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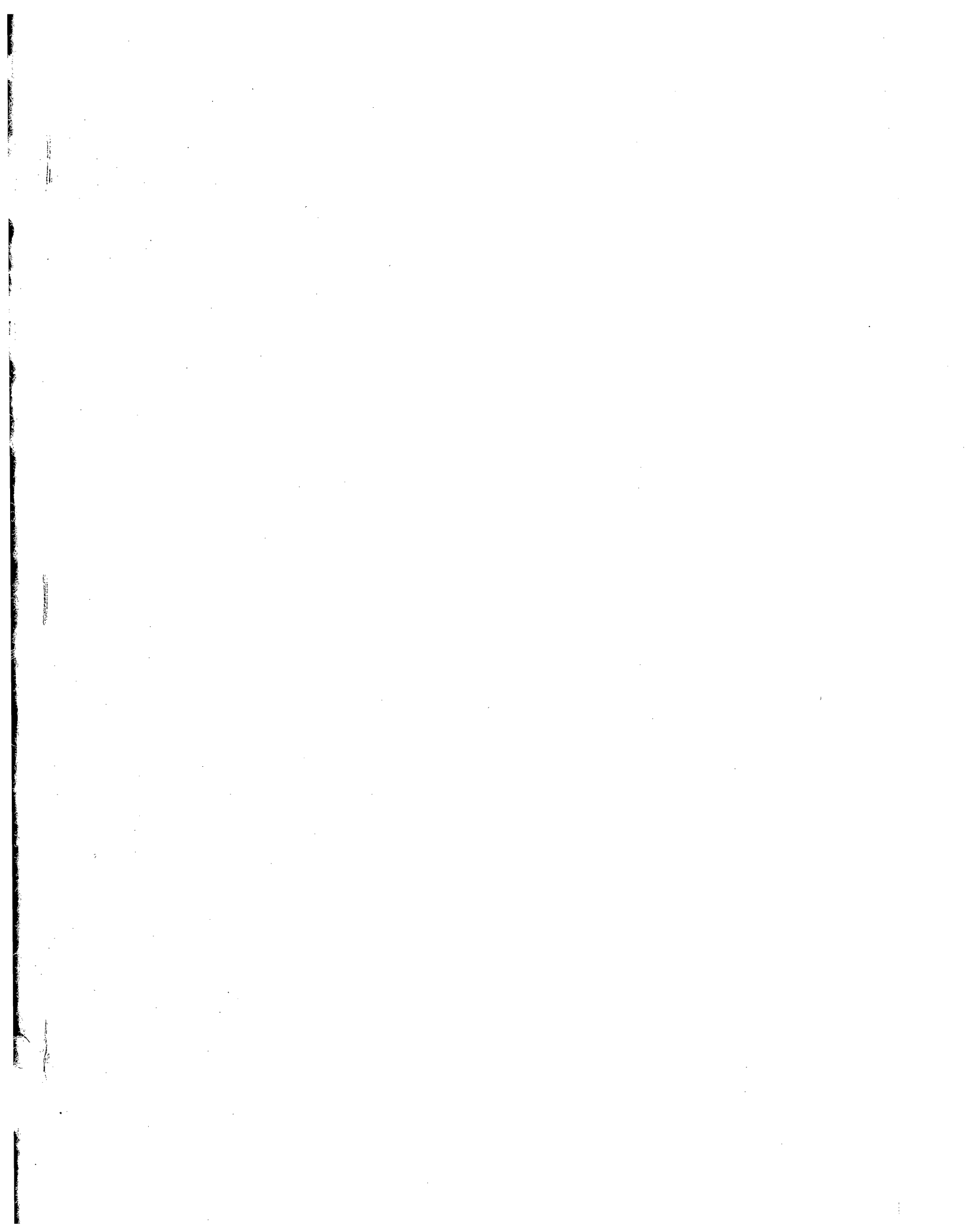
A STATEMENT ON TRANSPORTATION

january, 1970

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NEW JERSEY DEPARTMENT OF TRANSPORTATION

David J. Goldberg
Commissioner

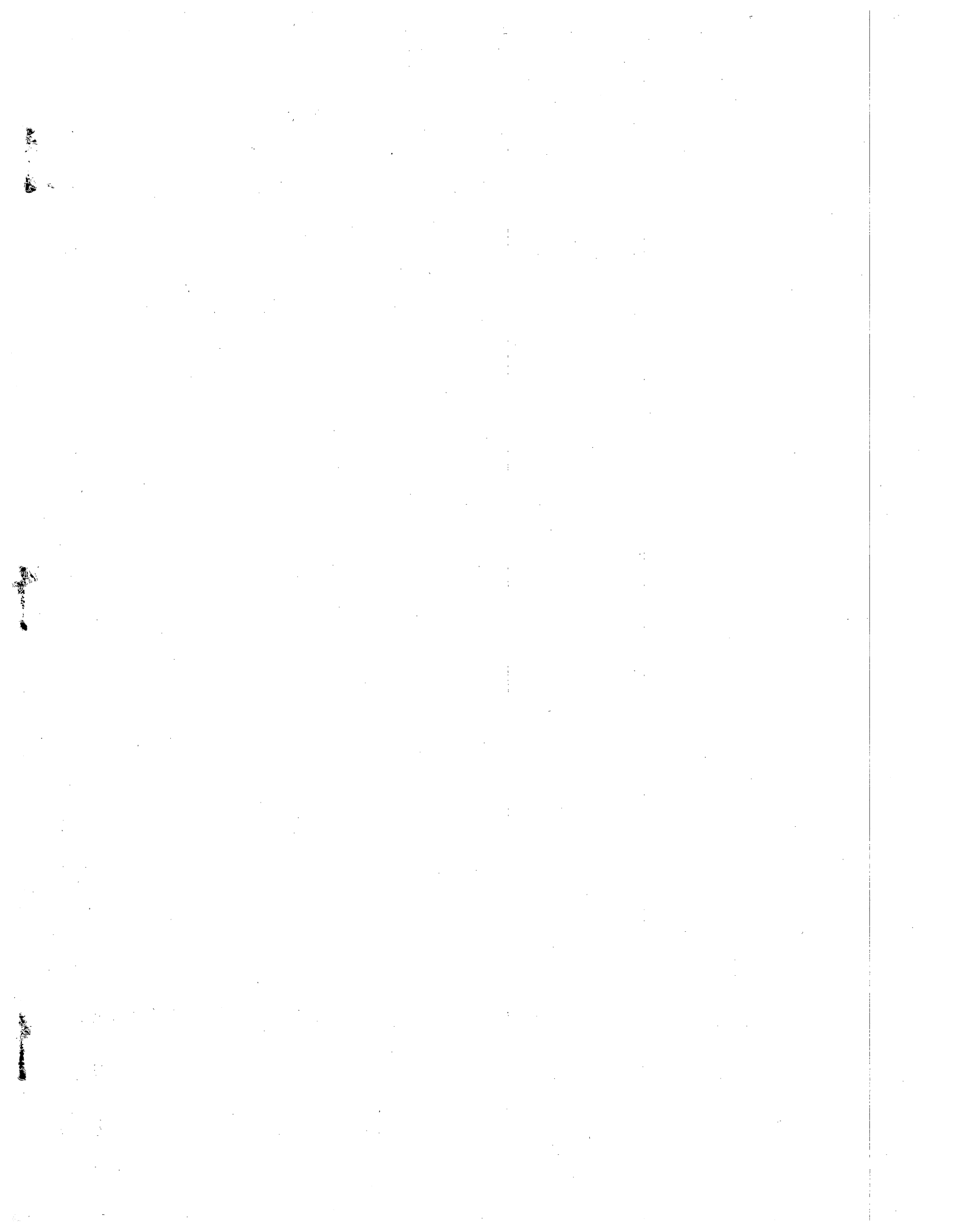


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January, 1970



NEW JERSEY TRANSPORTATION DEVELOPMENTS -
PAST AND PROJECTED

By any standard, New Jersey has developed dramatically and extensively during the 1960's. Population has increased by more than one million people and the estimated value of real property has nearly doubled, to mention just two obvious indicators.

The impact of this growth has been particularly apparent in the area of transportation and especially the sector concerning the automobile. Motor vehicle registrations have grown from 2,257,000 in 1960 to 3,440,000 in 1968. Vehicular travel, over the same period of time, has increased by more than 10 billion miles to more than 37 billion vehicular miles annually. Gasoline consumption increased by more than 200,000,000 gallons per year.

	<u>Gas Consumption</u>	<u>M. V. Registration</u>	<u>Vehicular Miles</u>
1960	1, 989, 030, 254	2, 457, 551	27, 011, 000, 000
1961	2, 020, 425, 864	2, 590, 604	27, 498, 000, 000
1962	2, 065, 977, 835	2, 667, 940	28, 159, 000, 000
1963	2, 186, 560, 025	2, 805, 278	29, 847, 000, 000
1964	2, 265, 365, 646	2, 927, 760	30, 990, 000, 000
1965	2, 392, 178, 748	3, 058, 731	32, 773, 000, 000
1966	2, 461, 974, 374	3, 215, 847	33, 778, 000, 000
1967	2, 536, 898, 121	3, 307, 503	34, 882, 000, 000
1968	2, 691, 817, 690	3, 440, 648	37, 066, 000, 000

This great growth in population, land development and transportation activity has had a corresponding impact upon all transportation modes and the governmental agencies responsible for the public programs concerning the different modes of transportation. One of the developments that brought about a great change in the public involvement in transportation, however, did not happen in New Jersey but in Washington in 1958.

PUBLIC TRANSPORTATION - A NEW STATE ROLE

It was in 1958, that the Congress enacted the "Transportation Act of 1958" which amended the Interstate Commerce Commission Law. These amendments had the effect of relieving the railroads of much of their responsibility to provide passenger services if deficits were incurred. The reasoning behind this change in Federal policy was the apparent congressional concern that such a financial obligation on railroads was becoming so great that it was jeopardizing the ability of the rail carrier to sustain their obligations in the area of freight service.

In the House report on the Transportation Act, the deficit from rail passenger service was recognized to be potentially as large as \$700 million a year. Having grasped the magnitude of the financial burden of passenger service, the report further recognized "that in very great measure these passenger losses are attributable to commuter service." The committee also recognized the inevitable need for governmental action, but not on the Federal level. In its words, "It is clear that where such necessary services cannot be made to pay their way, the interested communities have a very real interest in working out the problem. It would seem evident that if such urban or inter-urban commuting service cannot be preserved, losses incurred

will have to be met in some way by the communities. It is unreasonable to expect that such service should continue to be subsidized by the freight shippers throughout the country."

With regard to inter-city rail passenger service, the committee was even more explicit. Where such service could not "be made to pay its own way because of lack of patronage at reasonable rates, abandonment seems called for." After defining the problem, changing the rules, and relieving the rail carriers, Congress did not consider the subject again until the enactment of the Urban Mass Transportation Act of 1964.

The passage of this Federal legislation brought about one of the truly significant governmental developments in the area of transportation. It created a condition that required government action in a sector of transportation which previously, particularly in the New Jersey area, had been reserved for private enterprise. It mandated a new role for State government.

In New Jersey, the consequences of this Federal determination were inevitable and quick. The rail carriers rendering passenger service in the New Jersey-New York metropolitan area promptly move to abandon, under the simplified procedures provided by the 1958 amendments, nearly all passenger service. Confronted with the threat of losing a major mass transportation network which carried tens of

thousands of daily commuters between New Jersey's cities and New York City, the State created, in 1959, a Division of Railroad Transportation in the State Highway Department.

For the first years of the operation of this agency, its primary efforts necessarily were devoted to maintaining the highest level of rail service possible consistent with an increasing obligation to underwrite the financial cost of such deficit services. As initially conceived, the State's program was directed toward subsidizing only that level of passenger deficit which could not be absorbed by the rail carriers. In fiscal 1961, the State subsidized rail passenger operations to the extent of \$4.5 million. Subsidy payments have amounted to approximately \$78 million since that time. By fiscal 1970, the annual payment level climbed nearly to \$10 million. Virtually all of these costs have been underwritten by the Emergency Transportation Tax or as it is more commonly known, "The Commuter Benefit Tax." This tax is levied upon New Yorkers working in New Jersey. Little direct State tax money has been devoted to the support of the commuter program.

Early in the program, it became evident that satisfactory passenger service could not be maintained simply through the payment of operating subsidies. In order to keep financial commitments within acceptable bounds, it became necessary for the State to become involved in determinations as to which service should be preserved.

RAILROAD PASSENGER SERVICE CONTRACT PAYMENTS
(In Thousands of Dollars)

<u>Fiscal</u> <u>Year</u>	<u>Erie</u> <u>Lackawanna</u>	<u>Jersey</u> <u>Central</u>	<u>Penn</u> <u>Central</u>	<u>N. J. &</u> <u>N. Y.</u>	<u>Reading</u>	<u>P.R.S.L.</u>	<u>N.Y.S.</u> <u>&W</u>	<u>Total</u>
1961	\$1,993.5	\$1,104.0	\$1,401.9	75.9	\$12.1	None	None	\$4,587.4
1962	2,738.1	1,546.5	2,085.0	93.6	18.3	None	None	6,481.5
1963	2,408.7	1,404.3	1,816.7	101.1	17.3	201.0	None	5,949.0
1964	2,325.1	1,380.1	1,727.4	101.1	15.6	179.5	40.9	5,769.7
1965	2,175.2	2,842.1	1,748.6	85.3	42.0	214.9	73.5	7,181.7
1966	2,284.2	5,925.0	(1)	143.0	70.0	299.5	111.0	8,832.7
1967	4,231.2	5,071.7		241.9	52.0	220.0	(4)	9,816.8
1968	4,244.4	4,880.0		(2)	50.0	199.8		9,374.2
1969	4,922.0	4,454.0			18.0	200.0		9,594.0
1970	<u>5,166.4</u>	<u>4,580.0</u>			<u>(3)</u>	<u>325.0</u>		<u>10,071.4</u>
Total	\$32,488.8	\$33,187.7	\$8,779.6	\$841.9	\$295.3	\$1,839.7	\$225.4	\$77,658.4

- (1) Capital Improvement Program In Lieu of Operating Subsidy
- (2) Included with EL
- (3) No Subsidy required this year
- (4) Service terminated

August 1969

The Division of Railroad Transportation found it necessary to establish subsidy and service contracts that extended only to "essential passenger service," thereby permitting the rail carriers under the liberalized Federal procedures to abandon service which might have been socially desirable but economically prohibitive in cost.

INCOME/EXPENDITURES

<u>Fiscal Year</u>	<u>Commuter Benefit Tax Collected</u>	<u>Public Transportation Budget</u>
1961	\$	\$ 4,990,413
1962	6,485,067	6,837,199
1963	7,428,623	8,005,489
1964	6,691,360	6,181,734
1965	7,884,070	13,658,276
1966	9,689,320	11,355,872
1967	10,823,367	17,745,074
1968	12,440,888	14,937,608
1969	14,601,810	10,905,519 *
1970 (EST.)	<u>15,500,000</u>	<u>11,197,700</u>
TOTAL	\$ 91,544,505	\$105,814,884

* Appropriated

The inefficiencies of rail operations also compelled a deeper involvement in the problem for the new Division of Railroad Transportation. For example, in 1962, it became necessary to formulate plans to eliminate the costly operation of obsolete ferry boats across the Hudson River by the Erie Lackawanna and Central Railroad of New Jersey. Under the so-called "Aldene Plan," the two main

commuter routes of the Central Railroad were relocated onto the right-of-way of the Pennsylvania Railroad, thereby providing direct access into the Pennsylvania Station in Newark and rail connections to New York City. The Aldene Plan was carried out at a cost of \$7 million and was placed into operation in 1967. It has resulted in operating savings of approximately \$1.5 million per year and has encouraged an increased level of patronage on the Central Railroad.

In seeking to maximize the facilities available to move commuters on their interstate journey between New Jersey and New York, the State of New Jersey pressed for the acquisition and operation of the bankrupt Hudson and Manhattan Tubes by the Port of New York Authority. Although this bi-state agency had vigorously resisted involvement in rail transportation across the Hudson, New Jersey was successful in obtaining legislation in New York as well as New Jersey by including in the proposal authorizing the construction of the World Trade Center by the Port of New York Authority a requirement for the acquisition of the Hudson and Manhattan Tubes. The Port Authority has committed over \$135 million to acquire and improve this vital transit link and convert it into a modern, air-conditioned railroad. It also underwrites the annual deficits on this carrier which exceed \$10 million and is increasing.

Recognizing a similar necessity for improved rapid transit in the Camden-Philadelphia area, New Jersey also was successful in developing a bi-state agreement with the State of Pennsylvania for construction of the Lindenwold line, a new high-speed rail commuter line from Camden County, New Jersey across the Delaware River into Philadelphia. Again, the device of an interstate bridge authority was resorted to and the responsibility for developing the new rail line was vested in the Delaware River Port Authority. The Lindenwold line was completed at a cost of \$92 million and placed into operation in 1969.

The assistance provided to rail transportation by these interstate agencies, however, merely covered a small part of the entire commuter rail problem. It soon became evident that the many years of neglect of passenger service by the railroad companies had resulted in a passenger operation dependent on overaged, obsolete equipment and inadequate facilities generally. Even a full subsidy program for rail passenger deficits could not be expected to maintain service unless a substantial program was undertaken to reequip, modernize, and otherwise refurbish the capital plant of the passenger railroads.

In May, 1966, Governor Richard J. Hughes proposed a ten-year program to carry out the reequipping and modernization of rail passenger service and the establishment of a Department of Transportation with broad operating powers for implementing the program. He stated:

"Our goal must be nothing short of a modern, electrified, inter-connected commuter system. New cars will move passengers swiftly and safely, with few or no train changes, throughout the northern part of the State. Expanded parking, improved stations and more convenient ticketing arrangements also will increase the utility of the system. Without such a system, our problems can only multiply. Without such a system, subsidies will increase rapidly as cars and equipment become more aged and alternative forms of transportation draw commuters to our already choked highways. On the other hand, with such a system, New Jersey's vital economic lifeline will draw new vigor and strength."

The New Jersey Legislature responded promptly to Governor Hughes' proposal by enacting the Transportation Act of 1966. The new Department of Transportation was established on December 12, 1966.

A NEW DEPARTMENT - A NEW MANDATE

The Department of Transportation succeeded to the powers of the State Highway Department but with a much broader mandate. Its highway responsibilities were continued and indeed broadened

through the passage of the State Aid Road System of 1967, which the new Department sought in order to develop a local road network which would complement the State Highway System being constructed. The broadened responsibilities for preservation of rail commuter service as well as the addition of all State powers concerning aviation underscored the new emphasis on coordinating and rationalizing all modes of transportation. The traditional limitation on State government to highways and automobile problems was discarded.

The value of the restructured agency can be seen in the program developed and implemented by the Department in the three years that have elapsed since its creation. The Department produced the first integrated master plan for transportation in the State's history during its first year of operation. The plan surveyed the critical needs of New Jersey in the areas of highways and mass transportation and evaluated existing State and Federal revenue sources. It concluded that \$1.2 billion in additional funds were necessary to carry out essential improvements on the State's highway and rail network, and a bond issue of that size was proposed to the Governor and the State Legislature. Of this total sum, it was suggested that \$1 billion be allocated to highway activities and \$200 million reserved for mass

transportation. The Department estimated that the mass transportation bond funds could generate, over the five to six-year period of the program, approximately \$125 million in Federal assistance, permitting an overall \$325 million transit improvement program.

Despite the unprecedented size of the request, the bond proposal was well received and most informed groups in the State concurred with the Department's evaluation of the situation. A blue ribbon committee of business and citizen leaders was appointed by Governor Hughes as a Governor's Commission to Evaluate the Capital Needs of New Jersey. After careful review this prestigious committee approved the Department's entire program, but recommended that \$800 million in bond funds be provided to carry out approximately the first half of the program. Interestingly enough the committee's recommendations included the full \$200 million allocated for transit improvements.

Confronted with pressing capital needs in many areas other than transportation, the Legislature reduced the Governor's commission's recommendations, adopting a bond proposal of \$640 million for transportation. Again, it should be noted that the reduction was made exclusively in the highway area; the full \$200 million request for mass transportation was retained in the

bond proposal adopted.

Although this single bond proposal authorized a greater amount of State borrowing than had been approved for all proposals in the preceeding 20 years, more than 63 percent of the voters approved the bond proposal in November, 1968. In less than two years, the new Department had planned, proposed and produced the greatest transportation program in the State's history. It was a good start.

HIGHWAYS

The record of accomplishment in the highway sector during the 1960's, as related as it must be to the institutional changes, however, should reflect not only the results of the decade, but should also consider the events following the end of World War II. The State Highway Department and its successor agency, the Department of Transportation, during the 1960's undertook the largest construction program ever attempted by the State. By the end of 1969, the Department will have committed to highway construction more than \$1 billion in construction contracts alone. This contrasts with the \$30 million expended by the Department from 1917 through 1954. This massive construction effort added 1,158 lane miles to the State highway network during the 1960-1968

period, an increase in the system's capacity of 22 percent. In addition, \$300 million in highway construction work is now in the process of completion which will add many more miles to the system. These figures also do not include the mileage added by the construction of the Atlantic City Expressway and the expansion programs of the New Jersey Turnpike Authority and New Jersey Highway Authority.

The value of a strengthened Department can also be seen in the State's highway effort as well as its public transportation programs. Shortly after its creation, the new Department of Transportation was successful in winning support for an extension of its programs of State Aid to provide funds for the first real start on improving the local road system and establishing a network of local highways that would function in connection with the expanding State system. The State Aid Road System Act of 1967 authorized the beginnings of this critical program. It has been funded annually since then with a \$15 million appropriation made possible from the additional revenues generated after the enactment of the State Sales Tax.

The greatest benefit to the highway effort, however, came as a result of the new Department's Master Plan and bond program.

The adoption of the Transportation Bond Act of 1968 provided the State's highway program with its first bond funds since the passage of the Highway Bond Act of 1930. These funds were desperately needed because New Jersey had not supported a substantial highway construction program since the Depression years had ended the great building effort of the 1920's and early 1930's. Indeed much of the funds from the 1930 Bond Issue were not used for highway purposes.

Although New Jersey's population increased by 50 percent in the period from 1940 to 1960, relatively little State highway construction was undertaken until the Interstate System was created by the Federal government in 1956. The war years prevented any action through 1945. Immediately following the end of World War II, the separate highway fund was abolished. The surplus that had built-up in the highway trust fund was largely dissipated for non-highway purposes. The promises to reimburse the Highway Department were never kept. The Department, which had spent the war years perfecting plans for improving an already fine system, found itself with insufficient funds and support. Highway concepts that the Department had developed, such as a rebuilding of Route 1 from Elizabeth to the South, were abandoned even though completed plans were ready.

Other projects such as the Garden State Parkway were handed over to autonomous toll agencies to avoid the necessity of using State highway revenues for highway construction, even though the Department had built the first 13 miles of the Parkway from Route 22 to Route 1 as a public highway. Highway taxes were used to carry out general State needs. Perhaps the Highway Department, itself, should be faulted for this era of inaction, but it appears that few, if any, were particularly sensitive to the need for a greater effort.

This policy cost New Jersey a decade of highway construction from 1946 to 1956, when the Interstate System was authorized. Even the Interstate System, however, did not permit New Jersey to regain its highway initiative. Being largely federally financed, this new program permitted New Jersey to continue its policy of under-financing State highway needs. While the Interstate program permitted a good sized highway effort, this effort was restricted to a new and limited freeway network. The growing inadequacies of the existing State highway system were not covered by the Interstate program and neither were many other vital intrastate freeways.

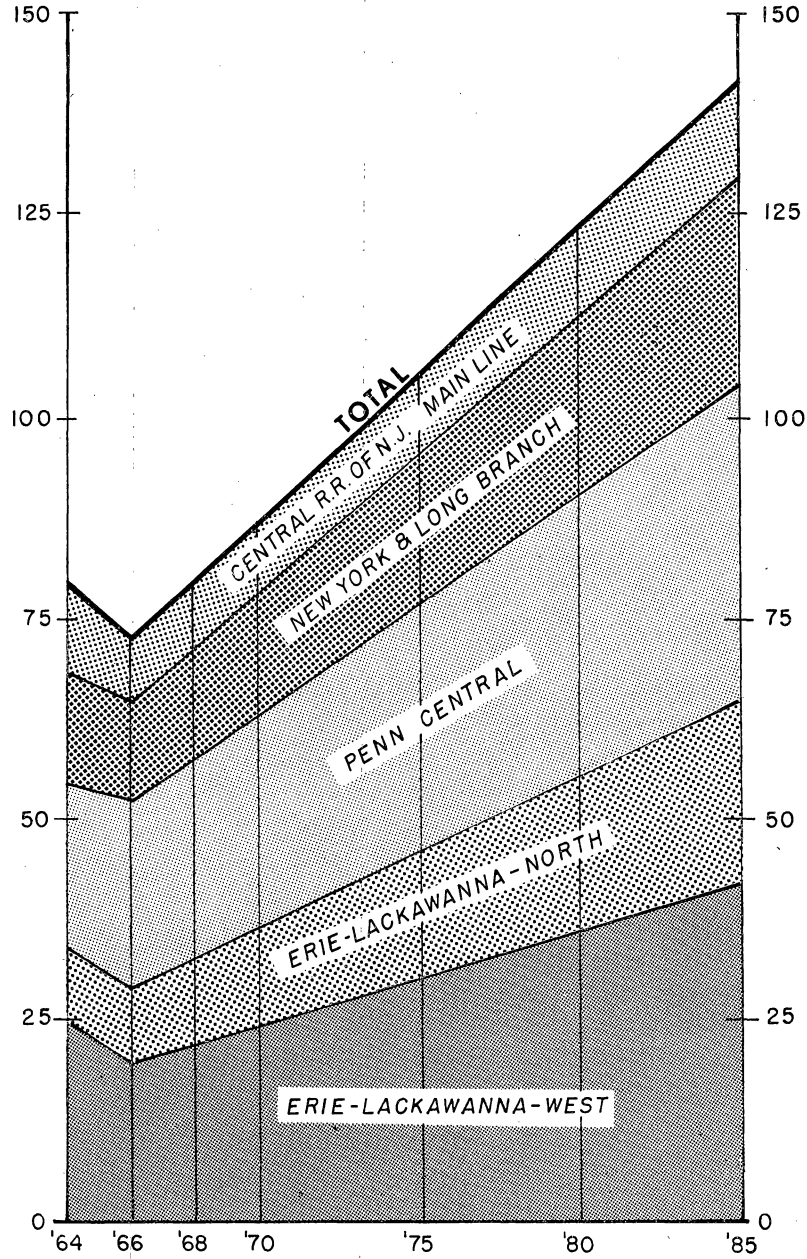
It is not surprising, therefore, that New Jersey's highway needs grew at an alarming rate keeping pace with the State's

growing human and automobile population. By 1968, the Master Plan conservatively estimated that the non-Interstate highway needs of the State totaled \$2.75 billion. These included improvement to existing highways that required modernization and new freeways not on the Interstate System. The master plan further indicated that of this total \$1,545,400,000 worth of projects fell into the first-priority category and \$1,217,700,000 into the second-priority category. The Department estimated that \$1 billion in excess of State and Federal funds expected to be available, would be required to finance just the first-priority projects. Of this amount, \$440,000,000 in funds have been made available as a result of the passage of the Transportation Bond Issue of 1968. At this time, no specific arrangements have been agreed upon for financing those projects not covered by the 1968 Bond Issue.

Unquestionably, the failure to pursue aggressively a realistic highway program in the decade following World War II has added hundreds of millions of dollars in avoidable costs to the State's highway program and has condemned unnecessarily important areas of the State to dependence upon an inadequate highway system. The failure to build in time has, in some instances, made it impossible to build. Even the major building effort now underway on the highway side cannot change this fact. Indeed, the

PASSENGER PROJECTIONS

(IN THOUSANDS)



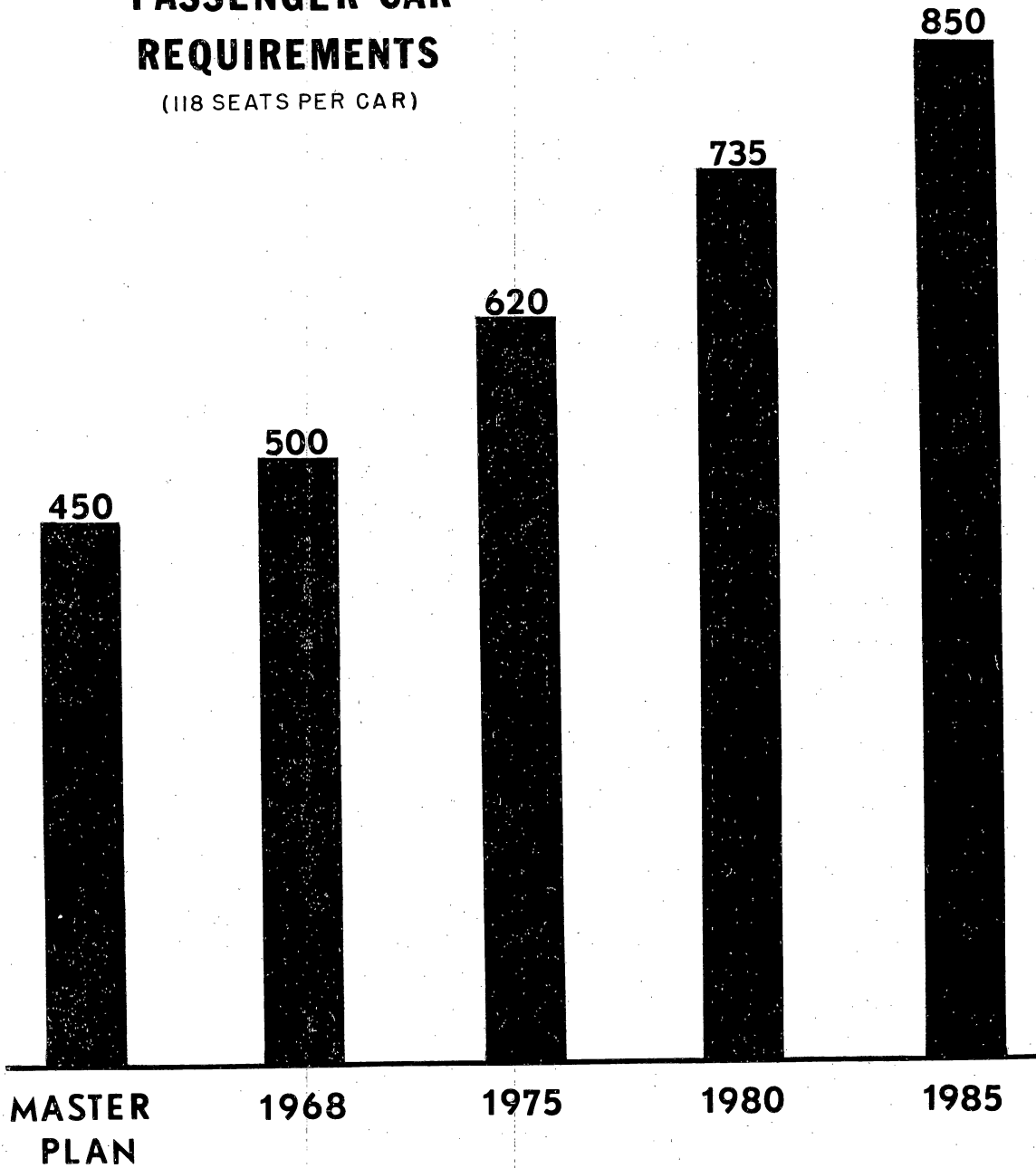
present inability to serve some of the State's critical areas adequately by highway has been a major factor in the growing support for mass transit.

THE EMERGING NEED FOR PUBLICLY-SUPPORTED MASS TRANSIT

As has been indicated, it was not until 1958 that New Jersey first recognized the need to support mass transit with public action and public funds. The State's initial efforts were confined exclusively to the commuter railroads which largely serve to connect the relatively affluent suburbs with the metropolitan centers. The present State program is still oriented towards the commuter rail problem. The passage of the Transportation Bond act of 1968, however, will permit the State, if it receives even modest Federal assistance, to carry this aspect of the public transportation program to a successful completion within the next four to five years. A substantial start has already been made with the capital improvement program developed by the Department of Transportation and this has been reflected in the increase in rail passengers that has developed in the past two years. Department estimates indicate that rail patronage will double in the next 15 years if the program is carried to completion as now scheduled.

PASSENGER CAR REQUIREMENTS

(118 SEATS PER CAR)



An interim program has been initiated for immediate replacement of equipment in critical areas. As the Department indicated in the master plan, a major rehabilitation program of the type underway will take four to five years to complete, but in many areas rail equipment was in such poor condition that the improvements required could not await completion of the Master Plan Program.

The interim program provided the Central Railroad with desperately needed equipment. Forty-eight of a maximum of 50 air-conditioned coaches have been acquired from other railroads throughout the nation and are being refurbished. They are being leased to the railroad with the State underwriting the costs. Thirteen new locomotives also were obtained and leased to the railroad. Sixty-five of CNJ's old cars are being rehabilitated with the State paying for this work. These acquisitions provide the Central Railroad with a substantially improved equipment fleet and permit improved passenger service even in advance of completion of the long-range master plan program.

The initial order of 35 high-speed stainless steel Jersey Arrow cars for use on the Penn Central has been completed. These have been placed in service as they passed required testing. A completed application has been filed for a Federal grant

for the purchase of the 45 additional cars of this type. It is anticipated that Federal approval will be received shortly so that an order can be placed for these cars.

The Department has also awarded a contract to Pullman-Standard for the construction of 30 locomotive-hauled aluminum coaches for use on the non-electrified lines of the Erie Lackawanna Railway and has exercised its option to purchase an additional 75 cars, or a total of 105 cars. These cars will enable the Department to completely replace the existing locomotive-hauled fleet on the Erie Lackawanna. They are designed for possible later conversion to self-propelled electric cars. Delivery is to begin next June.

The decision to obtain the additional 75 cars will enable the Department to quickly provide a first-class service on the non-electrified portion of the Erie Lackawanna without foreclosing the possibility of future electrification of this system. Favorable bids on the equipment will permit the Department to convert the equipment to electric MU cars at a small, if any, difference compared to the projected cost of new electric MU cars ordered to be delivered after completion of the electrification system three or four years hence.

Bids have also been received on 6 new locomotives. Contracts will be advertised in the near future for the remaining required locomotives.

Fifty-three coaches were purchased from the Santa Fe Railroad as part of the interim equipment program. Of the total, 26 will be completely refurbished, including air-conditioning, for use by the Erie Lackawanna and will permit a substantial improvement in service until all new equipment has been received.

In order to solve a critical equipment shortage in the Shore service, the Department is assigning the remaining 27 refurbished and air-conditioned cars purchased from the Santa Fe Railroad to the Penn Central's New York and Long Branch operations. About 25 of the railroad's present air-conditioned coaches will thereby be released for assignment in other services, 7 having been designated for the Main Line and the others possibly for the CNJ Shore service. This reassignment of equipment will result in an increase of more than 500 seats for passengers using Penn Central's New York and Long Branch service and should eliminate any present standee problem.

Aside from the problem of reequipping the rail carriers, one of the major goals of the Department's program has been to make the access to both midtown and downtown Manhattan more

convenient for the thousands of commuters who make this trip daily. A key facility in the accomplishment of this goal is the Penn Central Station in Manhattan.

Preliminary conclusions of the Department and the Tri-State Transportation Commission indicate that this station is greatly under-utilized -- even during the peak commuter hours -- and there is a large unmet demand for direct and convenient access into uptown Manhattan.

The Master Plan provides for a direct connection between the existing electrified lines of the Erie Lackawanna Railway, as well as the present Greenwood Lake Division and Boonton branches via a new Montclair Connection, and the Penn Central at a point east of Newark. Although not a part of the Master Plan, a direct connection is also under consideration for the Erie Lackawanna lines in Bergen and Passaic Counties. Direct Manhattan access for the Central Railroad also is called for in the Master Plan.

In addition to providing a better level of service for peak hour commutation trips, another major advantage of direct or improved midtown access is for off-peak trips for shopping and recreation which are primarily oriented to this area.

A joint study by the Department and the Penn Central of the capacity of Penn Station, New York, and the connecting tunnel is now in progress to determine how to best utilize this vital facility.

Other aspects of the entire commuter rail program, including station improvements and electrification extensions and modernizations are also progressing rapidly.

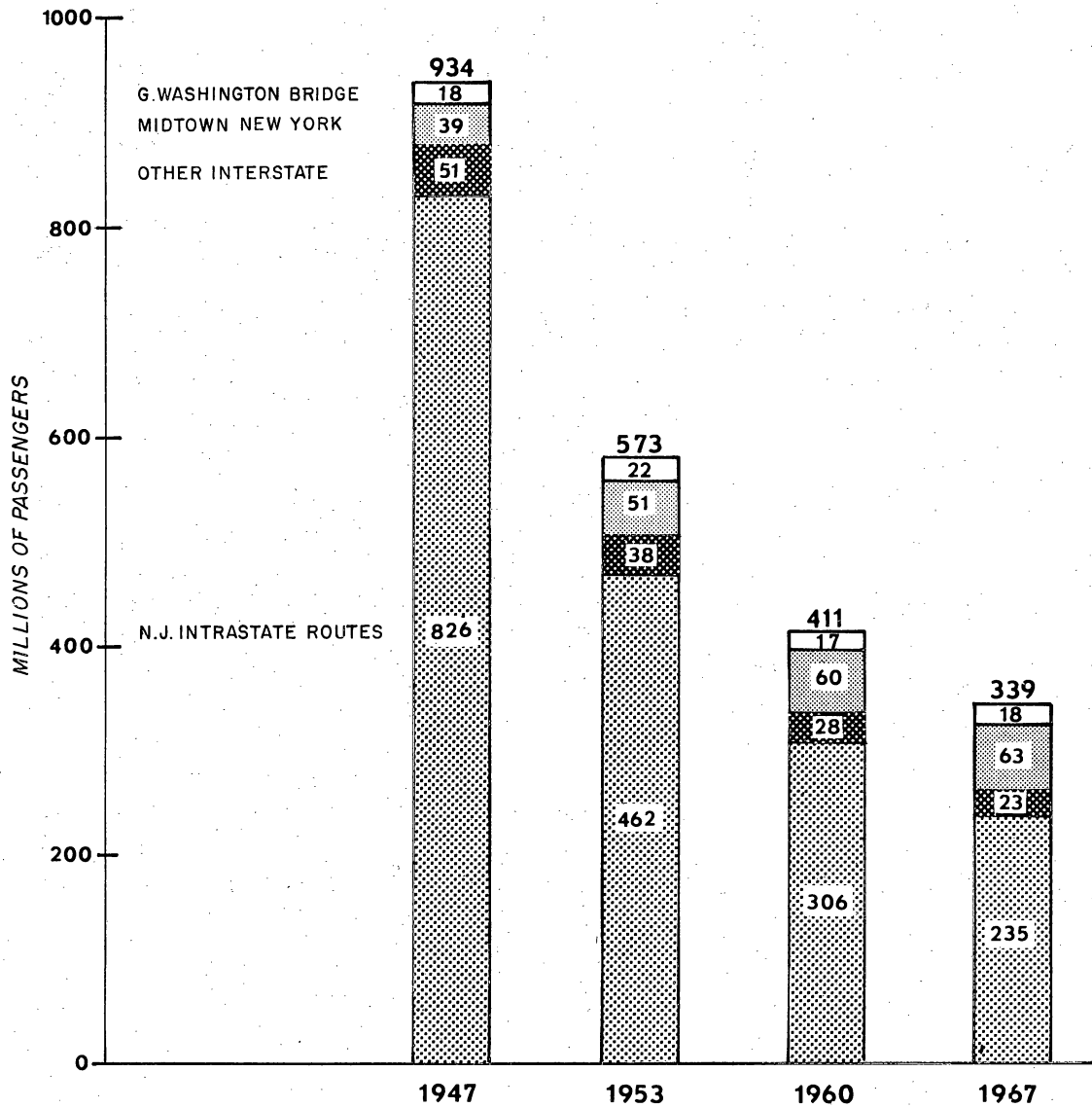
BUSES - MASS TRANSIT FOR THE MASSES

The commuter rail program, however, does not represent the only or even the most significant sector of mass transit in which the State must take an interest. In New Jersey, mass transit means buses. The buses now carry 1,200,000 riders daily -- nearly 9 times as many as are carried on the entire rail network. They represent the only means of transportation for many persons and particularly large groups of the young, the aged and the poor. The buses perform an indispensable function in a society which is largely automobile oriented, but in which a substantial minority do not have a car or the use of one.

For this reason, it is critical that we come to recognize that there is in New Jersey today, a bus crisis which portends far more serious consequences than did the threat of

NEW JERSEY BUS COMPANIES

NUMBER OF PASSENGERS REGULAR ROUTES



abandonment of rail services nearly a decade ago. There has been and continues to be a precipitous decline in ridership and service for the bus industry -- particularly local buses -- in New Jersey. The number of passengers on intrastate routes declined from 826 million riders yearly to 235 million.

The value of the broader, more comprehensive Department of Transportation was again demonstrated by the advance action taken in this important area. In May, 1969, the Department issued a report entitled, "Buses: Crisis and Response" which graphically illustrates the decline of bus service and outlines the implication of this decline for New Jersey.

Because of the strong support received from Governor Hughes, the Department was able to obtain legislative approval for an interim bus subsidy program of \$750,000 this July. This program will sustain vital bus services, which would have otherwise been lost, until a long-range program is developed by the Department next year and presented to the Governor and Legislature for review and consideration.

THE ASSAULT ON HIGHWAYS

For the first half of this century, the public effort in transportation was largely limited to highways. Public Transportation was generally a private responsibility and a profitable one. The growth of a suburban society made possible by the automobile, however, has undercut the profit base for transit while compounding the demands placed upon a highway network that has not grown with or followed the population. Obviously, there is a need to reassess our transportation policies and priorities. A proper reassessment, however, should not lead to a diminishing of the need for a highway effort but rather to an establishment of the need for a greater effort in other transportation modes, in addition to the highway effort.

Departmental studies have indicated that the growth of population and continuing reliance on the automobile by most persons in New Jersey will necessitate a major highway effort for the foreseeable future. A special study of State and local highway needs, completed early in 1968, estimated that it could require an expenditure of nearly \$12 billion to meet New Jersey's highway transportation requirements adequately through 1985. The Department's own Master Plan confirmed the findings of this study as it related to the State system.

The nation's highway construction program has been an increasingly popular target of attack. The basis for the objections have been varied. Some have opposed it on a priority basis arguing that other governmental needs warranted some or much of the funds supporting the highway effort. In New Jersey, where the needs are apparent and the level of diversion of highway funds is far greater than in any other state, such an argument would seem to have little basis in fact. At the present time, more than \$160 million in highway user taxes are diverted to non-highway activities. This represents more than 50 percent of the amount raised by such taxes.

Others have objected to highway construction because of the hardship imposed on persons dislocated from rights-of-way or because of the adverse effect of construction upon natural resources. These objections relate more to the manner in which a given program is carried out rather than to the necessity for the program itself. Obviously, many objections of this nature when applied to examples of highway construction which have been poorly conceived, planned or executed have a high degree of legitimacy. Recent developments in the highway sector, such as the Relocation Assistance Law and the limitation on encroachment upon park and conservation areas, however, should help

to curb abuses.

The most important level of objection, at the present time, comes from those groups who are genuinely concerned over present land use policies and the pattern of spread development which has formed the basis for growth in this nation since World War II. Unfortunately, this point of view too often is not articulated frankly or clearly, but is frequently concealed under more generalized objections. In most cases, the holder of such a viewpoint is the strongest supporter of mass transit primarily because of the belief that highways have caused spread development; that the cessation of a highway effort would lead to a halt or decline of this land use pattern; and that mass transit would permit the development of a more attractive alternative land use program.

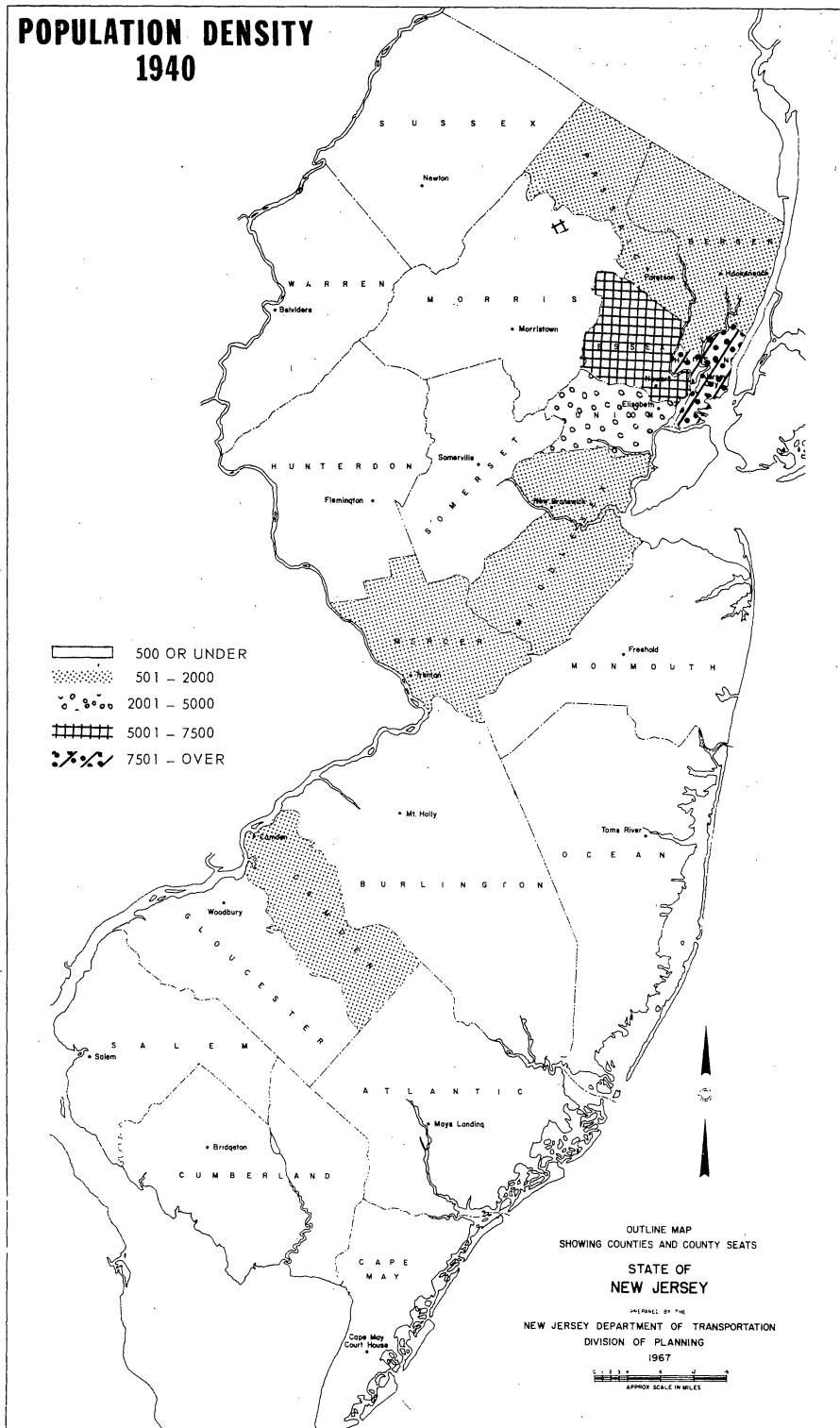
To those who would seek to curtail or curb entirely the highway effort, it should be pointed out that such a move deliberately ignores the extent to which the society we have constructed is dependent upon the automobile. For New Jersey in particular, it also avoids facing the consequences of the population growth which has produced much of our problems over the past 30 years. All studies indicate this growth will continue at a high level for the foreseeable future, thereby threat-

ening a geometric compounding of these problems unless meaningful solutions to the transportation requirements of the population are provided promptly.

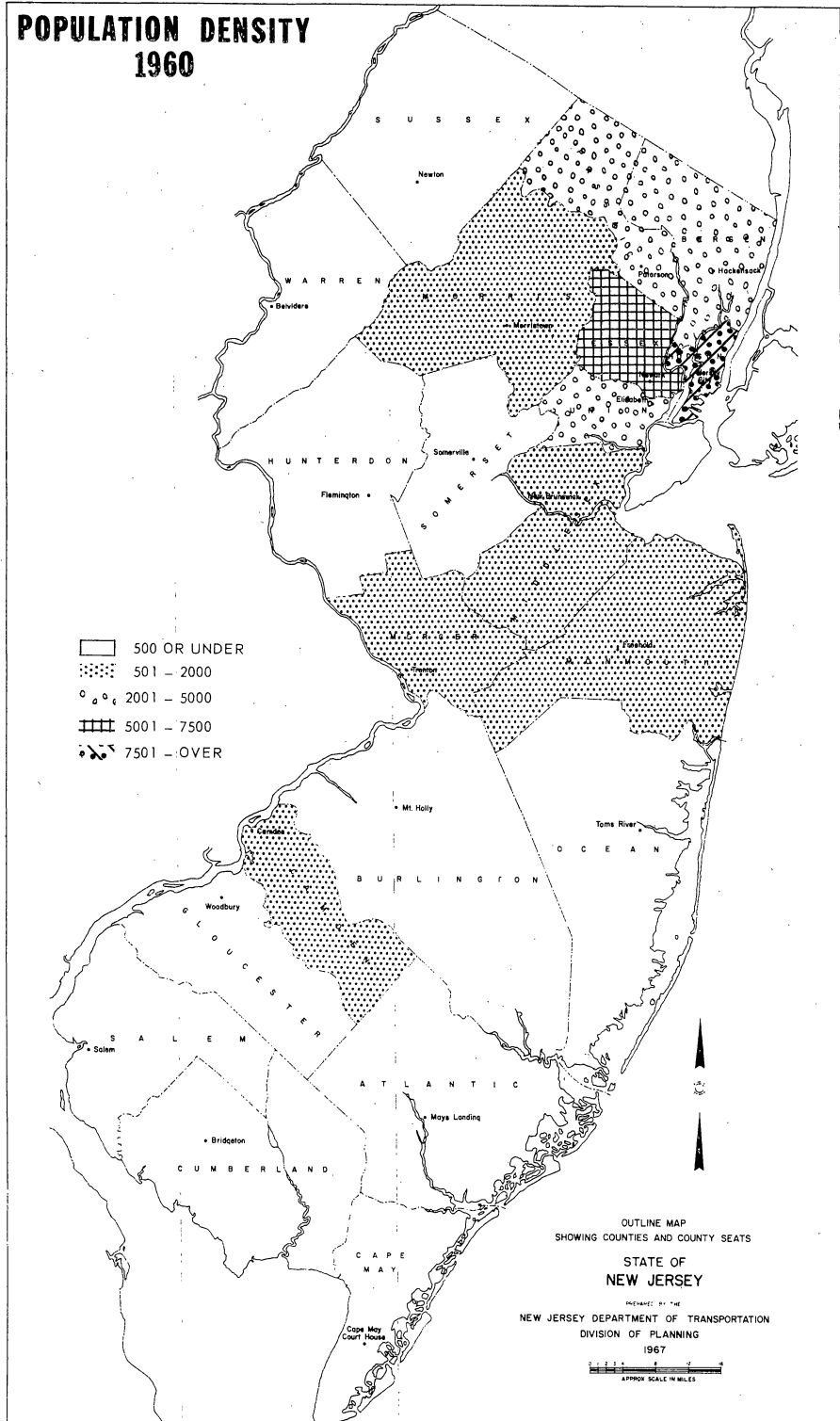
It is somewhat ironic that the population growth which the Department believes requires the maintenance of a substantial highway effort is the very factor which many persons have seized upon as a justification for undercutting that effort. It has become commonplace for observers of the New Jersey scene to point out that New Jersey is the most urbanized and the most densely populated State in the nation. This is, of course, correct. These observers, however, have drawn from these generalized statements the conclusion that the growing population density in New Jersey will insure the necessity for the justification of a mass transit network to replace any new highway requirements. Unfortunately, this simplification of the facts is not necessarily correct. A review of population figures for the past thirty years and projections of these trends for the next fifteen years can help to explain why these observations are not totally accurate.

As recently as 1940, New Jersey had a population of only 4,160,000 persons. By 1960, this population had increased by 50 percent to 6,000,000. Our estimates place the State's current population slightly in excess of 7,000,000 inhabitants. By 1985, if present trends continue

POPULATION DENSITY 1940

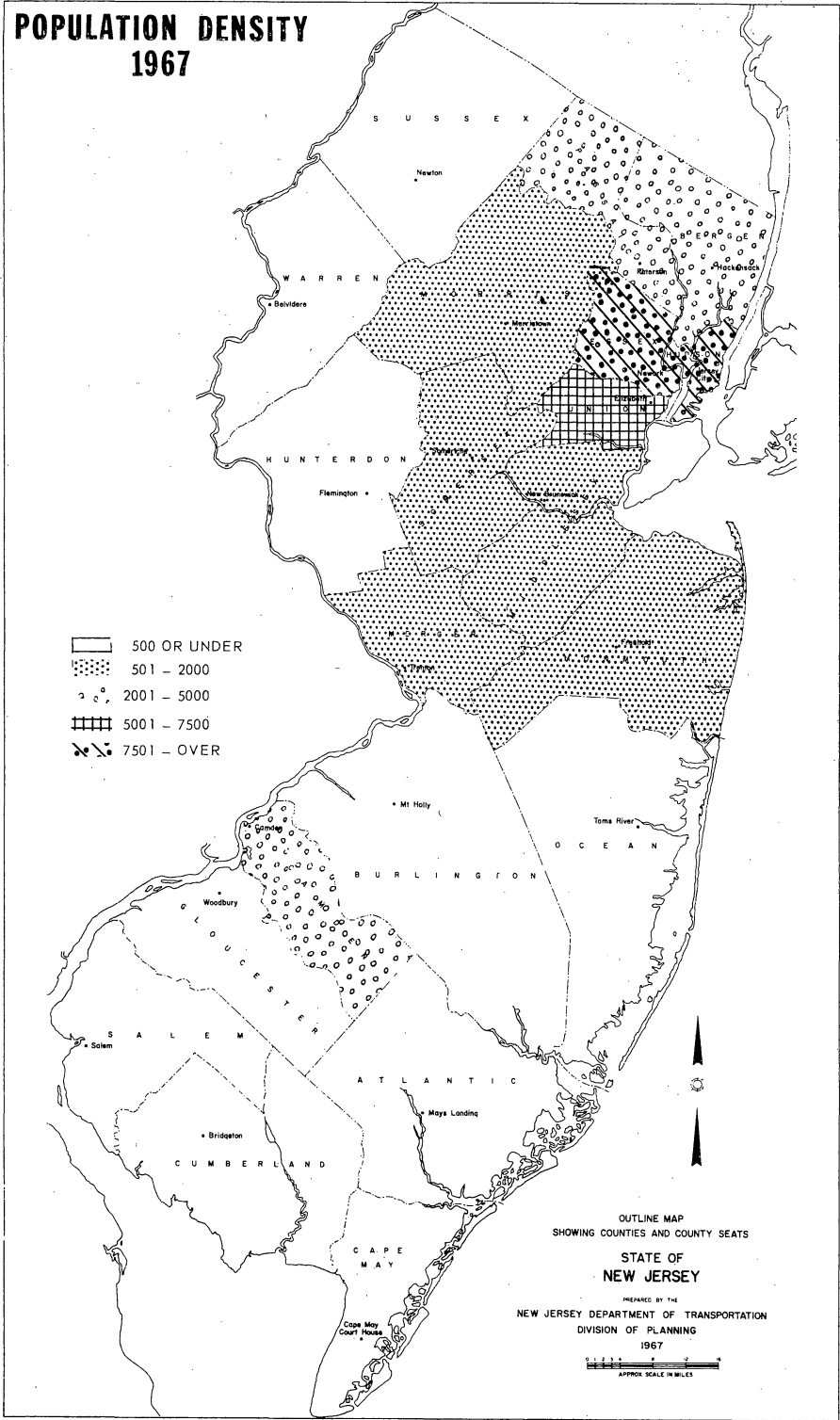


POPULATION DENSITY 1960

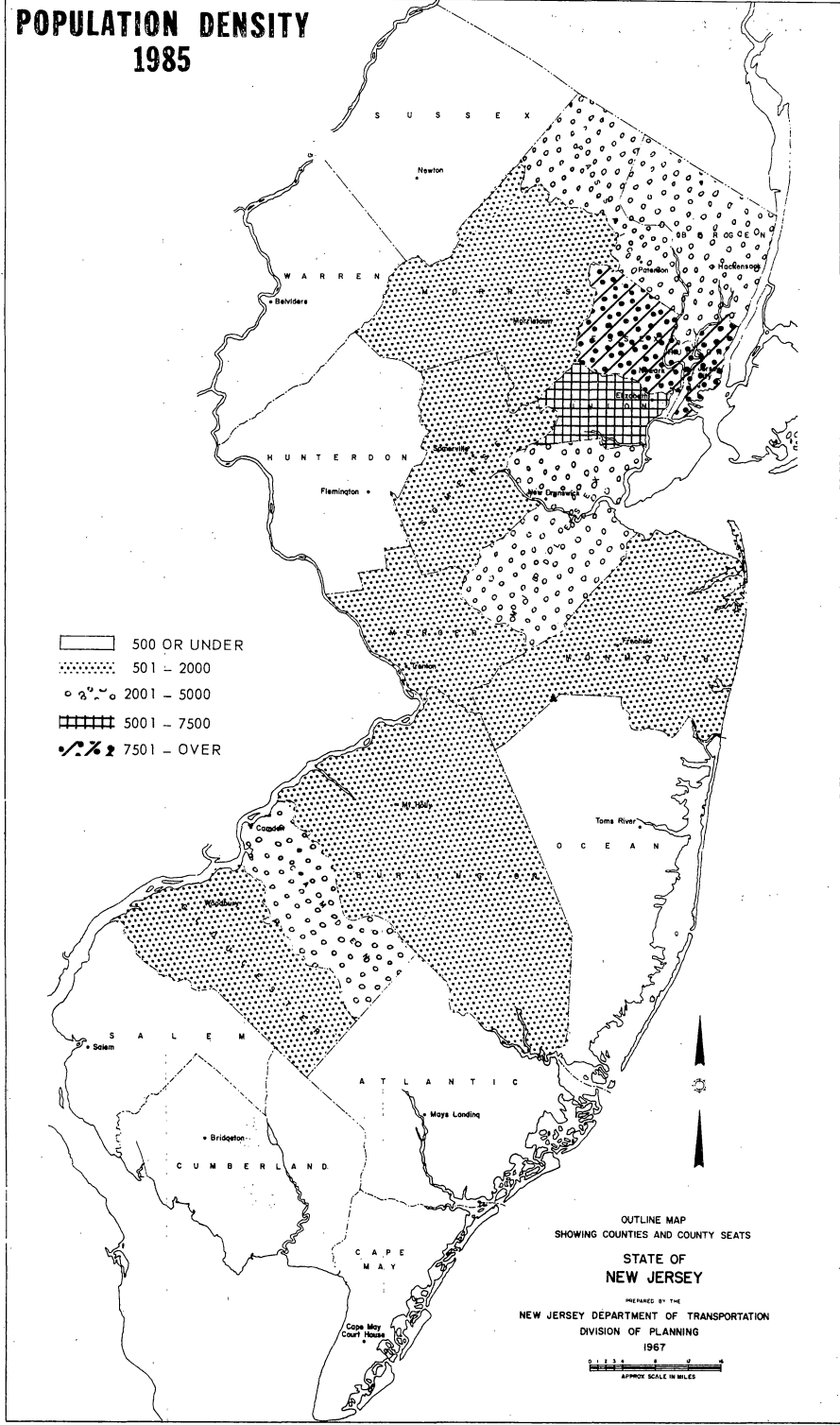


OUTLINE MAP
SHOWING COUNTIES AND COUNTY SEATS
STATE OF
NEW JERSEY
PREPARED BY THE
NEW JERSEY DEPARTMENT OF TRANSPORTATION
DIVISION OF PLANNING
1967
APPROX SCALE IN MILES

POPULATION DENSITY 1967



**POPULATION DENSITY
1985**



there will be nearly 10,000,000 persons residing in New Jersey's 7,500 square miles. Since the size of the State has been held constant while its population has been nearly doubling, it is obvious that the density of population State-wide is increasing at a substantial rate.

In 1940, there were only 553 persons per square mile. This grew by 1960 to 807 persons per square mile and it is estimated that by 1985 the population density of New Jersey will reach a figure in excess of 1,300 persons per square mile.

For purposes of transportation planning and particularly the development of mass transit systems, this increase in population density is largely illusory. To a certain extent, we are confronted with a paradox of rising population -- an increase from 1940 of four million persons to a present population of seven million and a projected population of nearly ten million by 1985 -- and an actual diminution in density in those areas which in the past have housed most of our people. This paradox, however, is readily explainable. As the automobile has come into more common usage, more and more of our residents have left the more densely populated cities and relocated in the suburbs in areas of much lower density. This shift of population has obviously increased the number of people and the density of population in areas which were the most sparsely populated in 1940. But, this shifting of population

NEW JERSEY POPULATION SHIFT

<u>COUNTY</u>	<u>LAND AREA</u>	<u>POPULATION</u>			
		<u>1940</u>	<u>1960</u>	<u>1967</u>	<u>1985</u>
ATLANTIC	575	124,066	160,880	183,320	240,200
BERGEN	233	409,646	780,255	901,550	1,153,900
BURLINGTON	819	97,013	224,499	306,540	453,700
CAMDEN	221	225,727	392,035	460,490	612,500
CAPE MAY	267	28,919	48,555	54,000	73,500
CUMBERLAND	503	73,184	106,850	125,350	173,700
ESSEX	128	837,340	923,545	960,410	1,023,900
GLOUCESTER	329	72,219	134,840	163,160	257,100
HUDSON	45	652,040	610,734	608,740	618,200
HUNTERDON	435	36,766	54,107	65,120	124,400
MERCER	228	197,318	266,392	307,130	396,900
MIDDLESEX	312	217,077	433,856	566,240	972,800
MONMOUTH	477	161,238	334,401	439,880	765,600
MORRIS	467	125,732	261,620	350,640	630,000
OCEAN	639	37,706	108,241	157,970	314,600
PASSAIC	194	309,353	406,618	458,060	582,100
SALEM	350	42,274	58,711	66,250	94,800
SOMERSET	307	74,390	143,913	194,220	374,500
SUSSEX	528	29,632	49,255	65,240	122,600
UNION	103	328,344	504,255	571,190	724,900
WARREN	361	50,181	63,220	72,900	122,300
TOTAL/AVERAGE	7,521	4,160,165	6,066,782	7,078,400	9,832,200

NEW JERSEY POPULATION SHIFT

(Basis: Per Square Mile)

<u>COUNTY</u>	<u>LAND AREA</u>	<u>POPULATION DENSITY</u>			
		<u>1940</u>	<u>1960</u>	<u>1967</u>	<u>1985</u>
ATLANTIC	575	215	279	319	417
BERGEN	233	1,758	3,348	3,869	4,952
BURLINGTON	819	118	274	374	554
CAMDEN	221	1,021	1,774	2,084	2,771
CAPE MAY	267	108	182	202	275
CUMBERLAND	503	145	212	249	345
ESSEX	128	6,542	7,215	7,503	7,999
GLOUCESTER	329	220	410	496	781
HUDSON	45	14,490	13,572	13,528	13,738
HUNTERDON	435	85	124	150	286
MERCER	228	865	1,168	1,347	1,741
MIDDLESEX	312	517	1,391	1,815	3,118
MONMOUTH	477	338	701	922	1,605
MORRIS	467	269	560	751	1,349
OCEAN	639	59	169	247	492
PASSAIC	194	1,595	2,096	2,361	3,001
SALEM	350	121	168	189	271
SOMERSET	307	242	469	633	1,220
SUSSEX	528	56	93	124	232
UNION	103	3,188	4,896	5,546	7,038
WARREN	361	139	175	202	339
TOTAL/AVERAGE	7,521	553	807	941	1,307

has led to a slight dispersal of people from the areas most heavily populated as recently as thirty years ago.

If we were to compare the population of twenty-five of our more densely populated cities in 1940 with their present population and the population of several of our suburban counties with their present population, this trend is clearly discernible. In 1940, for example, these 25 cities had a population of 2,350,000 persons and a total land area of 162 square miles. The density of population in these areas, therefore, was 14,450 persons per square mile. These 25 communities represented in 1940, 56.5 percent of the State's total population of 4,160,000 people. Even with the heavy concentration of people, these areas of New Jersey in 1940 did not present attractive rail transit possibilities.

By 1967, however, the population of these communities had slipped slightly to 2,129,000. The density of these communities was reduced by more than 1,300 people per square mile to a level of 13,105 persons per square mile. And, the percent of population that these cities represented, as against the total State population, slipped to the 30 percent level. For mass transit purposes, these areas in the 1960's and 1970's could be considered even less attractive candidates for rail transit systems, although residential population losses are more than

offset by increases in commuter trips from the suburbs.

For contrast, we can look to the fast-growing suburban counties of Bergen, Middlesex and Monmouth. In 1940, these three counties accounted for 790,000 persons or 19 percent of the total State population. By 1967, these three counties had grown to the point where they contain more than 1,900,000 persons representing 27 percent of the State's population. The density of these counties increased from 771 persons per square mile in 1940 to 1866 persons per square mile in 1967. In terms of percentages of increase, the suburban counties demonstrated a truly impressive rise in population density. In absolute numbers, however, the population density in these counties still lags substantially behind the 25 older communities which housed most of the State's population in 1940 and still accounted for 30 percent of that population in 1967. For fixed rail transit purposes, these areas pose extremely difficult problems with their relatively low densities and scattered destination points.

What is happening is obvious, although some transit enthusiasts and land planners have been reluctant to recognize it. We have developed a land use pattern for much of New Jersey which cannot be serviced effectively or economically by traditional means of public

transportation. Spread development is basically inconsistent with mass transportation. It is almost exclusively dependent upon the automobile. As long as spread development remains the pattern of development in New Jersey, there can be no alternative to major highway construction to accommodate the additional millions of persons arriving in New Jersey and locating largely in areas which do not have a road network adequate to serve this increasing population.

Opponents of this viewpoint have contended that the continuation of spread development is dependent upon the continued construction of a highway network. It is argued that these trends can be stopped or substantially revised provided highway construction is halted. In abstract, there could be merit in such a position. In terms of present day New Jersey, however, it ignores a critically important fact.

There already exists a sufficiently large road network to permit access to most of the undeveloped acreage in the State. It is physically possible for suburban or rural land areas to continue to be developed in a fashion similar to that which has been witnessed in the last twenty-five years, even if additional highway facilities are not constructed in advance of these developments. The present highway

infra-structure could not service or support the communities, industries and recreational activities that could be developed along the present highway network. This shortage of future capacity will not prevent such development, but will merely represent tomorrow's transportation problem. Substantiation of this view can be found in an examination of the road network in those counties which have already witnessed substantial spread development. Bergen County, for example, had a population of 400,000 in 1940, and a 2,000-mile road system in that year that consisted of 540 miles of State and county roads and 1,500 of municipal roads. By 1969, the population of Bergen County had increased to approximately one million persons. The State and county road network had expanded to less than 600 miles, although a great number of existing roads were widened and increased in capacity. The local road network increased to 1,870 miles, most of which mileage presumably was located within the residential developments housing the 600,000 new residents.

Bergen County did not have in 1940 a road network adequate to service one million persons and it does not have such a network today. The new roads that it needed should have been built immediately after the end of World War II before the population explosion in that

county. Even though few new highways were built, Bergen County still had a road network sufficiently large to encourage the rapid development of the county. Other factors, including nearness to the New York metropolitan centers, insured the development of the Bergen area on a low density suburban basis without regard to the inadequacies of the highway system.

The present network of State highways now consists of more than 2,000 miles of highway much of which is located in undeveloped or sparsely settled areas. Unquestionably, the present highway infra-structure is adequate to permit the indiscriminate settlement of land throughout virtually every square mile of New Jersey. The mere termination of a highway construction effort cannot assure the cease of spread development. Such a termination could result in the total inability of government to service such communities, once they are developed, with an adequate transportation system. The population densities in suburban communities will not support rail transit systems and adequate highways could not be built after the fact except at excessive cost and with substantial dislocation and hardship for those persons and activities displaced by the construction of the needed facilities.

THE SHAPE AND FORM OF TOMORROW

The decade of the 1960's has witnessed the development of the largest, most broadly-based and most imaginative attack upon the State's problems in the several modes of transportation. It has also witnessed the development of chronic highway congestion and the decline of public transportation facilities. The result has been growing public demands for "solutions." This demand will persist and grow stronger in coming years. Properly harnessed, as was the case with the Transportation Bond Act of 1968, it can be used to support programs that will produce real transportation relief and an improved transportation system. Increasing discontent with conditions in the transportation sector, however, will add to the pressure for quick and simple solutions which over the long haul may prove to be costly and inadequate.

The challenge of the 1970's, therefore, will be to structure programs that will produce an improved transportation system that can accommodate developing demands while satisfying the growing pressure for immediate improvements. The Department's present program has been pointed in this direction. The interim program for reequipping the rail carriers, for example, will

provide at modest cost substantial improvements in present levels of service, will give the rail improvement program a greater degree of flexibility and also will provide additional time to carry out the essential long-range program. The approval of additional highway construction funds in the Transportation Bond Act of 1968 also will permit accelerated completion of the long-desired highway improvements while an overall construction program is geared to the newly adopted Master Plan.

The growing antagonism to highways in abstract and support for mass transit in vacuum, however, poses a threat that future program efforts may be warped to accommodate political pressure rather than transportation reality. In the transit area particularly, there is a growing fixation with hardware and an increasing desire for status symbols. Any new major Federal program of support for mass transportation carries with it the real possibility that badly needed transit funds may be assigned to expensive rail networks that cannot be justified on any economic basis and which will develop operating deficits that will further diminish their utility. Certainly, major investments in rail transit in either North or South Jersey will be a highly risky economic proposition unless new rail systems are coupled with the development or

redevelopment of adjacent land areas on a more intensive basis. If land development is left entirely to the forces of free enterprise or to unrelated and uncoordinated public endeavors, the likelihood of poor capital investment in transit facilities is greatly enhanced.

In my opinion, serious consideration to a major rail transit network should not be undertaken unless there is an equivalent commitment made to intensifying the population densities in the land areas in the corridors to be served by such a network. Since a redevelopment of corridor land areas cannot be carried out except on a closely coordinated basis, the State would have to be prepared, at the very least, to consider joining together in a single agency the public responsibility for transportation and housing. A strong case can also be made for including the State-wide responsibility for physical planning and urban redevelopment within such a public agency. Transportation facilities obviously have some impact upon land development patterns. The manner in which we develop our land resources, however, will dictate the kinds of transportation facilities which are possible and economically practical hereafter. If there is to be increasing reliance upon public transportation facilities in the future, we must be prepared to influence more directly the manner in which our land resources are utilized in transportation corridors. In the absence of a land

use policy compatible with public transit facilities, we must be prepared to accept continuation and perhaps acceleration of the present spread development land pattern. Integration of both of these basic responsibilities within a single agency would greatly enhance the possibilities for modifying current land use practices.

The next decade, indeed, the next few years, will also require an increasing public commitment in the most neglected area of mass transportation -- the buses. The substantial public investment now being made in rail facilities makes such increased public involvement essential. A continuation of the competitive operation between trains and buses can only serve to undercut the public's investment in rails at the same time that it weakens the economic position of the private bus companies. A compatible bus-rail system which coordinates rather than competes between these systems and which also provides for the extension of bus services into areas not now adequately served cannot be established by government regulation. More positive and affirmative action and possibly governmental operation of bus facilities will be required in the very near future.

Continued attention will have to be given to new concepts of public transportation. Among the most attractive are those which seek to establish a new level of public transportation somewhere

between the fixed-route buses and the non-structured taxicab operation. The idea of a dial-a-bus which would provide relatively low cost public transportation with much of the flexibility and security of the private automobile appears to be a fundamentally sound one and certainly such an approach seems to offer greater hope in the suburban society we are structuring than any fixed-rail or fixed-route system.

Urban dwellers require vastly improved transportation connections with suburban job opportunities. Suburban dwellers now are virtually without any means of public transportation except to the New York metropolitan center and do need improved public transportation services if we are to avoid every family becoming a two or three car family with all that would imply for our highway network.

The continuation of an ongoing highway effort also will require an extremely high priority since even the construction of a major rail transit system and a redevelopment of adjacent land on a high-density basis will not prevent most of the additional persons in New Jersey from residing in newly developing suburban centers. The inclusion of the State-wide planning ability as well as the public housing responsibility with the transportation effort would permit highway and public transit construction to be carried out on

a more logical, less disruptive basis. In addition, the growing housing problem of the suburbs, in which virtually all segments of society except the most affluent are priced out of the private housing market, can probably only be overcome by an increasing public effort in this sector. The recent Regional Planning Association report on the economic limitations that have developed in suburban housing markets graphically illustrates this rapidly growing problem.

The single factor which will undoubtedly affect future transportation developments and land use policies the greatest will be the State's tax structure. At the present time, the substantial reliance upon real property taxes virtually dictates a continuation of the suburban sprawl pattern we have witnessed over the past two and one-half decades. Unless community dependence upon real estate taxes can be diminished, a substantially revised land use policy will be extremely difficult to achieve.

Transportation decisions will affect the future growth of the State. They cannot, however, in and of themselves, control that future growth. Indeed, major investments in transportation facilities can be largely dissipated if they are made in defiance of other economic and social pressures that are not dependent upon the service such facilities are designed to provide. If we

intend to maximize the return on our public investment in transportation facilities, it will become increasingly critical for the State's policy makers to determine the extent to which government is prepared to alter developing land use patterns. These patterns can be influenced in large measure by tax policies, public housing decisions and the exercise of land use controls. If a willingness develops, and none exists today, to exercise the full range of governmental powers, it will be possible to affect present land use trends. While a continuation of some suburban development is inevitable, new type communities more effectively served by public transportation are possible. Such communities, however, will not evolve from transportation improvements alone and transportation investments that are predicated on the development of such communities are likely to be largely wasted in the absence of a coordinated effort in the other critical governmental areas to which I have referred.

In recent public discussions, this point seems to be ignored more and more as spokesmen from non-transportation areas seek to influence transportation decisions without providing any of the necessary assurances that the other changes in taxes, housing and land use will also be achieved so that the transportation investment being sought will be a sensible one. The problems

of the '70's will not be primarily technical in character. If the real need is for mass transit facilities, for example, they can be produced. The necessary concepts for providing even totally new transportation facilities are now available. Great subway systems, however, can mean great subsidy problems.

Transportation decision-making is now oriented towards producing the kinds of facilities, mainly highways that will be needed if existing land use policies are not changed significantly. Any other course of action could not be justified. If we intend to change our basic attitude toward land development policies, the readjustment of transportation decisions to the new policies need not be difficult. Unless we recognize that new land use policies will require fundamental changes in a wide range of governmental programs, we had better be extremely cautious about simply redirecting our transportation programs. It could prove to be a very costly experiment.

