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# Development Plan For

# NEW JERSEY



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# **DEVELOPMENT PLAN FOR NEW JERSEY**

**A REPORT**

**Upon**

**Planning Surveys, Planning Studies, and a Comprehensive Plan**

**For**

**The State of New Jersey**

**Made by the**

**PLANNING SECTION**

**(Formerly the New Jersey State Planning Board)**

**Division of Planning and Development**

**Department of Conservation and Economic Development**

**Trenton**

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**STATE OF NEW JERSEY**

**ALFRED E. DRISCOLL, GOVERNOR**

**DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT**

**CHARLES R. ERDMAN, JR., COMMISSIONER**

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AND ECONOMIC DEVELOPMENT**

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DIVISION OF  
PLANNING AND DEVELOPMENT

WILLIAM T. VANDERLIPP  
DIRECTOR

To His Excellency, ALFRED E. DRISCOLL, Governor, and Members of the Senate and General Assembly of the State of New Jersey.

In the legislation establishing the Department of Conservation and Economic Development there is a specific charge for this Department to prepare and keep current a state plan. In keeping with this obligation, transmitted herewith is a proposed Development Plan for New Jersey.

It will be noted that this report deals almost exclusively with state-wide problems directed toward long-range planning for the sound development of this State. Adequacy of existing facilities and future needs can be determined only in their relationships to other public services and to the general growth and development probabilities. Future needs and possibilities can be forecast only when considered in connection with industrial and population trends, relative use possibilities of rural lands, and present and expanded transportation facilities. However, only a recapitulation of the various surveys and studies previously undertaken in relation to the above has been attempted in this report. May I especially call to your attention the fact that back of the various summary statements, included in this and previous reports, there is a great wealth of detailed information and data which will be of value to you and is of undoubted value to the various State departments and agencies in shaping future plans and policies.







The purpose of this or any comprehensive development plan is not to spend money, but rather to save it by making sure that such money as is spent will be spent wisely and for the greatest benefit to the State as a whole. If this Plan is adopted I am convinced that it will serve as a long-range guide and a "frame of reference" for the future development of New Jersey.

May I request that you give this report your earnest consideration so that we may have your ideas and thoughts in order to aid our future economic program. I would also like to express our appreciation for your active interest in the past and for the generous help and co-operation afforded us by the several state departments.

Respectfully submitted,

*Charles R. Erdman, Jr.*

Charles R. Erdman, Jr.  
Commissioner



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## INTRODUCTION

It is sometimes said that man with his limited foresight cannot plan for the future even though it is well recognized that by his daily individual and collective acts in laying improvements upon the land he is continuously shaping the environment for many future generations. Urban patterns and the great service facilities like highways, railroads and waterways, once established, remain relatively unchanged and unchangeable, importantly affecting for better or worse how every man and his children and his children's children shall live.

For a disastrously long time community growth has been taken for granted - viewed as a sort of natural phenomenon outside the scope of man's power to control or direct. Planning for the improvement and expansion of a private business, a factory or a utility, was an assumed application of mere common sense but scarcely a practicable function of government. Now the intolerable costs of non-planning of public affairs and things, in terms of the manner of living and doing business, has finally come home to the people. Long-range planning for physical improvement and development and for the use and conservation of natural resources has become widely recognized as not only a proper but an economically-essential function of government at every level. Not all the future can be foreseen and interpreted into today's plans, certainly, but it is expensive defeatism to take the position that lacking all knowledge it is futile to apply in the public interest the very considerable knowledge that we do have. Nothing can be so mistaken as no planning.

Planning by government, whether by a city or a state, should be a coordinated effort toward a preconceived objective based upon well-informed judgment. Planning by individual departments, each going its own way, is not enough - may in fact be self-defeating through conflicts, discrepancy in goals and in balance in expenditures. Departmentalized planning has been in process in New Jersey for many years by the several departments and agencies and by special commissions created to deal with special problems. Much good has been accomplished by this kind of planning but, at the same time many potential gains have been sacrificed by failure to coordinate the thinking and the programs of the many different state agencies. Lacking also in much too great a degree has been the kind of continuous study of background factors like population and industrial trends and land-use potentialities needed to lend realism and give direction to development programs and conservation policies.

Departmentalized planning has likewise extended beyond planning within the family of state agencies to the planning relationship between the several levels of government. Planning by individual municipalities has been too little regardful for the problems of adjoining municipalities and for the larger problems and intentions of the counties and the State. In turn, the State in its planning determinations has not always given proper consideration to local development requirements, and has rarely supplied the guidance, the information and the over-all plans needed for most effective planning by the localities.

## STATE PLANNING IN NEW JERSEY

In an effort to stem the haphazard growth that had already deprived New Jersey of many of its natural endowments and to provide a pattern for better-ordered and more-economical future development of the State, the Governor and the Legislature, in 1935, created a state planning agency known as the State Planning Board.<sup>1</sup>

The organization of the State Planning Board laid the corner-stone for the preparation of an overall State Plan. With the help of the National Planning Board and the Works Progress Administration, the Board undertook as its first step the long and tedious task of assembling the multitude of background information pertinent to the progressive welfare of the State. This information was collated and analysed and the findings and conclusions were published in a series of reports illustrated by hundreds of maps and charts. Out of this work came, among other things, the beginnings of the State Plan.

In 1944 the duties and functions of the State Planning Board were transferred to the Bureau of Planning in the Department of Economic Development.<sup>2</sup> Since 1948, through the state departmental reorganization this Bureau (now the Planning Section) has operated within the Department of Conservation and Economic Development under whose jurisdiction this presentation is made.<sup>3</sup>

Throughout these administrative shifts the basic duties of the planning agency have remained virtually unchanged. In brief these are:

1. To assemble and analyze pertinent facts as to existing conditions and trends and to present these facts in convenient form for comparison and study.
2. In cooperation with the several State Departments and agencies concerned, to prepare and keep current a compre-

hensive guide-plan for future improvement and development of the State.

3. To undertake to bring about a better coordination of the construction activities of the several State Departments in order to achieve a better balance in public works expenditures and the proper inter-relationship between the several kinds of public works, by promoting and assisting the preparation of a long-range public works program and budget.
4. To stimulate and coordinate local, county and municipal planning.

#### NEW JERSEY'S PLANNING PROBLEM

New Jersey occupies a unique place in the family of states of our nation. Not only is it one of the smallest in size and one of the largest in population density, but it also lies between and partly within two of the nation's greatest commercial, industrial and financial centers, New York and Philadelphia. All the complex problems of these great neighboring areas are therefore reflected in the growth of New Jersey and any constructive planning must naturally consider them when viewing our State.

In relation to the development of these metropolitan areas, many agencies have concerned themselves with the use of the natural resources as well as the economic growth of New Jersey. The New York Port Authority and the New York Regional Plan Association to the east and the Tri-State Regional Planning Federation (1925-1932) to the west have all amassed studies and prepared plans affecting our area but more specifically concerned with their particular problem. The Interstate Commission on the Delaware River is concerned with all the territory within this river basin and it too has been continuously engaged with important problems affecting the welfare of a large part of the State.

In planning for the State, consideration must be given to the ideas of these and other agencies and, where possible their suggestions incorporated in the Plan. No governmental unit today can operate in a vacuum and ignore the thoughts and needs of its neighbors. Nor can any state, certainly no state situated as is New Jersey, proceed with its development in isolation from its neighboring states. Thus, by its geographical location and composition New Jersey presents a difficult planning problem.

Not only do individual groups have proposals but each state agency concerned with the acquisition

and use of land also has ideas and plans to show how their function can best be carried out. Such organizations as the State Highway Department, the Department of Institutions and Agencies, the Department of Conservation and Economic Development and others are constantly preparing studies and proposals for state improvement in their respective fields. With this report and plan the Planning Section attempts to integrate these proposals with others originating with the Section and its predecessors in an overall guide thought to be economically feasible over a period of years and greatly beneficial to the general welfare of the State. The cooperation received from the several state and inter-state agencies has been gratifying and has contributed greatly to this presentation.

#### EARLIER STUDIES AND RECOMMENDATIONS

Presented with this report is a diagrammatic presentation of the New Jersey State Development Plan, a plan felt to be a well-informed guide for future growth. Such a guide cannot fail to pay large dividends in preventing avoidable and costly mistakes. In this plan an attempt is made to visualize the probable future needs of the State and to make the necessary advance arrangements for them as suggested by the recommendations in this report.

As has been stated elsewhere, behind this brief report and the Plan map are many years of work, and thousands of pages of background material. From time to time comprehensive studies on varied subjects have been prepared by the State Planning Agency and published with conclusions and recommendations. A complete list of these publications may be found in the Appendix and any of them may be referred to at the office of the Planning Section. In conjunction with the statistical material, scores of detail maps, charts and graphs also stand behind the recommendations which follow. These too may be studied by those interested.

Due to the large volume of this preliminary material and its availability in other forms, no attempt will be made to reproduce it here. This report will be confined to a recapitulation of circumstances and a presentation of the more essential and timely conclusions and recommendations.



## THE PLAN

Generally it may be stated that the primary purpose of the State Plan is to serve as a frame of reference at the state level for acquisition of needed public lands, for placing and scheduling the construction of public improvements, and for determining policy in relation to conservation and development of natural resources. Its furtherance and enlargement will also serve to guide and promote sound industrial, commercial, residential and recreational development in the State and to facilitate planning by the localities. The Plan not only affords a means whereby each action agency can key its efforts to the work and planning of all the others, but it should afford greater assurance of permanently sound values to the individual investors in the State.

Being comprehensive in coverage in respect to probable state development requirements, the Plan will enable state construction agencies and the Legislature to determine the time and sequence in which land should be acquired for major public purposes and improved or built upon. Therefore, it can and should serve as the basis for a long-range and balanced state improvement and development program in which all the State's physical improvement requirements are taken into account and scheduled in the order of their relative need. Economic conditions being stabilized it should likewise be used as a springboard for preparing a long-range state capital improvements budget showing how and when each item is to be financed.

In a like manner, the State Plan will serve as a broad frame work for the guidance of local development and for the coordination of municipal, county and regional plans. The localities will thus be enabled to anticipate, in at least a general way, the major state and regional improvements likely to enter their respective territories or likely to have a bearing upon their internal development, to adjust their local plans accordingly, or alternatively to petition the appropriate state agency for a locally-desirable adjustment of the state proposals.

By knowing in advance the likely location of future key improvements, both the State and the localities, with great mutual advantage, can take the immediate steps necessary to safeguard the locations. There was a time when New Jersey had several sites suitable for development of water reservoirs and airports, but concentrated growth of urban development has resulted in leaving but few areas adequate for these needs, particu-

larly in northern New Jersey. This same urban growth has caused an increased demand for these services and it thus becomes evident that thought must be given to protecting the few remaining areas for future development. Even though some of the improvements and facilities shown in the Plan may not be needed for years, the ultimate need for them seems relatively certain. If they are to be had at anything like reasonable cost, their locations and the land needed for them must be safeguarded now against contrary development. This can be done either by advance purchase of the land or by the use of the statutory powers of the municipalities which allow them to guide and regulate the subdivision and use of land.

Outside of the few cases where site locations are severely restricted, the proposals are general in nature. For instance, the Plan location of a proposed highway may indicate little more than the general direction in which that highway should run to serve an intended traffic function. In the course of time and after more detailed engineering studies, the exact location of the highway is to be determined, by the highway-construction agency concerned, and with careful regard for the intent of the State Plan. The same applies to all other classes of improvements shown.

The Plan map, appended to this report, is a diagrammatic picture of the over-all pattern for the future physical development of the State. It represents today's best combined thinking of the State agencies and others that have cooperated in its preparation.

## BASIC CONSIDERATIONS

### LAND AND ITS USE

As a basic touchstone for all of the Plan's proposals, much study has been given to all the broader aspects of the present and potential use of the land, and related factors. Available in the office of the Bureau of Planning are detailed studies of population, economy, topography, soil potentiality, finance conditions, existing use of land and others. A few of the more pertinent findings are presented here.

**Land Area** - New Jersey occupies less than one-fourth of 1 per cent of the total land area of the United States and ranks forty-fifth in size among the states. Within the confines of the State are approximately 7,507 square miles of land area. The breakdown of total land area of the State into its various uses is approximately as follows:

Forest, scrub growth	Approx. 3200 sq. mi.
Agriculture, trucking gardening	" 3000 " "
Tidal marsh	" 400 " "
Urban use (population density of 500 or more per sq. mi.)	" 900 " "

**Population** - New Jersey's population is almost 2½ times as great as in 1900. In 1950 there were 4,822,000 people living in the State, which would mean an average density of 642 persons per square miles. At the same time, approximately 3,500,000 people, or 75 per cent of the population, are classified as living in urban areas. This indicates an increase of 17.1 per cent in total population over the 1940 figure of 4,160,165.

In general, the population of New Jersey is following the national trend in age distribution. Prior to World War II this trend had been toward a greater population of older people brought about by a lowered birth rate and an upward swing in longevity of life. The war of course caused a change in this picture by contributing to additional marriages and an increased birth rate. How long this interruption will continue cannot be foreseen, but it is felt that there will be a return to a reducing birth rate and a relatively greater increase in the older age groups of population. Should this happen, it will be reflected in changes of the political, social, and economic structure of New Jersey as well as the nation. In view of these possibilities, the Bureau of Research and Statistics of the Department of Conservation and Economic Development has estimated that the population for the State will be somewhere between 5,750,000 and 6,000,000 by 1975.

**Economy**\* - New Jersey has long been known as the Garden State. General character of much of its soil and proximity to markets have been conducive to market gardening and the growing of small fruits. Agriculture and horticulture are, and undoubtedly will remain important factors in the economy of the State but their importance in relation to rapidly developing manufacturing and service industries and other occupations attendant upon large urban growth has greatly declined over the past fifty years. Also, considerable parts of the better agricultural lands of the State have been pre-empted by urban and industrial expansion.

Today, however, in dollar-value return per acre devoted to agricultural enterprise, the State stands very high in the national picture. This is largely due to the shifting of emphasis to poultry raising and dairying. In recent years great strides also have been made in the culture of blueberries and cranberries for which some of the coastal plain soils are found to be particularly suitable.

In 1940, 1,874,402 acres of farm land provided employment for 47,295 people and produced a total cash income of \$104,762,000 from farm products. These figures indicate a decrease in the total number of acres and persons employed but a decided increase in total cash income when compared with previous figures, partially the result of increased mechanization and improvement in farming methods.

Manufacturing establishments in New Jersey increased 45 per cent from 1939 to 1947 as compared to an increase of 39 per cent for the nation. The 1947 Census of Manufactures shows that the State had a total of 10,755 manufacturing establishments as compared to 7,438 in 1939. The value added to the state's economy by manufacturing in 1939 was \$1,518,269 and \$4,177,000 in 1947, an increase of 175.1 per cent. In 1939, 431,562 persons were considered as production workers and by 1947 this figure had risen to 601,748, an increase of 39.4 per cent. This indication of the importance of manufacturing in New Jersey is further emphasized by the fact that 34.4 per cent of the income in the State in 1948 came from manufacturing payrolls. It then becomes evident that New Jersey can be characterized as a concentrated urban state and any planning must be with this in mind.

Although the above figures are based on a

\* U S Bureau of Census, July 1950

14 \* See "An Economic Survey of New Jersey"  
1950 Dept of Cons & Econ Dev

period when the nation's economy was greatly influenced by its military and war production activities and it is probable that there will be some leveling off, nevertheless, manufacturing will continue to be a major contributing factor in New Jersey's economy and must be considered as a basis for its planning program.

*Topography* - New Jersey is comprised of three general geographic areas, The Coastal Plain including all that portion of the State south of a line drawn roughly from Newark to Trenton, the Piedmont Belt bordering the Coastal Plain on the north and extending diagonally across the State southwest and northeast, from the Delaware to the Hudson, and the Highland and Appalachian areas characterized by the mountainous ridges and long valleys of the extreme north and northwesterly part of the State. Elevations range from sea level in the southeast to over 1800 feet in the Kittatinny Ridge near the New York State line. Except for this high range and, to a lesser extent, some of the Piedmont Belt, topography has been a relatively small factor of influence in the development of the State.

*Soils* - There are over 200 soil types found in New Jersey which present a varied pattern throughout the State. Within each of these general soil groups there is considerable variation in range of profitable use, with some soils more especially adapted to the growing of such special crops as apples and peaches, white potatoes, sweet potatoes, and lettuce and celery. Approximately 3300 square miles, or more than two-fifths of the entire land area of the State, exclusive of lands deteriorated by erosion and bad management, have relatively little agricultural value or can be made productive only at disproportionate cost. Soils of this character are concentrated principally in the northern and southeasterly parts of the State. Soils more specifically adapted to market gardening, fruit growing, and general farming are largely concentrated in a strip varying from 15 to 25 miles in width extending diagonally across the State from Raritan Bay to Delaware Bay with a total of approximately 2500 square miles or one-third of the land area. North of a line from Perth Amboy to Trenton, soils generally are less productive or more limited in agricultural use potentialities although it is here there are found approximately 1000 square miles of general farming and fruit areas.

General productivity of much of the cleared land of North Jersey has been considerably

reduced by years of erosion. It is in this region that much of the marginal and sub-marginal farm land of the State is to be found

The farming lands of Central and South Jersey are less subject to deterioration by erosion but are in considerable degree dependent for stability of profitable use upon abundant rainfall and constant maintenance and restoration of plant food and the greater part of the so-called pine belt is definitely sub-marginal for agricultural purposes.

*Land Problems* - Aside from the fact that New Jersey has large areas of marginal and sub-marginal land there are also the problems of rural tax delinquency and excess subdivision of land into streets and lots. Although the surveys concerning these were made before the war boom and some changes for the better have occurred, it is believed that the figures are still indicative of potential problem areas.

The acuteness of the rural tax delinquency in times of economic crisis is illustrated by the fact that as of January 1, 1936, 18.5 per cent of the total land area of New Jersey had been delinquent for one year or more. Of this distressed land, 14.8 per cent had then been delinquent for six years or more. Such tax delinquency, however, was much concentrated in sub-marginal land areas, 33.4 per cent of the pine lands were found to be chronically delinquent. While this situation has improved in and around the urban centers, there probably has been little change in the more remote and sub-marginal lands.

It was found that a major contributing factor in the tax delinquency problem of New Jersey was a great surplus of building lots accumulating through a succession of real estate booms. A survey in 1938 determined that there were 185,000 acres divided into lots and recorded of which 60 per cent were entirely vacant and the rest sparsely occupied.

By reason of its low-quality and excessive quantity, much of this land will never be sold or occupied as building sites, much of it will be unable to meet the future competition of new, better-located, and more modern subdivisions, and many thousands of acres of the premature platted lands, unless replatted or reclaimed for other uses, will continue indefinitely as a costly liability to the municipalities in which they are located. For example, a detailed study of eight representative municipalities disclosed that in seven of them the total delinquent taxes, overdue special assessments, and other unpaid municipal



charges on vacant lots was greater than the total assessed valuation of the lots.

## RECOMMENDATIONS

On the basis of these and other findings, the Plan attempts the formulation of a broad land use policy to be adopted by the State. Shown on the map are areas indicated as General Purpose Proposals. From a broad aspect, this is land that has presented problems in three or more phases of study - - sub-marginal soil, low productivity, tax delinquency, or excess subdivision. It is land that is frequently unable to pay its way and is a drain on the taxpayer.

The accompanying Plan and proposals are drawn chiefly around the above conditions and needs. The keynote of the plan is that of providing the responsible state officials and others with a "frame of reference" for their use in the conduct of those everyday affairs having to do with public-land matters. There is nothing inherent in the Plan requiring extraordinary expenditures for such purposes, yet it is believed that both the social and economic welfare of the State demand immediate material advancement of such a program in New Jersey.

To some extent this can be accomplished at little or no additional cost through protective regulation and increased attention to general public betterment in connection with all such related activities as those of stream improvement, water supply, highway construction and maintenance, etc. Other parts of the program necessarily will involve new capital investment in land and improvements. This, however, is a long-range plan to be carried out over a period of years and, preferably, to be financed mostly out of current revenue.

The total required expenditure will be large only in comparison with the small amounts previously spent in the State for these and similar purposes. To illustrate, - - an annual expenditure of only two or three per cent of that going annually into New Jersey's highways would, in the course of 20 years or less, carry the recreational phases of the accompanying plan well along toward completion. And upon completion, a state recreational system has the quality, uncommon to most public improvements, of not wearing out but of becoming increasingly useful and valuable.

Most important to those parts of the Plan depending upon land acquisition is getting the land quickly. Development can follow at a more leisurely pace. Some of the needed lands, such as those along the shore, certain water

reservoir sites, and others of value for a particular purpose, are the last of their kind and the State can no longer safely delay their acquisition. These and other lands acquired now will be ready for development if and when the State should find itself in an economic crisis and have the need for unemployment relief.

1. *General Purposes Proposals* - It is intended that most of the large proposed public land areas serve general public purposes such as protection of present and future public water supplies, fish and game lands, soil conservation and timber growing, and general recreation. Parts of these lands may be used also for military reservation, special aviation facilities, and public institutions.

The State could profitably formulate a program of land acquisition from the General Purpose Areas shown on the Plan. In conjunction with this, the State should plan a program of public works which will include coordinated selection and programming of public lands proposals.

2. *Land and Soils* - A broad conservation and reforestation program should be continued and enlarged throughout the areas of the State that border on sub-marginal, - areas which might be returned to profitable use by good planning and conservation. Some of these localities could be used as experimental grounds to try out new ideas of horticulture and farming, seeking products particularly adaptable to the soils and profitable means of reclaiming the land.

Further study of the mineral wealth of the State should be made in conjunction with the Rutgers Bureau of Mineral Research and the State Geologist. This is especially important in view of the need for increased economic development of natural resources of New Jersey.

3. *Guidance of Urban Development* - By presenting available facts and by an educational program the State can aid in the proper growth and development of its municipalities. The Plan presented here, indicating the larger framework for future state and regional development, should be an important contribution to local planning effort.

In addition, much consideration should be given by all units of government in New Jersey to a better balance in public expenditures for various services rendered. This too can be aided by sound planning and long-range programming of capital improvements. Although a great deal has been accomplished by the Division of Local Government, New Jersey and

its municipalities could still profit from further standardization of municipal accounting and municipal assessment systems. Equally desirable and worthy of serious consideration is the possibility of consolidation and integration of certain municipal functions in order to provide a better public service and a more effective tax dollar.

4. *Land Subdivision* - Efforts should be exerted to obtain a more rigid enforcement of the regulation of land subdivision developments in accordance with master plans and in accordance with modern standards of urban development. Needed also are such safeguards against speculative and premature land development as requirement of a "certificate of convenience and necessity" to insure a proper demand for such subdivision. In the case of unimproved and low quality land subdivision now in existence, negotiations should

be entered between municipal authorities and land developers for either vacation of recorded plats or replatting in more acceptable and more saleable form. Of greatest value would be additional legislation clarifying and facilitating the process of vacating recorded land subdivisions.

5. *Tax Delinquency* - The problem of tax foreclosure was greatly simplified through the passage of an "In Rem" law by the 1948 Legislature.<sup>5</sup> Greater use of this procedure by the municipalities should be encouraged. All such tax-land holdings should be carefully checked with the State Plan and municipal plans, when they exist, in order to determine tracts that can be advantageously retained in municipal ownership or transferred to the State. Appropriately employed, this can be a fertile means for achieving some of the recommended goal of a 500,000-acre state recreational and forest preserve.

## WATER RESOURCES

Three areas in the State, because of population concentration and other circumstances, demand special consideration from the viewpoint of regional development and construction of potable water supplies. They are:

1. The Northern Metropolitan District comprising most of the northeastern section of the State.
2. The Southern Metropolitan District, comprised of Trenton, Camden and the adjacent areas.
3. The Seashore Resort District, extending from Sandy Hook to Cape May.

Although the water situation in other parts of the State is presently less demanding, appropriate consideration should now be given to their water resources also, in anticipation of possible future growth and development.

*Demand and Supply* - During the calendar year of 1948 the water consumption of the State was as shown in the following table.

Area	Consumption - Million Gallons Daily
North Jersey Metropolitan District	389.15
South Jersey Metropolitan District	73.91
Seashore District	39.75
Rest of State	44.03
<b>Total</b>	<b>546.84 m.g.d.</b>

To illustrate the rate of increase in the demand on the water supply in relation to the safe yield it may be noted that in 1940 the average consumption in the North Jersey Metropolitan District was 271 million gallons daily while the safe yield was 355 million gallons daily. By 1948 the demand had risen to 390 million gallons daily and the safe yield was approximately 374 million gallons. This yield figure is based on allowing for a 25 per cent reserve storage capacity in each of the five major surface supply sources and the assumption that the water in all the systems serving the area is interchangeable which is not completely arranged at this time.

The alarming fact then becomes apparent in order to meet the demand the North Jersey area frequently has to draw from the reserve storage capacity of the reservoirs, trusting that there will be sufficient rainfall to replace this supply. Not only was this true in 1948, but according to the State Water Policy Commission, the demand for water in North Jersey

has exceeded the safe yield for the previous three years. Even now we are beginning to pay for the mistakes of not planning as is evidenced by the critical water shortage threatening our northern metropolitan area. Immediate remedial action to develop the necessary new major supply is the more pressing because several years will be required for its accomplishment.

At the present time, 70 per cent of the total demand for water in the State is met by surface supply sources, while underground supplies make up the remaining 30 per cent. Since the major source of supply is derived from surface waters, it is important to note that there have been only one major and three minor projects of this nature completed since 1930.<sup>6</sup> The capacity of these reservoirs has been considered in the above figures for 1940 and 1948.

If the expected population increase and industrial growth materialize, the anticipated demand will exceed the safe yield by approximately 100 million gallons daily by 1955 or sooner. Since it requires from 5 to 15 years to develop and construct a major source of supply it can readily be seen that immediate steps must be taken to that end.

*Pollution* - No stream in New Jersey has entirely escaped pollution as the result of the concentrated urban population. While this does not, in most cases, render the water unreclaimable for consumption it does increase the hazard of contamination and adds greatly to the cost of purification. However, additional factors to be considered are the loss of such waters for recreational purposes and the resulting injury to fish-life. The pollution of oyster beds alone has resulted in the loss of millions of dollars of income to the people of New Jersey.

While important steps have been made in pollution abatement in recent years, yet much remains to be done, particularly with the waterways passing through or adjacent to heavily developed areas. Many municipalities in the metropolitan areas continue to dump raw sewage into the nearby streams and waterways. A number of municipalities and other urbanized areas have no sewage facilities of any kind. Other municipalities particularly those along the ocean front, seasonally threaten the health of their people and the recreational use of their

<sup>6</sup>Major Supply - Wanaque Reservoir

Minor Supply - Elizabethtown, Raritan & Millstone River Diversion Supply, Commonwealth Surface Diversion Supply, Split Rock Diversion Storage Supply.



waters by inadequate handling of their waste disposal. Even more serious and often more difficult of correction, is pollution by industrial wastes from factories either outside sewage service districts or failing to utilize available facilities

*Flood and Low Water Control* - While New Jersey may not have suffered from floods as much as other parts of the country, flood control measures for certain sections of the State, notably the Passaic and Raritan River Valley are much needed. Lesser, but important, flood control problems are found in some of the smaller stream basins, including those of the Rahway and Elizabeth Rivers.

The Passaic Valley situation, perhaps the most acute, suffers from numerous conflicting solutions advanced. There is the further complication that any acceptable solution should possibly serve multiple purposes difficult to combine, i.e., flood control and water supply.

Liability to flood damage by the Delaware River is not sufficient to justify the cost of construction of retention reservoirs unless these may also serve the purposes of public water supply, low water control and, possibly, power production. Steps in this direction are being advanced by the Interstate Commission on the Delaware River Basin, as mentioned above. This Commission is preparing a report on long range proposals for developing the water resources of the Delaware. Its findings are to be published at a later date

#### RECOMMENDATION

*Demand and Supply* - In anticipation of the certain demand for additional water supply the Plan shows areas designated as potential watersheds and reservoir sites. Although there is no need for the development of all these sites at the present time, the ultimate decision as to priority and their acquisition should be made at the earliest opportunity. Not only is it necessary to locate reservoirs in places offering certain natural amenities but it is also necessary that, the immediate surrounding area be protected to some extent from urban development and the loss of forests. Since it takes considerable time to develop a new major water supply source and since it is evident that future demand will exceed present supply, the State should embark upon its program without further delay, first to decide upon a definite water development program, and then to take the steps necessary to assure and expedite its accomplishment

Although all potential sites are shown on the Plan, the major proposals for immediate consideration in order to establish a priority for development are

- 1 Long Valley or Chimney Rock - alternate proposals to serve for the northeastern metropolitan area.
2. South Branch - a high level supply to tie-in with service for the northern area.
3. Dock Watch Hollow - located near Bound Brook and serving the adjacent area.
- 4 Round Valley - near Clinton, also augmenting the supply for the northern area
5. The Delaware and Raritan Canal - to serve as a further improved source of industrial water supply.
- 6 Wharton Tract - located in South Jersey to serve that section and the Seashore District
7. Ramapo Diversion Supply - to supplement the Wanaque Reservoir.<sup>7</sup>

*Pollution Control* - In the matter of pollution it is recommended that the State insure the vigorous advancement of the plans and proposals of the State Department of Health with respect to the further development or installation of municipal sewage treatment plants.<sup>8</sup> There should be greater use made of the "sewer authority" plan whereby the sewerage problems of two or more municipalities may be handled jointly, more effectively and more economically than by individual municipalities. Such organizations have effectively functioned along the Hackensack and Passaic Rivers and it is felt that a similar solution would be the best answer for the problems of a number of other drainage areas including the Raritan River Valley.

Equal or even greater emphasis should be placed upon the prevention and abatement of pollution by industrial wastes. It is to be further considered that growth in some industrial areas is almost entirely dependent upon a more adequate system for the disposal of these wastes. The State must also extend its pollution abatement efforts beyond protection of public water supplies to the protection and restoration of appropriate recreational uses of the waters. To add recreational value and to restore a major industry, a more vigorous program of propagation and restoration of natural fish life should

<sup>7</sup>Since the writing of this report the Ramapo project has been approved for development by the Division of Water Policy and Supply

<sup>8</sup>See State Department of Health Circular 213 2nd Edition, December 1946

be undertaken. The shell fisheries of New Jersey must be aided and encouraged by precautions against contamination. Due to its location and strategic relation to the region the State should endeavor to cooperate with neighboring states in the control and abatement of pollution in inter-state waters. Such ventures in this direction as those of the Interstate Commission on the Delaware River Basin and the Interstate Sanitation Commission are to be encouraged and effectuated as rapidly as circumstances permit.

*Flood and Low Water Control* - As an important beginning on a flood control policy, it is proposed that the State develop a program of channel improvements to eliminate obstructions and to increase channel capacity to pass flood flows satisfactorily. In conjunction with this there should be the construction of detention basins to increase natural channel storage by creating artificial retention for flood run-off, thereby reducing the size of the flood peak.

The State should insure the arrival at a solution as to the best and most economical method of controlling floods in the Passaic

River Valley. This would include the weighing of the cost of that solution against potential benefits to determine the relative economic justification. There should then be established adequate machinery for the assessing of all or a fair proportion of the cost of the project against properties benefited.

Through the Interstate Commission on the Delaware River Basin and investigations of its own, the State should further study the Delaware Valley situation. From this study there should be determined the feasibility of the "multiple purpose" solution believed essential to effective flood prevention in that Valley.

As a final protective measure all average and peak flood zones of major proportion should be delineated and certain types of development in these areas should be discouraged or prohibited. This can be done by the creation of parks and recreational areas in appropriate places and by promotion of proper zoning to discourage private development which would be damaged by floods.

## HIGHWAYS

Of all of the problems of New Jersey probably none is more difficult than that of keeping highway construction abreast with the fast-increasing demands of motor transportation. The State's difficulties in this respect are much aggravated by its geographical location and its close relation to the New York and Philadelphia metropolitan areas. All long distance traffic between these two points must cross the State. Thousands of people obtaining their livelihoods in these great cities have their homes in New Jersey and many must make the daily journey by auto. Likewise the State is the natural traffic crossroad between New England and points south and southwest. Each day sees an increasing amount of heavy motor trucking in and out and across the State. Then there is the large seasonal traffic to the Jersey shore resorts, especially heavy from the metropolitan areas in and adjacent to the State. All of this coupled with routine daily traffic places a heavy burden upon the highways of New Jersey.

Administratively, these highways are divided as to jurisdiction among the State, counties and municipalities, and except for roads like the projected N. J. Turnpike, are constructed under an interlocking system of federal aid, state aid and county aid. Most of the primary and secondary roads are either within state or county jurisdiction with the major routes largely included in the state system. County highways, generally serve more local and regional functions.

There are approximately 8,150 miles of state and county highways in New Jersey, practically all of which have some form of hard or all-weather surface. In addition there are about 19,600 miles of roads, chiefly rural, under township jurisdiction. This provides the State with a total of 27,750 miles of highways and rural roads or about 5.8 miles per 1,000 population. 1,710 miles of this total falls under jurisdiction of the State Highway Department of which 82 per cent is constructed with concrete surface. Within the state system there are 133 miles of highways providing 3 lanes for travel and 420 miles that have 4 or more lanes. The planned state system includes, further, about 1,000 miles of legislated routes not yet constructed and with right-of-way not yet acquired.

As an additional factor in meeting the traffic problem the State authorized in 1948 the creation of a Turnpike Authority. This agency, operating

independently of the Highway Department, expects to complete, sometime in 1951, a toll road of 117 miles running from Penns Grove to U. S. Route #6 near the George Washington Bridge. The New Jersey Turnpike, as it is called, will provide a fast efficient route down the length of the State and will, to some extent, alleviate the foreign traffic problem between the South and New York. However, it is by no means an overall solution to the complexity of transportation demand found in New Jersey.

Although the Turnpike is to be the latest word in highway design and New Jersey highways in general are widely regarded for their high standard of engineering achievement, growing obsolescence already presents a serious problem. High speed and heavy volume traffic are demanding overall improved highway design, including such things as divided roadways for primary routes and wider and better protected right-of-ways. Efficiency of many of the State's primary routes has been greatly reduced by general failure to control points of access and the development of highway frontage. Right-of-way widths, in many instances, are inadequate for both proper frontage control and highway modernization. It may be said fairly that far too much of the present highway system has been directed toward satisfaction of current highway demands with minimum regard for the broader and correlated factors of general future state development. A great deal of emphasis even in the newer roads, has been placed upon transportation efficiency with very little regard for such pleasurable amenities as may be afforded by parkway design and by controlled and landscaped frontage. Paradoxically, failure to give these elements proper consideration begins now to bear fruit in reduction of efficiency, in premature obsolescence of primary routes and in high cost and great difficulty of modernization. Future state highway planning and construction should profit from this experience and as the heavy duty highway system progresses, increased attention should be given to scenic routes and parkway development.

Still another highway planning factor of importance to all the people of the State is the need for protective measures to prevent undesirable development along the roadsides. Many of New Jersey's highways created for the public good are being used for private gain to public detriment. Property owners, usually well paid for right-of-way land in the original

instance, seek and demand a second award through use or sale of frontage of subdivision development, roadside stands, gasoline stations, billboard sites and similar uses. This ultimately results in destruction of both highway attractiveness and efficiency and in severe aggravation of highway hazards. Owners of highway frontage lands should be allowed every freedom in the use of their property consistent with maintaining useful, safe, and attractive highways, but they should no longer be permitted to destroy these things either through lack of guidance of what they do or through disregard of the public interest.

## RECOMMENDATIONS

With these various factors in mind there is presented on the Plan Map a broad framework for roads and highways over the State. This future highway pattern has been developed in conjunction with the State Highway Department and is generally identical with their proposals. A division has been made between major roadways, and limited access routes. The major roads comprise the arterial-traffic routes, existing and proposed, while the indicated secondary roads are comprised mainly of access and supplementary routes. It must be remembered that the locations of proposed new roads are approximate only. Final alignment of most of them is still to be determined by more detailed study by the State Highway Department, in consultation with the localities respectively concerned. The highway network has also been laid out without respect to probable jurisdiction either in construction or maintenance. Most of the proposed highways are of an importance and serve functions logically placing them in the ultimate state highway system. Others, generally those in the secondary classification, may more properly be built as county roads.

It is self-evident that year-by-year highway construction should be done in anticipation of probable future demand. Satisfaction of already-established demand is seldom a sufficient criterion in itself. Potential demand is an equally important consideration anticipated in the State Development Plan. In addition to sound engineering and advanced design, special emphasis should be placed on the following in all future highway-improvement programs.

1. Right-of-way widths sufficient for possible future widening, for adequate landscaping, and for proper control of access.

2. Wherever feasible, pre-establishment and protection of needed right-of-ways, and of the spaces to be required for anticipated widenings, to avoid excessive costs and to insure best locations of future highways.
3. Greater consideration of scenic values in both highway design and location.
4. The development of more by-pass and circumferential routes particularly in relation to metropolitan areas, to encourage as much decentralization of traffic movement as may be practicable.

In keeping with the preceding, it is recommended that there be legislation provided empowering an appropriate state agency to zone and regulate the development of state highway frontage. The objectives of this control should include keeping commercial and residential development to appropriate locations and limiting and regulating all entrances upon the main traveled ways. This coupled with the existing municipal zoning legislation would, among other things allow restricting of road-side commercial uses to designated commercial districts leaving the remainder of the highway frontage for the uses which are characteristic of the general area through which the highway passes.

A desirable regulation of similar nature is that of requiring buildings along major highways to be set back from the right-of-way lines. Further effort should be made also to bring about an improvement in the appearance of road-side commercial development.

Future trunk highways should be built as limited access roadways with no public access from adjoining frontage except at especially controlled points or in some cases, with access limited to agricultural usage. All future trunk highways, especially in and near urban areas, should be designed as parkways, in the sense of landscape treatment of right-of-ways.

Much greater attention should be given to the scenic qualities of all roads, old and new, from their inception through to their maintenance and redevelopment. Consideration should be given to developing certain roads primarily for their scenic values.<sup>9</sup> One such road might be the proposed Delaware River parkway extending through the picturesque river section of the State from Trenton to Port Jervis. Several similar possibilities are shown in the Plan.

<sup>9</sup> See Chapter 83, Laws of 1945



## AVIATION

New Jersey is a focal point for airways approaching the Philadelphia and New York metropolitan areas. One of the principal air terminals for the New York metropolitan region is at Newark, now falling under the jurisdiction of the Port of New York Authority. Although the volume of traffic for this port is already among the heaviest in the world, plans have been made for enlarging the facilities to make the service even greater. Five fully equipped airways enter or cross the State and a secondary route services Atlantic City.

At the present time there are scattered over the State, 5 military and 95 commercial airports with a total value of about \$80,000,000. Ten of these commercial ports are seaplane bases and eleven commercial fields are publicly owned. However, at the present time, only three of the airports in New Jersey provide scheduled passenger service and only five provide commercial freight service. The remainder serve the needs for air schools, air charter, and other industrial commercial aircraft operations, largely intra-state in nature. Not included in the above figures are 33 private landing strips licensed to service private flying. The total investment in military and civil aircraft currently using these airports in New Jersey is estimated to be \$130,000,000.

It is certain that there will be further expansion of both commercial and private aviation operations. This expansion will show in greater numbers of aircraft, and in increased frequency of flight. Every urban center will require some degree of convenient air service and there are a number of such areas of population in excess of 10,000 that now have no suitable airport facilities. The per capita aircraft owners in the State of New Jersey at present is 4.9 per 10,000 population. The Aviation Section of the State Department of Conservation and Economic Development estimates that by 1953 there will be over 3,000 airplanes based in New Jersey.

## RECOMMENDATIONS

New Jersey's aviation requirements of the future must be anticipated now to assure properly-located airports of sufficient size and in sufficient numbers. The current major proposals for airport improvement are contained in a Three Year Plan of the Aviation Section that calls for improvement of eleven existing airports and the construction of twenty new landing fields and sixteen landing strips. The locations for the major airport proposals are shown on the Development Plan map, to be integrated with the plan and program for future airport development in a plan and program for the construction of the necessary access roads.

Remaining suitable locations for airports, particularly in and near the densely urbanized areas where they will be most needed, are severely limited. The better and sometimes the only practicable locations for them are shown in the Plan. These locations should be protected by every means available to the localities and the State, and the lands for them should be acquired quickly and well in advance of actual need and demand.

Continued State control by regulation for the location, size, use, and management of airports, landing fields and landing strips, will be necessary to maintain adequate safety measures for both ground and air-borne traffic. It is believed that to assure adequate and uniform service and safety standards and for other important reasons the larger airports, at any rate, will be better developed and operated under public ownership.

The development of helicopter ports and helicopter service within the congested areas is a new field of endeavor that will be further investigated and studied in relation to its feasibility of operation in New Jersey.

## RECREATION

Billions of dollars have been and will be spent by the people of New Jersey to provide the necessities and conveniences of present day living. No similarly constituted area is more bountifully supplied with most public services and improvements and most of the other essentials of community life. In sharp contrast is the comparative lack of public outdoor recreational facilities. This is all the more regrettable because, although much is irretrievably gone, the State is still rich in natural recreational resources and opportunities and very little is being done to insure their development. The remaining resources and opportunities are now more than ever before threatened with loss or destruction. The time has come when they must be preserved and developed in the social and economic interests of the State and its people.<sup>10</sup>

It has now become apparent that the sane and profitable use of leisure time is a major social problem. Out-of-door recreation is no longer just a pleasant pastime, but is an essential antidote for the high tempo of living, especially in over-crowded cities. Not only is out-of-door recreation essential to the well-being of the people but it has become a major business giving livelihood to thousands of people.

Briefly summarized here is the situation in this State

1. New Jersey has 129,907 acres of state owned land devoted to forests, parks, and fish and game preserves, a ratio of 26 acres per thousand people. On a comparative basis Pennsylvania has 289 acres and New York 208 acres per thousand of population. On a per capita basis New Jersey has only 9 per cent of the area supplied by Pennsylvania and 12 per cent of that in New York.<sup>11</sup>
2. Based on the accepted standard of 10 acres per 1,000 population for recreational sites in urban areas the State has less than one-third of the local parks and playgrounds now needed with no reserve for the expected increased population.
3. In all of the 128 miles of seashore, not one foot has been reserved by the

State for public use, and not many miles remain unexploited and available for this purpose.

4. Although the New Jersey Legislature has provided the enabling legislation for the construction of controlled access parkways and freeways, the State has not yet acquired many road miles built primarily for scenic or recreational value.<sup>12</sup>

At the present time such construction has been limited to the John Davison Rockefeller Memorial Highway (State Route 40), and work now underway on the New Jersey section of the Palisades Interstate Parkway. To a limited extent the 10 miles of Route 4 Parkway now under construction can also be classified in this category still leaving the State with less than 50 miles of scenic, limited-access routes.

5. Only a very small proportion of the highway frontage of the State is protected against deleterious use and development and, in the absence of proper protection, proportionately few miles of the main-traveled highways remain unspoiled and free from the hazards of exploitation.

6. No streams or other inland waters close within the urban areas of the State, are clean enough for swimming or most other recreational uses. Many streams even in rural districts are shamefully littered with trash and some are too polluted to be of much recreational value.

Fortunately, in New Jersey, there remain materials and means for correcting or ameliorating past neglects and present deficiencies

1. Two million acres of nearly idle lands mostly sub-marginal or in forest, unsuited to profitable agricultural use, and in large part chronically tax-delinquent. Much of this land is threaded with streams and generally adaptable to a wide range of desirable public uses including those of

<sup>10</sup>For detailed study see report, Parks and Public Lands in New Jersey, 1941

<sup>11</sup>Based on 1949 population estimates prepared by the U S Bureau of Census

<sup>12</sup>Chapter 83, Laws of 1945

recreation, water supply protection, location for public institutions, wild-life conservation, and the growing of timber. This same land, however, has little visible potentiality for profitable private development and use, as evidenced by large tax arrears and low values.

2. Nearly a hundred miles of inland coastal waters with scarcely touched recreational possibilities.
3. Fifteen miles or so of fine ocean frontage, by chance still unspoiled and obtainable through quick action.
4. A 250 mile inland boundary upon the Delaware River and Bay, the upper hundred miles of which, in New Jersey, requires only minor development and improved accessibility to make it one of the finest recreational streams in the country.
5. Many hundreds of miles of other streams and waterways having large recreational values assurable by pollution abatement and prevention.
6. Thousands of acres of blighted and tax-distressed urban lands that can and should be turned to urban park and playground use.
7. Thousands of acres of poorly drained meadow lands in the midst of crowded metropolitan areas - lands readily reclaimable for urban park and related use - e.g. Hackensack Meadows.
8. The prospect of hundreds of miles of new highways which, if and when built, may well be placed and designed with more than customary consideration for recreational and scenic values.

All this adds up to, - the need for matching remaining opportunities against present and cumulative deficiencies. It may be seen from the foregoing that while the State and its municipalities can never be as well set up in recreational matters as if these things had been planned from the beginning, timely action may yet preserve or return many of the recreational prerequisites to healthful, pleasurable and prosperous modern existence.

Obviously results will not be achieved except by determined effort and some public cost. However, the net cost of bringing the State into line in recreational matters is not as

great as might be expected. Special features like seashore parks can be made to pay most or all of their own way without violation of their purpose of providing inexpensive recreation. In its present condition and use, much of the State's two million acres of "waste land" is virtually worthless - a financial drag upon both its owners and the municipalities. Under public ownership and management, this land may be properly protected and put to productive use. Ultimately, when having no more important use, it could in this way even be made to return a profit through timber cropping.

Many of the State's streams and other waterways can be preserved or reclaimed for recreational use by the diligent application of reasonable regulations such as those now administered by the State Department of Health. The scenic and recreational quality of highways, as well as their continued efficiency, likewise may be preserved by reasonable regulations, or incorporated in highway design at small additional cost. Many of the urban park and playground deficiencies can be met in the course of time by the planned selection and retention of tax-forfeited lands.

If the pleasure and satisfaction of recreational opportunities and of beautiful surroundings or the health and contentment of the thousands of underprivileged are not thought to be worth a price, if the sole criterion must be that of dollars and cents, then consideration should be given to the commercial aspects of recreation. Wherever sufficiently attractive facilities are provided, many millions of dollars are spent annually in recreational pursuits. Incidental to such facilities and in their servicing, countless business and industrial enterprises are maintained and many thousands of people are employed. With New Jersey situated as it is in relation to large concentrations of population and with all its still undeveloped, natural recreational resources, this State can profit greatly from the growing business of recreation, and at the same time, can satisfy an urgent need of its people.

#### RECOMMENDATIONS

Shown on the Plan map are areas designated as Proposed Seashore Parks and General Purpose Proposals. The seashore sites are the only remaining sizable areas along the coast free from prohibitive private development and suitable for recreational purposes. The General Purpose Areas, as has been previously stated

are mainly those lands found to be sub-marginal for private investment and believed capable of productive use only under public ownership and management. Others of these areas or parts of them have been selected for their exceptional scenic or recreational values, or for purpose of access to natural recreational features like streams and other inland waters

In general, these areas would comprise a great public-forest reserve but, within them, appropriate location would be developed for more or less intensive recreational use, some lands would be given over to wildlife and hunting preserves, some to protection of public water supplies, and some to satisfy certain others of the public-land needs earlier mentioned. A reasonable acquisition goal for such multi-purpose public lands might be much as 500,000 acres -- about one-fourth of the 2,000,000 acres in the State classified as agriculturally sub-marginal. Also indicated in the Plan is a priority schedule for the acquisition and development of these areas. This schedule is based on studies made some years ago by the Parks and Public Lands Committee of the earlier State Planning Board, as subsequently reviewed by the Bureau of Planning.

Of first importance is acquisition of the needed lands. This is especially true for the areas of exceptional recreational value such as some of the proposed seashore park sites, some of the river-front properties, and lands close to the metropolitan centers. Such areas are most subject to contrary development and exploitation and they are day by day becoming spoiled or prohibitively expensive. Once the land is assured, development can follow at a more leisurely pace. There need not be the same concern for many of the large sub-marginal land areas proposed for ultimate public ownership. Here more of a policy of opportunism may be safely applied. If the above appraisal of this land is correct, much of it should come into State ownership gradually because of having no other profitable use. This assumes, of course, the setting up of machinery and funds by the State to acquire the land as rapidly as it comes into the market, and as it becomes available through municipal purchase or foreclosure of tax liens.

A further reason for moving quickly into a land acquisition program is to provide a reservoir or "shelf" of future gainful relief work. If faced with an economic crisis when the State has sufficient lands and plans in readiness, thousands of people can be put to useful work

developing parks and other public properties as a by-product of relief

It is proposed that the assembly of these lands be begun by the State as rapidly as economically feasible and that a State Department, most logically the Department of Conservation and Economic Development, be designated as the receiving agency and be given the appropriate means for acquiring and administering the land subject to transfer of portions of it to other State Departments or agencies as needed for specified public purposes. It is suggested that this designated agency be provided with an annual purchase fund of not less than \$100,000 for the acquisition of general-purpose lands and that the condition of acceptance and disposal of lands thus acquired be as follows

- 1 Land to be acquired by acceptance of tax-title liens from municipalities in accordance with Chapter 73, Laws of 1940 and Chapter 96, Laws of 1948, or through land purchases by the Federal Government under the Fulmer Act, or by gift, or by purchase under favorable terms; or by such other means, legislative and otherwise, as may subsequently be made available to the Department.
- 2 All such lands, however to be acquired, to be scrutinized for conformity with the accompanying Plan and not to be taken or accepted if non-conforming unless shown to be essential for a special public purpose.
3. All lands conforming to the Plan to be taken or accepted whenever obtainable upon reasonable terms, irrespective of availability of funds for their immediate development or of their relation to other existing state holdings.
4. All lands thus acquired, not specifically designated or acquired for another specific use to be held under the stewardship of the Department of Conservation and Economic Development for such treatment and public use as may seem most appropriate such as forest land, recreational areas, etc.
5. Purchases of sub-marginal land for general public purposes to be directed first toward the piecing out of land areas otherwise acquired.
6. Purchases to exclude privately de-

veloped parcels of exceptional value unless needed for a special purpose or for the protection of other holdings.

There are other lands especially adaptable to and needed more specifically for state park development and use. They include areas like the proposed seashore parks, river frontage lands and other areas of special scenic or recreational value. These lands should be systematically acquired and developed at any reasonable cost, with a view to early improvement of the State's primary recreational system.

Among the first consideration, should be (a) furtherance of the seashore park program with first emphasis upon development of the Sandy Hook reservation by the State and acquisition and development of Island Beach either as a state park or as a National Seashore Reserve as provided by legislation now before Congress, and (b) development of one or more great metropolitan area playgrounds such as the proposed Hackensack Meadows park.

Needed to effectuate such a park program is a substantial working fund either by annual appropriation out of current revenue or by bond issue. The suggested minimum amounts are \$1,000,000 annually or a bond issue of from \$10,000,000 to \$20,000,000 to be expended over a 10 year period.

It is further proposed that along its streams, waterways and coastal bays the State insure their recreational value by the following program

1. Adequate pollution abatement and prevention as outlined by the State Department of Health.
2. Acquisition of frontage lands for public access as outlined above.
3. Development of scenic roads as shown on the Plan.
4. An enlarged fish-stocking and fish-culture program to replenish the supply of fish life. Also a conservation program to include additional regulations upon commercial and pleasure fishing.
5. Development of miscellaneous features for the encouragement of such water uses as those of canoeing, boating and swimming.
6. Development of marinas to provide adequate docking facilities for small boats. (See Navigation Section)

The State also should further develop the recreational potentialities of the remaining

portion of the Delaware and Raritan Canal. It is a ready-made park that would cost millions of dollars to reproduce. At comparatively small additional expense, the canal could be made to serve a very important recreational purpose without detriment to its current and prospective function as a supplier of industrial or even potable water.

It is further recommended that there be cognizance taken of the need for limited access roadways in New Jersey built primarily for scenic or recreational values. As mentioned previously there now exists less than 50 miles of such routes and some of this mileage cannot be called truly scenic nor recreational. These roads could be administered by the Parkway Section of the Highway Department and would include such roads as the proposed Delaware River Scenic Highway running from Trenton to Port Jervis

Of equal importance is the necessity for utilizing the scenic area of New Jersey found along the lower Delaware River and Upper Delaware Bay shores. The advent of the new Delaware River Memorial Bridge will undoubtedly place an increased population and transportation problem in this section. The State must be prepared to protect these scenic areas and at the same time provide adequate transportation facilities between points of interest. The purpose of such a system would be to provide pleasant and convenient access to existing and proposed recreational areas and to provide limited highway mileage placed and designed primarily for pleasure driving

As a final factor, well spaced roadside rest places or picnic areas for the pleasure and convenience of long distance travelers should be placed along New Jersey's highways. Such areas are being provided and successfully operated in other states, such as Ohio, Virginia, New York and Delaware. These need not be large but should be selected for convenient and attractive locations along all principal tourist routes, and supervised by an appropriate existing State agency, possibly the State Highway Department. Developments of this sort would present a more attractive roadside picture throughout the State and would aid in providing supplementary relief to crowded conditions in existing parks. Tourists as well as local people would find that small well-kept rest stops spaced 25 or 30 miles apart with a picnic table and possibly safe drinking water, would make traveling and short trips to the country considerably more pleasant.



## INSTITUTIONS

Although New Jersey has recently taken strides forward by the passage of a 25 million dollar institutions bond issue it should be pointed out that this fund will not completely alleviate present deficiencies, much less provide for increased future needs. Under the prospect of an increased population living in highly concentrated area, the likelihood is that the demand for institutional care will continue to grow in future years. A brief analysis of existing conditions clearly shows how far behind New Jersey has fallen in providing adequate facilities for institutional care.<sup>13</sup>

1. Mental Hospitals - There are now 3 state and 6 county and municipal hospitals in New Jersey. In these institutions the total number of beds is 13,687. The United States Public Health Service terms as "adequate facilities" for mental cases, 5 beds per 1,000 population and on this basis New Jersey should have a total of 24,000 beds.
2. Chronic Disease Hospitals - Although there are 15 county and municipal hospitals for chronic diseases, the State itself provides no such facilities. The number of beds designated for chronic diseases now total 2,302. Under the Public Health standard of 2 beds per 1,000 population the State should have 9,600 beds.
3. Tuberculosis Hospitals - Facilities in this category consist of one State and 14 county and municipal hospitals providing 3,359 beds. There are also approximately 1,050 tuberculosis patients occupying beds in the mental hospitals. Public Health standards call for the provision of 2½ beds per average annual death of tuberculosis. Based on this New Jersey is only short 231 beds.
4. General Hospitals - There are 123 General Hospitals with 16,675 beds now in existence in New Jersey. Based on 4½ beds per 1,000 population the State should have 21,600 beds.
5. Feeble-minded and Epileptic Institutions - The State provides one child treat-

ment center, 5 schools for the feeble-minded and a village for epileptics. In 1949 there were 4,816 receiving care from these institutions, with an over-crowding. According to the New Jersey Department of Institutions and Agencies an optimum standard for facilities for care for mental deficiencies would provide space for 150 out of each 100,000 population. On this basis New Jersey should have provision for 7,200 such people.

6. Penal and Correctional Institutions - The State now has 5,055 confined in its 8 penal and correctional institutions. This includes both men and women as well as boys and girls in State homes. While no standards can be set for such institutions it is known that many of these are over-taxed as shown by the housing of 1,528 prisoners in the Trenton Prison - built to accommodate 1,150. At the same time there are 4,423 persons on parole from these institutions, some of whom perhaps would not have been released had adequate facilities been available.

In general these institutions are well distributed about the State and in many instances are located appropriately in comparatively remote and sparsely settled areas. Several of them have farming as a supplementary activity. These require and have been given sites of fair agricultural possibility.

### RECOMMENDATIONS

The Plan has made no proposals for institutional sites other than indication of the General-Purpose Areas within which it is believed that at least some of the future institution grounds can be appropriately placed. It is felt that definite location can best be effected after more detailed study by the Department of Institutions and Agencies and review by the Planning Section. Also, it is intended for these new institutions appropriately to be placed in relatively remote sections and that the Plan should guide these locations by its indication of the General Purpose Areas. From the General Purpose Areas, however, it should be possible, in many instances, to choose sites that will

adequately serve the requirements of individual institutions and at the same time not interfere with other more profitable land use

In keeping with the proposals of the Department of Institutions and Agencies the following recommendations are made.

1. Immediate construction of a new mental hospital with the possibility of adding a second one at a future date.
2. The addition of facilities to provide for 1,940 beds for mental cases in conjunction with existing county mental hospitals and general hospitals.
3. The encouragement of establishing general hospitals until no person in the State is farther than 35 miles from such a facility. This can be done by the use of Federal grant-in-aid funds and general promotional activity.
4. Bed space for chronic diseases in new general hospitals and additions

to general hospitals should be increased by 20 per cent. All existing general hospitals with a capacity of over 100 beds also should increase their space for chronic diseases by a like amount.

5. Provisions for the housing of 600 additional feeble-minded persons either by the construction of a new institution or the addition of facilities to existing plants.
6. The construction of an "annex" prison for 500 or 600 inmates to serve as a nucleus of a new prison to eventually replace the one at Trenton.

The above is an overall program and as has been previously stated, some of these items will be accomplished from the funds made available by the new bond issue. New construction and improvements in existing facilities will of course depend upon a priority schedule to be established by the Department of Institutions and Agencies.

## FISH AND GAME RESOURCES

Maintenance of the fish and game population of New Jersey resolves itself into a race between a rapidly increasing number of fishermen and hunters on the one hand, and scientific game management and replenishment of stock by artificial propagation on the other. The high density of population within the State and in neighboring territory, together with the increasing popularity of field and stream sports, places an ever increasing burden upon the State's fish and game resources

Second to increasing the fish and game population in fair proportion to increasing demand is the problem of providing areas where both residents and non-residents of the State may fish and hunt without trespassing. New Jersey has now acquired about 53,593 acres of hunting and fishing lands for public use, also some of the forest and park areas are opened to limited use for such purposes. The most serious problem, of course, is in the intensive-farming areas particularly near urban centers. Some farm land is still open to hunting, but an increasing amount is being closed each year.

In spite of increased license fees and limited opportunities the interest in hunting and fishing continues to grow. There were 120,000 licenses issued in 1932 as compared to the 251,000 issued in 1948. Of this latter number 143,000 were for hunting, showing that the density of hunters would exceed 100 per square mile of lands open for public hunting should they all enter the field at one time.

Aside from their recreational aspects, fish and game resources are worthy of serious con-

sideration in that they represent a sizable industry and a secondary source of food supply. Every sportsman spends annually much more than the cost of his license fee for equipment and supplies and services, amounting in total to a large factor in the economy of the State and nation. It is good business for the State to promote and conserve its fish and game resources, and to facilitate the pursuit of outdoor sports by every practicable means.

### RECOMMENDATIONS

All existing and most of the potential public fish and game areas are shown on the Plan map. Once again it is not practical for the State to obtain and develop all of the sites immediately but it is intended here to show those locations suited for fish and game purposes from which an acquisition program should be begun. Unless acquired at the earliest opportunity these areas may be lost to public use, and will certainly become more difficult to obtain.

Many of the proposals are merely additions to existing fish and game property and would serve to provide a more satisfactory area or would serve to include land particularly suited for wild-life. From these various potential sites certain ones should be selected as most desirable, thus establishing a definite plan for near-future acquisition. It is recommended that there be 100,000 acres obtained to supplement existing fish and game lands. It is also suggested that where practicable these new lands be obtained from within the indicated General Purpose Areas

## NAVIGATION

New Jersey is fortunate in having a great portion of its territory accessible to water transportation. Principal terminals are concentrated in the Camden area on the Delaware and from South Amboy to Weehawken on the Arthur Kill and Hudson River. From these areas two great districts have developed. Through interstate agreement the Port of New York Authority has an area of operation which includes the northeastern section of the State, by action of the New Jersey Legislature while the South Jersey Port Commission embraces the western section along the Delaware.

The portion of New Jersey contained within the Port of New York Authority District has the advantage of terminal facilities of the western trunk line railroads and, while no definite tonnage figures for that portion west of the Hudson are available, they are known to be considerable. At the present time some of the railroads are constructing additional terminal facilities in Jersey City for car-side delivery to trucks, thus eliminating the cost of lighterage to New York. Perishable food freight especially will be handled in this manner.

The South Jersey Port Commission reports a total of 90,932,357 tons handled by the ports of New Jersey in that section from 1933 to 1946 inclusive. Efforts are now underway to promote further development of port facilities in this area, a move that would certainly be beneficial to the State.

The New Jersey Inland Waterway extends from the Manasquan River through the Manasquan-Bay Head Canal and then down the coastline behind barrier beaches to Cape May. There is a federal canal across Cape May connecting with Delaware Bay, a further link in the protected channel extending down the coast to Florida. At the present time, the depths in this waterway limit its use to small craft although the Federal Government has under study its acquisition and a project for channel improvement to a minimum depth of 12 feet.

Also proposed has been a northerly extension of this waterway, by canal, from Manasquan Inlet to the Shrewsbury River. One possible, and generalized location for this canal extension is shown in Plan. This improvement would add greatly to the serviceability of New Jersey's Inland Waterway and is to be recommended.

The so-called cross-state "Ship Canal" from Raritan Bay to Bordentown is another project that has been proposed from time to time but one that has laid more or less dormant for the past several years.

Important to New Jersey not only from a navigation aspect but also in a recreational sense is the problem of shore and beach erosion. Through the Department of Conservation and Economic Development, and other agencies, much has been done to meet the situation but a great deal yet remains to be accomplished before the shores are fully protected. A step forward was made in 1949 when the Governor and the Legislature approved the appointment of a permanent State Beach Erosion Commission.<sup>14</sup> This Commission is authorized to consider and to provide ways and means to protect and preserve the beaches and shore front of the State. A program outlining the activity and participation of the various municipalities concerned, the State and the Federal Government has already been advanced by the Commission.

### RECOMMENDATIONS

While the Plan itself makes no definite proposals in regard to navigation, it is felt advisable to include some suggestions in this report.

1. The State should continue the efforts for the formation of an organized agency that would aid the development of port facilities along the New Jersey side of the Delaware. Such a central organization would have a beneficial effect on the procurement of greater business for the New Jersey ports. It would also aid in the promotion of better channels and waterways which must be furnished by the Federal Government.
2. While the proposed Cross-State Ship Canal has been advanced by some agencies as being a benefit to the State, it is the recommendation of this Department and the Bureau of Planning that every possible means be employed to prevent its construction. This project, should it ever become a reality, would result in serious disruption of development of the area it traverses.

and in great losses to New Jersey in tax ratables, valuable farming lands, and dairy and farm production. Such a canal would bring with it complicated problems of salt water intrusion, interference with potable water supplies, and interference with the disposal of industrial and domestic sewage in the Raritan Valley area, and would disrupt or add greatly to the cost of intersecting railroads and highways. The cost estimated to run in excess of \$500,000,000, can

in no way be justified in benefits to the State. New Jersey cannot support such a project. <sup>15</sup>

3. The State successfully operates a marine basin along Forked River. Further development of such a program along this and other streams in New Jersey should be investigated. Additional marinas, made self-sustaining by service charges, would not only enlarge our use of waterways but would also add an impetus to recreation and related businesses.

<sup>15</sup>

*See Report, The Proposed New Jersey Cross-State Ship Canal published by the Department of Economic Development, 1945*



## CONCLUSION

It has been said that, "Simply stated, a government's job is to do those things co-operatively for the people which they cannot do for themselves individually."<sup>16</sup> This Development Plan presentation is based on that hypothesis and is intended to indicate clearly the needs of the people of the State as those needs have appeared from existing conditions and from the State's past activities and its present program.

This Plan grows out of an intensive study of the State and its people and sets up a program which, to those interested in over-all development, is comprehensive and realistic. It is not intended to be merely pretty or fanciful - it is intended to be practical in all respects. New Jersey now has some very realistic problems and the Plan presents realistic answers to meet these problems. That some may question the conclusions is inevitable. Nevertheless the report is made in the hope that it will be generally accepted as a satisfactory estimate of the needs as shown and that some of its suggestions may come into fruition in the foreseeable future.

No one is asked to accept this as the last or final word because day to day changes in human relations, in the desires of our people, and in new developments in the field of operation

and ways of doing things take place. As a consequence it is suggested that the Plan be looked upon as a pliable thing which, although correct in its essential elements, is nevertheless elastic enough to give way in the presence of changing conditions and for adjustment to new concepts without sacrifice of its essential parts.

Insofar as the report may bear on the work, policy or program of other departments or agencies may it be said that it speaks of studied conclusions based upon facts in hand. It is not intended, however, that the Plan should dictate a program or policy for any department of the State. It does lay a very safe foundation for future action and it is hoped that its utilization as a "frame of reference" will aid in the coordination of overall state development.

Detailed priority of programming is not attempted at this time. The value or emergent need of one improvement as against another is left for decision as ways and means of achievement are established. The Plan has proposed possible locations for these improvements and provides a means of selecting sites which will best serve the entire State. It is hoped that in this way the Plan can aid in the guidance of the future growth of New Jersey.

<sup>16</sup>Francis A. Pitken, Executive Director,  
Pennsylvania State Planning Board



LIST OF PUBLICATIONS BY THE  
NEW JERSEY STATE PLANNING BOARD  
AND THE BUREAU OF PLANNING

First Annual Report of Progress 1935  
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Proceedings of the State-Wide Planning Conference, New Brunswick, October 1936  
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Second Annual Report of Progress 1936  
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Where Shall We Play?  
A Report on the Outdoor Recreational Needs of New Jersey May 1938

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Its Extent, Quality and Regulation  
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Issued 1946 Revised 1948

Jersey Plans, For a Better State, Issued Quarterly  
Volume No. 1, February 1950

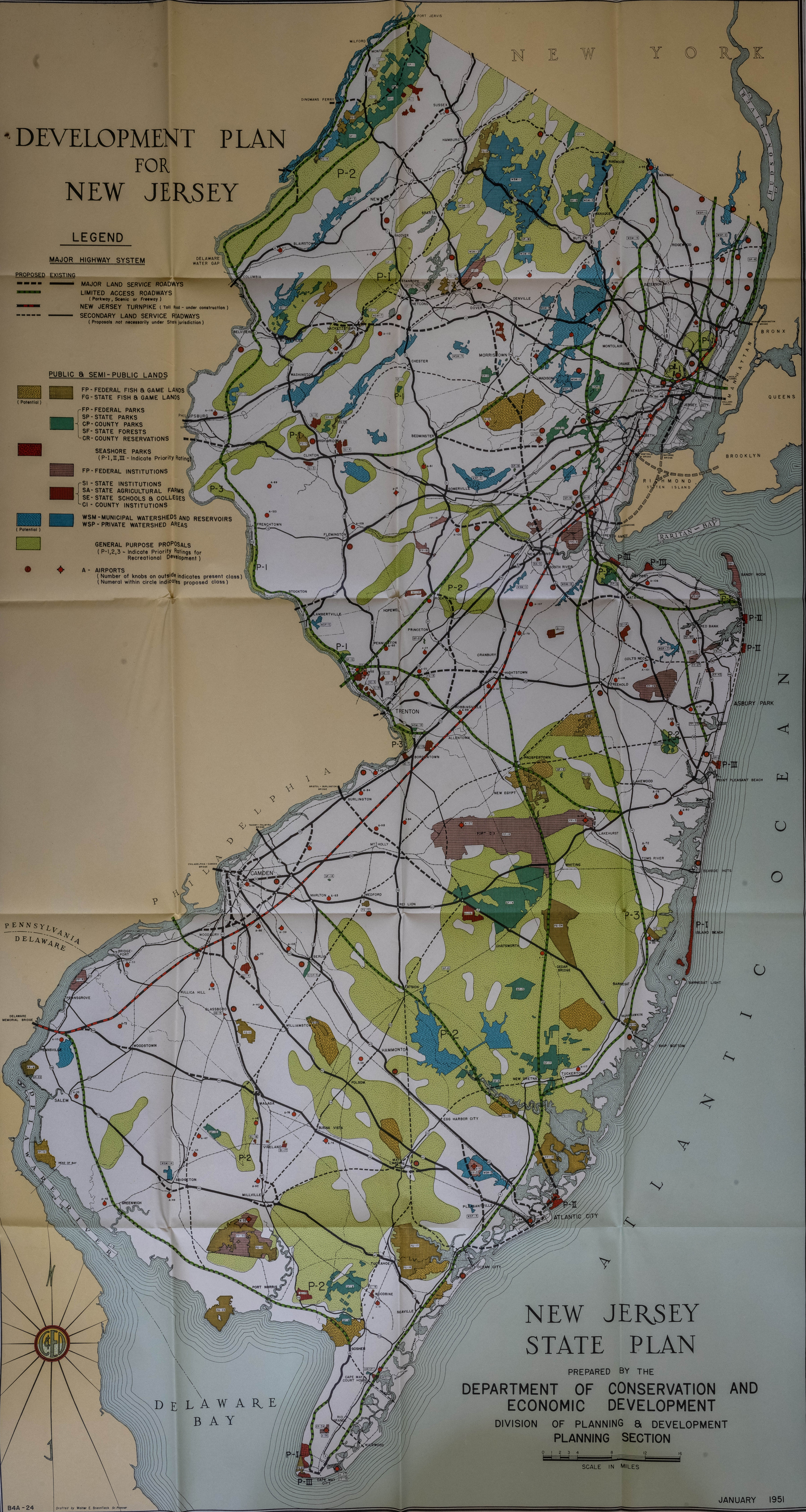
NOTE Reports shown as out of print can be seen at the Bureau of Planning, New Jersey Department of Conservation and Economic Development, 520 East State Street, Trenton or the State Library.



# DEVELOPMENT PLAN FOR NEW JERSEY

## LEGEND

- MAJOR HIGHWAY SYSTEM**
- PROPOSED EXISTING
- MAJOR LAND SERVICE ROADWAYS
  - LIMITED ACCESS ROADWAYS (Parkway, Scenic or Freeway)
  - NEW JERSEY TURNPIKE (Toll Road - under construction)
  - SECONDARY LAND SERVICE ROADWAYS (Proposals not necessarily under State jurisdiction)
- PUBLIC & SEMI-PUBLIC LANDS**
- FP - FEDERAL FISH & GAME LANDS
  - FG - STATE FISH & GAME LANDS
  - FP - FEDERAL PARKS
  - SP - STATE PARKS
  - CP - COUNTY PARKS
  - SF - STATE FORESTS
  - CR - COUNTY RESERVATIONS
  - SEASHORE PARKS (P-I, II, III - Indicate Priority Rating)
  - FP - FEDERAL INSTITUTIONS
  - SI - STATE INSTITUTIONS
  - SA - STATE AGRICULTURAL FARMS
  - SE - STATE SCHOOLS & COLLEGES
  - CI - COUNTY INSTITUTIONS
  - WSM - MUNICIPAL WATERSHEDS AND RESERVOIRS
  - WSP - PRIVATE WATERSHED AREAS
- GENERAL PURPOSE PROPOSALS**  
(P-I, II, III - Indicate Priority Ratings for Recreational Development)
- A - AIRPORTS**  
(Number of knobs on outside indicates present class)  
(Numeral within circle indicates proposed class)



## NEW JERSEY STATE PLAN

PREPARED BY THE  
DEPARTMENT OF CONSERVATION AND  
ECONOMIC DEVELOPMENT  
DIVISION OF PLANNING & DEVELOPMENT  
PLANNING SECTION

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
SCALE IN MILES







