of radioisotopes in New Jersey licensed by the Atomic Energy Commission, while in 1958, the figure was only 180, an increase in the four years of 150 percent. Even this growth rate should be surpassed within the next few years as more and more industries discover the uses to which controlled atomic energy can be put.

In the words of Charles G. Manly of the Atomic Energy Commission: "Neither the true potential uses of atomic energy, nor the real problems which such uses may bring about are susceptible to accurate prediction. How soon the effects of the atomic age will be felt or in what specific manner it will first be manifest are anybody's guess, but . . . (this) force . . . will soon become the most powerful and benign force ever known."⁶⁵

65. New Jersey State Chamber of Commerce, *New Jersey and the Industrial Atom*, 1958.

Commuter Patterns

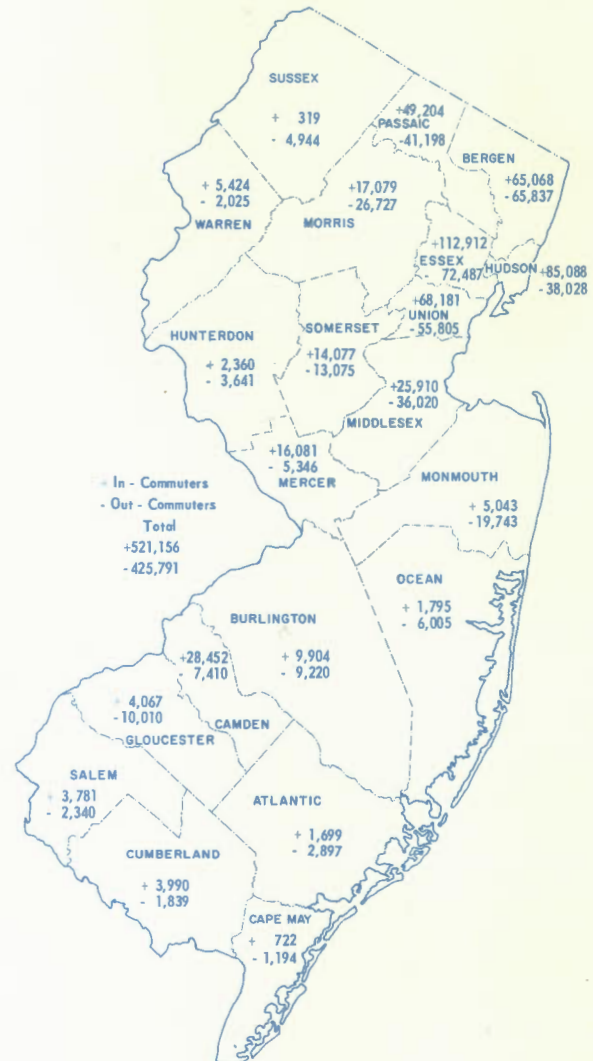
Of the 1.8 million workers included in a Division of Employment Security Survey in May of 1960, 426,000 of them, or 23.7 percent commuted between counties in order to get to their jobs, and an additional 92,500, or 5.2 percent resided outside of the State, mainly in New York (59,742) and Pennsylvania (30,913) as shown on the map of in-bound commuters reproduced on the following page. Furthermore, over 166,000 workers commuted from homes in New Jersey to jobs in New York, while roughly 70,000 residents of the State found daily employment in Pennsylvania and Delaware.

Thus, on a typical weekday morning in New Jersey, over 750,000 workers, a number equal to 41.9 percent of the total industrial jobs in the state, cross county or state lines to get to work, while the afternoon produces a mirror image of the previous pattern.

The pattern of commuter flow is also becoming more diverse and complicated as new industries locate outside of the central cities following the national trends of decentralization.

The efficient transport of goods and people will have an important bearing on the future growth and development of the State and its economy. Tieups at river crossings and traffic jams at major intersections are more than merely an irritation to those caught in these traffic snarls; they constitute a significant impediment to the optimum delivery of people and goods and, as such, represent a substantial loss to the State's economy. For these reasons, a study of commuter patterns and transportation facilities in general is most important to the over-all State Development Plan. The State's participation in major studies concerned with the interrelationship of land use and transportation planning on a metropolitan basis will provide an important foundation for the development of effective solutions to these and other emerging problems.

"COMMUTING PATTERNS OF WORKERS
EMPLOYED IN NEW JERSEY"



SOURCE: New Jersey Department
of Labor and Industry.



Federal Spending in New Jersey

Many of New Jersey's industries are dependent upon defense contracts for a substantial portion of their manufacturing output. In the fiscal year of 1963, the Federal government awarded over \$1,250,608,000 worth of prime military contracts to firms in the State. This figure represents five percent of the national total and placed New Jersey fourth among all the states in this regard. From this it may be seen that the vitality of New Jersey's economy may be effected by decisions made completely outside its control. Should these prime defense contracts be placed elsewhere, significant adjustments would have to be made in certain segments of the State's economy.

Similarly, civilian employment in Federal installations within the State represents a significant portion of New Jersey's total labor force. Fort Monmouth alone employs over 7,500 non-military persons. The recent

Federal decision to close the Raritan Arsenal in Middlesex County for example, resulted in the loss of some 2,600 jobs and an additional \$4,000,000 worth of local purchases yearly. Therefore, it may be seen that the purchase of goods and services by Federal installations and their employees from local merchants also serves to further stimulate the State's economy.

Higher Education

Whereas in 1961 there were 66,109 graduates of the State's secondary schools, 36.5 percent of whom continued on to college, by 1970 it has been estimated that there will be 89,844 high school graduates of whom 44.6 percent will continue their education.⁶⁶

Records further indicate that an increasing percentage of New Jersey's high school graduates enroll in the State's colleges and universities, 45 percent in 1955, and an estimated 64 percent by 1970.⁶⁷ When these increases in enrollment are combined with continued increases in enrollment by out-of-state students, the State's higher educational facilities will undoubtedly feel a definite strain. From a total of 46,034 college students enrolled in New Jersey colleges and universities in 1962, it is anticipated that by 1970 over 95,700 college students will be enrolled in the State, an increase of nearly 110 percent.⁶⁸

The State has an obligation to provide college facilities for qualified high school graduates. But while the problems are clear cut, the solutions are not. Whether facilities for higher learning should be centralized or dispersed; whether an emphasis should be placed on specialized or general curriculum; the relationship between public and private facilities; these are all questions which will require intensive study and research by educators and governmental officials if New Jersey is to meet its obligations and receive the benefits from an intelligent and informed citizenry.

66. N. J. Department of Education, "The Needs of New Jersey in Higher Education", 1962, page 38.

67. *Ibid.*, page 39.

68. *Ibid.*, page 44.

THE ECONOMIC OUTLOOK

THE NEED TO STRENGTHEN BASIC INDUSTRIES

As in the past, New Jersey's relative position in the nation's economy will continue to depend upon the vitality of the State's manufacturing activities. As the State's population grows, additional jobs in manufacturing must be created. In fact, with an anticipated increase of three million people by 1985, over 400,000 new jobs in manufacturing must be found if the present ratio between manufacturing employment and total employment is to be maintained. New Jersey, therefore, must not only strive to retain and expand existing industrial activities, but must also continue to actively seek new firms.



ENLARGEMENT OF SECONDARY INDUSTRIES

With the growing competition among the states for industrial rateables, it may be anticipated that secondary economic activities will be called upon to carry an ever increasing portion of the economic burden.

If New Jersey's economy is to maintain its vitality, therefore, it will become necessary for service industries and retail and wholesale trade activities to expand their operations to accommodate a greater percentage of the State's employable population. At present these secondary economic activities account for about 30 percent of the State's total employment. It is projected that this figure will have to rise to 35 percent by 1985 in order to provide additional job opportunities for some 350,000 members of the State's growing labor force.



EXPANSION OF MARKETS WITH IMPROVED TRANSPORTATION

A key element in the future growth of the State's economy is the expansion of markets for its products. The further development of the State's network of highways will play an important role in the opening or making more readily accessible new markets for New Jersey's economic activities. However, to insure the availability of a complete transportation system, railroad facilities, which played an important role in the early development of the State, must be revitalized. Equally important is the State's air and waterport potential.

DECENTRALIZATION OF INDUSTRY

With this anticipated growth in population and industrial activities a further outward movement of industry may be expected. Assuming the current acre-employee ratio of 7.68 acres per 100 workers, by 1985 over 30,720 acres of land will be needed to house the increment of manufacturing employment necessary to maintain the current employment distribution.

While a recent study has shown that New Jersey's current supply of vacant land available and/or suitable for industrial development is from 6 to 7.75 times the projected demands for the year 1985, it emphasizes that:

(The) excess of supply is not uniformly distributed throughout the State . . . certain areas . . . particularly the Coastal and Northwestern sections, have as much as thirty times the amount of land presently zoned for industry that can be anticipated to be occupied by 1985. In other areas, such as the urbanized Counties of Essex and Passaic, the existing supply will not be sufficient to meet the potential demands should no additional lands be zoned for industry.⁶⁹



69. N. J. Division of State and Regional Planning, *The Supply and Demand Factors of Industrial Land Use, 1963*.

These are but a few of the challenges that face New Jersey in the coming decades. While the various indices would point to the State's capabilities and potentialities to meet these challenges, they cannot be met without vigorous leadership from business, labor and government. In this respect, planning at the State, regional, county and local levels can play an important role in meeting this challenge. The obstacles are formidable, but not insurmountable; the rewards in terms of a better economic environment for the State and its people are well worth the effort. In the words of former Commissioner of Conservation and Economic Development, Joseph E. McLean:

... we live in a new economic era. Improvement in transportation and communication facilities have created new economic opportunities in all regions. Few are the states today that are not engaged in a determined effort to develop their resources and to attract the greatest possible number of new industrial concerns. In short, the competition for industry is intensifying, and we would be guilty of a colossal brand of folly to assume that New Jersey is, somehow, above the battle. I have no doubt, that, with our many assets, we are fully capable of recokoning with whatever turn the competition may take. I am just as sure, however, that the situation demands an intelligently organized, systematic effort to exploit our advantages in the most vigorous way.⁷⁰

70. Joseph E. McLean, in Flink, *The Economy of New Jersey*, *op. cit.*, page xxvii.



CHAPTER FIVE

The Counties of New Jersey

Analysis of New Jersey's Population and Economy by Counties

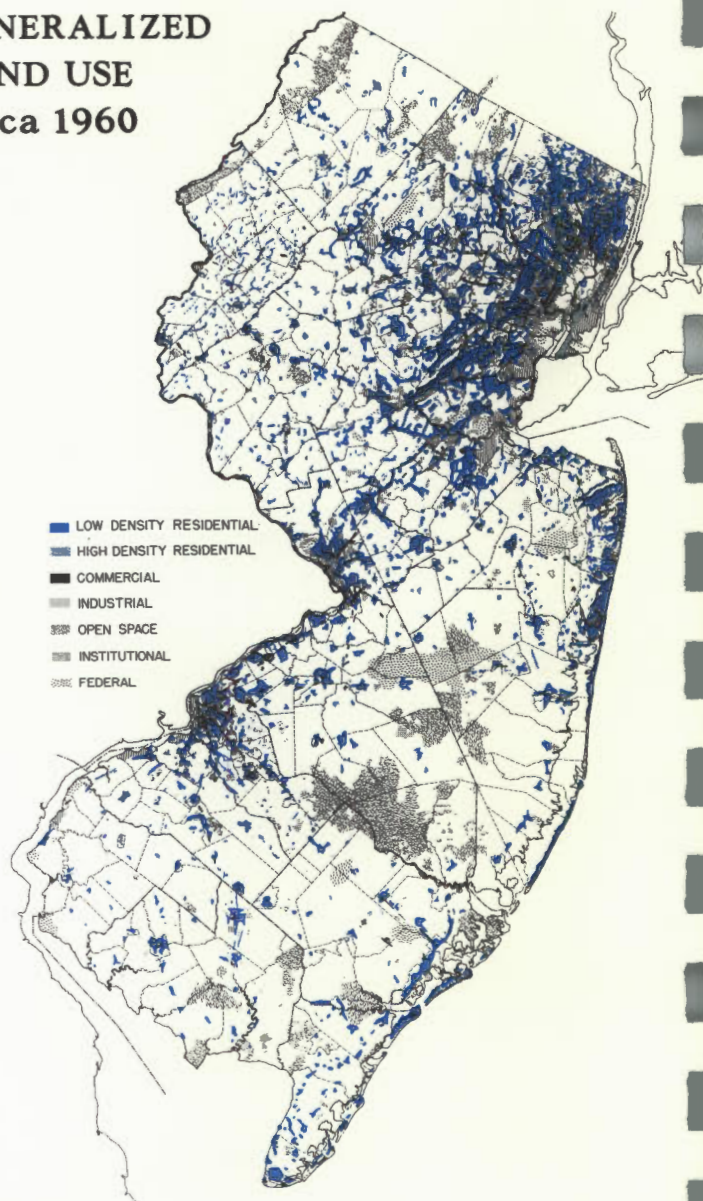
The State of New Jersey is neither geographically nor topographically symmetrical, nor is any given section of the State necessarily similar in character to those proximate to it. Thus, it is to be expected that economic and demographic patterns, as well as other man-made features should differ throughout the State, as a result of varying resources, locational factors and advantages, and historical influences. It is the purpose of this chapter, therefore, to examine the population and economy of New Jersey, not by subject matter, as has been done elsewhere in this report, but by area, so as to demonstrate clearly the heterogeneity of the various sections of the State.

New Jersey, today, has been shaped both by its physical features and its historical role in the industrialization and urbanization of America. Thus, as seen on the following map, the greatest concentration of population is in the northeast portion of the State, in the vicinity of New York City. In fact, from New Jersey's northern boundary to the Raritan River on the south, the entire area can be considered developed, with minor exceptions, between the Watchung Mountains and the eastern waterfront. The second most concentrated area of settlement is that in the Philadelphia Metropolitan Region, while a third area is found along almost the entire length of the Atlantic Seaboard. Other pockets of development are found throughout the State.

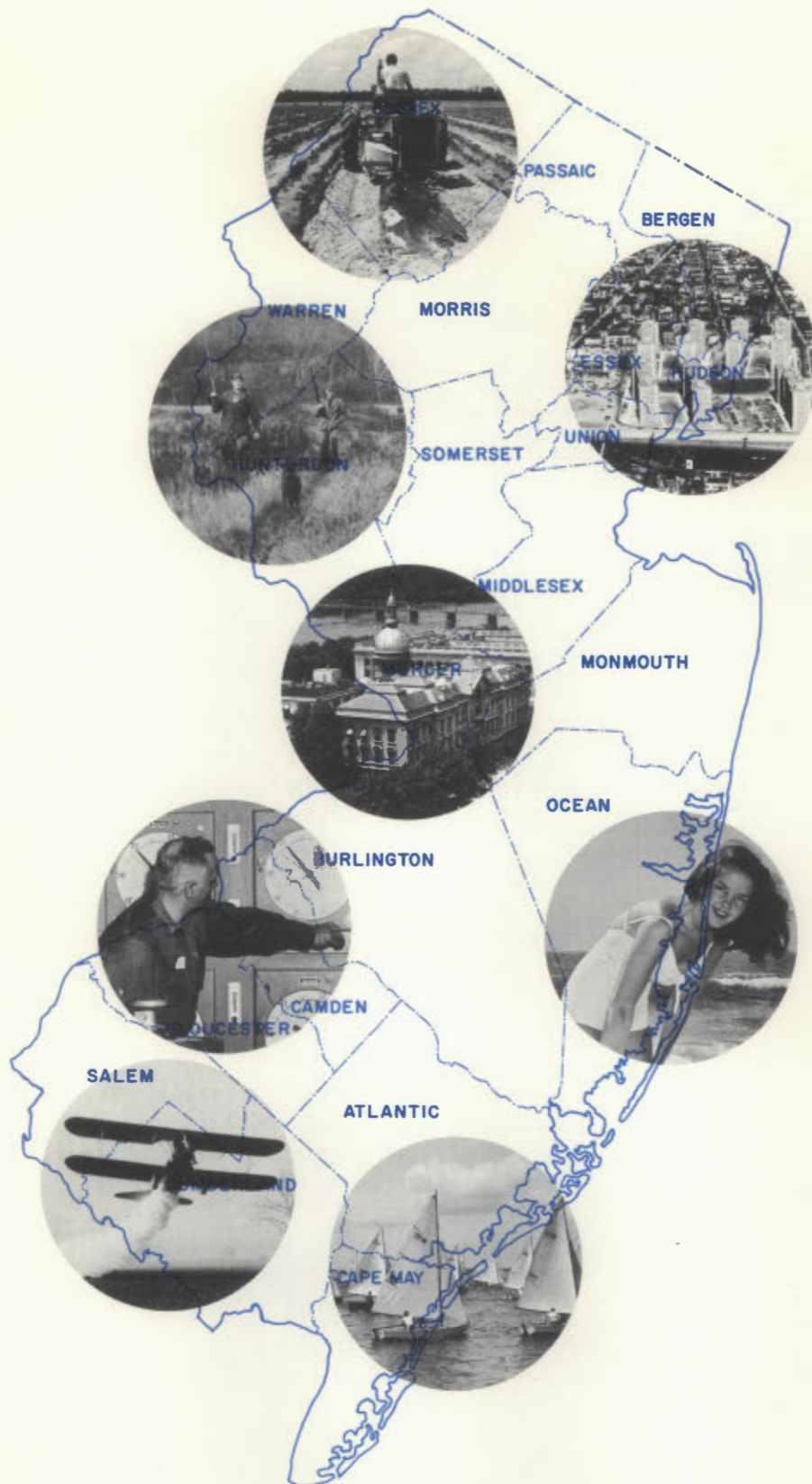
Of course, these patterns of development exist irrespective of established political boundaries. Unfortunately, data does not exist, except within the framework of political units, and thus, the following discussion of the population and economy of the various sections of the State of New Jersey will utilize the State's twenty-one counties as the basis for analysis. The order in which the counties are presented attempts to reflect the overlapping nature of development trends, by discussing in sequence counties which are in proximity to one another.



GENERALIZED LAND USE circa 1960



SOURCE: New Jersey Division
of State and Regional Planning.

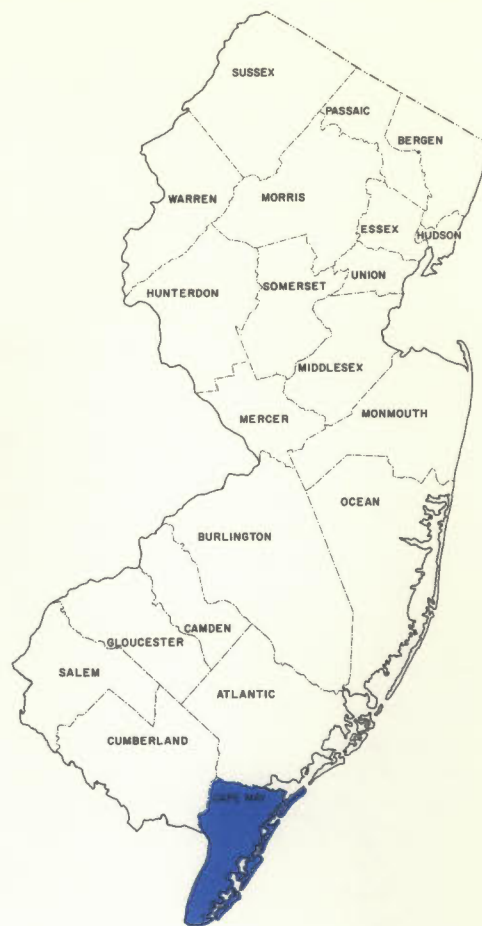


SELECTED DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS
FOR THE STATE OF NEW JERSEY AND THE TWENTY-ONE COUNTIES

	LAND AREA (1) sq. mi.	TOTAL POPULATION (1960) number	POPULATION CHANGE (1950-1960) %	POPULATION DENSITY (2) persons per sq. mi.	POPULATION 0-4 (3) %	POPULATION 5-19 (3) %	POPULATION 20-64 (3) %	POPULATION 65 AND OVER (3) %	MEDIAN AGE OF POPULATION (1960) years	PERSONS OVER 25 WITH HIGH SCHOOL EDUCATION (1960) %
Atlantic	565.6	160,880	21.5	284.5	9.7	23.7	52.6	14.0	36.2	33.3
Bergen	235.1	780,255	44.7	3,319.1	10.2	26.3	55.3	8.2	33.2	49.1
Burlington	819.3	224,499	65.2	274.0	11.9	28.9	52.8	6.4	25.1	44.6
Camden	222.2	392,035	30.4	1,764.7	11.4	25.6	54.3	8.7	31.4	36.8
Cape May	265.3	48,555	30.8	183.0	8.7	25.2	49.3	16.8	36.8	34.4
Cumberland	502.4	106,850	20.6	212.7	10.4	27.1	52.8	9.7	31.5	31.1
Essex	127.4	923,545	1.9	7,246.9	9.7	23.9	56.2	10.2	34.1	40.2
Gloucester	328.6	134,840	47.0	410.3	12.3	28.3	51.3	8.1	29.0	36.7
Hudson	44.1	610,734	-5.7	13,848.8	9.5	23.6	56.6	10.3	34.4	28.9
Hunterdon	437.0	54,107	26.6	123.8	10.4	27.1	51.2	11.3	32.7	41.2
Mercer	226.0	266,392	15.9	1,178.7	9.9	25.6	55.2	9.3	32.4	39.8
Middlesex	308.8	433,856	63.8	1,405.0	12.5	27.7	53.2	6.6	29.5	41.4
Monmouth	477.0	334,401	48.4	701.0	11.7	26.5	51.6	10.2	31.2	46.0
Morris	477.7	261,620	59.2	547.7	11.7	26.8	53.2	8.3	31.3	52.4
Ocean	641.0	108,241	91.2	168.9	11.6	25.5	51.1	11.8	31.6	40.4
Passaic	192.2	406,618	20.6	2,115.6	10.2	24.8	55.2	9.8	33.4	32.1
Salem	343.0	58,711	18.6	171.2	11.2	29.0	51.4	8.4	29.1	36.6
Somerset	305.1	143,913	45.3	471.7	11.7	26.1	54.4	7.8	31.2	47.0
Sussex	526.3	49,255	43.1	93.6	11.3	27.6	50.7	10.4	31.0	43.0
Union	103.4	504,255	26.7	4,877.2	10.1	25.9	55.5	8.5	33.5	47.8
Warren	362.0	63,220	16.3	174.6	10.3	26.3	51.8	11.6	32.9	36.2
New Jersey	7509.5	6,066,782	25.5	807.9	10.6	25.8	54.4	9.2	32.4	40.7

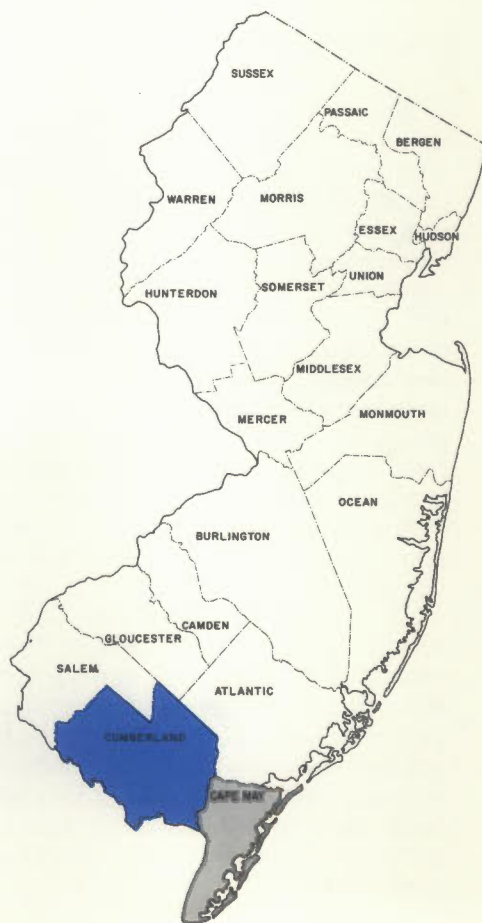
CAPE MAY COUNTY

Cape May is the State's smallest county in terms of population. The pleasant climate of the County has made it a center for summer tourist activity and year-round retirement. This has led to active commercial trade, especially in the summer months. The dominance of commerce is responsible, in large part, for the fact that Cape May has the State's lowest median income. Manufacturing is limited and agriculture is confined largely to truck farming, with direct consumer marketing. Cape May exhibits only moderate signs of growth both from migration and natural increase. Economic activities and job opportunities are such as to preclude any large influx of population. The County has a high median age and a large percentage of population over 65, which limits growth through natural increase. With the completion of the Garden State Parkway in 1955, Cape May gained a link with the northern portions of the State. The Cape May-Lewes Delaware Ferry, inaugurated in 1964, provides a connection with the urban areas to the south. Whether this new link will provide an added impetus to the County's economy remains to be seen.



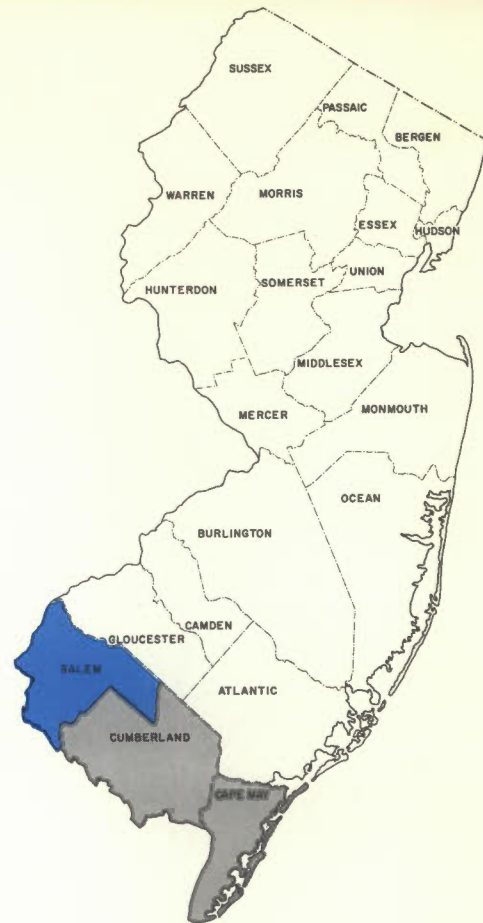
CUMBERLAND COUNTY

Cumberland County is one of the State's major agricultural counties, specializing in vegetable, egg, and poultry production. It is also the location of manufacturing activities requiring the local resources of glass sand, clay, and gravel. The rate of growth of the County has been moderate as a result of the County's distance from the major urban centers in and around the State. The entire southern boundary of the County, fronting on the Delaware Bay, consists of marshes and wetlands, which have acted as a natural barrier to waterfront development. Thus, Cumberland has neither port facilities nor the resort facilities of neighboring Cape May County. The oyster industry, once a major employer in certain areas of the County, has experienced a sharp decline due to a parasitic disease which seriously depleted the oyster stock. A proposal for a bridge-tunnel complex to connect Cumberland County with Delaware and points south could prove of great benefit to the future development of the County. Present trends, however, indicate only limited growth for the County in the near future.



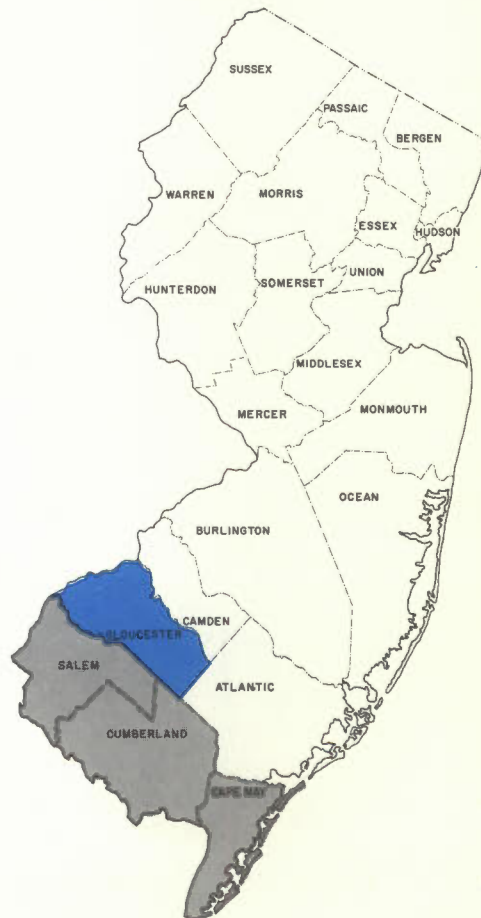
SALEM COUNTY

Salem County's population increased 18.6 percent from 1950 to 1960, significantly less than that of the State. This should not be considered indicative of a lack of developmental potential, however, since both the industrial lands along the Delaware River and the prime agricultural lands in the interior show positive signs of growth. The New Jersey Turnpike and the Delaware Memorial Bridge, both completed in the early 1950's, provide the County with good north-south access. While traffic has increased to the point where it has been deemed necessary to build a second span on the Delaware Memorial Bridge, the benefits of these facilities are yet to be felt within the County, itself. Salem contains the fewest manufacturing establishments of any county in the State, although its value added by manufacture is twelfth highest. This is a result of the chemical plants located along the riverfront. The County has the lowest ranking in the State in sales and service employment. Although in the near future large scale growth will probably not occur, the eventual continued expansion of both Wilmington and Philadelphia should bring considerable development to Salem.



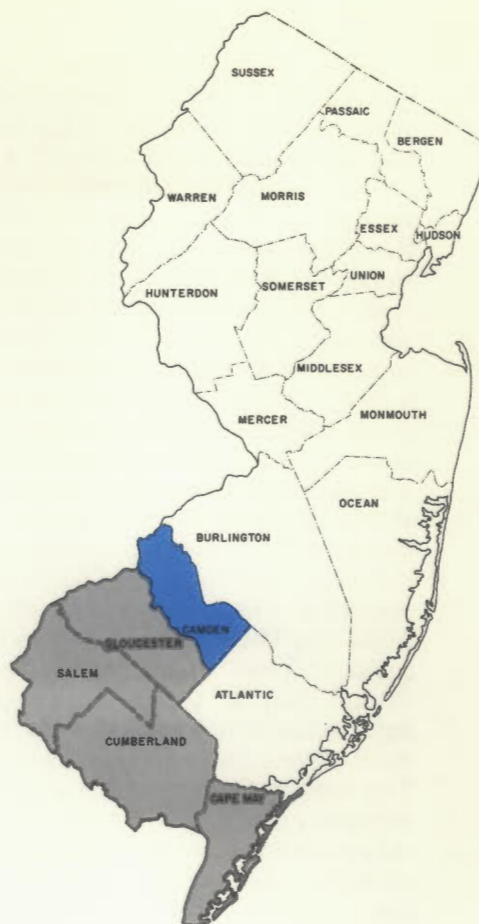
GLOUCESTER COUNTY

The 47.0 percent increase in Gloucester County's population between 1950 and 1960 is indicative of the County's rapid suburbanization as part of the Philadelphia Metropolitan Area. This is also substantiated in the County's age breakdown, which shows a high percentage of persons under 20 years of age and a low percentage of persons over 65. As these young persons reach the family formative stage, Gloucester should experience a large natural increase, augmenting its present rapid growth from immigration. Gloucester's industries are located mainly in the western sector of the County between the Delaware River and the New Jersey Turnpike. Recent deepening of the River's channel has further enlarged the County's port facilities, aiding industrial and transport activities. As the suburbs of the Philadelphia Metropolitan area spread farther from the core, Gloucester should continue to experience rapid and intense growth and increased industrial and commercial activity. Although some of the County's agricultural lands may be consumed by this process, it will, nevertheless, increase the County's economic stability.



CAMDEN COUNTY

Although it is the smallest in area, Camden is the most populated county in South Jersey. While the western section of the County has the largest population and the most industrial activity at the present time, by far the greatest growth is occurring farther inland in the municipalities located on the major east-west transportation routes. Thus, while the County experienced a population increase between 1950 and 1960 of 30.4 percent, the city of Camden declined 5.9 percent, and Cherry Hill Township gained 204.3 percent. Camden County is the most industrial county in South Jersey and the seventh most industrial in New Jersey as a whole. Deepwater facilities along the Delaware River have been a major factor in the locating of heavy industry. In recent years, although the County's industrial indices have risen, its share of the State's total manufacturing activity has decreased. This trend, which is also in evidence with regard to residential construction, points to a continued moderate growth for Camden County at a pace slower than that found in the surrounding more suburban counties.



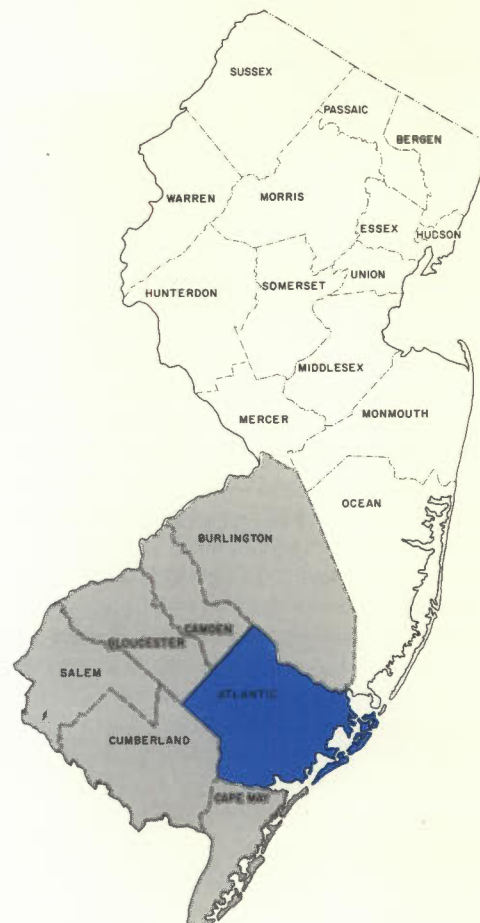
BURLINGTON COUNTY

Burlington is the largest county in New Jersey and is one of the State's leading agricultural counties. In the eastern portion of the County is the vast undeveloped area of the pine barrens, while in the western portion, along the Delaware River, is found an area of rapid suburban growth and development resulting from the County's location on the fringe of the Philadelphia Metropolitan Region. The County's population increase in the decade prior to 1960 of 65.2 percent was the second highest in the State. This growth in population occurred almost exclusively in the western portion of the County. Age group statistics show the predominance of young persons, an indication of a suburban population. The median age of 25.1 years in 1960 was the lowest in the State. Industry and commercial activities have lagged behind the population increase in recent years. As the high rate of population growth continues, however, new manufacturing activities and commercial establishments may be expected to begin to locate in the County, especially along the Delaware River, thus making Burlington an important factor in the economy of South Jersey.



ATLANTIC COUNTY

Atlantic County is one of New Jersey's prime resort areas, with its tourist attractions centering on Atlantic City. This resort tourist orientation accounts for the high percentage of the labor force in sales and services. The concentration of the labor force in these sectors of the economy and the seasonality of employment account, in large measure, for the County's low median income. The County's population increased at a rate less than the State average from 1950 to 1960, and the retirement attractions of the shore area give the County's population a high percentage of persons over the age of sixty-five. There is very little industrial activity in the County, and the relatively poor soil conditions limit the County's agricultural potential. The completion of the Garden State Parkway in the early 1950's provided a major access route to the resort facilities of the County, but it did not generate any substantial industrial activity which might have diversified the County's economic base. The recent opening of the Atlantic City Expressway now provides the County with a major east-west route, but its effects, outside of tourist access, may not be felt for some time. The County's economic base, centered as it is on the resort industry, would seem to preclude any large scale growth for Atlantic County in the immediate future.



OCEAN COUNTY

While Ocean County has a resort oriented economy, it experienced a population increase from 1950 to 1960 of 91.3 percent, the highest in the State. However, the fact that this growth was not accompanied by any appreciable increase in economic activities suggests that the County is tied to economic forces in other areas. Ocean County's population increase is part of the advance movement from the New York Metropolitan Area. This is further verified by the fact that the commuter railroads from the shore to New York are the only ones in the State which have shown a profit in recent years. Ocean County has a very small industrial base, being twentieth in the State in value added by manufacturing. Its agricultural production is not as great as the other southern counties, although it is one of the State's leading producers of cranberries and blueberries. The potential for future growth exists in Ocean County, as a result of its available vacant lands and access to recreational activities.



MONMOUTH COUNTY

The population of Monmouth County increased by 48.4 percent from 1950 to 1960. Although the County has a resort orientation along the coast, most of the recent increase occurred in those areas which formed the fringe of the New York Metropolitan Area. Thus, the large migration into Monmouth is a function of the suburbanization which is found in many other sections of the State. Unlike neighboring Ocean County, Monmouth has gained a significant number of manufacturing plants which have paralleled the population growth and have provided employment opportunities for the local labor force. Agriculture is also found to a significant degree in the western portion of the County. The future of Monmouth County appears to be extremely favorable. It has ample room for development and is within reasonable commuting time of the industrial complex of northeastern New Jersey and New York. Furthermore, the combination of manufacturing, agriculture, and the resort trade gives the County a stable economic base, permitting internal growth aside from that to be gained from the migration of people and industries.



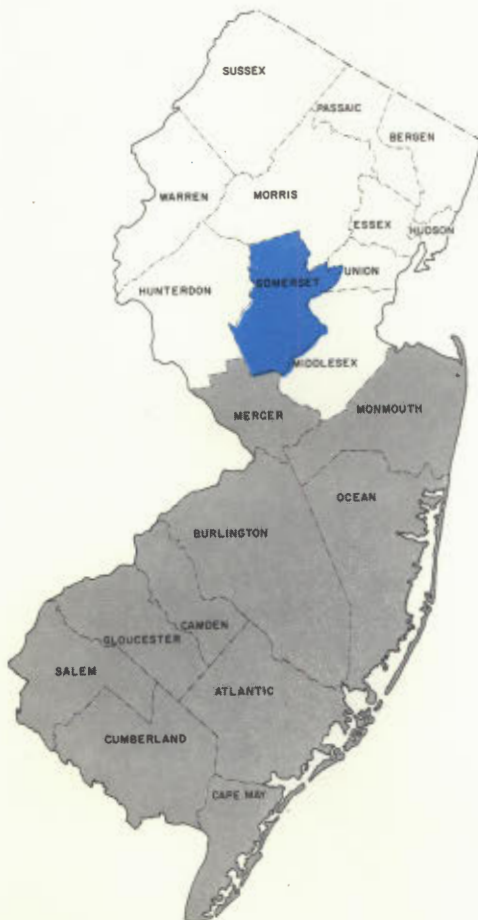
MERCER COUNTY

Mercer County is one of the older industrial counties in the State. As such, it now finds itself caught in the current trend towards decentralization of industry and suburbanization of the population. Thus, Trenton is losing population and industrial activities, while some significant gains are being made in the other sections of the County, especially along U.S. Route 1. On the whole, however, the County's growth is well below the State average. As a result of the activities of State government, the County has a large percentage of the labor force engaged in the service industries. The potential of Mercer County appears limited, in light of the high growth rates and available land in the surrounding counties of Middlesex, Monmouth, and Burlington. It is likely that Trenton will continue to lose population in the immediate future, although the deepening of the channel of the Delaware River and further improvement of port facilities may act to halt the outward movement of industry.



SOMERSET COUNTY

Somerset County's population increased 45.3 percent from 1950 to 1960. While this figure is well above the State's average of 25.5 percent, it is less than neighboring Morris and Middlesex Counties, which have experienced greater suburban expansion in recent years. The County contains a significant degree of agriculture in the southern and western portions, with Route 22 approximating a dividing line between the farmland to the south and the exurban development to the north. The areas along Route 22 contain many industries, including several large chemical and plastics firms providing employment for the County's labor force. The location of the County, the hilly nature of its western parts, and local zoning and land use practices indicate that, although the County is likely to continue to gain population, this growth will be less intense than would otherwise be the case.



MIDDLESEX COUNTY

Middlesex County is one of the most rapidly growing counties in New Jersey, experiencing a 63.8 percent population increase from 1950 to 1960. This growth is reflected in the age breakdown. The County displays a very high percentage of young persons and a low percentage of elderly. Middlesex is also among the top industrial counties in the State, gaining this position as new industry moved to the County following the movement of the population and labor force. The main reasons for Middlesex County's rapid growth in recent years is its location with regard to the major urban centers in and around the State and its high concentration of transportation facilities. The New Jersey Turnpike, The Garden State Parkway, U.S. Routes 1, 9, 22, and 130, and Interstate Route 287 all pass through the County, as do many of the State's main railroad lines. The potential growth of Middlesex County is directly tied to the present trend to suburbanization. Middlesex County offers ample room for development and thus rates as one of the most dynamic growth counties in New Jersey.



UNION COUNTY

Union County, one of the inner ring counties of the New York Metropolitan Area, was among the first counties to experience the pressures of suburbanization. In 1960, its population density of 4,877 per sq. mi. placed it third in the State. Industrial activity in the County is equally developed, containing some of the largest firms and plants in New Jersey. The County is crossed by most of the main transportation arteries in the State and has good deepwater port facilities in Newark Bay. With regard to the future, the intense patterns of development suggest that Union County will not receive any great degree of new growth from the present movement to the suburbs. Thus, the County is now being bypassed, as new development from the urban core settles in Middlesex County to the south. However, the County's recent growth has been almost parallel with the average for the State as a whole, and thus, it should not experience any loss of population, as will the more urban counties of Hudson and Essex.



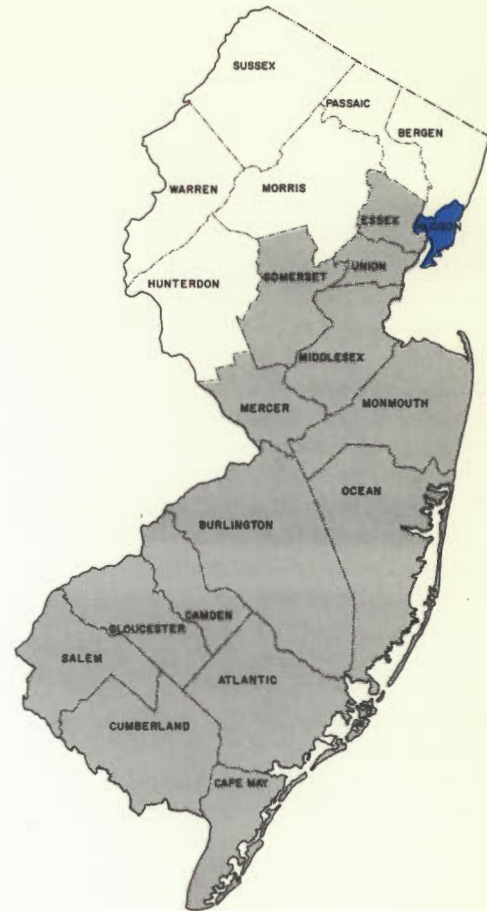
ESSEX COUNTY

Essex County is the most populous county in New Jersey, with almost fifty percent of its population located in the city of Newark. Over the years, however, Newark's dominance in the population composition of the County has been declining as people have left the urban centers and settled in the suburbs. The County is first in New Jersey in the number of manufacturing establishments and second in value added by manufacture. The County contains many of the State's main transportation routes, as well as deepwater port facilities on Newark Bay and Newark Airport. Although the County experienced rapid population and industrial growth, as a result of its location with regard to New York City, this very factor will act to hold down growth in the future. The amount of development already found in Essex precludes continued expansion. While the city of Newark is likely to continue to experience a decline of population and economic activity, the County as a whole should gain at a decreasing rate, until all of the lands in the western portion of the County are developed.



HUDSON COUNTY

Hudson County is the smallest county in the State and the only county to experience an actual decline in population from 1950 to 1960. This is due to the fact that the County is almost completely urbanized and thus is a generating point for the present trend of movement to the suburbs. Hudson is second in the number of manufacturing establishments and first in value added by manufacture. Both of the tunnels connecting New York to New Jersey are located in the County, as are many other major transportation routes. Population densities range as high as 39,496.7 persons per square mile. With all of its area urbanized, it is likely that Hudson will continue to lose population for the foreseeable future. The only point which could halt this trend, however, is the development of the Hackensack Meadows, a 15,000 acre tract of marshland, 5,000 acres of which are in Hudson County. Should this area be made suitable for construction, it would give Hudson County an opportunity to increase in both population and industrial activity.



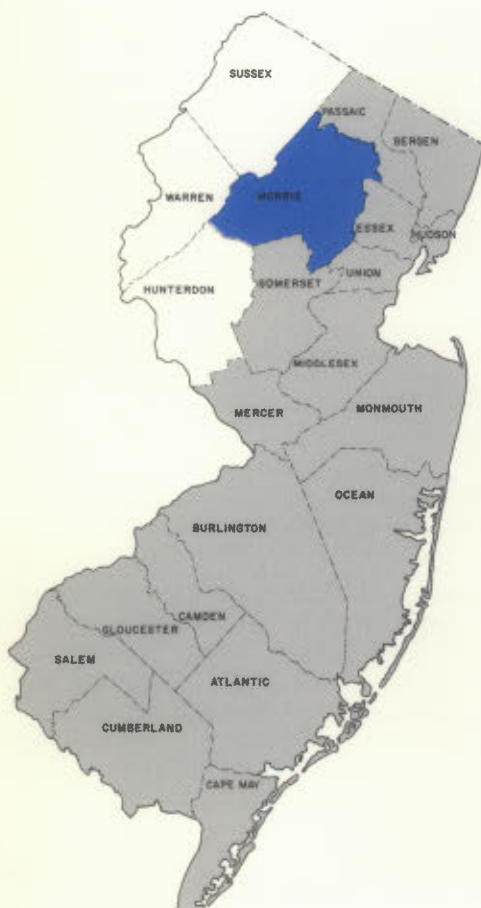
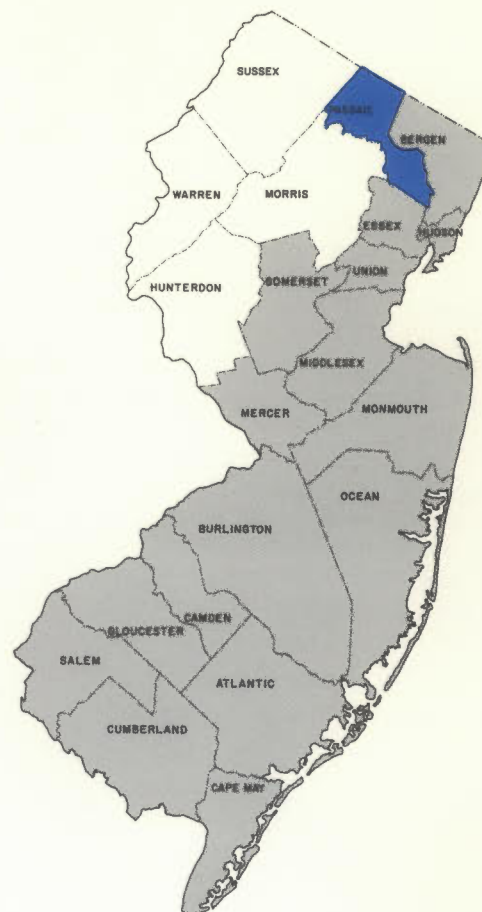
BERGEN COUNTY

Bergen County's population increase from 1950 to 1960 was 44.7 percent. In absolute terms, this amounted to over 240,000 persons, making Bergen County the third fastest growing County in the nation. The construction of the George Washington Bridge in the early 1930's opened up the County as a place of residence for New York workers. Since that time, more and more commuters have moved to the County. New industrial development has kept pace with this population movement. At the present time, the southern portion of the County is almost completely urbanized. The northern portion of the County, however, remains open to suburban development, thus accounting for by far the greatest percentage of the growth of the County as a whole. The County has the highest median income in the State, the highest percentage of resident white collar workers, and the largest concentration of suburban highway shopping centers. The momentum of expansion already present in Bergen County should continue for some time. By 1980, it is projected that Bergen will be the most populous county in New Jersey.



PASSAIC COUNTY

Passaic County displays two distinctly different sets of characteristics in the northwestern and southeastern sections. In the southeast, the cities of Paterson, Passaic, and Clifton form a highly industrialized, intensely settled urban area. These cities had their industrial start in the early 1800's with the establishment of some of the nation's first textile mills. In the northwest, the County is characterized by rough terrain and sparse settlement. Although this area does not have any great degree of agricultural production, it is the location for much of North Jersey's public watersheds and reservoirs. In recent years, the greatest growth has occurred in the Wayne Township area of the County. In light of the topographical barriers to development which exist in the undeveloped portions of the County, any further loss of population or industry, as has recently been experienced by the city of Passaic, could offset the growth which might occur in the suburban sections of the County.



MORRIS COUNTY

Morris County, as one of the outer ring counties of the New York Metropolitan Area, experienced a population growth between 1950 and 1960 of 59.2 percent. Most of this growth was centered in the eastern portion of the County and in the Morristown-Dover complex. The western half of the County is still mainly agricultural in nature. The lake region in the northwestern portion is a popular summer vacation spot, although it does not provide as much of a commercial income as the resort areas at the shore. In the eastern part of the County, industry has kept pace with the growth of population and provides local employment for a large percentage of the County's labor force. In light of its location, Morris County possesses a great potential for development, with regard to the present trend towards suburban expansion. The nature of the zoning and land use controls in the County, in large measure, will determine the degree of this development.

HUNTERDON COUNTY

Hunterdon County is one of the prime agricultural counties in New Jersey, specializing in dairy and vegetable production. Its population is one of the lowest in the State, as is its level of industrial activity. The County contains many scenic attractions and State-owned lands, including the Spruce Run and Round Valley Reservoir. Although it experienced some suburban development in the late 19th and early 20th centuries along the commuter railroads, the main wave of suburban development has not reached this portion of the State. The development which has occurred is of the "exurban" type, since most of the land in the County is zoned for large lot development. With the completion of Interstate Route 78, however, Hunterdon County may anticipate pressures from suburban development.



SUSSEX COUNTY

Sussex County is located in the extreme northwestern corner of New Jersey. It is one of the least populated counties in the State, as well as being among the lowest with regard to industrial activity. Zinc mining once flourished in the County. At the present time, Sussex has mainly an agricultural orientation, especially with regard to dairying. The beautiful scenery and many lakes are also popular attractions for summer vacationists. Resort activities in the County are expected to increase greatly, as a result of the development of a national park in conjunction with the construction of the Tock's Island Dam and Reservoir. The distance of Sussex County from the major urban centers suggests that it is unlikely that the area will experience any large scale development or growth in the near future.



WARREN COUNTY

Warren County is located in the northwestern portion of the State, along the Delaware River, and is a part of the Allentown-Bethlehem metropolitan area. The County is mainly agricultural in orientation, although the city of Phillipsburg provides a center for population and industry. The paper industry is one of the largest employers in the County. The distance of Warren County from the major urban centers of New York and Philadelphia, plus the generally hilly nature of the County's terrain suggests that Warren will most likely not experience any large scale suburban development in the near future. The construction of the Tock's Island Dam and Reservoir on the Delaware River, however, may have a positive effect on the local economy.



SUMMARY

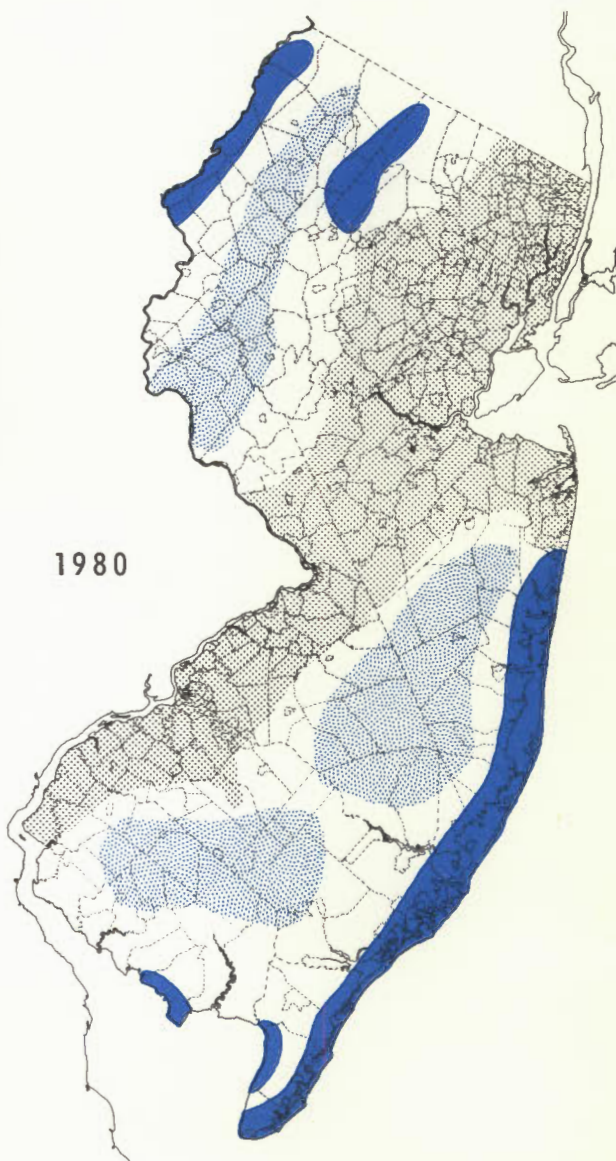
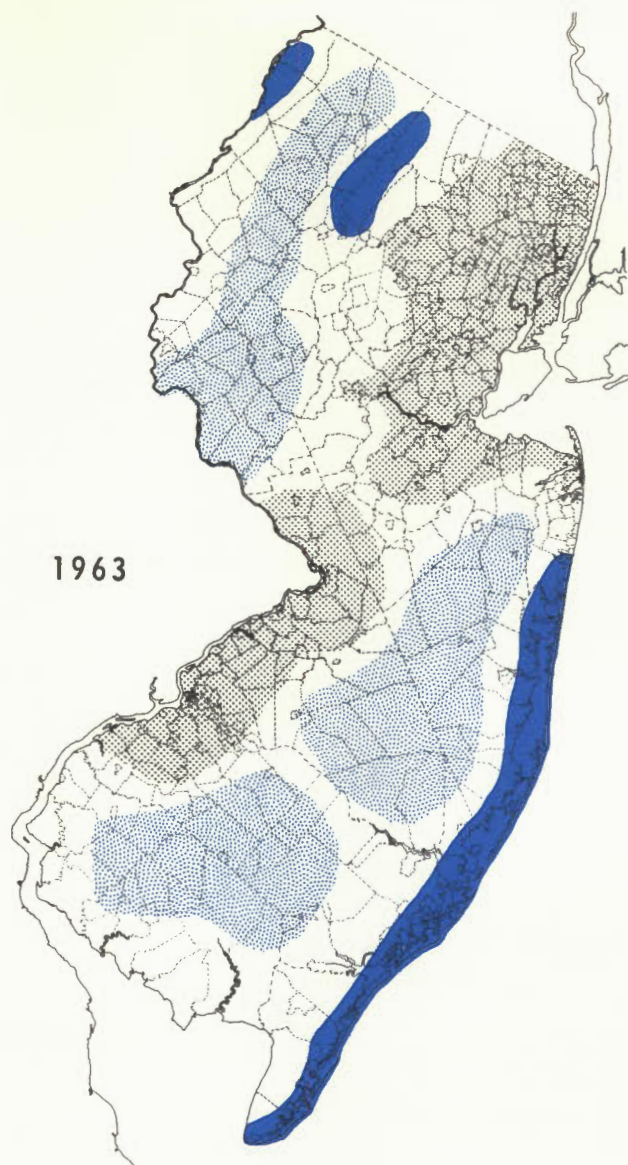
Based on the foregoing survey of basic population and economic characteristics for the twenty-one counties of the State, it appears that a threefold geographic breakdown of the State's economic activities can be discerned. These categories, where they can clearly be delineated as being dominant in any given area, are a major contributor in determining not only the economic characteristics of the area, but the population make-up, as well. Furthermore, these economic forces, when examined in conjunction with considerations of location with regard to major metropolitan areas, serve as the basis for the determination of growth potentials and future development of a given area. Naturally, there are other important determinants, such as the nature of the available open space, degree of prior development, and the transportation network, etc. These factors, however, are not necessarily independent variables, but are based, to a large degree, on the main mode of production of the particular area being considered.





The following map "Dominant Economic Factors" indicates those areas within the State which do have a discernible orientation. By comparing the map with the foregoing discussions of the individual counties and the following preliminary projections of future growth, the influence of these factors becomes readily apparent.

In the next twenty years, the greatest growth in New Jersey should occur in Bergen, Middlesex, Monmouth, and Morris Counties, all of which have some degree of industrial orientation and lie in a ring around New York City. The counties closer to New York should have smaller gains, while Hudson County, which is considered a part of the core, actually will experience a decrease in population. The reason for this is directly connected to the availability of open land being greater the farther the distance from the urban center, itself.

A similar though less extensive pattern of growth is expected to occur in the counties surrounding Philadelphia; Burlington, Camden and Mercer. This area, like the former, is industrial in orientation and as such will realize a rapid outward growth of residences and factory sites at ever increasing distances from the urban focal point, in this case, Philadelphia.

DOMINANT ECONOMIC FACTORS OF NEW JERSEY



-  INDUSTRIAL
-  AGRICULTURAL
-  RESORT
-  NO DOMINANT ECONOMIC FACTOR

SOURCE: New Jersey Division
of State and Regional Planning.

POPULATION OF NEW JERSEY — BY COUNTIES 1960*-1980**

County	1960	1980	County	1960	1980
Atlantic	160,880	225,600	Middlesex	433,856	837,000
Bergen	780,255	1,097,500	Monmouth	334,401	668,100
Burlington	224,499	416,300	Morris	261,620	484,300
Camden	392,035	535,700	Ocean	108,241	214,300
Cape May	48,555	70,500	Passaic	406,618	544,300
Cumberland	106,850	150,700	Salem	58,711	84,500
Essex	923,545	1,001,600	Somerset	143,913	266,500
Gloucester	134,840	198,800	Sussex	49,255	83,600
Hudson	610,734	602,700	Union	504,255	682,000
Hunterdon	54,107	96,700	Warren	63,220	88,000
Mercer	266,392	363,200			
			State Total	6,066,782	8,710,000

***Federal Census — 1960**

** Statewide totals were obtained by projecting 1940, 1950 and 1960 figures of residential density (housing density — d.u./sq. mi.) and average household size to the year 1970 for each of the 568 municipalities in the State. By multiplying these two figures together, a 1970 projected population for each municipality was obtained. Data was then collected by Class IV regions and projected to 1980 to obtain a Statewide total.

County figures were based on percentages of the total State population for each county determined by the means of various estimates compiled from a number of independent projections. Included were projections by the Research and Statistics Section of the Department of Conservation and Economic Development, Regional Plan Association, and two separate studies prepared by the Division of State and Regional Planning. The percentages so determined were then applied to the State total to arrive at the final projected figures.

The counties which should experience the smallest net increases are those which are primarily agricultural in nature; Cumberland, Gloucester, Salem, Hunterdon, Sussex, and Warren; and the southern resort counties of Atlantic and Cape May. In these counties, the opportunities for economic reward are not as great as is obtainable in other portions of the State. Thus, large scale investment should be only minor at this time. For the most part, these counties are outside the main stream of transportation through the State, and in several instances, do not possess the type of topography conducive to extensive development. There is little doubt, however, that a greater degree of development will take place in these counties than has been the case in the past, although for the most part, this will be a residual of those investments which were not able to locate in the more immediately favorable counties in the industrial belt.

By 1980, the "Dominant Economic Factors" map is likely to show some degree of change. The industrial areas surrounding New York and Philadelphia are likely to meet and become one unit including all of Bergen County, most of Morris and Somerset, all of Mercer and Middlesex, parts of Salem, and larger portions of Monmouth, Burlington, Gloucester, and Camden. Agricultural lands in Burlington and Ocean Counties may increase as a result of more extensive use of presently vacant agricultural lands. It is more likely to assume, however, that the total agricultural holdings will be diminished as a result of the inroads made by industry into areas which had formerly been farmland. The extent of the shore resort areas should be relatively constant, with the possible addition of areas along the Delaware Bay. In the northwestern portion of the State, the resort areas should be significantly increased, as a result of the Tock's Island project on the Delaware River and the creation of a national park in Sussex and Warren Counties.

In any event, it can well be expected that a great deal of the vacant land in the State will be consumed by new development, and that the pattern of economic activity and population distribution should be more balanced and evenly spread. If this does, in fact, take place, it will serve to give New Jersey a more stable economic base and a more powerful position with regard to the State's role in the national scene.

STUDIES UNDERTAKEN AS PART OF THE INVENTORY PHASE OF THE STATEWIDE PLANNING PROGRAM

Studies Completed or Nearing Completion

The Setting for Regional Planning in New Jersey
Supply and Demand Factors of Industrial Land Use
Waterfront Utilization in North-East New Jersey
Utilization of New Jersey's Delaware River Waterfront
New Jersey's Delaware Bay Shore — An Inventory of Land Use
New Jersey's Shore — An Inventory and Analysis of Land Use
New Jersey's Water Resources
*The Impact of Population and Economic Growth on the Environment
of New Jersey*
The Residential Development of New Jersey — A Regional Approach
*Commercial Land Use in New Jersey — Problems and Implications
for the Future*
A Statewide Planning Analysis of Utility Services
Golf Courses in New Jersey
Federal Installations and the Land Use Pattern in New Jersey
Forest Resources in New Jersey
The Nature and Pattern of New Jersey's Marine Life Resources
Summer Camps in New Jersey
Air Facilities in New Jersey
*Educational, Institutional and Administrative Facilities and the
Land Use Pattern in New Jersey*
Mineral Resources in New Jersey
The Fishery and Wildlife Resource in New Jersey
Parks and Recreational Land Use in New Jersey

Additional Publications Contemplated

Special Land Use Monographs
 New Jersey's Intracoastal Waterway
 Agricultural Land Use
Policy Monographs
 Administrative Policy
 Legislative and Judicial Policy
Natural Resources Monographs
 Soils

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†Mr. Steiss is currently on a leave of absence.



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