

1901
x93

FILE

Annual Report 1950

Red
July 1951



New Jersey Turnpike Authority

1875

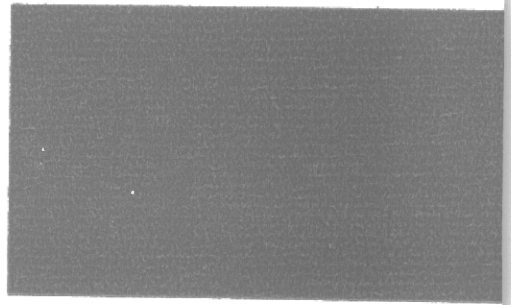
1876

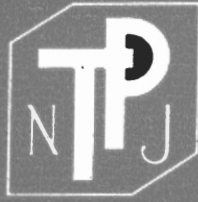
1877

1878

1879





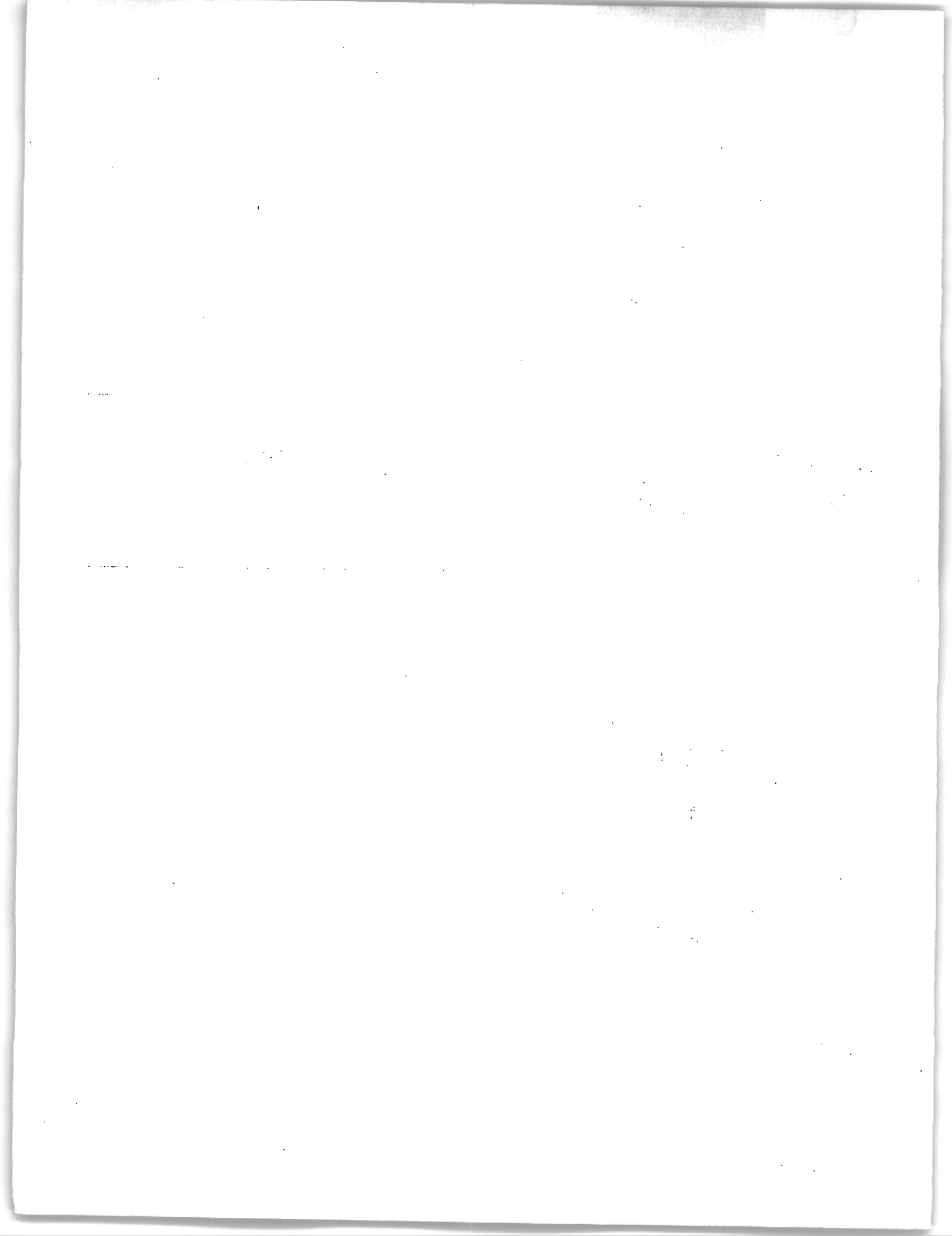


*The New Jersey Turnpike Authority
Second Annual Report 1950*

PAUL L. TROAST
Chairman

GEORGE F. SMITH
Vice-Chairman

MAXWELL LESTER, JR.
Treasurer





PAUL L. TROAST, CHAIRMAN
GEORGE F. SMITH, VICE-CHAIRMAN
MAXWELL LESTER, JR., TREASURER

NEW JERSEY TURNPIKE AUTHORITY

TRENTON, N. J.

The Honorable Alfred E. Driscoll, Governor, and the Members
of the Legislature of the State of New Jersey:

The New Jersey Turnpike Authority submits herewith its Second Annual Report covering the calendar year of 1950 in accordance with the provisions of the statute. This report supplements our First Annual Report filed as of the close of 1949 which covered the nine months' period from the date of our organization on March 31st to the close of that year. The accomplishments of the Authority as now recorded therefore cover a total period of twenty-one months.

With the submission of this report, the Authority wishes again to express its appreciation of the guidance given by the Governor, the cooperation and support of the Legislature, and the help of many officials and employees of the State, Counties, and Municipalities. Without such encouragement and cooperation the progress made to date would not have been possible.

We have now reached a milestone from which we can searchingly review the past and more intelligently survey the future. It is with these objectives primarily in mind that we have prepared this current report in greater detail than was previously possible.

The important details of preliminary organization, studies as to the necessity of toll road construction and initial engineering, and traffic and revenue studies were largely completed before the 1949 year end. We had also advanced at that time to the point of determining the Turnpike alignment, and selecting engineering consultants and were proceeding with the design of the Turnpike.

Nineteen-fifty has been another year crowded with satisfying accomplishment and decisions on major policy. Supplemental legislation was speedily provided by the Legislature and financing was achieved on a forward-commitment basis. With funds in hand and assured, we have proceeded rapidly with land acquisition, design and construction. All of this is comprehensively covered in this report. Financial statement and audit are also included.

The question most frequently put to the Authority is whether the Turnpike will be opened to traffic on schedule in November 1951. We are pleased to report that it will be, barring further delays occasioned by the current world situation. Because of priorities established for the military, there has been some doubt as to the ability of the steel suppliers to fulfill their contract obligations to the Authority. Until recently there was no provision for preferential consideration of defense facility projects such as ours. During the past few weeks, however, there have been indications that a system of priorities will be set up to expedite the construction of strategic highways and bridges. We are of the opinion that the New Jersey Turnpike will be in a preferred position in this regard because of its importance to the transportation of war material, and its essentiality to the evacuation of civilians from densely populated areas in the event of enemy attack. We have applied for this priority and are currently prosecuting this application diligently.

With design and engineering problems in the stage of final completion and with construction work in the field well advanced, we would like to stress here some of the other important matters which are now having our attention.

The inflationary spiral brought about by the Korean and world situations had its impact upon our project following June 25, 1950, and the overall cost of the construction of the Turnpike will be greater than anticipated. Additional bonds will be sold to cover this increased cost.

Continuing studies have been under way for months and the Authority will soon reach decisions on the remaining problems to be resolved. Among such problems are the fixing of speed limits, the establishment of toll rates to be charged, determination of policing arrangements, completion of design and contract for the construction of administration, concession and maintenance buildings. The

advertising and award of concession contracts must be undertaken earlier than anticipated because of the time now required to obtain necessary supplies and equipment. The selection and employment of operating and maintenance personnel and the purchase of maintenance equipment will receive accelerating attention. These are examples of the vast amount of work still to be done before the Turnpike can be opened to the public.

While the Authority and its staff must concentrate on the New Jersey Turnpike, studies of the following will be brought nearer to completion:

- (a) A connection with the further easterly extension of the Pennsylvania Turnpike.
- (b) Extension of the Turnpike northerly to connect with the New York State Thruway.
- (c) An extension of the Turnpike across Newark Bay to the Hudson County Peninsula.
- (d) Other toll road facilities as directed by the Legislature to serve other sections of the State.

Much has been accomplished during the comparatively short period since the Turnpike Authority came into being. Still more must be done in the months immediately ahead to complete the work now underway and in the study of extensions and further projects.

The Port of New York Authority, the Pennsylvania Turnpike Commission, the Delaware Memorial Bridge Commission, the Maine Turnpike Authority and other agencies have extended to us every courtesy and much helpful advice.

The Department of the Army and the State Department of Conservation and Economic Development, both of whom have jurisdiction over stream crossings, have rendered prompt and equitable decisions.

The Commissioners desire also to thank and commend the members of the staff, the engineering firms, the legal and financial advisors, appraisers, negotiators, title companies and others engaged by the Authority, for their loyal assistance and their devotion to duty.

All in all it has been a rather remarkable year. We are indeed grateful to all who have helped so much and we look forward with confidence to a very exacting and difficult year in 1951 but yet one which will see the completion of the New Jersey Turnpike on the scheduled date.

Respectfully submitted,

A large, stylized handwritten signature in black ink, appearing to read "P. L. Troast". The signature is written in a cursive style with a large initial "P" and "L".

Paul L. Troast, Chairman

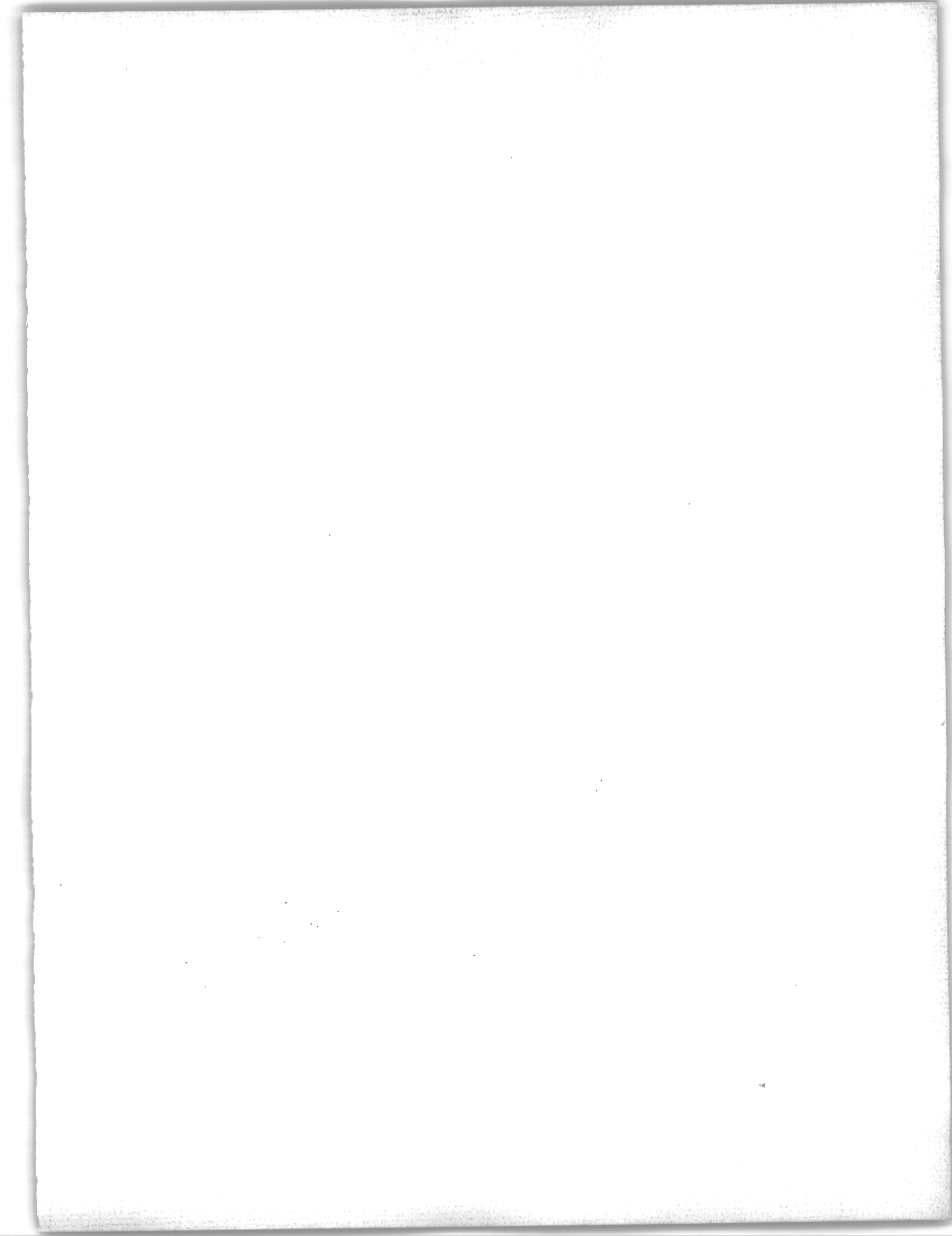
A handwritten signature in black ink, appearing to read "George F. Smith". The signature is written in a cursive style with a large initial "G".

George F. Smith, Vice Chairman

A handwritten signature in black ink, appearing to read "Maxwell Lester, Jr.". The signature is written in a cursive style with a large initial "M".

Maxwell Lester, Jr., Treasurer

January 24, 1951





J. Floyd

CONTENTS

Introduction	12	Maintenance, Police and Operating Facilities	62
Financing of the Project	16	Legal Aspects and Problems	66
Design of the Project	22	Costs and Revised Estimate	70
Progress of Construction	32	Activities of Commissioners	76
Acquisition of Rights-of-Way	46	Organization and Activities of the Authority's Staff	82
Relocation of Utilities	54	Program for 1951	90
Service Stations and Restaurants ..	58	Auditor's Report	92



Interchange at Route 35, Middlesex County

INTRODUCTION

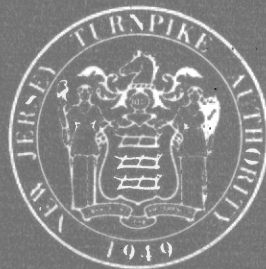
ON JANUARY 30, 1950 the Authority submitted its First Annual Report, covering the period from March 31, 1949, when the Commissioners were appointed and the Authority was organized, to the end of that calendar year. The report was submitted in compliance with the provisions of "The New Jersey Turnpike Authority Act of 1948" (Chapter 454, P.L. 1948). It reviewed the initial meetings of the Authority, described the preliminary engineering and the traffic and revenue studies, the general conclusions reached with respect to costs, the suggested schedule of reasonable toll charges and the feasibility of the project. The engineering reports indicated that the cost of the Turnpike, originally estimated at \$230,000,000, could be amortized within a period of twenty-four years after it was opened to traffic. This estimate of cost was contained in the preliminary engineering surveys to determine the feasibility of construction and the ability to finance the Turnpike. The reports were completed in the record time of four months, and presented to the Authority in September, 1949. The estimate was based on general plans only, and without the benefit of detailed surveys and prices.

The annual report also listed the national engineering firms engaged in design and construction and the basic design criteria established at that time. It described in some detail the scope of the studies made for financing the construction of the Turnpike and the plan finally adopted, the decision of the Supreme Court of the State on the constitutionality of the Turnpike Authority Act, and the need for amendatory legislation. It reviewed the plans for the acquisition of real estate, the steps which were taken to keep the public advised of the Authority's plans and operations, and described the series of meetings held by the Commissioners to discuss the route of

the Turnpike in all of the ten counties through which it passes.

The bondholders were kept currently advised of progress during the year by interim reports issued for the periods ended March 31, June 30, and September 30, 1950—reports which were required under the provisions of the Bond Purchase Agreement dated February 17, 1950. Each of these reports listed, as of its respective date, the contracts which were awarded by number, location, amount, and name of the contractor, together with a comparison of the low bid with the original report estimates of 1949 and with the engineers' estimates for bid evaluation purposes. These reports reviewed the progress of design, of acquisition of real estate, and of construction operations. The September 30, 1950, report contained a brief analysis of the fifty-two contracts which then had been awarded, and pointed out that the total contract price exceeded the original engineering estimates by \$8,556,646. It reviewed the reasons for this overrun, stating that it had come about because: (1) a substantial rise in price levels had occurred since the preparation of the original estimate of September 1949; (2) bridges to carry State highways, county and township roads had to be enlarged in many instances, and the acquisition of rights-of-way across railroad properties had resulted in increased over-all costs; (3) in the completion of construction drawings it had been found necessary to modify preliminary plans in many instances; (4) surveys had disclosed the need for construction not previously anticipated, including certain structures, additional provisions for drainage, and other related engineering requirements.

The September 30 Quarterly Report advised that the next report would be the Annual Report for the year 1950.



THE NEW JERSEY TURNPIKE AUTHORITY

Trenton, New Jersey

COMMISSIONERS

PAUL L. TROAST

Chairman

MAXWELL LESTER, Jr.

Secretary-Treasurer

GEORGE F. SMITH

Vice Chairman

LILLIAN M. SCHWARTZ

Recording Secretary

EXECUTIVE DIRECTOR

W. W. WANAMAKER

AUGUSTUS C. STUDER, Jr.

Counsel to June 15, 1950

NEVILLE R. ASHCROFT

Comptroller

THOMAS R. LOWRIE

Director of Real Estate

WARD J. HERBERT

Counsel since June 15, 1950

CHARLES M. NOBLE

Chief Engineer

HENRY E. ROSE

Director of Public Information

CONSULTING ENGINEERS

Howard, Needles, Tammen & Bergendoff

FINANCIAL ADVISOR

Smith, Barney & Company

AUDITORS

Peat, Marwick, Mitchell & Co.

BOND COUNSEL

Hawkins, Delafield & Wood

ENGINEERS FOR DESIGN AND CONSTRUCTION

- Section 1, Deepwater, Salem County to Woodbury, Gloucester County
(20.4 miles) J. E. Greiner & Co.
- Section 2, Woodbury, Gloucester County to State Highway 38, Burlington County
(17.9 miles) Gannett, Flemming, Corddry & Carpenter, Inc.
- Section 3, Route 38, Burlington County to south of Hightstown, Mercer County
(21.7 miles) Parsons, Brinckerhoff, Hall & MacDonald
- Section 4, Hightstown, Mercer County to south bank of Raritan River, Middlesex County
(24.5 miles) DeLeuw, Cather & Co.
- Section 5, From south abutment of Raritan River, Middlesex County to Morse's Creek Bridge,
Union County (14.2 miles) Fay, Spofford & Thorndike
- Section 6, From south abutment of Morse's Creek Bridge, Union County to Belleville
Turnpike, Hudson County (8.7 miles) Structures Amman & Whitney
 - Highway Associated { Edwards & Kelcey
Frederic R. Harris, Inc.
O. J. Porter & Co.
- Section 7, From Belleville Turnpike, Hudson County to Route 6, Ridgefield Park, Bergen
County (7.2 miles) Structures Howard, Needles, Tammen & Bergendoff
 - Highway Associated { Edwards & Kelcey
Frederic R. Harris, Inc.
O. J. Porter & Co.

ARCHITECTS

Fellheimer & Wagner

ASSOCIATE ARCHITECTS

Frank Grad & Sons

*TRENTON
6-1591*

FINANCING OF THE PROJECT

THE opinion of the New Jersey Supreme Court, delivered on December 5, 1949, although sustaining the constitutionality of the Act creating the Turnpike Authority, held with respect to one of the Act's provisions that the State Highway Department could not advance funds to the Authority, or use them itself, for studies and engineering investigations and services relating to the New Jersey Turnpike. Since the Authority had been functioning on an advance of one million dollars from the State Highway Department, this opinion left the Authority at the close of 1949 without funds, and made it imperative that some temporary financing be arranged pending the issuance of the Revenue Bonds. Accordingly, with the counsel and assistance of Governor Driscoll, whose interest in the Turnpike has been so progressive and enterprising at all times, and in accordance with the ruling of the State Supreme Court on December 5, 1949, that the Authority had the power to issue Turnpike bonds, a ten-year Revenue Bond No. 1, in the denomination of \$2,000,000, and bearing 3 $\frac{1}{4}$ percent annually, was sold to the State Funds. This bond carried a provision that it could be called for redemption at anytime on fifteen days' notice. That call privilege was exercised on February 17, 1950 when permanent financing for the project was concluded.

As stated in the Annual Report for 1949, negotiations with prospective bond buyers emphasized the advantages to be gained by, and in fact, the imperative need for, amendatory legislation. Accordingly, two proposed amendments to the New Jersey Turnpike Authority Act were introduced in the Senate and Assembly of the State on January 10, 1950, and were enacted into law on January 31, 1950. One amendment provides for certain changes deemed essential in connection with the acquisition

of property for the right-of-way. It grants the Authority a means for gaining quick access to properties required for construction, without which the project could be materially delayed, and it provides further that whenever the Authority takes possession through condemnation, it will deposit in the court the estimated compensation for the lands to be taken and, in addition, double this amount in a special trust fund to assure that funds will be available for payment of just compensation as determined by the court. The amendment provides also for payment of interest from bond proceeds during the period of construction when the authority is without revenue, and during the first years of operation when revenues may not be sufficient to cover debt services and other costs.

The other amendment was deemed necessary in order to modify the northern terminus of the project from Alpine, New Jersey, to State Highway Route 6. The Authority, after review of the project, was of the opinion that no special purpose would be served at the time by defining Alpine as the northerly terminus of the Turnpike. A primary consideration was the obvious desirability of awaiting more definite information with respect to the location of the New York Thruway and the western approach to its proposed Hudson River crossing before fixing a terminus of the New Jersey Turnpike at the northern boundary of the State.

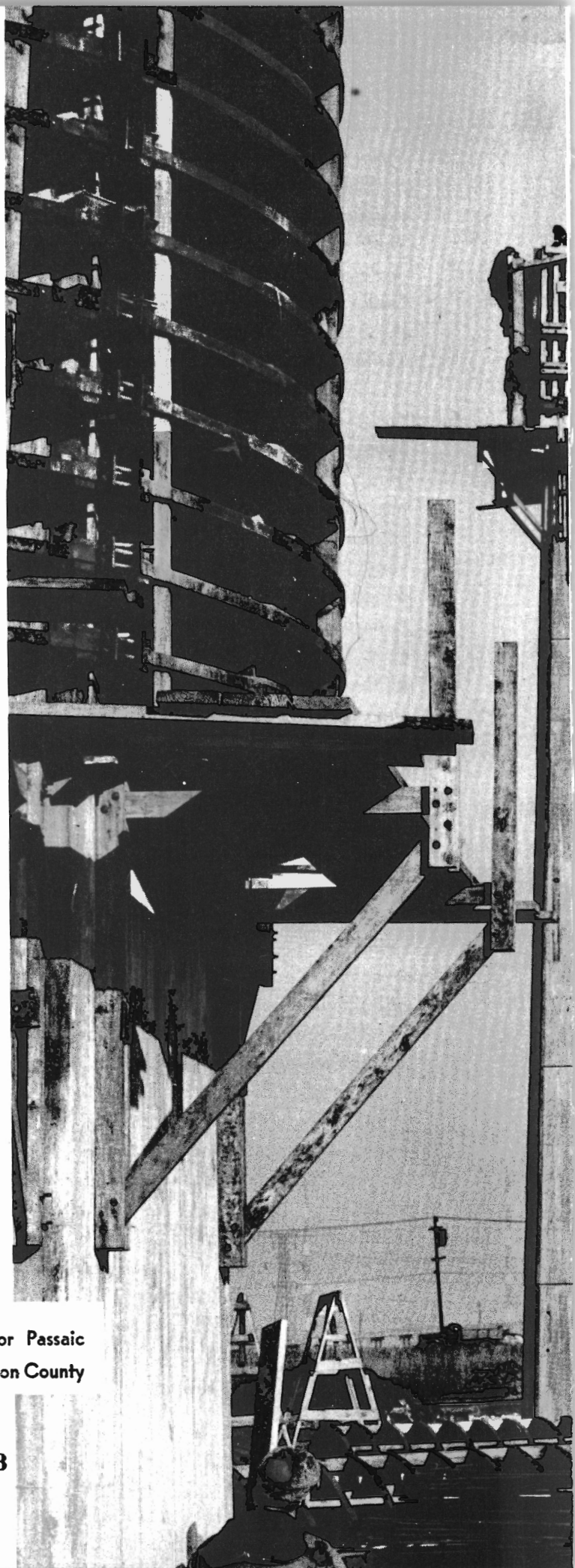
On February 6 the Authority adopted its By-Laws, and the form of Bond Purchase Agreement, and authorized the Chairman, on behalf of the Authority, to execute the Bond Purchase Agreements in accordance with the schedule previously negotiated. The authorization provided that the maximum principal amount of bonds for which purchasers should be committed would be \$220,000,000, and that the principal

amount of bonds to be sold at the first closing should be \$10,000,000. On February 10, 1950 the Authority adopted a resolution authorizing the issuance of not exceeding \$220,000,000 Turnpike Revenue Bonds (1950 Issue) and provided that the bonds should bear interest at the rate of $3\frac{1}{4}$ percent per annum and mature on January 1, 1985, and that interest shall be payable semi-annually on January 1 and July 1 in each year until the Authority's obligation with respect to payment of the principal sum thereof shall be discharged.

The first call privilege on the bonds for the purpose of refunding or redemption as a whole is ten years after their date of issuance or some 7 to 8 years after the Turnpike is expected to begin operations. Such redemption would be effected initially at a premium of 3 per cent and at reduced premiums thereafter until 1975 when the bonds would become callable for any purpose without premium. The bonds are redeemable from earnings at any time after their issuance without premium through operation of the Sinking Fund.

The financing, as arranged, represents an unique approach in revenue bond projects. The subscribing investors, including insurance companies and six State agencies, provide immediately a so-called "forward commitment" for the full amount of \$220,000,000, for which the Authority pays a nominal fee of $\frac{1}{2}$ of one per cent annually on the bonds not issued.

As the funds are required for the Turn-



Approach Piers for Passaic
River Bridge, Hudson County



pike during its construction, the Authority draws against the "commitment" and then issues its definitive revenue bonds for the amount borrowed. At the end of 1950 a total of \$65,000,000 was withdrawn. Because of the "pay-as-you-go" method of financing, it is estimated that the Authority will effect savings in interest and other costs of upwards of \$12,000,000 during the period of construction and a larger amount over the life of the bond issue.

The bond issue was underwritten by insurance companies, State funds and others. More than half of the \$220,000,000 was subscribed by New Jersey insurance and banking institutions.

The resolution directed the establishment of a Construction Fund to be held by the Trustee for the purpose of payment of the cost of the Turnpike and Original Feeder Roads, and provided for the creation of a Revolving Fund in an aggregate amount not in excess of \$200,000 for payrolls and other costs which could not be paid conveniently from the Construction Fund. The resolution also provided for the establishment of revenue, operating, interest, interest reserve, sinking, and general reserve funds, and pledged all surplus revenue to secure the payments of the principal, re-

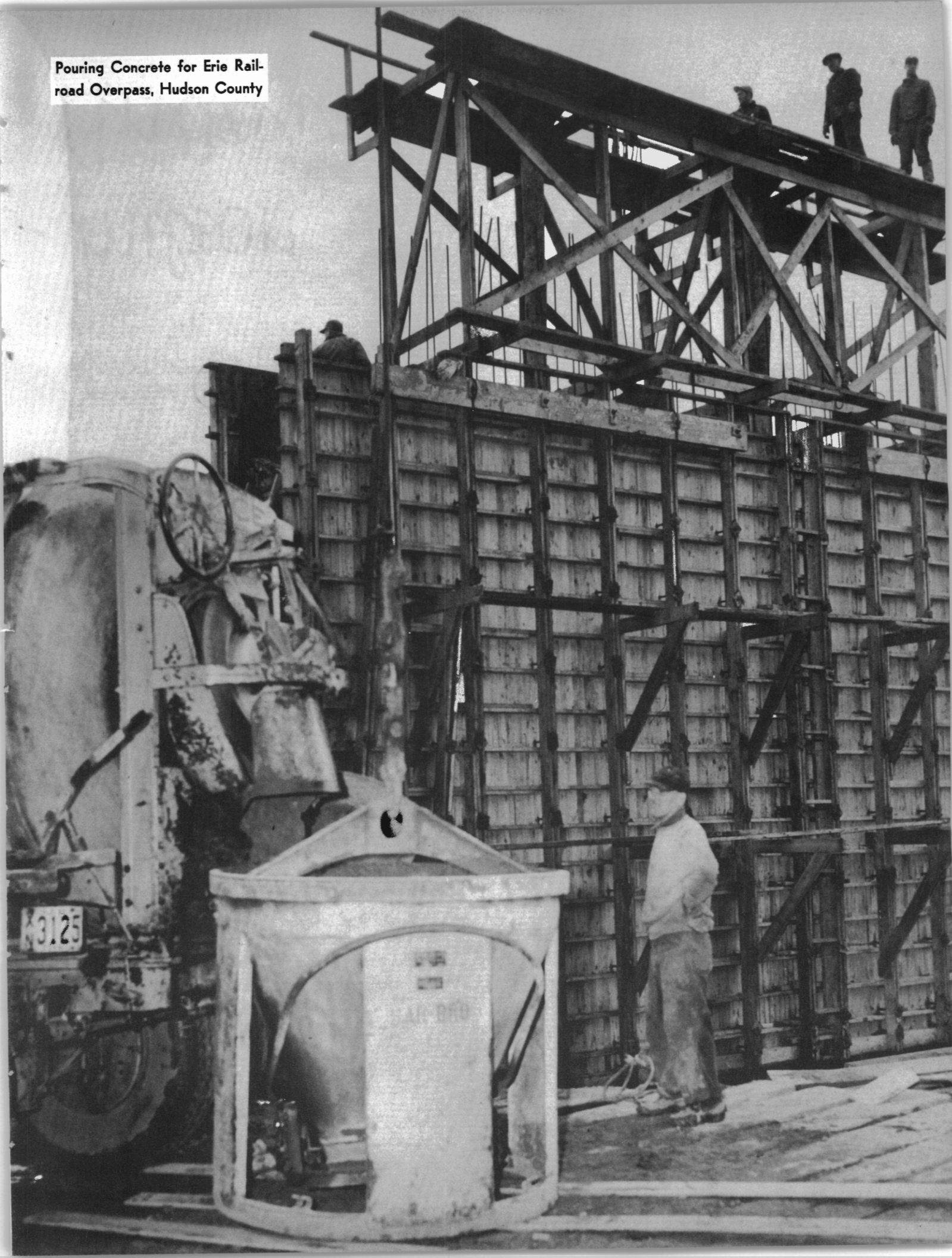
demption premium and interest on the bonds, together with any commitment fees agreed to be paid to the purchasers. It provided in detail for the specific uses of the various funds, for the preparation and approval of annual budgets for operation, for the establishment and collection of tolls, the maintenance of insurance, the employment of a consulting engineer, provisions for the redemption of bonds, the appointment of fiduciaries, and other administrative functions.

On February 17, 1950 the first closing was held, at which time \$10,000,000 in Turnpike 35-year 3½ percent interest Revenue Bonds were executed and issued, and the \$2,000,000 of Turnpike ten-year Revenue Bonds were redeemed.

The Bond Purchase Agreement established a schedule for the issuance and delivery of minimum amounts of bonds during the period to and including October 1952. The closings were scheduled so as to provide the Authority with adequate funds for construction operations, and at the same time, in order to minimize interest charges, to issue bonds no more rapidly than required by the progress of construction. A comparison with the actual issuance of bonds, is herewith shown:

BOND PURCHASE AGREEMENT			ACTUAL ISSUANCE OF BONDS		
DATE	TAKEDOWN	CUMULATIVE TOTAL	DATE	TAKEDOWN	CUMULATIVE TOTAL
Feb. 17, 1950	\$10,000,000	\$	Feb. 17, 1950	\$10,000,000	\$
Apr. 1, 1950	10,000,000	20,000,000	Mar. 30, 1950	10,000,000	20,000,000
July 1, 1950	10,000,000	30,000,000	June 28, 1950	10,000,000	30,000,000
Oct. 1, 1950	20,000,000	50,000,000	Aug. 30, 1950	20,000,000	50,000,000
Jan. 9, 1951	10,000,000	60,000,000	Nov. 15, 1950	15,000,000	65,000,000
Apr. 1, 1951	30,000,000	90,000,000	Jan. 9, 1951	20,000,000	85,000,000

Pouring Concrete for Erie Rail-
road Overpass, Hudson County



DESIGN OF THE PROJECT

A CERTAIN amount of preliminary design had been accomplished during the preparation of the September 1949 report to determine the feasibility of the project. That work included location studies of alternate routes, preliminary soil surveys, development of geometric standards, preparation of preliminary plan and profile drawings, estimates of grading quantities, estimates of drainage requirements, preliminary designs of structures, studies of layouts for interchanges, and studies of the availability of materials, both from local sources and in other markets.

The design work associated with the foregoing was carried only to the extent necessary to determine that the Turnpike could be constructed at a reasonable cost, and to make a fairly reliable estimate of the cost. The designs were not refined to achieve maximum economy, nor were they in sufficient detail for bidding and contract purposes. They established the fact that the Turnpike could be built, but they did not attempt to conclude in detail just how it should be built. Final design started in October, 1949, and was carried to the extent described in the Annual Report for that year.

It was necessary, of course, to obtain and evaluate much more extensively the physical information that had been developed during the preliminary design work. In 1950 the geometric surveys were carried to completion; soil surveys were made in detail; soundings for depths of streams and boring of test holes deep into the earth's surface were completed; and precise locations and elevation of existing railways and highways were determined. From such data it was possible to establish refined lines and grades for the roadways; determine the availability locally of materials suitable for embankments; calculate the depth, character and extent required for

foundations for structures; and fix the overload requirements and rates of settlement for the fills across the deep mud in the meadow lanes of New Jersey. In some cases these detailed studies for final design purposes disclosed somewhat different conditions than did the investigations conducted during the preliminary studies. To this extent they influenced design and costs.

The Authority appointed a committee, consisting of representatives from its eight consulting engineering firms, to consider and develop standard design features for structures. As a result of the standards established by this committee, all of the various designers of structures proceeded from essentially the same starting points and along the same pattern. This coordination of work by several different consulting engineers achieved uniformity and economy in construction, as well as attractive design.

The General Consultants developed standard specifications which formed the basis for each construction contract. In addition, various consulting engineers for the seven sections of the Turnpike prepared for their respective contracts supplementary specifications which covered the special features of each particular contract. Contract drawings, which accompanied these two specifications, presented to potential bidders the details of the work to be done under each specific contract. The three documents thus formed the basis of mutual understanding between the Authority and the contractor with regard to the work to be done and methods of construction.

With a view to expediting design and the initiation of actual construction, the Authority decided to divide the 118-mile Turnpike into seven sections and to assign nationally recognized highway and bridge engineering firms to design and supervise construction within their respective sec-

tions. The selections and assignments, beginning at the southerly terminus are as follows:

J. E. Greiner & Co., Section 1, from Deepwater to Woodbury, highway and structures;

Gannett, Fleming, Corrdry & Carpenter, Inc., Section 2, from Woodbury to State Route 38, highway and structures;

Parsons, Brinckerhoff, Hall & Macdonald, Section 3, from Route 38 to south of Hightstown, highway and structures;

DeLeuw, Cather & Co., Section 4, from Hightstown to the south bank of the Raritan River, highway and structures;

Fay, Spofford & Thorndike, Section 5, from south abutment of Raritan River Bridge to south abutment of Morse's Creek Bridge, highway and structures;

Edwards & Kelcey, Frederic R. Harris, Inc., O. J. Porter & Co., Associated, Sections 6 and 7, from south abutment of Morse's Creek Bridge to northern terminus of Turnpike at Route 6, highway;

Ammann & Whitney, Section 6, from south abutment of Morse's Creek Bridge to Belleville Turnpike; structures; and

Howard, Needles, Tammen & Bergendoff, structures from south abutment of Belleville Turnpike to northern terminus of Turnpike at Route 6, and also General Consultant to the Authority for the entire project.

A fundamental decision was necessary with respect to the scope of construction contracts; that is, whether construction work for a particular section of the Turnpike, from grading and drainage to pavement, top soiling and seeding should be incorporated in one contract.

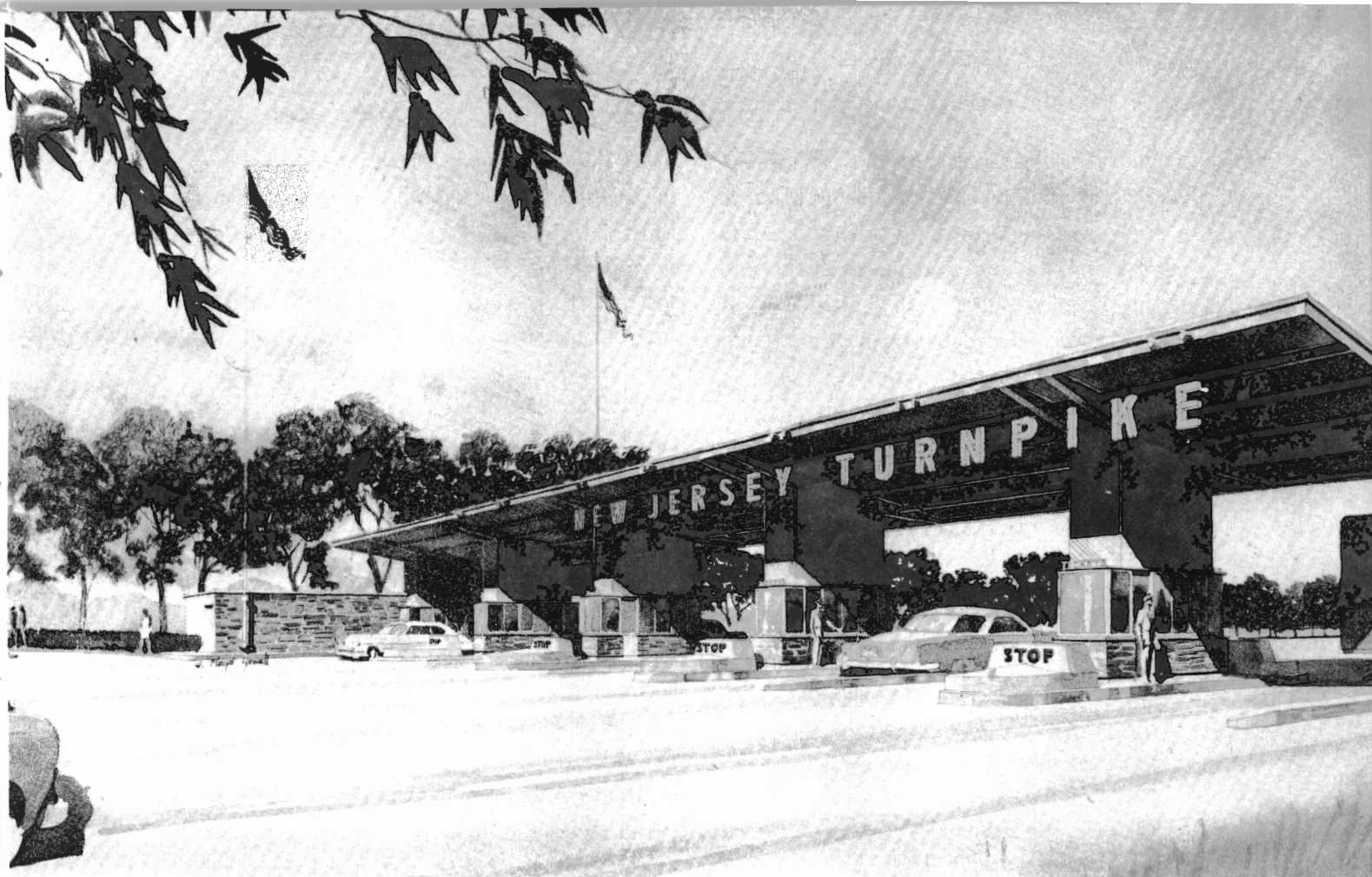
There are many advantages to the system under which all features of a highway for a given length are included in one contract. This procedure, however, requires that all design for a particular section be

completed prior to advertisement and in the case of the Turnpike this would have meant the awaiting of final decisions with respect to bridge crossings, interchanges, and pavement. It became apparent, immediately, that the time schedule for construction of the Turnpike, and its many problems in the highly industrialized and densely populated areas, would not permit of the adoption of this method. Hence, there was established the general sequence of contracts, and design efforts concentrated initially on grading and drainage, and on the foundations of major and moderate sized structures.

As for the size of contracts, it was concluded to divide the grading and drainage work into sections generally of twenty miles, but with the specifications so worded to afford bidders opportunity to bid on either half of approximately ten miles each, or on the entire twenty-mile section.

This division of work to be done permitted the smaller contractors to compete, and encouraged wide-spread participation in bidding. Similar decisions were reached with respect to bridge structures, and the number of smaller structures included in one contract varies from three to as many as twenty. These advertisements for proposals also made it possible for sizable contracting firms to combine bids on small contiguous contracts into a single large contract for bidding purposes. By these means a wider cross-section of qualified contractors was given opportunity to compete for construction contracts and at the same time there was provided the maximum opportunity to use materials available locally. A review of the list of contracts awarded illustrates the variation in dollar value and the scope of competition which was accorded.

Contracts not yet awarded include work relating to the administration building, toll



Typical Toll Plaza For Receiving and Discharging Traffic

areas, service stations and restaurant buildings and their utilities, maintenance buildings, communications, guard rail, fencing, signs, roadway striping, lighting, roadside delineators and landscaping.

In general, the final designs followed very closely the geometric standards and the concepts developed during the preliminary design and feasibility determination stages. Nevertheless, there were modifications required during preparation of final designs. These resulted largely from a more accurate determination of subsurface conditions and from becoming more familiar with the requirement of other agencies affected by the construction of the Turnpike. Negotiations with the State Highway Department, electric power and gas companies, the telephone company, municipal owners of water and of sewer

and other drainage lines, railroads, public bodies in charge of streets and roads other than State highways and the various agencies having jurisdiction over streams and waterways, led in many cases to final designs different from those visualized during the preparation of the preliminary designs. The Authority also prepared its specifications, contract drawings, and advertisements for bids to make maximum use of alternate materials. The extent of such changes, and their influence on costs, is commented upon in a subsequent section of this report.

Months of study and investigation were devoted to the location and design of the interchanges for receiving and discharging traffic, the toll lanes through which the traffic would enter and leave the Turnpike, and the toll booths and toll collection equip-

ment, in order to assure maximum conveniences and service to the public, to provide for the growth of traffic, and to incorporate the most advanced ideas and engineering features. The estimates of traffic were believed by the Authority and its engineers to be conservative.

The Turnpike will have 16 traffic interchanges—places of entrance and exit—located as follows:

DELAWARE MEMORIAL BRIDGE (U. S. Route 130)
SWEDESBORO-CHESTER (U. S. Route 322)
WOODBURY-SOUTH CAMDEN (State Route 42)
CAMDEN-PHILADELPHIA (State Route S-41)
BURLINGTON-MT. HOLLY
BORDENTOWN-TRENTON (U. S. Route 206)
HIGHTSTOWN-TRENTON (State Route 33)
NEW BRUNSWICK (State Route S-28)
ROUTE 4 PARKWAY
WOODBIDGE-THE AMBOYS (State Route 35)
CARTERET
ELIZABETH
NEWARK AIRPORT
NEWARK-JERSEY CITY (U. S. Route No. 1)
LINCOLN TUNNEL (State Route 3)
GEORGE WASHINGTON BRIDGE (U. S. Route 46)

In designing the interchanges and the toll facilities, it was considered advisable to prepare for substantially greater volumes of traffic than were estimated for purposes of calculating toll revenues. In addition to such provisions in the original construction, the Authority has studied the methods by which these facilities may be expanded in future years to care for the growth which is anticipated before the retirement of all bonds is accomplished. Accordingly, the basic traffic assumptions were increased by more than fifty percent. The peak hourly traffic was generally considered as fifteen percent of average daily traffic. At the Route 35 Interchange a higher value was assumed for peak hourly traffic based

upon the experience factors developed by the New Jersey State Highway Department.

Initially it is provided that the Turnpike have six lanes, three in each direction in the twenty-two mile section from Route 35 interchange, near Woodbridge, to Route 3 interchange leading to the Lincoln Tunnel. Other sections will have four lanes initially, two in each direction. These, it is anticipated, will be adequate to accommodate all projected traffic for a number of years. Plans provide, however, for ultimately increasing the section from Route 35 interchange to Route 3 interchange, to eight lanes (dual-dual), and the fifty-seven mile section from the Camden-Philadelphia interchange to Route 35 interchange and the five mile section from Route 3 interchange to Route 6 interchange to six lanes. For the thirty-four mile section from Deepwater to the Camden-Philadelphia interchange the ultimate number is established at four lanes. Provision is made in the design of bridge structures to accommodate the additional lanes.

The Turnpike travel lanes will be 12 feet in width with those in each direction being flanked by a 10-foot finished shoulder on the outside and by a 5-foot finished shoulder on the inside. A center raised mall, or dividing strip, will separate traffic moving in opposite directions. Generally, this dividing strip between the two inside shoulders, will be 16 feet in width in the southern end, and 10 feet in width in the northern end.

Installations of toll booths have been planned to handle the 1960 adjusted volume of predicted traffic under the above criteria. Further modifications were made based on localized studies and assumptions. The plans contemplate the construction of ninety-four toll lanes, with eighty-one of

them fully equipped, and the construction of a total of forty-two double toll booths.

All interchanges generally provide for complete separation of all grades within the interchange area, and for divided traffic flow. Grades have been kept to the lowest practical minimum and unusually wide curvatures have been provided. Pavement widths have been increased on the interchange curves in order to promote the easy and rapid flow of traffic. The toll plaza areas and the booths in those areas have been designed for the minimum interference with the rapid flow of vehicles. In general, both the entering and the leaving traffic will pass through the same toll plaza as a means of reducing the operating expenses in connection with the collection of tolls. In a few cases, studies have indicated that the public could best be served by providing more than a single toll area at an interchange with a substantial saving in original construction cost.

Tolls for the use of the Turnpike have not yet been established by the Authority. The tolls which Coverdale and Colpitts proposed in their 1949 survey of traffic and revenue are as follows: (1) For passenger cars \$1.75 for the full 118-miles with the sum of the intermediate rates adding up to \$2.00; (2) For two-axle trucks \$3.10 and for three-axle single unit trucks \$4.00, with the sum of the intermediate rates the same in each case; (3) For semi-trailer trucks \$4.00 proposed for the full trip with the sum of intermediate rates adding to \$5.10.

The proposed tolls would be the equal of 1.5 cents a mile for passenger cars and 3.85 cents a mile for the semi-trailer trucks. The full trip toll of \$1.75 for passenger cars is the same rate per mile (1.5 cents) as is charged on the Maine Turnpike, as is the 3.85 cents a mile proposed for semi-trailer trucks.

The Authority has always considered the traffic surveys of the engineers and their predicted increases in traffic to be conservative. Confirming that view, the latest figures compiled early in 1950 show that on Route 1 in Newark the average traffic volume has expanded by 43% since 1947; at the George Washington Bridge by the same amount, 43%; at the Pennsville Ferry by 40%; at the Camden Bridge by 28% and over the Edison Bridge by 24%.

Governor Driscoll has expressed a keen interest in the plans for the beautification of the Turnpike, and in the preservation of trees along its route. Studies have been made of plans for landscaping and beautification, and although these have not been finalized, they will include planting at the interchanges and service areas and in other selected areas. The Authority engineers have been instructed to see that all living trees within the right-of-way are preserved except those which must be removed in order to permit the construction of the Turnpike. Generally, however, it is not anticipated that there will be tree planting along the median strip.

The Authority, in the design and preparation of plans for its Turnpike, at times has obtained the loan of specialists from the State Highway Department, the Port of New York Authority, and it is greatly indebted to them for their full and cordial cooperation. It also wishes to express its appreciation to Governor Driscoll, former Commissioner Spencer Miller, Jr. and State Highway Commissioner Ransford J. Abbott for their interest and cooperation in making the members of their staffs available on many occasions.

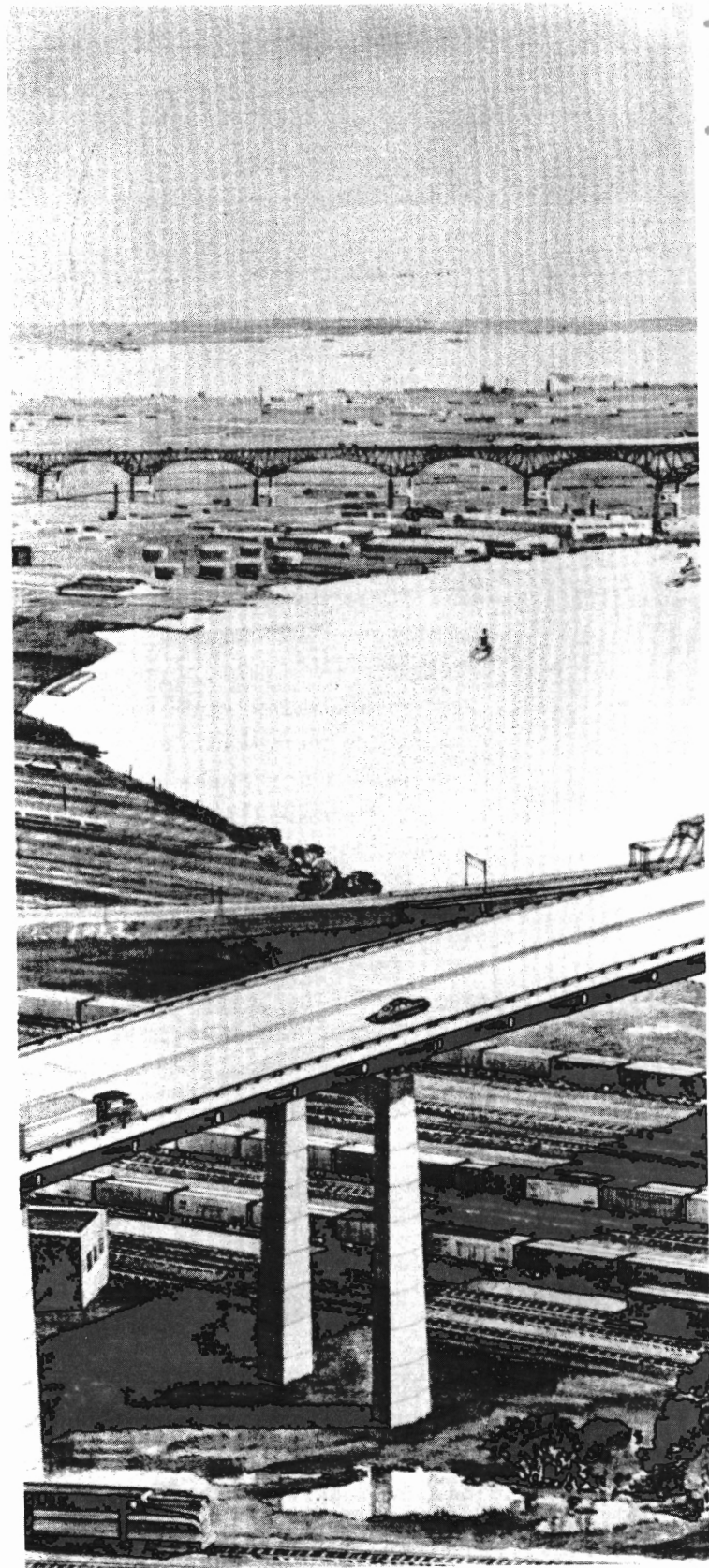
The testing of all materials to be incorporated in the grading, drainage and structures contracts is being performed under contracts with the United States Testing Co., Inc., of Hoboken, and the Jersey Test-

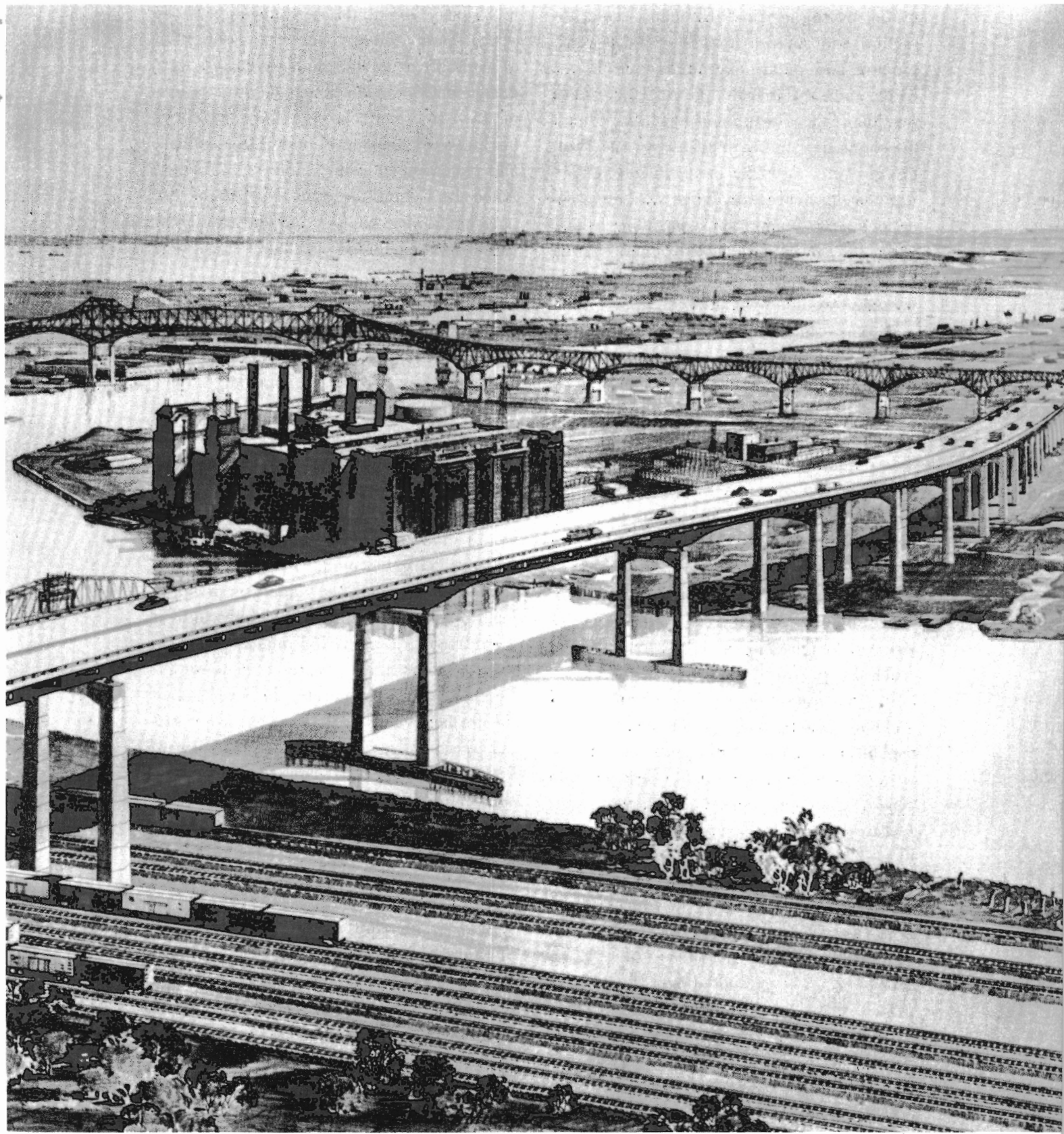
ing Laboratories, of Newark. These contracts, which were awarded as a result of competitive bidding, provide for the testing of structural and reinforcing steel, castings, pipe, cement, sand, gravel, stone, brick, timber piling, and other construction materials.

The Authority investigated at some length a proposal which has come to its attention for the construction by it of a truck terminal or truck parks and to be operated directly, or leased to, private operators. It concluded that the Authority would not engage in the development of a truck park or initiate such an activity, at least at this time, but preferred rather that private enterprise be afforded full opportunity for the development of truck terminals on private lands at convenient points near the Turnpike and adjacent to its interchanges.

The design of architectural aspects of bridges, overpasses, viaducts, including the treatment of railings, guardrails, lighting and signs, was based on the concept that economy and serviceability of the structures are paramount, and that natural grace and attractiveness will result from expressing those requirements in simple form and without extraneous ornament. Uniformity of form and detail throughout the Turnpike is desirable, because it leads to the economy and speed of design and construction made imperative by the short construction period, facilitates maintenance, and because it enables the public readily to identify any part of the Turnpike.

The outlines of bridges, abutments, piers, bents, and similar features are, therefore, generally straight, with tapers or curves used only when advantageous for engineering design. Dependence was placed upon careful study of proportions and masses within the range of alternatives per-





Passaic River Bridge, Essex and Hudson Counties, the largest structure on the Turnpike

mitted by engineering efficiency, scale, direction and surface texture of form-work, placing and detail of construction joints, color, and similar features. At the northern portion of the Turnpike especially difficult questions of engineering and architectural design were posed by many inflexible limitations on clearances, heights, column locations and foundation conditions where crossings are in contact with other existing or proposed works—a situation inherent in passage through developed territory.

Perhaps one of the most difficult decisions to be made, and the one most awaited by both the engineering profession and by the public, was the selection of the type of pavement. The Authority initiated its study by appointing a committee with a major representative from each of the consulting engineering firms. This committee, the selection of which was made in order to obtain the ablest engineering advice available, and in full realization of the significance of the problem it faced, was instructed to prepare designs, comparable from the performance point of view, for both the rigid-type Portland cement concrete pavement, and for the flexible type asphaltic concrete pavement. Their instructions were to design the best possible road (1) to incorporate all known safety features available in any type of highway, in all kinds of weather, and at high speeds; (2) to produce the finest in the way of a non-skid surface and (3) to withstand the heaviest of loads and to provide a substantial margin of safety above such loads. Costs were to be computed over the 35 year period of the bond issue, the road to be in excellent condition at the conclusion of that period.

Upon the recommendation of this Special Paving Committee, concurred in by the Consulting Engineer and the Authority's Chief Engineer, two designs, comparable

in all basic essentials, were developed, one of Portland cement concrete and the other of asphaltic concrete. Both pavements were designed to be constructed on foundations of frost-free materials so that the entire thickness of frost-free materials, subbase and pavement be a minimum of 36 inches. Since the Committee reported that the two pavements were competitive and equal, the Authority concluded to solicit alternate bids.

Bids were received in the period from October 18 to November 17, 1950, after which further studies and recommendations were received from the Special Paving Committee. The total amount of the bids for Portland cement concrete was \$44,805,936, and for asphaltic concrete \$39,546,707. The difference of \$5,259,229 to be saved by adoption of the latter type would double in amount by reason of interest charges over the life of the bonds. The Special Committee's analysis of maintenance costs of the asphaltic concrete over the thirty-five year period indicated that, in spite of their being greater than those for Portland cement concrete, the selection of the former would still represent a net saving of several million dollars. In view of this, the fact that experience shows that a safe, non-skid and durable pavement of asphaltic concrete could be placed, and that Portland cement, reinforcing steel, steel dowels, and sleeves were becoming increasingly in short supply due to world conditions, the Authority adopted the asphaltic concrete pavement.

The decision to use asphaltic concrete was made in accordance with the unanimous opinion of the Special Paving Committee and confirmed by the Authority's consulting engineers, that it would provide a highway superior to any in existence today. Either pavement, in fact, would provide an excellent highway.



Typical Restaurant and Service Station



Typical Lunchroom and Service Station

PROGRESS OF CONSTRUCTION

ENGINEERING design progressed without a decrease in pace in spite of the uncertainties at the beginning of the year with respect to financing. Contracts were scheduled for advertisement as soon as the plans and specifications were complete. Contract 1, for grading, drainage and structures in the Esso-Standard yards in Linden, bids for which had been received on December 20, 1949, was awarded on January 19, 1950. Bids on Contracts 2, 5, and 6 for the construction of the fill between the Passaic and Hackensack Rivers in Hudson County, and for the substructures of the Passaic and Hackensack River Bridges, were received on January 31, and awards were made on February 10. Bids for Contract 4, the substructure of the Raritan River Bridge, were received on February 7 and the contract awarded on February 10. Three other contracts for grading and drainage were advertised in January, and bids were received on February 21, four days after the closing of the permanent financing arrangements, and awards were made on the date of receiving the bids. By these actions the delays were minimized.

The schedule for subsequent advertisement of construction contracts was consistent with the logical sequence described above on Design. The schedule was extremely rigorous in its requirements. The Authority, desiring to allow a reasonable time for potential contractors to prepare their bids, established a normal thirty-day period as the length of time between advertising a contract and the date of receiving bids. The schedule also contained a period for review by the Authority, and by the General Consultants, of each contract design, and set an advertising date for each contract.

However, many and varied matters arose during the following months which made it necessary to modify, from time to time,

the initial schedule, and the advertisement of some contracts was, of necessity, delayed slightly.

The high degree of competition disclosed by these tabulations resulted in prices that, during the early bidding period, were closely in line with projected estimates. Subsequent to the outbreak of hostilities in Korea, prices were noticeably higher because of the uncertain future supply and rising costs of labor and materials. It was also apparent that, as many contractors received awards and were committed to work on the Turnpike, bidders were fewer in number. This may have had some partial effect on the increase in prices. Recent bidding, however, on new work shows evidence of renewed interest on the part of contractors who had received early awards, but who were well toward completion of their initial contracts.

All bidders for New Jersey Turnpike work were invited to bid on the basis of statements of prequalification required by the Authority in advance of any bidding. All construction contracts were advertised for competitive bids with only two exceptions.

The Authority found it desirable in the interest of speed, and after being convinced that projected deliveries of materials were uncertain, to negotiate contracts for the construction of the steel work of the viaduct across the Oak Island Yards of the Pennsylvania Railroad in Newark. Two contracts were negotiated, one with Bethlehem Steel Company for the furnishing of steel in the amount of \$1,088,000, and one with the American Bridge Company for the furnishing of the remainder of the steel and for the erection of all of the steel for the sum of \$1,185,560.

The ultimate design of this structure had been delayed several months pending conclusion of negotiations with the Penn-

CONTRACTS AWARDED

DATE OF AWARD 1950	CON- TRACT NO.	CONTRACTOR	COUNTY	TYPE OF WORK*	NO. OF BIDDERS
Jan. 19	1	Poirier and McLane	Union	G & D	7
Feb. 10	2	Geo. M. Brewster	Hudson	G & D	7
Feb. 10	4	Spearin, Preston & Burrows	Middlesex	M.S.	14
Feb. 10	5	The Underpinning & Foundation Co.	Essex & Hudson	M.S.	12
Feb. 10	6	R. B. Jaggard Engineering Co.	Hudson	M.S.	8
Feb. 21	8	Geo. M. Brewster	Burlington & Mercer	G & D	12
Feb. 21	11	Geo. M. Brewster	Hudson	G & D	5
Feb. 21	12	Linde-Griffith Construction Co.	Union & Middlesex	S.	9
Feb. 28	9	Grandview Construction Co.	Mercer & Middlesex	G & D	9
Mar. 16	10	Villa Contracting Co.	Middlesex	G & D	5
Mar. 22	7	Savin Construction Co.	Gloucester, Camden Burlington	G & D	10
Mar. 28	13	Napp-Grecco Co.	Union	G & D	5
Mar. 28	14	Geo. M. Brewster	Essex & Hudson	M.S.	15
Apr. 3	16	Cayuga Foundation Co.	Hudson	M.S.	9
Apr. 11	15	Del Balso Construction Co.	Union	S.	7
Apr. 25	3	S. J. Groves & Sons	Salem & Gloucester	G & D & S	8
Apr. 25	21	P. T. Cox Construction Co.	Mercer & Middlesex	S.	12
May 2	30	Harris Structural Steel Co.	Middlesex	M.S.	3
May 9	18	Geo. M. Brewster	Hudson	G & D	3
May 10	17	American Bridge Co.	Hudson	M.S.	3
May 10	20	Bethlehem Steel Co.	Essex & Hudson	M.S.	2
May 10	23	Brookfield Construction Co.	Middlesex	S.	13
May 10	26	Union Building & Construction Corp.	Bergen	G & D	5
May 10	28	Union Building & Construction Corp.	Burlington	M.S.	12
June 1	27	Savin Construction Co.	Gloucester Camden Burlington	S.	6
June 7	25	Poirier and McLane	Union	S.	6
June 7	29	Brookfield Construction Co.	Mercer & Middlesex	S.	10
June 7	34	John Rosenblum, Inc.	Middlesex	G & D & S	11
June 15	24	Peerless Construction Co.	Salem & Gloucester	S.	8
June 15	36	Geo. M. Brewster	Burlington & Mercer	S.	6
June 21	33	Francis A. Canuso & Sons	Gloucester Camden Burlington	S.	5

* Legend:

G & D = Grading & Drainage
 S. = Structures
 M. S. = Major Structures

P. = Paving
 B. = Buildings

CONTRACTS AWARDED

DATE OF AWARD 1950	CON- TRACT NO.	CONTRACTOR	COUNTY	TYPE OF WORK*	NO. OF BIDDERS
June 21	35	Koppers Company, Inc.	Hudson	S.	9
July 5	31	Grow Construction Co.	Union	S.	3
July 5	37	Conduit & Foundation Corp.	Burlington	S.	5
July 5	58	S. J. Groves & Sons Co.	Union	G & D	4
July 12	54	Peerless Construction Co.	Hudson	S.	8
July 18	32	Napp-Grecco Co.	Union	S.	3
July 18	38	Brann & Stuart Co.	Middlesex & Union	S.	6
July 18	39	Koppers Company, Inc.	Union	S.	7
July 18	41	Construction Service Co.	Middlesex	S.	7
July 21	53	Francis A. Canuso & Son	Gloucester Camden		
July 26	19	Construction Aggregates & Peter Kiewit & Sons Co.	Union & Essex	G & D	3
Aug. 2	57	Geo. M. Brewster	Burlington & Mercer	S.	5
Aug. 10	44	Poirier and McLane	Union	S.	5
Aug. 10	50	Stock Construction Corp.	Bergen	S.	5
Aug. 16	22	Construction Aggregates & Peter Kiewit & Sons Co.	Essex	G & D	3
Aug. 16	40	S. J. Groves & Sons Co.	Salem	S.	2
Aug. 23	42	H. L. Harrison & Sons, Inc.	Essex	S.	9
Aug. 30	56	Geo. M. Brewster	Hudson	S.	6
Sept. 8	49	Ell-Dorer Contracting Co.	Hudson	S.	9
Sept. 13	43	Franklin Contracting Co.	Essex	S.	8
Sept. 20	51	Union Building & Construction Corp.	Bergen	S.	6
Nov. 8	45A	The Underpinning & Foundation Co.	Essex	S.	8
Nov. 8	45C	Bethlehem Steel Co. & American Bridge Company	Essex	S.	2
Nov. 8	67	Elizabeth Iron Works	Middlesex	B.	3
Nov. 16	68	Peter W. Kero Co.	Middlesex	G & D	5
Nov. 29	45B	Poirier and McLane	Essex	S.	2
Nov. 29	46	Union Building & Construction Corp.	Bergen	S.	6
Nov. 29	60	Savin Construction Co.	Gloucester Camden		
Nov. 29	61	Geo. M. Brewster	Burlington Burlington & Mercer	P.	5
Nov. 29	62	Geo. M. Brewster	Mercer & Middlesex	P.	3
Nov. 29	63	S. J. Groves & Sons	Middlesex & Union	P.	4
Nov. 29	64	Gull Contracting Co., Inc. & Tully & DiNapoli Inc.	Union, Essex & Hudson	P.	5
Nov. 29	65	Geo. M. Brewster	Hudson & Bergen	P.	2
Dec. 6	48	Johnson, Drake & Piper	Essex & Hudson	M.S.	4
Dec. 6	59	S. J. Groves & Son	Salem & Gloucester	P.	5
Dec. 27	66	R. B. Jaggard Engineering Co.	Union	S.	3
TOTAL					427

**COST COMPARISONS OF CONTRACTS FOR WHICH BIDS
HAVE BEEN RECEIVED**

(Prior to June 25, 1950—Korea)

	ORIGINAL REPORT ESTIMATE	ENGINEERS' ESTIMATE FOR BIDS	BID PRICE	DIFFERENCE BETWEEN ORIGINAL REPORT ESTIMATE AND BID PRICE
Contract 1	\$ 1,725,400	\$ 1,868,650	\$ 1,968,730	\$ 243,330+
Contract 2	1,787,700	2,314,995	1,884,050	96,330+
Contract 3	5,947,240	5,454,560	5,095,733	851,507—
Contract 4	353,000	554,445	368,374	15,374+
Contract 5	527,660	788,690	680,285	152,625+
Contract 6	895,508	1,513,950	1,226,910	331,402+
Contract 7	3,702,400	4,283,226	3,391,484	310,916—
Contract 8	4,125,000	3,838,764	2,477,738	1,647,262—
Contract 9	4,074,500	4,166,066	2,716,065	1,358,435—
Contract 10	1,714,100	2,574,437	1,776,420	62,320+
Contract 11	3,453,800	3,016,365	1,954,920	1,498,880—
Contract 12	438,000	661,065	603,879	165,879+
Contract 13	1,453,200	1,428,170	1,328,095	125,105—
Contract 14	2,833,000	4,342,290	3,855,960	1,022,960+
Contract 15	1,327,000	1,957,810	1,683,740	356,740+
Contract 16	1,814,000	1,698,485	1,629,230	184,770—
Contract 17	4,497,134	5,665,200	5,326,890	829,756+
Contract 18*	7,418,561	5,746,565	5,320,288	2,098,273—
Contract 20	6,266,000	6,883,600	7,288,810	1,022,810+
Contract 21	1,156,200	1,440,125	1,365,108	208,908+
Contract 23	988,700	1,448,895	1,354,698	365,998+
Contract 24	160,300	320,752	281,885	121,585+
Contract 25	264,600	520,450	338,975	74,375+
Contract 26	3,663,500	2,209,966	1,838,685	1,824,815—
Contract 27	1,852,300	2,075,560	2,310,658	458,358+
Contract 28	581,000	1,249,220	1,140,145	559,145+
Contract 29	966,900	1,239,128	1,161,069	194,169+
Contract 30	882,000	754,950	848,170	33,830—
Contract 33	1,551,400	1,743,382	1,747,280	195,880+
Contract 34	3,370,600	3,155,905	2,822,636	547,964—
Contract 35	571,400	778,557	870,825	299,425+
Contract 36	1,139,316	1,817,574	1,763,277	623,961+
	\$71,501,419	\$77,511,405	\$68,421,012	\$ 3,080,407—

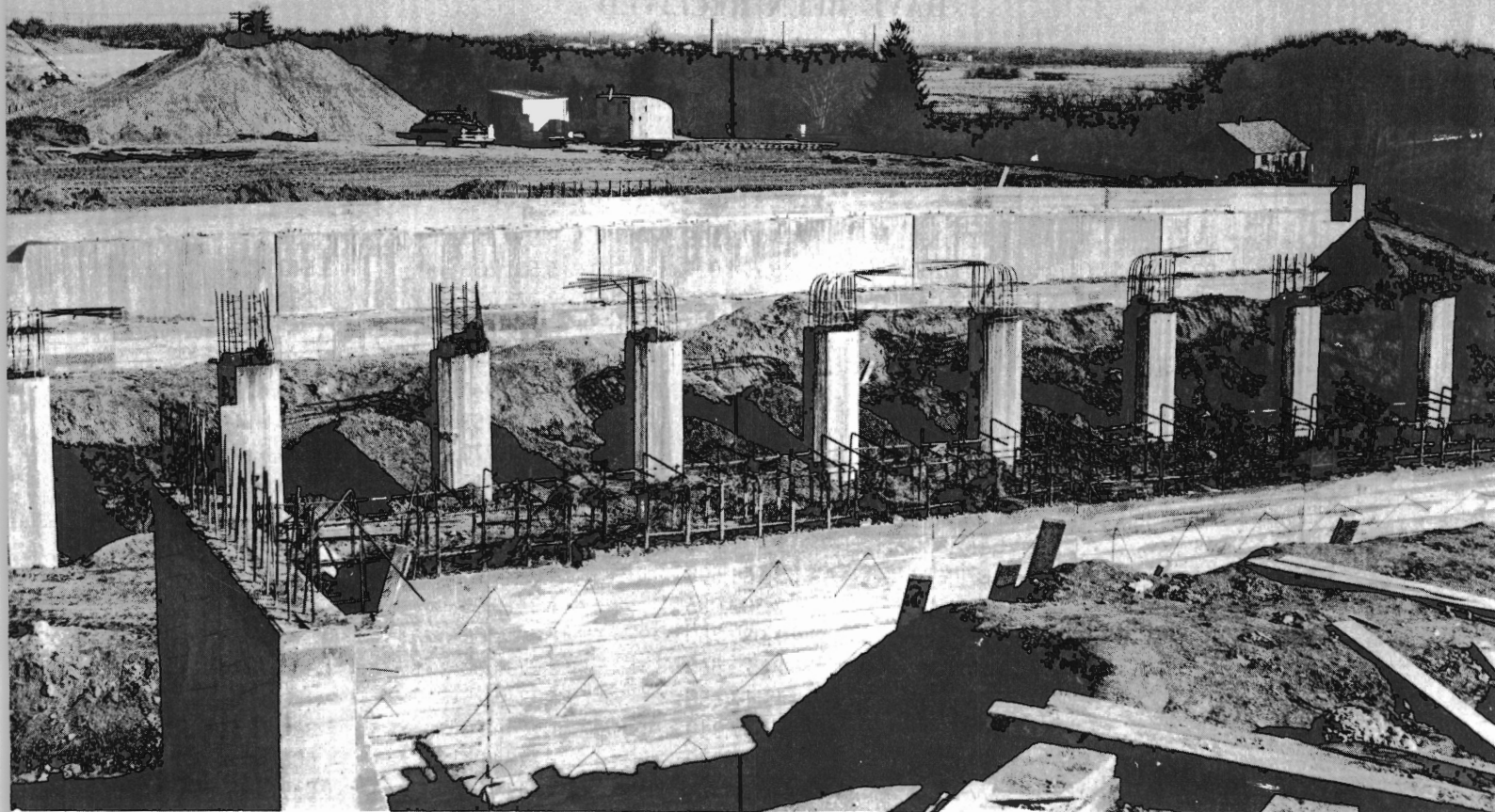
* Includes cost of construction to be performed for the Port of New York Authority and recoverable therefrom.

**COST COMPARISONS OF CONTRACTS FOR WHICH BIDS
HAVE BEEN RECEIVED**

(Subsequent to June 25, 1950)

	ORIGINAL REPORT ESTIMATE	ENGINEERS' ESTIMATE FOR BIDS	BID PRICE	DIFFERENCE BETWEEN ORIGINAL REPORT ESTIMATE AND BID PRICE
Contract 19	\$ 4,149,800	\$ 6,176,585	\$ 5,839,373	\$ 1,689,573+
Contract 22	3,041,200	6,774,027	6,581,635	3,540,435+
Contract 31	2,629,100	2,564,755	2,375,781	253,319—
Contract 32	814,700	666,450	772,863	41,837—
Contract 37	2,173,441	2,275,475	2,129,445	43,996—
Contract 38	4,025,477	4,192,355	4,625,947	600,470+
Contract 39	576,000	504,345	517,953	58,047—
Contract 40	1,214,800	887,056	1,179,970	34,830—
Contract 41	765,500	1,090,679	1,080,913	315,413+
Contract 42	590,500	1,093,745	1,218,613	628,113+
Contract 43	1,362,000	2,139,250	2,176,300	814,300+
Contract 44	2,873,600	3,854,595	4,068,675	1,195,075+
Contract 45A	983,000	2,302,086	1,841,595	858,595+
Contract 45B	427,700	1,089,750	1,015,300	590,600+
Contract 45C	867,000	2,273,560	2,273,560	1,406,560+
Contract 46	886,300	1,417,450	1,324,925	438,625+
Contract 48	890,000	1,199,340	1,224,450	334,450+
Contract 49	1,285,700	838,270	778,804	506,896—
Contract 50	774,000	1,738,872	1,843,480	1,069,480+
Contract 51	248,700	424,810	464,860	216,160+
Contract 53	929,000	1,543,500	1,470,112	541,112+
Contract 54	1,084,000	2,136,285	1,890,936	806,936+
Contract 56	354,400	815,542	838,973	484,573+
Contract 57	675,231	1,577,825	1,380,469	705,238+
Contract 58	522,750	693,975	491,850	30,900—
Contract 59	4,482,500	5,382,515	6,314,436	1,831,936+
Contract 60	3,691,600	4,169,750	5,091,044	1,399,444+
Contract 61	4,452,500	5,389,681	5,910,031	1,457,531+
Contract 62	5,493,300	6,924,843	7,086,873	1,593,573+
Contract 63	4,171,673	6,502,885	6,296,148	2,124,475+
Contract 64	3,175,505	6,225,215	5,558,791	2,383,286+
Contract 65	2,877,185	3,279,470	3,289,384	412,199+
Contract 66**	—	376,714	470,050	470,050+
Contract 67	67,500	90,000	64,600	2,900—
Contract 68	392,000	835,980	543,290	151,290+
	\$62,944,662	\$89,448,067	\$90,031,429	\$27,086,767+
Grand Total	\$134,446,081	\$166,959,472	\$158,452,441	\$24,006,360+

** 50% of the amount of this Contract plus the paving in the vicinity of North Avenue is chargeable to the Port Authority. This contract price is subject to further negotiation, which will possibly result in a subsequent correction.



Piers for Overpass near the New Brunswick Interchange, Middlesex County

sylvania Railroad, and by that time (November, 1950) the steel market was such that a negotiated contract would give greater assurance as to delivery dates and was deemed most advantageous to the Authority. The unit prices per pound of steel compared favorably with those obtained in previous competitive bidding.

All construction contracts advertised for competitive bids were awarded to the low bidders, with three exceptions. The first of these advertisements called for bids for grading and drainage in Section 1 in Salem and Gloucester Counties. It was found desirable, in this instance, to readvertise so as to combine the structures with the work of grading and drainage. In the second instance, the bids called for the furnishing

of structural steel for the Administration Building, a comparatively small contract. The low bidder acknowledged his inability to obtain steel in time to complete the contract on schedule, and the award was made to the second low bidder who gave satisfactory evidence of his ability to obtain the steel. The third instance involved the bids for paving in Section 1, where the proposal of the low bidder did not comply fully with the bid requirements. All bids were rejected and, following negotiations, an award was made to the second low bidder at a price below his original bid.

With only two exceptions, all contractors who bid successfully were established in New Jersey, Metropolitan New York or Philadelphia and were thoroughly familiar



Pier Forms for Laurence Brook Overpass, Middlesex County

with manpower and other construction conditions in this area. The necessary mobilization for the project drained a reservoir of skilled construction workers and construction machinery that had been created by a general slackening of construction late in 1949.

A large amount of new construction machinery, particularly grading equipment, was purchased by contracting firms and put to extensive use during the year. Equipment mobilized by all contractors during 1950 approached \$45,000,000 in replacement value. This represents an unusually large concentration of construction equipment. Construction forces numbered close to 10,000, while 700 engineers have been employed on the work. Specialty

items, such as the high-capacity Euclid Elevating Graders, are in use in many sections and are moving unusually large yardages. Earth wagons with capacities up to thirty cubic yards were used by all dirt moving contractors.

In Section 6, large volumes of embankment are being placed by hydraulic fill methods using a combination of hopper dredges, and bottom dump scows with a hydraulic dredge. In this particular area, the sand required is dredged out of Jamaica Bay and the New York Bay near Coney Island by large hopper dredges operating seven days a week. It is then transported to the dock at Port Newark where it is mixed with water and pumped thousands of feet through a twenty-inch pipe to its

destination in the Newark meadows. More than 6,000,000 cubic yards of ocean and sand are being placed in the area for the Turnpike foundation.

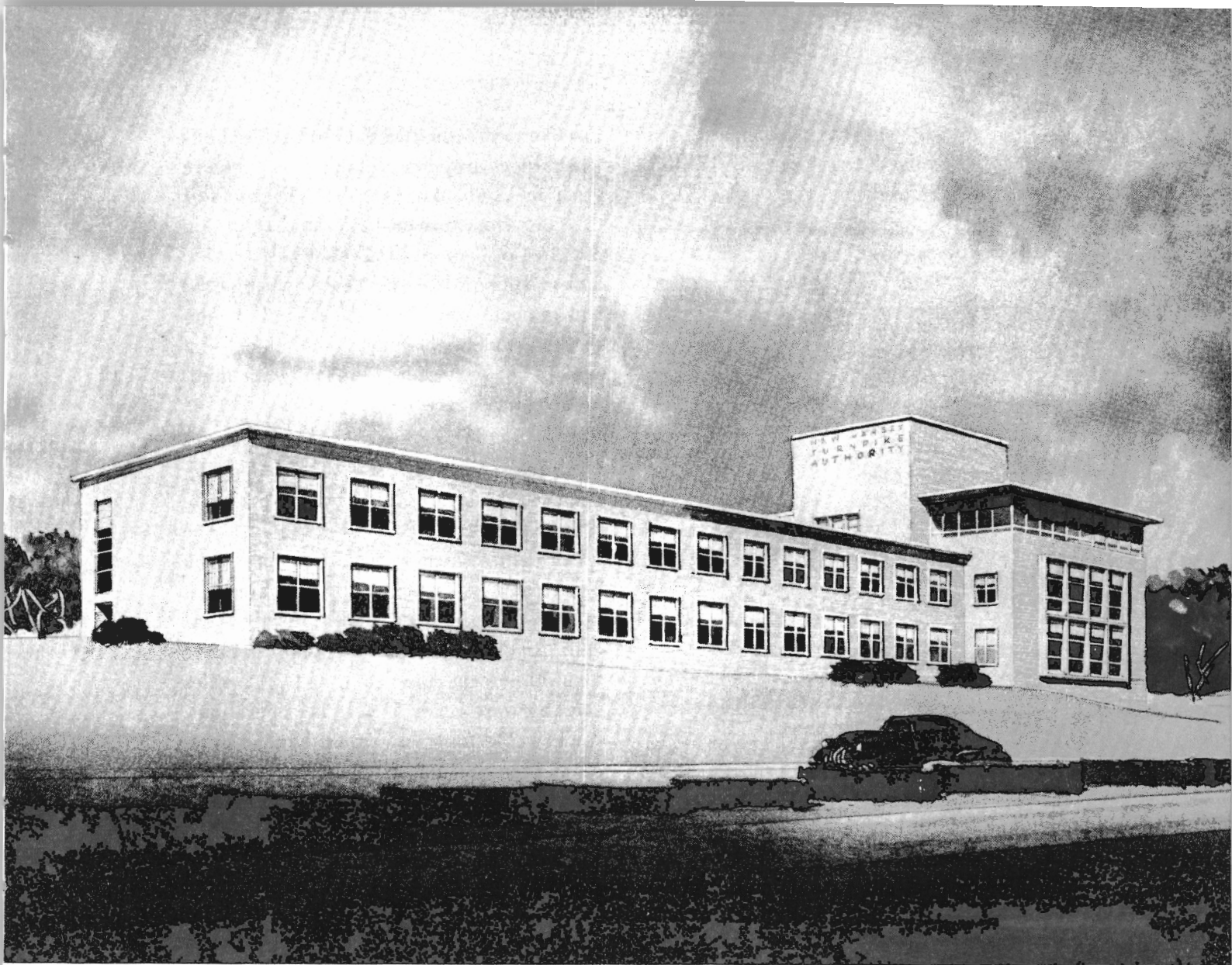
Structures are being built by conventional methods with a large proportion of the concrete being provided by local transit-mix plants. Earth yardage being moved reached peaks in excess of 500,000 cubic yards per week, and at times approached the 750,000 mark. Concrete in structures is being placed at a rate in excess of 5,000 cubic yards per week. Operations are being conducted simultaneously in all areas through the division of the work among the several engineering firms and the many contracting firms. Preliminary operations under paving contracts are underway.

There have been no extensive or serious delays due to strikes or other labor differences. Labor unions have cooperated fully in permitting contractors to utilize key personnel of their organizations in accordance with the contractors' practices. The supply of skilled workmen, for the most part, has been adequate, with only exceptional cases being reported where work was delayed because of a shortage of skilled labor. In each instance where this has occurred, there has been prompt action to correct the deficiency. Unskilled labor has been of satisfactory quality and generally of adequate supply.

As of late 1950, the war emergency had had no real effect on the progress of the work insofar as manpower was concerned. There were some nominal delays, particularly in the instance of late delivery of steel piling and an occasional shortage of cement, but otherwise materials were in fair supply. At the end of the year there were indications from steel producers, and those fabricating steel structures for bridges, that future delays in deliveries

were to be anticipated, due to the priority of defense orders on the output of the steel mills. The Authority has pursued aggressively all steps necessary to assure, so far as possible, prompt delivery of the steel required to complete the Turnpike which is generally regarded as a traffic facility essential in a national emergency, as well as one serving an essential function in a normal peacetime economy. The Turnpike will represent a highly necessary means of evacuating civilians, in case of enemy attack, from the densely populated and vulnerable areas of northern New Jersey and Metropolitan New York. The Turnpike also will make possible the expeditious transportation of men and materials to and from the important embarkation and debarkation points on the Atlantic seaboard. At the same time it will tie in, through direct connections, with the leading producers of war material in the north, middle west and south.

Under date of June 30, 1949, the President transmitted to the Congress of the United States, for its consideration, a letter from the Administrator of the Federal Works Agency enclosing a report on the highway needs of the national defense. The report was prepared at the request of the Congress by the Commissioner of Public Roads in cooperation with the several State highway departments. The Secretary of Defense and the National Security Resources Board cooperated in its preparation, and responded with suggestions of the needs for improved highways for national defense. The report describes and illustrates the National System of Interstate Highways which is the trunk-line highway system of the United States and which the National Military Establishment has determined to comprise the road system of greatest strategic importance in time of war. The route of the New Jersey



Administration Building, East Brunswick, Middlesex County

Turnpike is a vital section of that system.

In view of this essentiality, it is believed that the Authority's steel requirements will receive the necessary priority, and that the Turnpike completion schedule can be met unless there are other unforeseeable difficulties.

In December the entire project approached a period during which it was to be anticipated that progress would be retarded by inclement weather, particularly in grading operations. The loss of labor to defense industries and the armed forces

will not result in an immediate crisis. However, the building up of the construction forces again next spring in the face of an accelerated defense program may cause delays which can, and will, be offset by overtime and weekend work.

The schedule of construction was designed to provide for simultaneous construction operations along the entire length of the Turnpike and allow successful bidders time to place advance orders for materials and stockpile materials in those cases where rapidity of use would exceed

normal rate of supply. The quantities of materials involved are large, as is illustrated by the following:

TOTAL STRUCTURES	263
STREAM CROSSINGS	31
HIGHWAY AND RAILROAD CROSSINGS	194
CULVERTS	38
OVERALL MILEAGE OF STRUCTURES	6.5
ROCK EXCAVATION	188,000 cu. yds.
DRAINAGE PIPE	160 miles
TOTAL EARTHWORK	51,000,000 cu. yds.
ASPHALTIC CONCRETE	
(Paving)	3,984,000 sq. yds.
ASPHALTIC SHOULDERS ..	2,300,000 sq. yds.
CONCRETE	520,000 cu. yds.
CONCRETE FOR PAVING ..	118,000 sq. yds.
REINFORCING STEEL	30,260 tons
STRUCTURAL STEEL	102,270 tons
STEEL PILES AND PILE CASINGS ..	36,840 tons
CASTINGS, RAILINGS, ETC.	13,620 tons
GUARD RAIL, RIGHT-OF-WAY	
FENCE	5,200 tons
TOTAL STEEL	188,190 tons
PILES, (CONCRETE, STEEL & TIMBER)	1,787,000 lin. ft.
SAND DRAINS	4,800,000 lin. ft.

The major part of the work being accomplished on the Turnpike is being done by conventional methods. In the marsh areas, particularly in the northern part of the State where such areas were the only ones economically feasible for the Turnpike locations, a comparatively recent, but highly successful, and fully proven method of construction has been adopted. This method consists of installing vertical sand drains which act as relief passages for

the water contained in these unstable muds when they are consolidated by pressure from the embankment fills. The removal of water from this unstable mud results in a degree of "compaction" that will provide a firm support for the new superimposed embankment which will be essentially unyielding and will afford foundation for a smooth roadway riding surface with minimum maintenance costs.

Construction operations, particularly grading, have been started on approximately 105 of the 114½ miles of Turnpike that is being built on earth fill. The speed with which construction has been progressing is indicated by the fact that during the past ten months, to the year end, grading for the Turnpike is more than 50 percent completed, and 28.2 miles actually were ready for paving operations. Another 24.9 miles await only the addition of a layer of (GRADE "A") frost-free materials before paving can be undertaken, and an additional 12.5 miles require only two (GRADES "A" and "B") layers of frost-free materials before being ready for paving. In all a total of 70.8 miles are ready for paving, or nearly so. Additional mileage can be completed rapidly with only nominal additional work.

The status of grading operations, by sections, is shown in the accompanying tabulation on a mileage basis:

STATUS OF GRADING IN PREPARATION FOR PAVING

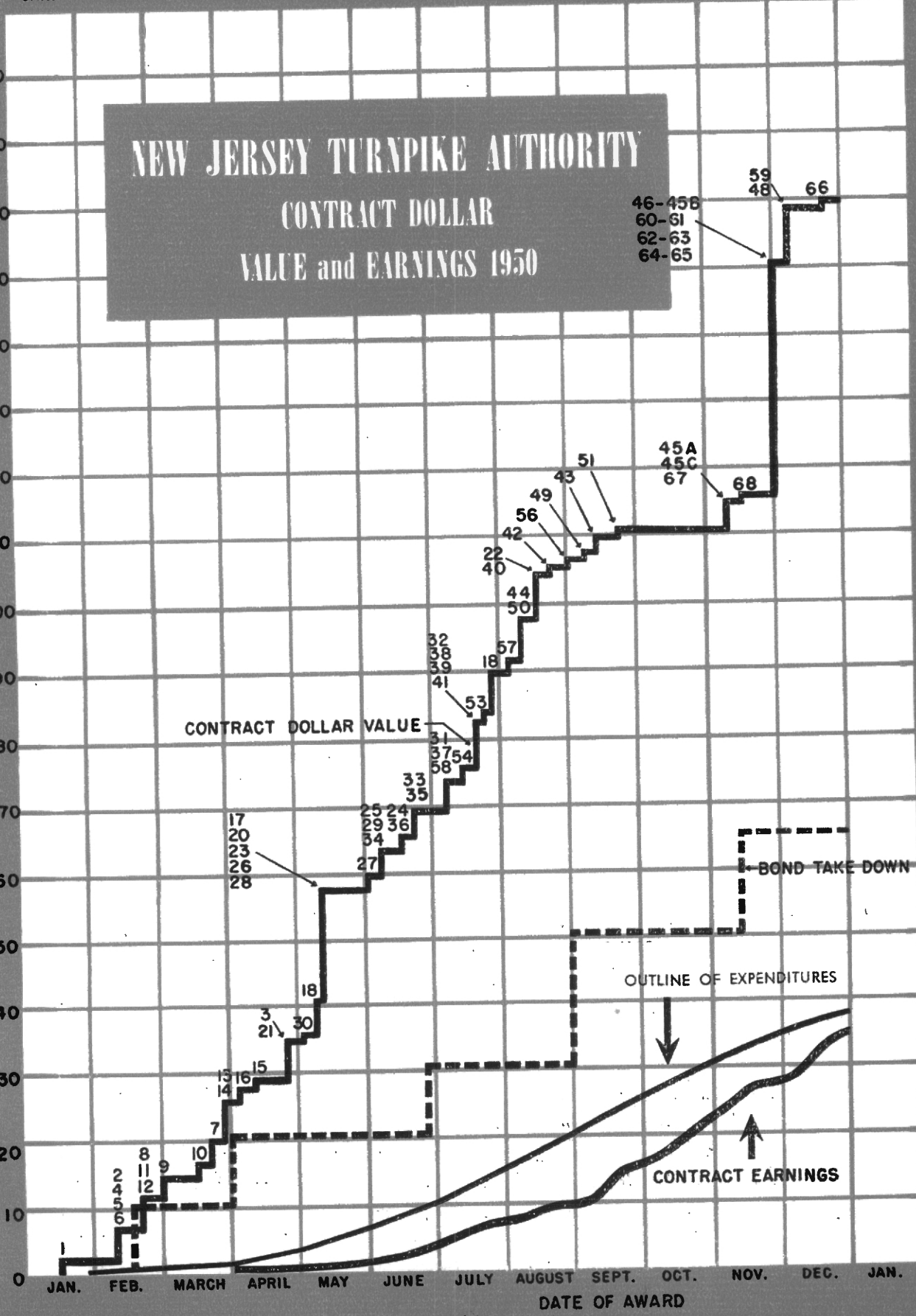
SECTION	TOTAL IN SECTIONS*	TOTAL IN WORK	TOTAL READY FOR PAVING	"B" COMPLETE	"A" COMPLETE	TOTAL COMMON COMPLETE
1	20.4	19.1	4.8	3.5	7.9	16.4
2	17.9	16.1	0.8	2.5	5.5	8.8
3	21.7	19.0	6.0	1.0	3.0	10.0
4	24.5	24.5	11.1	3.0	7.0	21.0
5	14.2	13.5	4.0	2.5	1.5	9.2
6	8.7	5.4	0.8	—	—	3.1
7	7.2	7.2	0.7	—	—	2.3
TOTAL	114.6	104.8	28.2	12.5	24.9	70.8

*Major Bridges Not Included

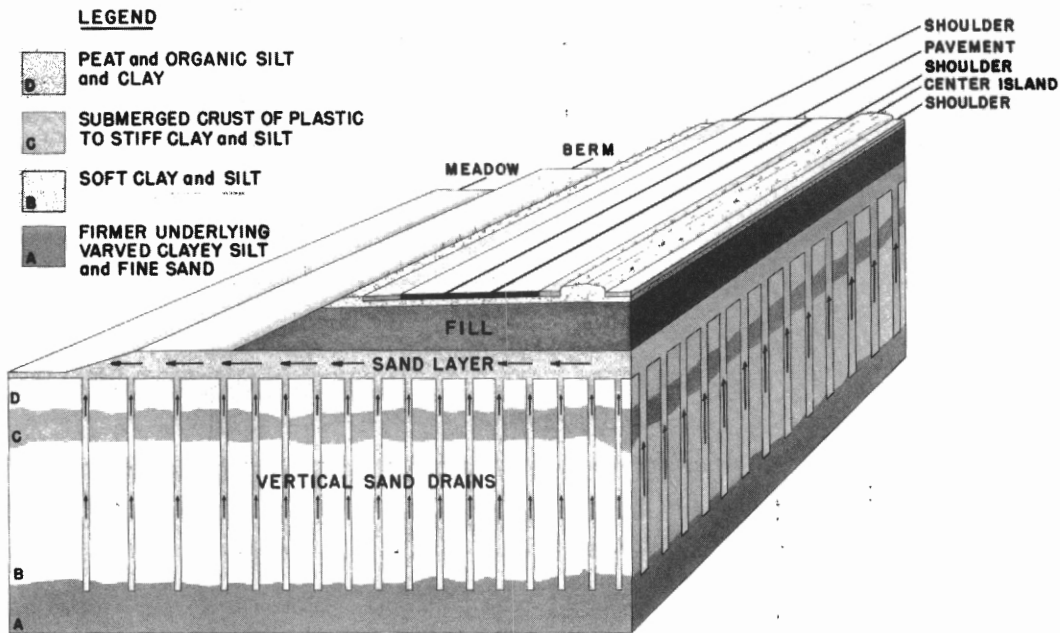
1950
 JAN. FEB. MARCH APRIL MAY JUNE JULY AUGUST SEPT. OCT. NOV. DEC. JAN.

NEW JERSEY TURNPIKE AUTHORITY
CONTRACT DOLLAR
VALUE and EARNINGS 1950

MILLIONS OF DOLLARS



CUTAWAY SECTION OF VERTICAL SAND DRAIN STABILIZATION BENEATH HEAVY FILLS



ARROWS SHOW DIRECTION OF FLOW OF WATER TO AND FROM VERTICAL SAND DRAINS DURING FILLING AND OVERLOADING PERIOD.

Thus, it is readily apparent that there is sufficient embankment fully prepared and ready for paving so that paving contractors should be able to start their operations as soon as spring weather will permit. The balance of the Turnpike mileage is composed of major bridge structures, all of which are under construction. In the instance of the two largest structures, the Passaic River Bridge and the Hackensack River Bridge, outstanding progress on foundation substructures has been made.

The Authority, during the course of the year, accepted from the State two rough graded sections totalling 1.12 miles of what was to be the original Route 100 (Sections 4A and 4B), and which became a part of the Turnpike. The sections are in addition to a section 5.43 miles in length

which had already been rough graded by the State Highway Department and was adopted as part of the Turnpike.

In addition to the major structures, there are over 202 secondary structures on which progress to date has been fair. At the end of the year substructures had been completed on approximately 15 of these structures and substructure work was in progress on nearly 100 other structures. It is anticipated that work on secondary bridges will proceed throughout the winter without interruption, with the provision of adequate means for protecting concrete against freezing. The first fabricated structural steel has been shipped to the job, and bridge superstructures will be completed as rapidly as steel deliveries can be obtained.

The structure work is now well organized and proceeding at a high level of activity. This work will be expedited during the winter and spring in order that structures may be completed and detours abandoned to give paving contractors uninterrupted access for their operations. In Sections 1, 2 and 3, totalling 60 miles in length, the problem of coordinating operations between grading structures and paving contracts was simplified to a considerable degree when the principal contractors now at work were successful in competitive bidding and were awarded the contracts for paving. The problem of coordination thus becomes a matter to be worked out within the individual contractor's own organization.

Because of an unusually wet spring and summer, and the fact that construction activities were not immediately coordinated with the acquisition of right-of-way, construction progress prior to September was delayed in certain areas. These conditions were corrected through the efforts of the Authority and its staff, and the cooperation of the contractors. Favorable weather until mid-November improved the progress, and this advantage was utilized to the maximum. There are still some areas in which progress is slightly behind schedule, but these are receiving the close and constant attention of the Authority and its staff, and in due time, the delinquent contracts will be brought to schedule. The overall progress can be roughly calculated from contractors' earnings. The original estimate of contractors' earnings and the dollar value of contracts awarded are shown herein.

In the instance of every intersecting thoroughfare, whether controlled by the State, a county, or a municipality, the Authority was faced with the problem of making appropriate provision. In a very

few isolated instances, little used thoroughfares were cut off and abandoned. Some public highways having but nominal use were detoured by the construction of special marginal roads to link up with major roads for which grade separation structures were provided. In every instance where a grade separation structure was provided, it was manifestly desirable to secure the consent and agreement of the governing body charged with the responsibility for the road, including agreement on details of location and design. With only a few exceptions, it was necessary to provide at each structure location, a temporary detour facility that would permit traffic to operate in as nearly a normal manner as possible while the grade separation structure is being constructed. In a few cases, it was possible by agreement with the governing bodies concerned to close a road temporarily, detouring traffic around by means of other existing roads. All governing bodies cooperated with the Authority in working out many difficult problems.

The foregoing discussion has dealt primarily with the major components of the Turnpike. At the year end the Authority and its staff were actively engaged in preparation of the design and specifications for the toll plazas, administration, concession and maintenance buildings, and their equipment. Contracts for these facilities are expected to be advertised shortly so that awards may be made and actual work begun. Work also is underway on all those smaller miscellaneous items which transform a bare highway into an attractive and efficient turnpike. These include service areas, communications, lighting, guard rail, right-of-way fence, utility services, access roads, landscaping, signs and many other features. All are being knit into the construction pattern which is growing each day.

ACQUISITION OF RIGHTS OF WAY

ONE of the most difficult and complicated problems which faced the Authority in 1950 was the acquisition of the right-of-way for the Turnpike. The consulting engineers in charge of particular sections of the Turnpike were each responsible for the preparation of property maps defining the lands to be acquired. Although the initial drawings showing the general location of the right-of-way with respect to properties were prepared by the end of 1949, many modifications and adjustments, including a number of other requirements, such as slopes and drainage easements, interchange and service areas, were not finally determined upon in some instances until late in the fall of 1950. Because of the modifications and adjustments mentioned here, as well as a further breakdown of parcels into new categories, the number to be acquired increased from 1,439 in February, last, to 3,426 parcels at the end of 1950.

Property drawings were prepared by New Jersey licensed surveyors working under the supervision of the consulting engineers in each section. These drawings first showed merely the right-of-way for the Turnpike roadway, which is generally 300 feet in width, but of varying width in the section north of the Raritan River and reducing, in built-up areas, to approximately 200 feet. The survey work required in preparation of the maps imposed a sizable work load on local land surveyors. A shortage of qualified engineers and surveyors handicapped the prompt production of final and complete property maps.

While a procedure was followed with respect to the advertisement and award of construction contracts on a schedule intended to commit contractors, and initiate construction, as elsewhere described in this report, the Real Estate Department was faced with the necessity of a thorough

screening of candidates to act as local appraisers and negotiators for the ten counties traversed by the Turnpike. The selection of the first appraiser was approved on February 10, 1950 and negotiations leading to the selection of the major force continued during that month. The first contract for the employment of real estate personnel was approved on March 6, 1950.

This search for real estate experts called for an exhaustive survey of the availability of qualified personnel. It was neither possible nor desirable for the Authority to engage on its immediate staff the numbers and types of experts required, because of the short duration of employment and the inability to obtain such experts on a full-time basis. In addition, it was apparent to the Authority that it should employ to the greatest degree possible, local experts and firms for appraisals, and also negotiators who were recognized and established in their professions, in the various counties. On the other hand, it was obvious that the Authority must have on its staff under the Director of Real Estate an adequate number of independent experts to appraise and review the results of the field activities in order to prevent distortion of values, or faulty negotiations.

The organization to carry out the real estate functions is shown below:

- a. The Director of Real Estate, the Assistant Director, and a small staff of specialists, plus the necessary clerical, legal, and administrative help, all on a full-time basis and directly employed by the Authority;
- b. The selection and engagement, under contract, of local appraisers, reaching a total of 30 firms and individuals

- at the peak of the program;
- c. The selection and engagement, under contract, of negotiators reaching a total of 66 firms and individuals. Compensation was mainly on a "per parcel" basis, but some were engaged on a lump-sum, or a per diem, basis;
 - d. A group of specialists for the appraisal of highly industrialized areas, as in Newark, and for the pig farm area in Secaucus, Hudson County, was engaged under special contract; and
 - e. The engagement of county real estate supervisors, reaching a total of thirteen at the peak of the program, who acted as general supervisors of the above appraisers and negotiators, and who often carried on the final negotiations directly. These were employed generally on a monthly basis of compensation.

In the early stages it was imperative to obtain rights-of-entry in order that contractors could initiate construction, and the first efforts of the Real Estate Director were toward that objective. A form for the right-of-entry was prepared and utilized for these purposes, and voluntary rights-of-entry were obtained in about fifty percent of the cases, even before appraisals or negotiations for the purchase of the land had begun. A system was established whereby the Real Estate Department kept the consulting engineers in the various sections currently advised of the rights-of-entry obtained. Efforts were made to ob-

tain rights-of-entry over long stretches of the Turnpike to provide contractors with ample working areas, but obviously this was difficult to accomplish since numerous isolated parcels remained temporarily unavailable.

Appraisals were prepared upon special forms which followed the pattern utilized in Federal and State acquisition programs. The forms bore the signature of the appraiser and were submitted as confidential papers to the Authority. Generally, the negotiations followed the submission of the appraisals, and so far as possible, they were not conducted by those who made the original appraisals. In instances where the same person appraised and negotiated, a careful review was made by another expert under the supervision of the Director of Real Estate.

The Authority was presented each week with the contracts of sale, signed by the owners, together with a condensed statement in each instance containing a description of the property to be acquired, the criteria establishing the appraised value, the names of the appraisers and negotiators, the asking price of the owner, the results of the negotiations, and the recommendation of the Real Estate Director and the Executive Director. If satisfactory to the Authority, the Executive Director was authorized to execute the Contract of Sale, and conclude the acquisitions.

By the end of 1950 the Authority had approved Contracts of Sale totaling \$9,678,200. In some of these, totaling \$744,268 in amount, it is not possible to make an exact comparison between the Contracts of Sale and the appraisals because of the inclusion in the contracts of provisions relating to certain work to be done by the Authority, such as that pertaining to access, drainage, water supply, and removal of obstacles. The balance of

First Steel Girders being placed on Passaic River Piers, Hudson County



\$8,933,932 may be compared directly with the corresponding appraisals of \$8,466,996, indicating that the Authority was successful in negotiating those purchases at 105.51 percent of appraisals.

The Authority was not only compelled to obtain rights-of-entry or Contracts of Sale at a rapid rate in order to maintain its construction schedule, but was conscious of its obligations to all property owners along the route of the Turnpike to complete the transfer of ownership and pay the owners at the earliest possible date. Although in this, as in other public acquisitions, the responsibility rests with the owner to provide a good and sufficient title, the Authority was particularly anxious to take all possible steps to assist in perfecting title for an owner, so that a deed could be obtained and the owner paid. This was important in all instances, but particularly so in cases where an owner would lose his home.

The Authority generally obtains warranty deeds conveying fee title to the right-of-way, slope easements for the slopes of embankments outside of the normal right-of-way, and to provide for overpasses or underpasses, and drainage easements when there is a change in natural drainage directly attributable to the construction of the Turnpike. It also obtains temporary easements for the construction of the principal detours required during construction operations. New Jersey title companies were engaged under contract to search titles, prepare deeds, and furnish title certificates. The latter guarantee that, upon payment of the purchase price and completion of designated curative work, valid titles will vest in the Authority.

The Authority concluded that, rather than organize a special section of attorneys to handle the curative work and perfect

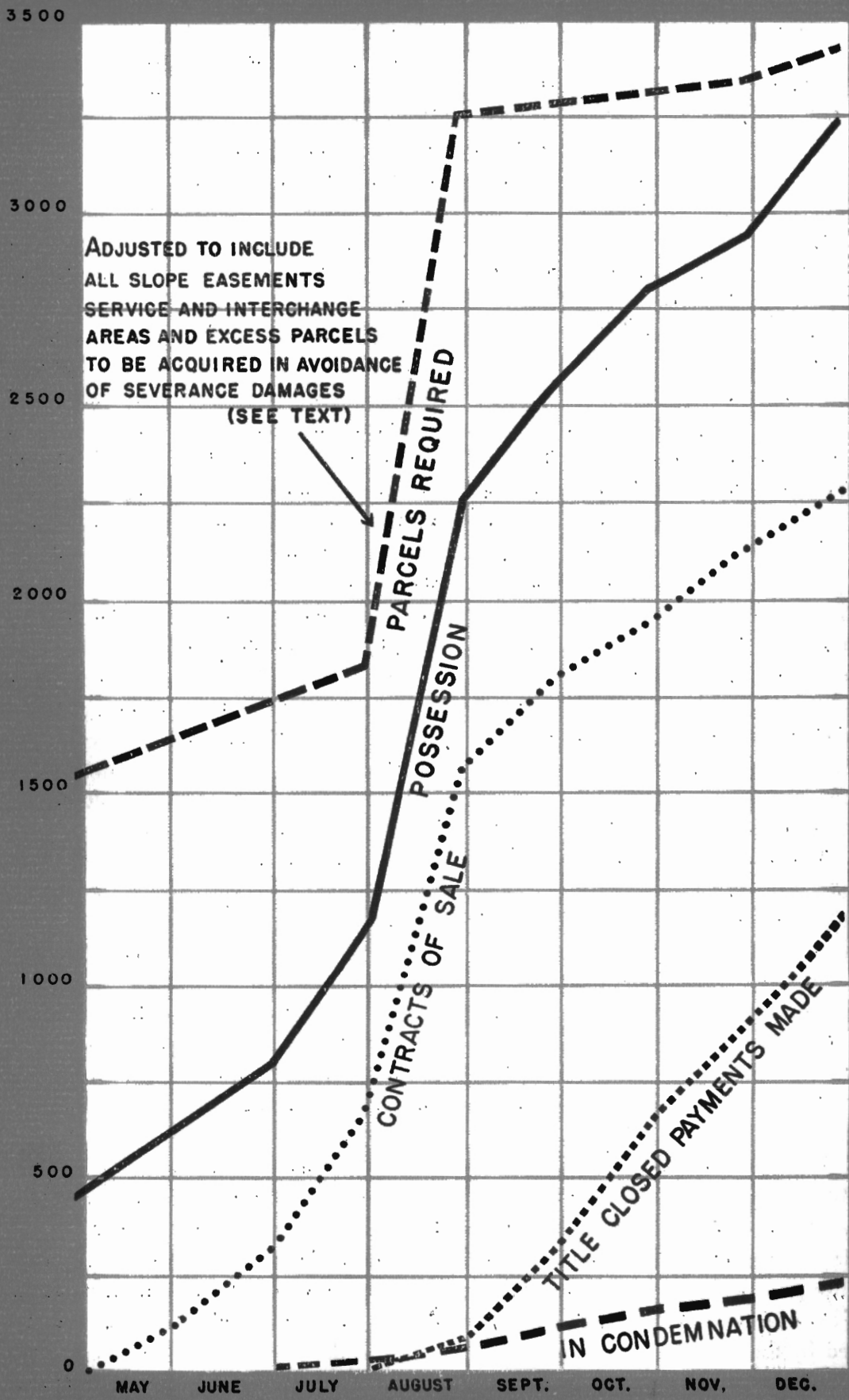
titles, it would utilize the same title companies to do this work.

As in the case of local surveying firms, a tremendous burden was thus imposed upon the title companies selected to do this work. They cooperated fully with the Authority, and during the latter part of the year when many closings of titles were scheduled, increased their output to meet the requirements of the acquisitions schedule.

The lands necessary for the right-of-way involved a great variety. The southern and central sections of the route traverse dairy and farm lands, while the northern section traverses developed and undeveloped industrial areas. The built-up sections were generally in Gloucester and Camden Counties, in the City of Elizabeth, and at the pig farms in Hudson County. As was to be expected, it was not always possible in such varying types of land development to obtain voluntary rights-of-entry or to negotiate Contracts of Sale. In these cases the Authority, after exhausting efforts to this end, instituted condemnation proceedings, and filed Declarations of Taking under the powers delegated in the January 1950 amendments to the original Turnpike Authority Act. As of the end of 1950 the Authority had authorized the condemnations of 302 cases, of which 173 were resolved by continued negotiations subsequent to the filing, 96 remained in court, and 33 were in process of filing.

The Authority, in dealing directly with property owners at the local level, has been instrumental in holding to a minimum the need for condemnation proceedings and, in consequence, the need for costly litigation. Actually, the cases scheduled for condemnation represent but 7.5 percent of the total number of owners involved, exclusive of those which have been resolved

ACQUISITION OF REAL ESTATE



since condemnation proceedings were started.

As of the end of the year two cases were heard before Condemnation Commissioners and, being uncontested, the award was the Authority's appraised value. A third was settled during the course of trial at the Authority's appraisal.

The acquisition and clearing of the right-of-way through the City of Elizabeth presented the most difficult problem. Here it was necessary to remove or demolish some 240 buildings, mostly houses about 50 years old, and dispossess approximately 100 owners and 235 tenants. No real difficulty was encountered in negotiating Contracts of Sale. The problems were twofold: (1) to have the owners move promptly upon payment of the purchase price, and (2) to assist the tenants, who could obtain no comparable housing at the low rentals they were paying, to find new homes. The Authority offered to contribute \$200 toward the expense of moving to tenants who vacated by Labor Day, September 4, 1950. This contribution was continued until the end of the year but at the reduced rate of \$150. A total of 201 tenants had moved by year's end, and 110 of them received the \$200 to meet expenses of moving, and 91 received \$150 and, in addition, as a further step toward the retention of ratables and minimizing the problems of re-adjustment, the Authority acquired vacant lots in Elizabeth and has moved, or is in process of moving, a total of 25 of the better houses. These houses which otherwise would have been demolished, are being reconditioned to accommodate about 45 tenants. Some of these houses are already occupied. As a result of these methods, the entire problem of acquisition and vacation of houses in Elizabeth was substantially resolved by the end of the year.

A number of houses were moved else-

where along the route of the Turnpike, either by the owners themselves, or in accordance with contracts entered into by the Authority. In almost all instances, it was found preferable, and necessary in the interest of time, to negotiate purchase agreements with owners. Possession by the Authority could be obtained more rapidly by this procedure than through condemnation.

The acquisition of lands involves many steps—surveys, appraisals, negotiations, title certificates, curative work, and final payment and possession. All of these, in a large program, must be carefully timed and coordinated. Considering the complexity of the problem, and the time schedule required, the Authority believes it has established an outstanding record in its acquisitions of property, and that it also has paid fair and reasonable prices.

The problem of severance of farms and other properties transcended expectations, and caused a material increase in cost over original estimates, as set forth later in this section. The severance in the event the Turnpike crosses a farm is generally a complete one, since the Turnpike right-of-way must be fenced and there will be no means of crossing it except at overpasses and underpasses. In a few instances severance damages were avoided by constructing access lanes leading to public roads, or constructing cattle underpasses on farm lands. In some cases it was evident that the Authority could negotiate contracts of sale more readily if it were to acquire entire holdings, or at least remainders which would otherwise be severed, and further, that it would be decidedly in the interest of the Authority to do so. This procedure also was in the best interest of the property owner who could utilize the funds in the purchase of a new property. As of the close of 1950, the Authority

owned approximately 1,800 acres of land outside its minimum right-of-way lines. It also owns 38 houses, including those in Elizabeth referred to above. The cash market value of this surplus real estate in subsequent sales may total over \$750,000. It is the intention of the Authority to dispose of these properties as soon as possible, consistent with an adequate realization for the holdings, so that they may be continued on the tax rolls of the municipalities concerned.

The original 1949 estimate of cost of the right-of-way was \$10,145,000. This estimate was based solely on a general survey, without specific drawings, and without a detailed alignment for the Turnpike and its various interchanges and service areas, and other lands which are required for it. Giving recognition to these factors and the generally rising market for property values since the preliminary estimates were made in September, 1949, the present estimates are that the real estate will cost \$17,230,000. The readily definable factors contributing to the higher costs are given here:

- (1) The original estimate made during the period June to August 1949 was made without benefit of property maps, without a definitely adopted alignment and without any accurate locations of improvements or boundaries of the property owners affected. The allowances for severance and contingent items were inadequate and the appraisals themselves, of necessity, were only approximate;
- (2) The acquisition has been conducted in a period of rising prices due not only to general economic conditions, but in some degree, to the influence of the

Turnpike itself on property values;

- (3) The purchase of excess parcels described previously, and which is an offsetting factor; and
- (4) The speed of acquisition which limited the period of negotiations. It was clearly to the benefit of the Authority, in some instances, to pay prices somewhat higher than appraisal values in order to avoid delays in construction and completion of the Turnpike.

As construction work progressed through the year, the major difficulties in the way of progress developed to be (1) the acquisition and clearing of right-of-way through Elizabeth, (2) the acquisition of right-of-way through the meadows north of Elizabeth and the Newark Airport, which involved extensive negotiations with the City of Newark, the Port of New York Authority, and the Central Railroad of New Jersey, (3) the negotiations with the Pennsylvania Railroad for the crossing of the Oak Island Yards in Newark which involved an extensive alteration of design, and agreement for the acquisition of lands for the Port Street Interchange which involved the Central Railroad of New Jersey, Pennsylvania Railroad, and the City of Newark, (4) the acquisition of the remaining lands through the City of Newark between the Lehigh Valley Railroad and the Passaic River, (5) the acquisition of the right-of-way through the pig farms in Secaucus, and (6) the acquisition and clearing of the right-of-way through the congested areas of Woodbury Heights, Runnemede, Lawnside, and Barrington in Gloucester and Camden Counties.

All of these activities had been overcome or substantially resolved by the end of the year.

RELOCATION OF UTILITIES

THE Turnpike Act empowers the Authority to direct the relocation or removal of any public utility facility which interferes with the construction of the Turnpike, subject to the condition that the cost of removing the facilities to a new location and the cost of any lands or right-of-way required to accomplish the relocation or removal, shall be ascertained and paid by the Authority as a part of the cost of the Turnpike. This provision is similar to that imposed upon the State Highway Department in the Freeways and Parkways Act of April 3, 1945, as amended on October 28, 1948.

A form of Relocation Order was prepared by counsel and adopted by the Authority in 1949 for that purpose, and the first order was issued in February 1950. By the end of 1950, a total of 328 relocation orders had been executed, and the work called for under their provisions, was underway.

Most of the relocation orders provide that the Authority shall reimburse the owners for actual costs incurred. Some, however, provide for lump-sum settlements. The largest lump-sum agreement is with the Esso Standard Oil Company for land and the relocation of its facilities at the Esso Refinery in the total amount of \$918,041. This agreement, covering an area selected for part of the alignment of the originally projected State Route 100, was negotiated jointly by the State Highway Department and the New Jersey Turnpike Authority. Another is one entered into with the Central Railroad Company of New Jersey for relocation of its railroad yards, tracks and facilities located north of Elizabeth, in the total amount of \$608,010.

Included herein is a tabulation showing the number and total dollar value of the orders issued, the various utility companies, and also the total estimated amount of those

remaining to be issued. A portion of this latter amount is to be expended in connection with the relocation of railroad facilities. The processing of a relocation order to a railroad company, in extensive and involved cases, follows the negotiation of an agreement, and the latter entails considerable study in view of the details involved in relocation of tracks, signals, catenaries, and the location of bridge piers or abutments so as to cause minimum interference with railroad operations. No delay is being experienced in such instances, however, since work is being carried out under the provisions of the contract agreement already executed, and the order is issued merely as an administrative measure.

In general, the determination in the first instance of the need for relocation originates with the consulting engineers for the various sections of the Turnpike. These engineers advise the owning company of the necessity for relocating their facilities, and the utility company proceeds with a survey to determine the extent and the most convenient and economical relocation which can be made. Drawings and estimates of cost are prepared by the utility company, and reviewed by the consulting engineer for the section, and the Chief Engineer of the Authority. Upon approval by the Authority, the relocation order is executed by the Executive Director. In order that there may be no misunderstanding with respect to its provisions, the order also provides for the signature of the owner indicating acceptance.

Most of the relocation work is being performed by the forces directly employed by the various utility companies. Some work of a specialized nature is being done by contract, and in all such cases, the solicitation of bids, and the award of the contract, are subject to the approval of



the Authority. Where work is done on a reimbursable basis, relocation orders define the general basis and understanding with respect to the rates of wages, classifications of labor, method of determination of payment for materials, of computing allowances for overtime, sick leave, workmen's compensation and insurance, and allowances for materials, general overhead, supervision, and inspection. In cases where these criteria have been established and understandings reached between the utility companies and other public agencies, they have been adopted by the Authority.

There remain about fifty new orders to be issued. Recent reports indicate some difficulties are being encountered in the securing of copper and other critical materials required for relocations, and some local delays are to be anticipated.

As is indicated by the scope of the utility orders issued, most of the interferences with the Turnpike came about because of the existence of railroads, power lines and telephone lines. All of the owners have been cooperative and, in many instances, the utilities have assigned crews which are devoted exclusively to work on Turnpike relocation orders.

Reinforcing Steel Being Placed in Pier Forms for Swedesboro—Mullica Hill Overpass, Gloucester County

ORDERS ISSUED TO UTILITY COMPANIES

Number and Amount To December 31, 1950

	NO. OF ORDERS	TOTAL
Public Service Electric & Gas Company	104	\$2,388,776.00
Central Railroad of New Jersey	14	1,064,432.00
New Jersey Bell Telephone Company	111	636,037.00
Elizabethtown Consolidated Gas Company	8	248,914.00
Jersey Central Power & Light Company	17	108,696.00
Pennsylvania Railroad	6	164,819.00
Erie Railroad Company	3	145,505.00
Middlesex Water Company	5	120,170.00
Atlantic City Electric Company	23	89,643.00
Lehigh Valley Railroad	2	57,001.00
Elizabethtown Water Company Consolidated	1	55,236.00
Hackensack Water Company	3	37,170.00
Tuscarora Oil Company Ltd.	2	58,269.00
South Jersey Gas Company	5	32,170.00
Cities' Service Oil Company	1	27,000.00
New Jersey Water Company	4	26,173.00
Crosswicks Water Company	1	15,085.00
New York, Susquehanna & Western Railroad	2	14,614.00
Delaware, Lackawanna & Western Railroad	2	14,016.00
Perth Amboy Gas Light Company	1	12,000.00
Philadelphia & Reading Railroad	2	11,808.00
Woodbury Heights Water Company	1	10,926.00
Jersey City N. J. Department of Public Works	1	10,510.00
Western Union Telegraph Company	3	11,142.00
The Staten Island Rapid Transit Company	1	5,946.00
Tidewater Pipe Company Ltd.	1	2,385.00
Miscellaneous	4	3,570.00
		\$5,372,013.00

Estimated amount of orders remaining to be issued:

Railroads	\$ 642,359.00	
Utilities	2,251,573.00	2,893,932.00

	TOTAL.....	\$8,265,945.00
--	-------------------	-----------------------

**SERVICE STATIONS
AND RESTAURANTS
LOCATIONS & DESIGN**

SITES for concession developments have been selected for the convenience of the traveling public and for economy of operation. Foundation conditions, ease of access by the local road system, proximity to public utilities, and the possibility of obtaining well water were examined because of their influence upon construction and operating costs. Elevation and other topographical conditions were taken into account as they affect long distance visibility from the Turnpike and also as they may contribute to the appearance of the projects and the views from the buildings, especially with regard to the buildings to be frequented by the general public. Every effort has been made to minimize the effect on established private or public interest in existing uses of property, and to reduce interference with the local tax base.

A total of eleven locations were selected to divide the Turnpike into sections averaging about ten to eleven miles. All but one (No. 9) are intended to be developed ultimately with like facilities on both sides of the Turnpike, without connection between the northbound and southbound operations. For convenience each side of a concession area is counted as a unit (termed a "half-site," making 21 half-sites in all). Facilities were calculated to accommodate traffic after the anticipated initial rapid growth, and are planned for further expansion to keep pace with a more gradual rise thereafter, until the year 1975.

All properties required for this program have been purchased, but initial construction will be limited to thirteen half-sites. These, it is estimated, will take care of the demand for the early years following the opening of the Turnpike to traffic. All units eventually will contain facilities for fueling and minor servicing of motor vehicles, rest and comfort of travelers, and

lunchrooms. Three of these locations were selected for major restaurants. Others except as noted below will be equipped with snack bars so designed as to be readily enlarged to major restaurants if service to the public requires such expansion.

Concession Area No. 4 was chosen as an ultimate restaurant site because of its proximity to the Philadelphia-Camden metropolitan area, it being the last concession area passed by traffic to that destination. Concession Area No. 6 was selected for ultimate development as a restaurant location in expectation of a future connection with the Pennsylvania Turnpike near Bordentown, in which event this will be the first concession site passed by travelers from Pennsylvania. The third restaurant site, and the one to be constructed at this time, was established at Concession Area No. 10, near Woodbridge. This location is judged to be far enough from the metropolitan area (about 25 miles) to be acceptable to outbound travelers, and to serve as the last stop of inbound traffic. It is the last twin concession north of Route 35 and S-28, the two of which are expected to carry an extraordinary volume of shore traffic.

The two northernmost concession sites (No. 11 at Elizabeth and No. 12 at Secaucus) will be constructed initially without food service facilities. These latter facilities will be added if a demand for that service becomes evident.

The arrangement and design of concession areas, set well back from travel lanes proper, are based on consideration of the safety and convenience of the traveling public, and efficiency of operation. An adequate area of land has been acquired. The non-developed portion of the required area will be improved with landscaping, and will act to some extent as a separation strip between the concessions and surround-

ing lands. Among the safety features included in the design are decelerating and accelerating lanes, each generally 1,200 feet in length and independent of the Turnpike traffic lanes. The approach road to concession areas, for example, will be straight and unbroken for approximately the first 600 feet, with a slight turn at the end of the approach road further to check the speed of arriving cars. The layout will permit the traveler to turn from the approach road toward the lunchroom or restaurant end of the building and to park his car in an area set aside for that purpose; or to proceed to the service station first, pulling up at the fuel vending pumps or turning into the service yard.

Trucks will be served at separate gasoline vending islands, and the road plan is designed so that the route into, within, and out of the concession area will be practically devoid of turns. The parking space set aside for trucks will be at the far end of the general parking area, from which they can return to the service station end of the building for servicing, but they will not be permitted to use other interior roads. Regular, high-test, and diesel fuel will be sold at all concession sites, with the service provided in the initial installation in accordance with the expected proportion of truck and passenger car traffic. The motor fuel piping will be so arranged that the fill pipes are accessible to tank trucks arriving either by way of the Turnpike or by local route, but with no thoroughfare between the two.

Attractively arranged picnic areas will be provided at all concession areas except the two northernmost ones where these facilities will be held in abeyance until it can be ascertained whether or not they are appropriate in that area. Supply and trash removal will be taken care of by rear entrance to the property, connecting to the

local road system by means of access roads. Power and other utilities (where available) will be brought in generally by means of the same access roads.

For the service station and lunch room or restaurant facilities, the Authority's plans provide for its own design and construction and ownership of the buildings. By handling the service facilities in this manner, it is believed that revenues from them will be greater than if the concessionaires were to construct and amortize them over a period of years.

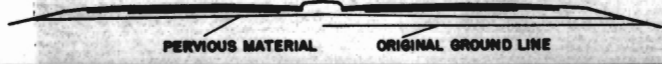
The service stations and food units will be modified modern in architectural design and attractively landscaped. It is expected that the majority of employees in each concession area will be local people.

It is the present plan that the facilities be advertised for operation to the highest bidders, all of whom will be required to prequalify before bidding. The standards for prequalification will include such factors as financial stability, quality and service of high standard, reasonable charges, ability to supply necessary equipment, methods of warehousing, provisions for central commissary, etc. To assure uniformly high standard service and products in the public interest, the Authority plans to appoint a Special Committee for regular inspection of quality, service, price and cleanliness when the Turnpike facilities are in operation.

Concession revenues, principally those from service stations and restaurant facilities, are expected to make a substantial contribution to the overall earnings of the Authority. According to the traffic and revenue report prepared by Coverdale & Colpitts in 1949, the revenues from concessions are conservatively estimated at \$536,000 in the first year of operation. By 1956 they are estimated to increase to \$848,000 and by 1975 to \$1,560,000.

TYPICAL THREE LANE ROADWAY CROSS SECTION

| 6' | 10' | 36' | 5' | 8' | 8' | 5' | 36' | 10' | 6' |



TYPICAL TWO LANE ROADWAY CROSS SECTION

| 6' | 10' | 24' | 5' | 8' | 8' | 5' | 24' | 10' | 6' |



Aerial View of Turnpike Grading in Middlesex County looking toward Raritan River

**MAINTENANCE,
POLICE AND
OPERATING FACILITIES**

SITES for maintenance shops were selected so as to facilitate work on the Turnpike, and to divide the Turnpike into twelve sections. Each two maintenance sections will occupy one building jointly, thus requiring six building sites. These sites are more closely spaced at the north end where more frequent icing conditions, heavier traffic, more traffic lanes, and more numerous bridge structures will require increased maintenance per mile of length.

The stretches assigned to the southern sections are correspondingly longer. Within the pre-determined geographic locations, the selection of particular parcels was based on availability at reasonable cost of a sufficient area of well-drained and solid land (upwards of five acres for the average maintenance headquarters; upwards of ten acres for the Central Maintenance Shop); on ease of entry and exit to and from the Turnpike; on safe sight distances up and down the Turnpike; and on accessibility to the local road system for employees, materials and utility services.

Maintenance activities will thus be centered at the six divisional headquarters buildings. These will consist of garage space dimensioned to admit the largest piece of equipment with snowplows attached, storage rooms, and small offices. The rather centrally located headquarters at Hightstown will include, in addition, complete shop facilities for maintaining vehicular equipment, lighting, and signs, as well as toll collection and recording machinery.

All locations will provide fenced yards for the outdoor storage of vehicles and materials such as snow fence, gravel, sand, asphalt, etc., and for employees' and visitors' parking. Provision will be made also for broadcasting antenna of the shortwave system at the two sites (Divisions No. 1 and No. 2) where the locations could be made

to coincide to the advantage of the installation.

Division No. 3 is consolidated with the major equipment maintenance and repair center. This will be placed inside the Hightstown Interchange loop, this site having been selected for its proximity to the center of all maintenance operations, and partly for its nearness to the Borough of Hightstown, as a source of men, materials and services required at the major shop.

Tentative selections of police stations were made, pending discussion of the subject with the State Department of Law and Public Safety, at places where other buildings have already been located, and to which the minor space requirements of the police divisions could be added to advantage. It is proposed that the Police Department be organized in three divisions, again with a relatively short territory to the north, and extended ones in the southern portion, and with Police Headquarters in the Administration Building at the New Brunswick Interchange. Police Divisional Headquarters will consist of small offices and shortwave broadcasting stations to the buildings most nearly central to the sections of the Turnpike supervised by the respective divisions.

With respect to policing the Turnpike, several conferences have been held to consider the suggestion of Governor Driscoll that the Turnpike force be made a part of the State Police organization. Consideration is being given to this by the Authority, and if such a step be decided upon, the Authority will compensate the State for the actual costs involved. The question of tying in the Authority's shortwave radio facilities with the principal State Police headquarters already has been decided upon affirmatively.

The nerve center for all operations, in-

cluding maintenance and police, will be the Administration Building, at the New Brunswick Interchange. This building, a two and a half story modern structure, will be near the center of a triangular plot of ground bounded on the west by Route S-28, on the north by School House Lane, and on the east by the Turnpike itself.

The site marks a favorable location with respect to the center of traffic on the Turnpike and it is desirable, geographically, with respect to Trenton and the New York Metropolitan areas.

The upper floor will be arranged for offices of the three Commissioners, the Authority meeting room, the Recording Secretary, and the Legal Department. On the second floor quarters will be provided for the Executive Director, an Administrative Assistant, the Chief Engineer and his staff, the Comptroller, the Real Estate and Public Information Departments.

The first floor will house the Comptroller's staff, the general administrative and office personnel. A cafeteria for the Turnpike staff will be a part of the accommodations on this floor. The basement will contain the heating plant and mechanical equipment, as well as provide general storage facilities.

When completed, the building will provide approximately 33,000 square feet of space. It will be of brick and limestone trim with large windows. An adequate system of intercommunication will form a part of the facilities in this building.

**Bulldozer Spreading Ocean Sand
for Turnpike Fill, Essex County**





LEGAL ASPECTS AND PROBLEMS

As reviewed in the First Annual Report, the Turnpike Authority in the summer of 1949 filed a complaint in the Law Division of the Superior Court for a declaratory judgment to determine the constitutionality of the Turnpike Authority Act. An opinion was desired primarily with respect to those provisions relating to the issuance of revenue bonds with which to finance the project, and whether such a bond issue would be in violation of the provisions of Article VIII, Section II, paragraph 3 of the Constitution of 1947, the pertinent portion of which reads as follows:

"3. The Legislature shall not, in any manner, create in any fiscal year a debt or debts, liability or liabilities of the State, which together with any previous debts or liabilities shall exceed at any one time one per centum of the total amount appropriated by the general appropriation law for that fiscal year, unless the same shall be authorized by a law for some single object or work distinctly specified therein. Regardless of any limitation relating to taxation in this Constitution, such law shall provide the ways and means, exclusive of loans, to pay the interest of such debt or liability as it falls due, and also to pay and discharge the principal thereof within thirty-five years from the time it is contracted; and the law shall not be repealed until such debt or liability and the interest thereon are fully paid and discharged. No such law shall take effect until it shall have been submitted to the people at a general election and approved by a majority of

the legally qualified voters of the State voting thereon . . ."

The case was carried to the State Supreme Court which, in an opinion delivered on December 5, 1949, sustained the constitutionality of those provisions of the Act relating to financing, and ruled that the Authority had the power to issue Turnpike revenue bonds.

The activities of the Authority described in other sections of this report have created many and varied legal problems. The most important work of counsel during the year has been the routine, day-to-day handling of matters connected with the preparation and interpretation of contracts, the acquisition of real estate, the negotiation and preparation of agreements with the several railroads to be crossed, the filing and prosecution of condemnation proceedings, the institution of a number of suits to enforce the Authority's rights to possession of land, and the many other questions requiring solution in order to keep legal obstacles from interfering with the progress of construction. In addition to these, some outstanding legal activities deserve special comment.

Early in 1950 a great deal of intensive work was done by Bond Counsel of the Authority, by General Counsel and by counsel for the prospective purchasers of the securities of the Authority. This work resulted in the preparation of several amendments to the New Jersey Turnpike Authority Act of 1948 which became Chapter 1 of the New Jersey Laws of 1950. It also resulted in the preparation and adoption of the resolution authorizing the issuance of the Authority's revenue bonds (1950 issue).

In February, 1950, the City of Elizabeth brought suit in the Chancery Division of the Superior Court of New Jersey to restrain the Authority from constructing the

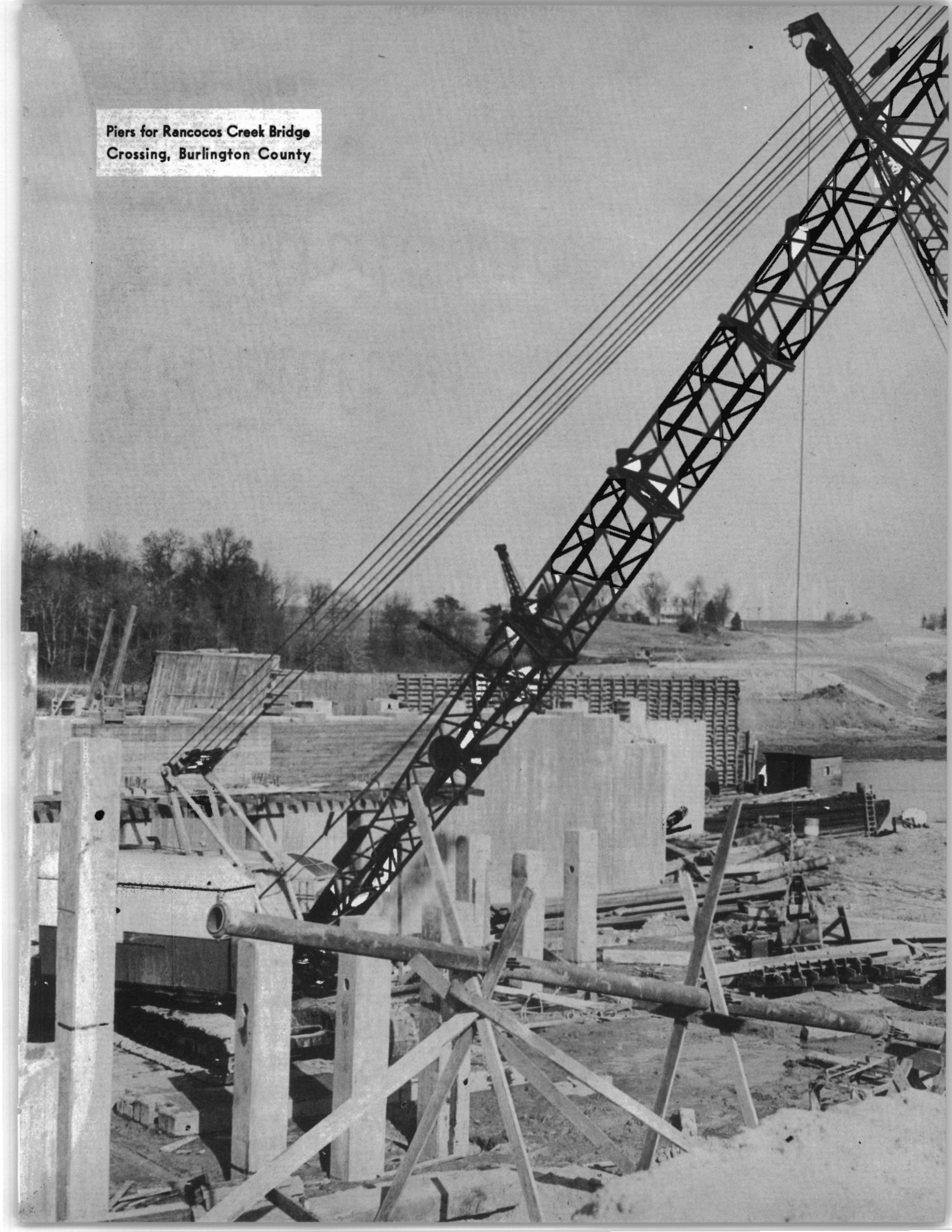
Turnpike along Fourth Street, the line which had been selected by the Authority after long and careful consideration of the difficult and unavoidable problem of getting through the City of Elizabeth. Prior to the institution of suit the City authorities had contended that a circuitous route along the water front should be adopted, but this would have been longer, far more expensive and would have done substantial damage to an important industrial area.

Application was made to the Court for a preliminary injunction and at the same time counsel for the Authority moved to dismiss the complaint of the City. After oral argument and the filing of briefs the Court handed down an opinion holding that the selection of the Fourth Street route was well within the discretion vested in the Authority by law. The complaint of the City was, therefore, dismissed.

In May, 1950, officials of the City of Newark proposed to the Authority that plans for the Newark-Jersey City interchange located at Raymond Boulevard in Newark should be abandoned and that the Turnpike should be elevated on structure through that part of the City lying between the Lehigh Valley Railroad line on the South and Allegheny Avenue on the North, a distance of approximately a mile and a half. It was contended that these changes in construction plans would encourage future industrial development in a section which has not generally attracted industry in the past. During the summer these contentions by the City were given a great deal of consideration by the Authority, but ultimately rejected. The City then brought suit on August 25, 1950, in the Superior Court for an injunction to compel the Authority to adopt its two proposals. The complaint charged unconstitutionality of the Turnpike Authority Act and that the members of the Authority had exceeded their powers by

choosing to construct two interchanges in Newark and to build the Turnpike on earthen fill with bridges to provide for all existing streets and the future opening of one "paper" street. No application for a preliminary injunction was made by the City and construction work through Newark has not been delayed by the pendency of the suit. On November 10, 1950, Counsel for the City applied to the Court and obtained leave to file an amended complaint. The nature of the amendments made are not of sufficient interest to require discussion here. A motion for summary judgment has been made against that amended complaint on behalf of the Authority and the matter was orally argued on December 15, 1950. At that time the Court reserved decision and directed the City to file a brief, the Authority's brief having been previously filed. As yet the Authority's motion for summary judgment against the City has not been decided, but is being considered by the Court and a decision is expected in the near future. If the Authority's motion should be denied, the case will then go to trial in the usual way and the calendar of the Court is well up to date. It is generally accurate to say that the basic legal questions involved in the suit brought by the City of Newark are the same as those involved in the suit brought by the City of Elizabeth, and in a test of the constitutionality of the act, but with a stronger factual situation to support the decisions made by the Authority concerning the construction of the Turnpike through Newark. Counsel for the Authority is, therefore, of the opinion that the favorable result in the Elizabeth case should be a strong precedent for a similar result in the Newark case, and is optimistic that the Newark case will be decided in the Authority's favor. (On January 19, 1951 the Court rendered its opinion granting summary judgment against the City.)

Piers for Rancocos Creek Bridge
Crossing, Burlington County



COSTS AND REVISED ESTIMATE

THE ANNUAL REPORT for 1949 pointed out that by mid-November the engineers of the Authority had progressed sufficiently in the surveys of the alignment and in the final design to recommend an alignment of the Turnpike in each of the ten counties through which it would pass. The Authority, hence, carried out a program of county meetings in order to present its plans to local officials for discussion before adoption of the alignment. In general there was no marked opposition to the alignment except in three municipalities and these differences, since, have been resolved.

However, a number of modifications in plan were sought by local interests when further local conferences were held between the consulting engineers in the various sections with borough, municipal and county officials. Many situations arose which required material alterations in the scope of the plans, most of which were not to be anticipated when the preliminary plans were prepared. Concessions by the Authority, in consequence, were made to meet local wishes to the maximum extent that was without unreasonable financial burden on the Authority.

Such concessions by the Authority were made in all ten counties. They included, generally, longer and wider bridge crossings at public highways to meet the requirements of the State Highway Department for future widenings of those highways; the addition of bridge crossings over certain streets which, under the original plans, would have been abandoned or otherwise relocated because of only nominal use of such streets; changes in design to provide for future water mains and other utilities; the additions of bridges for streets dedicated and not yet actually in existence, but deemed necessary in the near future; an

additional traffic interchange after an engineering review showed the economic justification for it; increased sizes of culverts and a general widening of structures.

The original studies made by the engineers and contained in the September 15, 1949 report provided for the bridging of railroad tracks, yards, and properties so as to clear all existing facilities. As design progressed and negotiations were entered into with the respective railroads, it was found that some had plans for expansion of their yards and operating problems which, in their opinion, required further extension of the proposed viaducts to carry the Turnpike across those properties. Exhaustive studies were necessary in these cases, particularly in connection with one of the large freight yards in the northern end of the Turnpike where the problem was further accentuated by the future possibility of the so-called Driscoll Plan for rapid transit development. In this case, at the so-called Oak Island Yards of the Pennsylvania Railroad in Newark, the existing east-west rails of this railroad and the north-south main line tracks of the Central Railroad of New Jersey cross at grade. The Driscoll Plan which is embodied in a study for a rapid transit system along the western shore of Newark Bay, and connecting with trans-Hudson facilities to Manhattan, would utilize the Central Railroad of New Jersey tracks which, in turn, would require the elimination of this grade crossing.

The most feasible plan would be to raise the Pennsylvania tracks in order to cross above the Central Railroad of New Jersey tracks. Since the Turnpike is to be carried over the Oak Island Yards, in any event, it was necessary to modify the Turnpike plans to carry it at such an elevation that there will be ample vertical clearance

under the Turnpike structure to permit a future grade separation of the two railroads.

Prior to the conclusion of agreements with all railroads, the Authority addressed letters to their respective presidents requesting the submission of evidence, agreements, plans, schedules, or other documents which would disclose the imminence or remoteness of any proposed future development of their yards, where such prospects were claimed by the owners. In all instances the legal positions of the Authority and of the owners were examined by counsel with regard to liability of the former in respect to claims for severance damages.

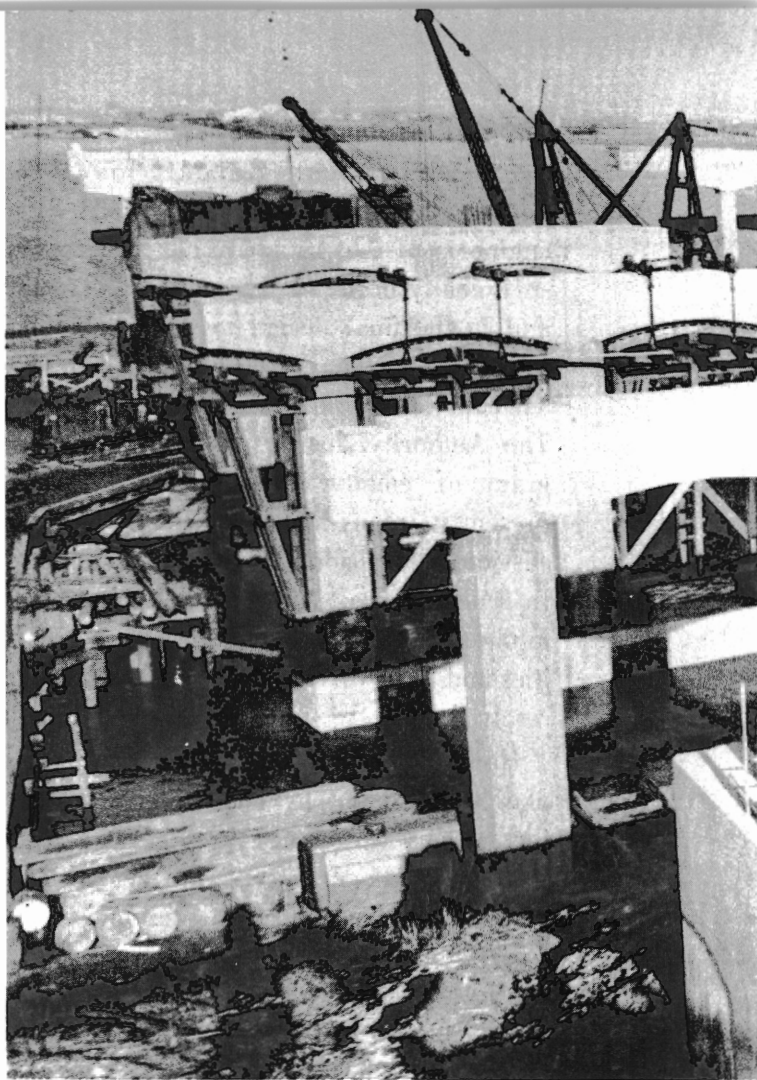
Several sewer and water line crossings have been constructed by the Authority for various municipalities at Authority expense and subject to agreements that when they are placed in service and connected to the municipal system, the cost will be reimbursed to the Authority.

Overall, these numerous concessions have caused a net increase in the cost of the Turnpike, over the original preliminary estimates of 1949, of approximately \$5,000,000.

REVISED COST ESTIMATE

In April a sufficient number of bids had been received to disclose that the cost of structures was exceeding the original estimates and that the savings on grading and drainage very likely would be cancelled by the overrun on structures. The Authority immediately directed a thorough review to determine the extent of any economies which it could exercise to minimize these costs.

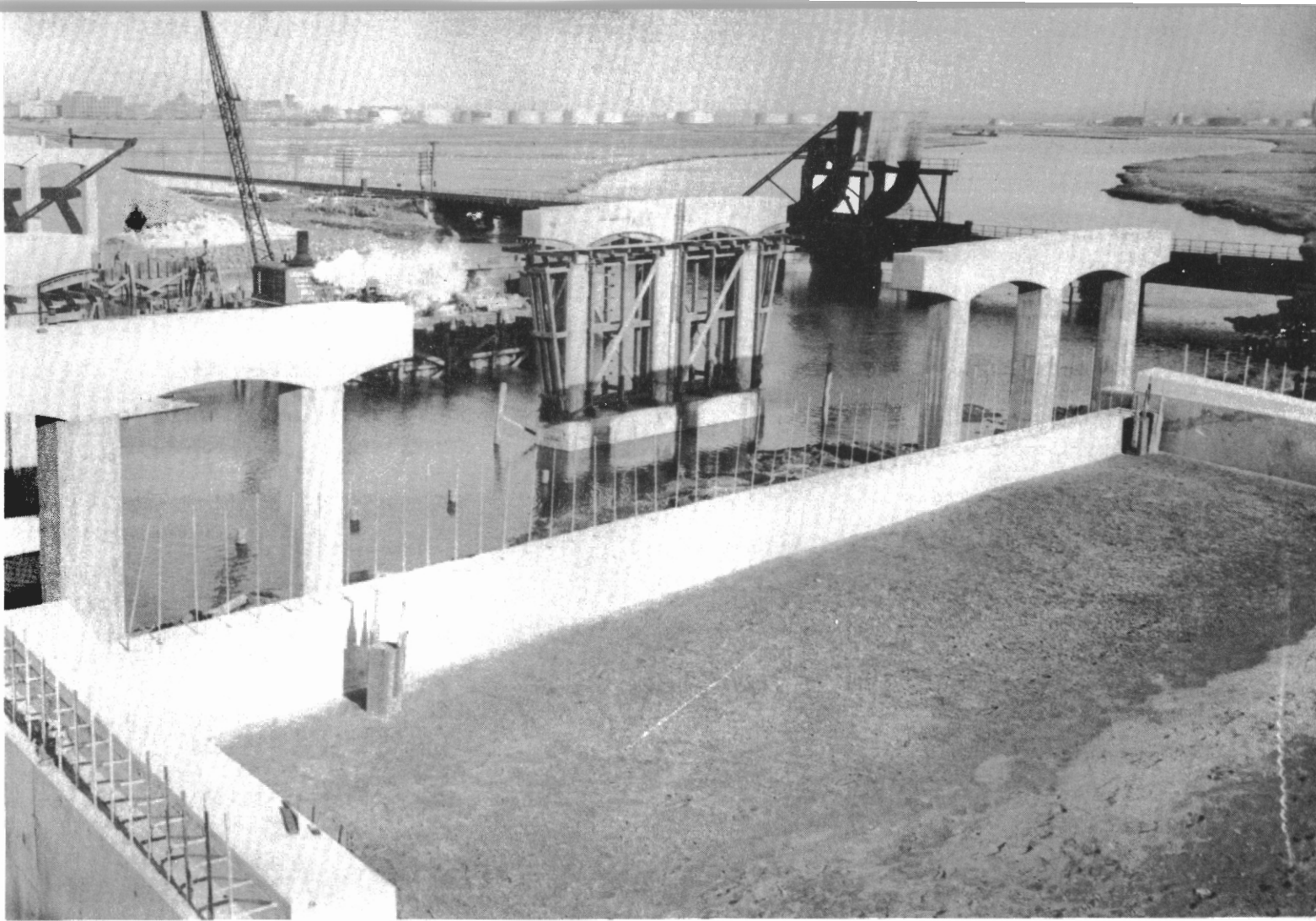
Subsequently, for the reasons which are set forth above, and the impact of war resulting generally in rising prices, the Authority, under date of August 23, 1950, directed its engineering staff to make a further searching review of all engineering



design in a determined effort to counteract rising costs by added economies, and with the directive that the total cost of the Turnpike must not exceed \$220,000,000.

Every possible opportunity was exercised to reduce costs without impairment of the high quality and standards which had been established upon initiation of the project.

The latest cost estimate, and a comparison with that contained in the September 15, 1949 reports on which the financing was based is shown in the accompanying tabulation. As will be noted, the present cost estimate reflects the actual contract amounts totalling \$158,452,441, plus change orders to contracts of \$3,275,000. Although the contract amounts are also



Piers for Dual Bridge across Rahway River, Union and Middlesex Counties

estimates in a sense (since they are "unit price" contracts based upon estimated quantities to be placed or delivered in the performance of the contract), they are believed to be dependable and not susceptible to material variation.

The remaining items of the current estimate of cost are based on present day prices and the best available information, including rather complete design information. They are substantially more dependable than the estimates of September 1949. The estimated cost of real estate, for example, is based upon actual contracts of sale covering sixty-six percent of all properties to be purchased and accurate appraisals on all but 4% of the balance of the proper-

ties. The allowance for interest is based upon completion in November 1951.

No estimate is made now as to a contingency item, although provision should be made for this at the appropriate time. It is difficult, if not impossible to foresee all possibilities of further increased costs. A number of contracts are yet to be advertised for bids. Delays may be encountered on construction contracts which, to be resolved and avoided, may require the substitution of more costly materials. Allowance should be made, in view of world conditions, that the Turnpike may not be fully in operation through the winter of 1951-52, although this possibility is not anticipated at this time.

ESTIMATES OF COST OF CONSTRUCTION

As Of December 31, 1950

	SEPTEMBER 15, 1949 ESTIMATE OF COST	CURRENT ESTIMATE OF COST
CONSTRUCTION		
Grading, Drainage and Structural (Current estimate based on contracts awarded as of December 31, 1950)	\$106,034,318	\$118,841,134
Paving (Current estimate based on contracts awarded for all paving of Turnpike roadway)	28,344,263	39,546,707
Buildings (Contract awarded December 31, 1950)	67,500	64,600
TOTAL (Current Estimate=Total contract awards to December 31, 1950)	\$134,446,081	\$158,452,441
Change Orders and Supplementary Agreements issued and approved	—	3,275,000
Change Orders being processed and contemplated	—	2,035,000
 CONTRACTS TO BE AWARDED		
Contract 47—Passaic and Hackensack River Bridge lighting	—	110,000
Contract 52—Hackensack River Bridge Deck Slab	710,000	863,825
Contract 55—Passaic and Hackensack River Bridge painting	247,500	355,000
 RELOCATION OF UTILITIES	 3,571,000	 8,266,000
 SERVICE AREAS		
	SEPT. 15, 1949 ESTIMATE	CURRENT ESTIMATE
(1) Grading and Drainage, exclusive of Service Areas 10N, 10S and 11N	302,000	940,000
(2) Paving	1,516,000	1,284,000
(3) Buildings, air conditioning, gas station equipment and site development	3,117,000	4,280,000
	4,935,000	6,504,000
Administrative, Maintenance and Utility buildings and Toll Booths	1,924,500	3,416,500
Traffic aids, communications, safety devices and interchange lighting	1,987,000	3,443,000
Equipment	1,664,000	1,600,000
 SUB-TOTAL	 \$149,485,081†	 \$188,320,766

† Comparable to preliminary report figure of \$149,030,000; and differing slightly because of variations in the distribution of the preliminary report amount. In consequence, this figure of \$149,030,000 is carried over on the second page hereof.

ESTIMATES OF COST OF CONSTRUCTION

As Of December 31, 1950

	SEPTEMBER 15, 1949 ESTIMATE OF COST	CURRENT ESTIMATE OF COST
Carried forward	\$149,030,000	\$188,320,766
Repayment to New Jersey State Highway Department	11,150,000	11,273,000
House moving and Demolition	(*) —	800,000
Real Estate	10,145,000	17,230,000
Engineering, Architectural, Borings, Design, Supervision and Inspection	13,600,000	13,359,234
Administration and Legal Costs	1,000,000	1,715,000
	184,925,000	232,698,000
Interest	(***) 23,000,000	7,302,000
Allowance for Contingencies	(***) 22,075,000	(**) —
	TOTAL	TOTAL
	(***) \$230,000,000	\$240,000,000

(*) Included in contingencies.

(**) The amount to be included for contingencies has not been estimated in this report. See page 73.

(***) Based upon the method of financing adopted, the item of interest (and interest reserve fund) was reduced to \$16,315,000 and the contingency to \$18,760,000, making the total bond issue \$220,000,000.

ACTIVITIES OF COMMISSIONERS

THE COMMISSIONERS have continued to devote a considerable part of their time to the direction of the activities of the project. In 1950 they held fifty-one Authority meetings, bringing to ninety-two the total since their appointments on March 31, 1949, an average of exactly one per week.

Each of these meetings consumes a full day's time, and they are attended by the principal members of the Authority staff and the Consulting Engineer. A comprehensive agenda is prepared in advance of each meeting by the Executive Director, including exhibits, charts, and weekly reports of progress to afford opportunity for study by the Commissioners prior to the date of the meeting. Each feature of the project activity is covered at each meeting, including design, construction, real estate, special problems, finances, administration and personnel, and general planning for the future.

At many meetings the particular Section Engineers and members of their staff and Consulting Architect were present for specific presentations and discussions. Several meetings were attended by the Special Paving Committee, at which time the Commissioners thoroughly reviewed all of the design criteria, assumptions, and conclusions of that Committee.

In addition, the Commissioners individually, or as a group, took an active part in meetings and hearings with public officials during the year to discuss and resolve such matters as the Turnpike alignment, its design and construction, crossings of public highways, the acquisition of right-of-way, and a multitude of other questions.

The Minutes for 1950 cover more than one thousand pages, and more than 3,300 supporting documents.

Individually or as a group, the Commissioners made numerous inspections of Turnpike construction. In October they, together with members of the Turnpike

executive and engineering staff, attended the dedication and official inspection of the eastern extension of the Pennsylvania Turnpike. They also visited and inspected the Delaware Memorial Bridge (the southern terminus of the New Jersey Turnpike) which is under construction, and the recently resurfaced Du Pont Boulevard in Delaware, the western approach to the Delaware Memorial Bridge. These inspections were completed prior to the final decision with respect to the selection of asphaltic concrete pavement. Earlier in 1950 the Commissioners, with staff members, viewed from the river the site of the proposed trans-Hudson crossing to be constructed by the New York State Thruway Authority. At the same time they inspected the area of Newark Bay where a crossing could be made to serve Hudson County (Jersey City and Bayonne) in a future link to the Turnpike.

Numerous conferences were held with officials of the State Highway Department regarding problems of mutual interest, and discussions centered principally on the cooperation of each agency with the other in the development of a state-wide highway system for the benefit of the motoring public. On frequent occasions, the Chairman and the other Commissioners conferred with the Governor to keep him currently advised of progress in construction, and to exchange views on matters directly affecting the Turnpike. Numerous special studies were made at the request of the Governor.

Meetings also were held with members of the Port of New York Authority concerning problems of mutual concern to the two agencies, including construction through the Newark Airport and Elizabeth areas in both of which the Port Authority's interests are involved. At various times during the year, members of the Legislature and representative groups of veterans' organizations, met with the Authority Commissioners to

discuss the naming of the Turnpike's major bridge structures after the State's war heroes, and the selection of those to be memorialized is now under study.

While the Commissioners in the past year have been principally concerned with the present construction, they have discussed, informally, five additional projects. These include (1) a toll bridge extending from the Turnpike's Port Street (Newark Airport) interchange across Newark Bay to the Hudson County peninsula, a project which appears feasible based on preliminary studies made earlier; (2) an east-west facility from a point outside of Camden to a point outside of Atlantic City which has been recommended by the Atlantic City Planning & Improvement Association; (3) a further extension of the Turnpike from Route 6, adjacent to the George Washington Bridge, to the New York State line for connection to the New York State Thruway; (4) a possible loop from the Turnpike's New Brunswick interchange to the vicinity of Toms River and thus providing a substantial contribution toward the establishment of a direct high-speed facility leading south; and (5) a future direct connection with the Pennsylvania Turnpike by means of a bridge across the Delaware River near Bordentown. Each of these projects would require new legislation. The Bond Resolution, however, authorizes the expenditure of certain sums from the general reserve fund for surveys, studies and investigations.

Several conferences have been held between the Authority and officials of the New York State Thruway Authority and the Pennsylvania Turnpike Commission with a view to future direct connections of the New Jersey Turnpike with those two express facilities.

Recently the Chairman of the New Jersey Turnpike Authority discussed with the

chairman of the New York State Thruway Authority the probability of a connection with the New York State Thruway by means of a spur extending southerly in Rockland County to the northern border of New Jersey. In anticipation of the early advancement of this Thruway connecting link, plans for the northerly interchange of the New Jersey Turnpike with the State Highway system and the connection to the George Washington Bridge have been prepared with specific provisions for that extension.

Both the New Jersey Turnpike Authority and the New York State Thruway have long been in agreement on the importance of this connection. This agreement follows the recent determination of the Thruway route in Rockland County and the Thruway Authority's application for a permit to build a bridge across the Hudson River between South Nyack and Tarrytown. Financing plans for the southern section of the New York State expressway are well under way and should be completed this winter according to the chairman of the New York State Thruway Authority.

Conferences also have been held by the Authority and its executive and engineering staff with members of the Pennsylvania Turnpike Commission regarding a direct connection of the two facilities at a point to cross the Delaware River, possibly to the west of Bordentown. Such a connection would require a further extension of the recently completed eastern link of the Pennsylvania Turnpike and the construction of a new bridge crossing. Any new crossing of the Delaware River would require legislation in both states.

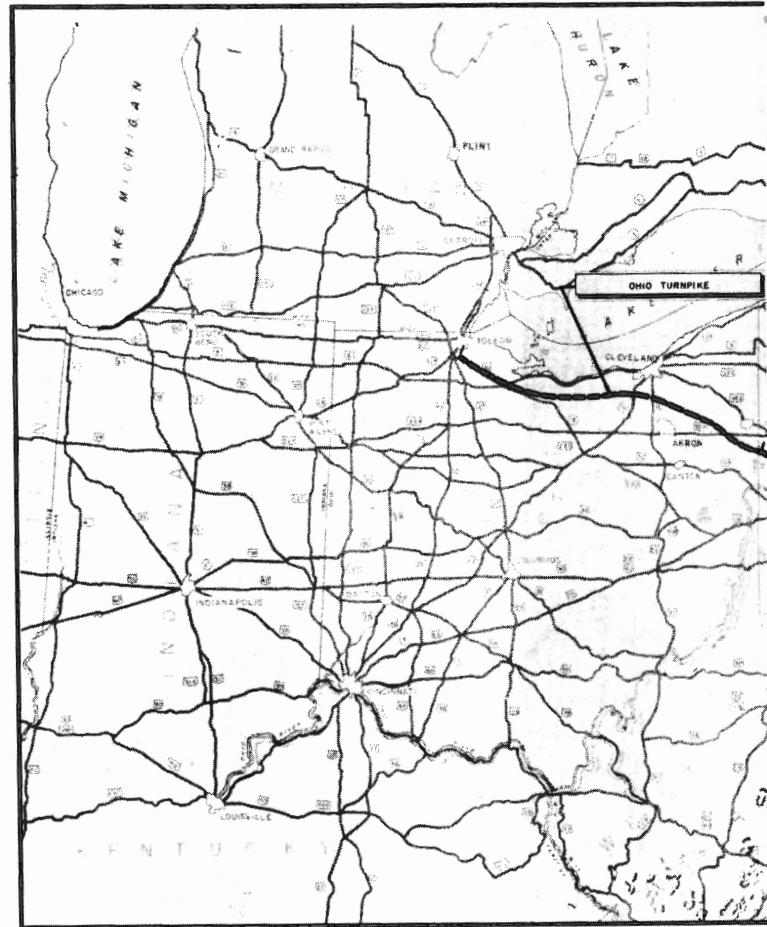
Should such a bridge and connection materialize it would have its nearest access points at the Bordentown interchange of the New Jersey Turnpike on the New Jersey Side, and at Route 1, ten miles away on the

Pennsylvania side. Thus the bridge would be solely for Turnpike users and not represent a diversion of local traffic on which other bridges depended for tolls.

The interconnections of the New Jersey Turnpike with the Pennsylvania Turnpike and the New York State Thruway will make it possible for motorists and truckers to travel to and from New England and New York areas, and, to areas as far west as the Ohio border, safely and rapidly. The interconnections, moreover, will develop additional traffic and revenues for the three express highways, and aid materially in relieving congestion on the public highway systems in the three states.

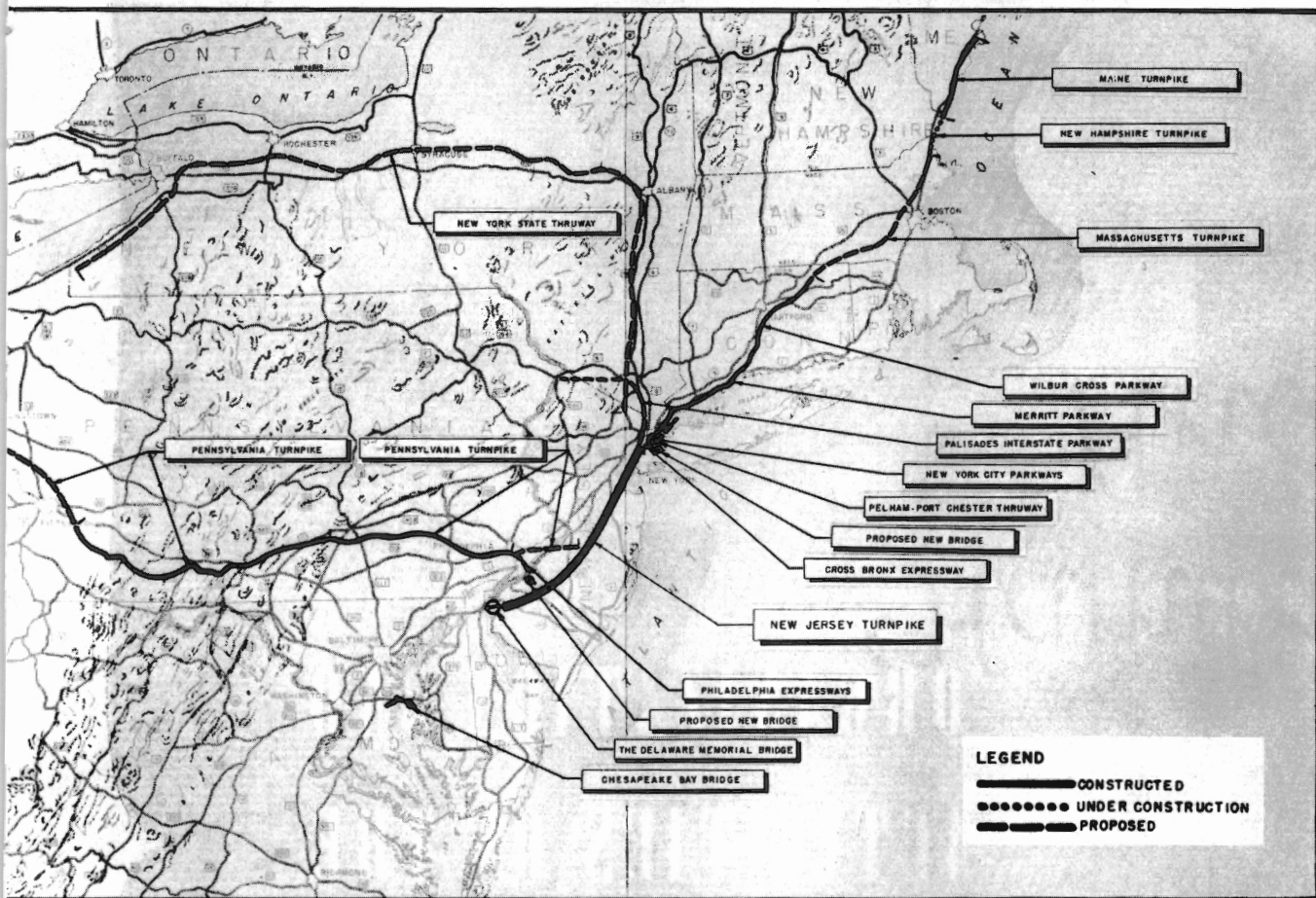
All of the Commissioners were active in addressing various civic and service organizations throughout the State on the subject of the Turnpike, informing members of those groups of the Authority's plans and the benefits to be offered by this new expressway. Besides addresses delivered by the Commissioners, members of the Authority's staff, and its engineers, also spoke before numerous organizations, including church congregations and other interested groups. More than 130 talks were delivered directly to several thousand members of those organizations. Many of these talks were illustrated with slides to indicate the progress of construction, the alignment of the Turnpike with particular emphasis on local areas addressed, and the many advantages which will accrue from this new facility.

With construction work actively under way, the Authority's informational program was broadened during the year to encompass a wider field. Informational material for the use of newspapers in New Jersey and surrounding states, as well as for popular and engineering magazines, was prepared, and the story of the Turnpike, with photographs of actual construction



progress and architects' renderings of its facilities, has appeared in publications in many States throughout the nation. Special feature articles, profusely illustrated, have appeared in popular weeklies and in several of the national construction and engineering publications.

Practically all of the newspapers in New Jersey, as well as many in New England and in the nearby States of New York, Pennsylvania, Maryland and Delaware told the story of progress in construction and the vital part which the New Jersey Turnpike will play in eastern seaboard highway transportation. At times throughout the year, articles on the Turnpike have appeared in newspapers in more than half the states in the country extending as far west as Washington, as far



Route of New Jersey Turnpike showing other Expressways and Major Highways

south as Texas and as far north as Maine.

Supplementing printed material, the story of the Turnpike has been told on the radio and television in several states. In these programs the Commissioners and members of the staff have participated to inform listeners of this modern highway, its safety and engineering features to provide swift, safe and comfortable travel for motorists and truckers. Displays, showing the route of the Turnpike and its service facilities, have been prepared and used at fairs and special transportation forums. One of these displays was exhibited recently in Radio City where it was viewed by hundreds of thousands.

In anticipation of the opening of the Turnpike late this year, the Authority has under study, and has in preparation, plans

to further intensify its informational program so that potential users of this new facility will be acquainted at the beginning with its features of safety and ease of travel. The effort will be designed to promote an awareness of the Turnpike and thus more quickly achieve optimum use of the facility. It also will provide the economic and other data of interest to business men who will be interested in building industrial plants near the Turnpike. It is contemplated that printed material, including maps showing the Turnpike connections with other highways, and location of all interchanges, service and concession areas, will be prepared and distributed and that every medium of communication will be utilized to carry the story of the Turnpike and its many benefits.

ORGANIZATION AND
ACTIVITIES OF THE
AUTHORITY'S STAFF

THE first Annual Report for 1949 pointed out the intention of the Authority that its staff be kept small in number, and that engineering study and design, the acquisition of real estate, and all construction, including supervision and inspection, be performed to the fullest extent possible by private firms under supervision of the staff. On December 31, 1949 the staff totaled twenty-two employees.

An organization chart of the staff as it existed at the close of 1950, showed 82 persons were employed. The total earned in salaries by the staff in 1950 was \$244,363.26. In reviewing the year's operations, it seems remarkable, we believe, that an undertaking of the magnitude and complexity of the Turnpike has been directed and coordinated by such a small organization. The key personnel remained few in numbers, and they were required to devote unusual efforts and worked long hours in order to keep pace with the expanding activities.

There will be some increase in the size of the staff during 1951. This will be due largely to the necessity for obtaining and training personnel for the transition from construction to operation and maintenance. The nucleus of the organization for the maintenance of the Turnpike, the collection and accounting of tolls and revenues, and for the police department will be selected in ample time for the opening of the Turnpike.

The offices of the Commissioners at the State House, Trenton, New Jersey, and the office at 65 Prospect Street continued to

serve their purposes, although it soon became evident that the limited space available would not adequately serve the Authority's operations. An additional office at 801 Stuyvesant Avenue, Trenton, was rented in September 1950 for the Real Estate Department, and one at 390 George Street, New Brunswick for the Condemnation Attorney and his office personnel.

After a complete study of the question of a permanent Administration Building, it was concluded to construct one at the site of the interchange at New Brunswick. The building which is described in detail in a previous section of this report will be located within a triangular space area, which was procured largely for the purpose of the interchange area, and will be immediately adjacent to the Turnpike. The location is central along the Turnpike in respect to a balancing of maintenance problems and collection of revenues. It is excellently situated in relation to access from the Turnpike, from other highways and the railroad, and affords other conveniences to employees and visitors.

With respect to personnel matters, it might be mentioned that the Authority adopted regulations authorizing military leave and military leave payments in the maximum amount of one-half month's pay, in addition to any accrued vacation pay, provision for payment during military leave of employees' contributions to the State Employees' Retirement System in the event said employee was a member, and for preferential reinstatement upon cessation of the military service.



Interchange and Turnpike grading in Salem County, Delaware Memorial Bridge in background

The Authority has acquired to date only the minimum amount of office furniture and fixtures and supplies necessary to its operations. Transportation purchases have been limited also to the needs of its immediate staff and consist of the following:

- 2 Model 52 Buick sedans
- 1 Ford station wagon
- 4 Ford 1950 four-door sedans
- 3 1950 four-door Chevrolet sedans.

The Authority investigated carefully the subject of insurance, and in all instances where it appeared that the insurance coverage of the various contractors was not sufficiently broad in scope to protect fully the activities of the Authority, or where particular coverage not directly related to a construction feature was desirable, insurance policies were obtained.

NEW JERSEY TURNPIKE AUTHORITY

INSURANCE POLICIES

FIRE

WHAT INSURED	LOCATION	AMOUNT*
1. Office furniture Fixtures and Equipment	61-65 Prospect St. Trenton	\$35,000.00
2. Office furniture— Fixtures and Equipment	801 Stuyvesant Ave. Trenton.	10,000.00
3. Office furniture— Fixtures and Equipment	Suite 201-202 Natl. Bk. Bldg. New Brunswick	5,000.00
4. Furniture, Fixtures, and Equipment	Rooms 29 and 30 State Capitol Bldg. Trenton	8,500.00
—Aerial Photographs		1,500.00
5. Stationery and Equipment	Stored at 808 Stuyvesant Ave. Trenton	2,000.00
6. All buildings, except those to be demolished and those in process of moving from one location to another, owned by Turnpike Authority (Underlying blanket policy)	Throughout State	Maximum of \$25,000.00 per dwelling
7. Same as 6—Specify policy, endorsed monthly to show actual status of ownership	Throughout State	As valued, up to a maximum of \$25,000.00 per parcel
8. Temporary Wooden Bridge over Salem Canal	Near Deepwater, N. J.	30,000.00

* B/I Bodily Injury
P/D Property Damage

NEW JERSEY TURNPIKE AUTHORITY

LIABILITY

WHAT INSURED	LOCATION	AMOUNT*
1. Ownership and Operation of temporary Wooden Bridge over Salem Canal	Near Deepwater, N. J.	\$100,000/500,000 B/I 25,000. P/D
2. Tenant's Liability at 61-65 Prospect Street and 801 Stuyvesant Avenue, Trenton, and at New Brunswick office	Trenton and New Brunswick	25,000/50,000 B/I
3. Turnpike Liability arising from operations of independent contractors, except for work under Contracts Nos. 4, 9A, 9B, 12, 20, 21, 23, 24, 54 and 60	Throughout State	\$100,000/300,000 B/I 25,000/50,000 P/D
4. Owners and Landlords Liability covering all properties owned by Authority	Throughout State	100,000/300,000 B/I 25,000/50,000 P/D
**5. Turnpike Liability arising from operations under Contract No. 4	Raritan River	100,000/250,000 B/I 100,000/500,000 P/D
**6. Turnpike liability arising from operations under Contracts Nos. 9A and 9B	Mercer and Middlesex Counties	100,000/300,000 B/I 100,000/500,000 P/D
**7. Turnpike liability arising from operations under Contract 12	Rahway River	100,000/500,000 B/I 100,000/500,000 P/D
**8. Turnpike liability arising from operations under Contract No. 20	Passaic River	100,000/250,000 B/I 100,000/300,000 P/D

** Purchased for Authority by Contractor.

NEW JERSEY TURNPIKE AUTHORITY

LIABILITY

WHAT INSURED	LOCATION	AMOUNT*
**9. Turnpike liability arising from operations under Contract No. 21	Mercer and Middlesex Counties	100,000/300,000 B/I 100,000/500,000 P/D
**10. Turnpike liability arising from operations under Contract No. 23	Middlesex County	100,000/250,000 B/I 100,000/500,000 P/D
**11. Turnpike liability arising from operations under Contract No. 24	Salem and Gloucester Counties	100,000/250,000 B/I 100,000/300,000 P/D
**12. Turnpike liability arising from operations under Contract No. 54	Secaucus, N. J.	100,000/250,000 B/I 100,000/300,000 P/D
**13. Turnpike liability arising from operations under Contract No. 60	Gloucester, Camden and Burlington Counties	\$100,000/250,000 B/I 100,000/500,000 P/D
14. Automobile liability — Turnpike Authority fleet of cars	Anywhere	100,000/300,000 B/I 25,000.00 P/D
15. Turnpike automobiles — comprehensive fire, theft and collision	Anywhere	Actual cash value Collision — \$50.00 deductible

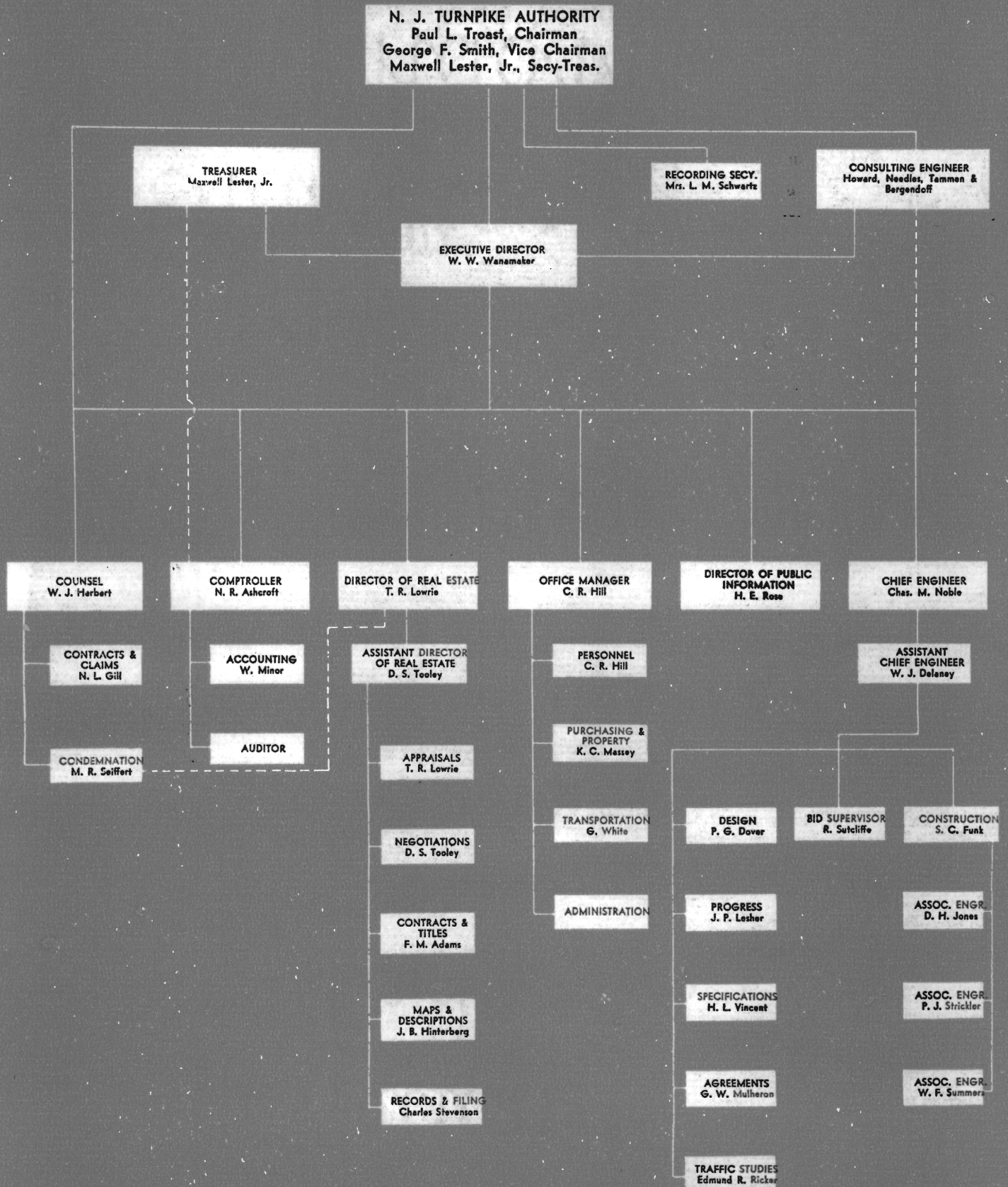
** Purchased for Authority by Contractor.

NEW JERSEY TURNPIKE AUTHORITY

MISCELLANEOUS

1. Liability under N. J. Workmen's Compensation Act	Anywhere in New Jersey	Statutory
2. Blanket Employees, Excepting Commissioners and Executive Director	Anywhere	\$25,000.00 with \$25,000 additional for Comptroller
3. Plate Glass	65 Prospect St. Trenton	Cost of replacement
4. Bank Account Protection Policy — Protograph Checkwriter		Alteration of checks-\$12,500. Forgery-\$1,000.
5. Paul L. Troast, Chairman		\$25,000.00
6. George F. Smith, Vice-Chairman		\$25,000.00
7. Maxwell Lester, Jr., Secretary		\$25,000.00
8. Maxwell Lester, Jr., Treasurer		\$50,000.00
9. W. W. Wanamaker, Ass't. Treasurer, (Executive Director)		\$50,000.00

AUTHORITY ORGANIZATION CHART



PROGRAM FOR 1951

BY the end of the year the total value of construction contracts which had been awarded, together with change orders and utility relocation orders issued, approximated \$168,000,000, leaving a balance of about \$20,000,000 in construction contracts yet to be awarded.

Costs incurred in 1950 directly chargeable to the contracts, change orders, and utility orders awarded and issued, and exclusive of engineering and architectural services, were approximately \$42,000,000.

Accordingly, the construction program for 1951 contemplates expenditures, or earnings, of about \$146,000,000, less the value of certain work which may be carried over into 1952 without delaying the opening of the Turnpike. Thus the construction earnings in 1951 should be approximately three times those of 1950, and this illustrates the magnitude of the program to which the Authority's activities are now geared.

Most of the new contracts will be for the construction of service and concession areas, including buildings, and many miscellaneous items necessary to complete the Turnpike.

In addition, the Authority's 1951 program will include final decisions and action on plans and studies which have been under way for some time, and which relate to the following:

- Organization of operations and maintenance staff;
- Purchase of operating, maintenance, and shop equipment;
- Decisions with respect to operation of gasoline concessions, and execution of contracts for their operation;
- Decisions with respect to the operation of restaurants and lunchrooms, and execution of contracts;
- Determination of police organization, recruitment and training of po-

lice forces, and purchase of police equipment;

Construction of radio communication system, including tie-in with State Police Headquarters at Trenton, N. J.;

Perfection of landscaping plans for the Turnpike, and completion of such landscaping as can be accomplished prior to the opening of the Turnpike;

Establishment of speed limits;

Determination of toll charges, and classification of vehicles;

Procurement of toll accounting machinery and training of toll collectors, tellers, accounting clerks, and supervisors.

Studies will be continued looking to the extension of the Turnpike so as to provide:

- a. A connection with the further easterly extension of the Pennsylvania Turnpike;
- b. A connection with the New York State Thruway at the New Jersey-New York State line.
- c. A connection by means of a toll bridge across Newark Bay to the Hudson County peninsula, and
- d. Other toll road facilities as directed by the Legislature to some other sections of the State.

The 1951 program, which contemplates the opening of the Turnpike in November 1951, is an ambitious one. The only deterrent to fulfillment of the program would be the effects of the war emergency in delaying the procurement of critical materials and equipment. The Authority and its contractors and engineers are cognizant of these difficulties. They are engaged in planning and devising ways and means to overcome them, and all concerned look with confidence towards completion of the project on schedule.

AUDITOR'S REPORT

PEAT, MARWICK, MITCHELL & Co.

810 BROAD STREET

NEWARK 2, N. J.

NEW YORK
ATLANTA
BALTIMORE
BOSTON
CHARLOTTE
CHICAGO
CINCINNATI
CLEVELAND
DALLAS
DENVER
DETROIT
GREENSBORO
HOUSTON
INDIANAPOLIS
KANSAS CITY
LOS ANGELES
MEMPHIS
MILWAUKEE
MINNEAPOLIS
NEW ORLEANS
NEWARK
PHILADELPHIA
PITTSBURGH
PORTLAND
ST. LOUIS
SALT LAKE CITY
SAN FRANCISCO
SEATTLE
TULSA
WASHINGTON
WORCESTER

AFRICA
AUSTRALIA
CANADA
CHINA
CONTINENTAL EUROPE
CUBA
GREAT BRITAIN
INDIA
JAPAN
MALAYA
MEXICO
SOUTH AMERICA

ACCOUNTANTS' REPORT

New Jersey Turnpike Authority,
Trenton, N. J.

We have examined the statement of financial condition of the New Jersey Turnpike Authority as of December 31, 1950 and the statement of construction costs of the New Jersey Turnpike to December 31, 1950. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying statement of financial condition and statement of construction costs present fairly the financial condition of the New Jersey Turnpike Authority at December 31, 1950 and the construction costs of the New Jersey Turnpike to December 31, 1950, in conformity with generally accepted accounting principles applicable in the circumstances.



Peat, Marwick, Mitchell & Co.

Newark, N. J.,
January 15, 1951.

NEW JERSEY TURNPIKE AUTHORITY

Statement of Financial Condition As of December 31, 1950

Assets

Cash:

Held by Trustee in construction fund	\$ 1,545,341.56	
Special construction account	108,600.00	
Revolving fund	89,809.17	
Real estate funds on deposit with fiduciaries	628,693.44	\$ 2,372,444.17

Interim Investments of Construction Fund:

United States Treasury Bills	2,989,762.50	
Accrued discount earned on above	5,062.50	2,994,825.00

Accounts Receivable:

From Clerk of the Superior Court of New Jersey	112,433.00	
From Port of New York Authority	1,230,945.41	
Miscellaneous	2,000.00	1,345,378.41

Deposits in Condemnation Cases:

With Clerk of the Superior Court of New Jersey	585,139.60	
In special trust fund	1,210,279.20	1,795,418.80

Cost of the Turnpike—Construction costs to December 31, 1950 ..

61,633,613.19

\$70,141,679.57

Liabilities

Accounts Payable and Accrued Items:

Vouchers payable	1,939,814.90	
Employee income taxes and retirement contributions withheld ...	4,741.60	
Commitment fees under bond purchase agreements—accrued ...	99,027.77	2,043,584.27

Retained percentage on construction contracts and engineering fees

3,098,095.30

Turnpike Revenue Bonds (1950 issue)—aggregate principal amount authorized, \$220,000,000; issued at December 31, 1950

65,000,000.00

\$70,141,679.57

See Notes to Financial Statements which are an integral part hereof.

NEW JERSEY TURNPIKE AUTHORITY

Statement of Construction Costs of the New Jersey Turnpike To December 31, 1950

Engineering and Architectural:

Salaries	\$ 74,340.99	
Preliminary engineering	399,468.32	
Test of materials	17,837.46	
Engineering borings and foundation investigations	389,374.32	
Estimates of costs and revenues	101,316.43	
Engineering and architectural services	6,599,381.80	
Travel—staff	6,122.26	
Blueprints, plans and specifications	46,411.09	
Services and travel (other than staff) including legal fees	12,641.02	
Miscellaneous	287.90	
	\$ 7,647,181.59	

Lands, Easements and Rights-of-Way:

Salaries	45,274.03	
Surveys	4,566.00	
Services and travel (other than staff) including legal fees	34,769.91	
Travel—staff	3,155.00	
Costs of land acquired by direct purchase, including damages ..	9,021,609.85	
Appraisals	92,250.74	
Negotiations	132,109.60	
Title insurance, examination and curative work	123,460.90	
Cost of land acquired by condemnation	20,000.00	
Expenses and costs incurred in condemnation cases	46,811.46	
Cost of options to acquire land	1,000.00	
Miscellaneous	2,077.40	
	9,527,084.89	

Construction:

Salaries	27,178.82	
Demolitions, relocations, and clearing rights-of-way	485,571.72	
Grading and drainage	29,393,929.34	
Miscellaneous structures	4,824,207.47	
Travel—staff	1,527.05	
Relocation and reconstruction of utilities, roads and other communications	1,387,965.07	
Major bridges	5,787,840.25	
Services and travel (other than staff) including legal fees	22,638.80	
Bid advertising and expense	8,433.27	
Miscellaneous	8,348.75	
	41,947,640.54	

STATEMENT OF CONSTRUCTION COSTS OF THE NEW JERSEY TURNPIKE

Administration:

Salaries	\$	98,863.59	
Legal expense and fees		21,009.45	
Audits and fiscal advice		2,266.67	
Furnishings and fixtures		53,624.96	
Motor vehicles purchased and expense		16,496.22	
Insurance		3,469.87	
Rent		16,366.40	
Stationery and office supplies		26,613.26	
Postage		9,493.52	
Telephone and telegraph		18,554.58	
Advertising, printing, and binding		2,355.55	
Travel		3,485.73	
Public information		43,634.99	
Surety bond fees		1,390.54	
Repairs and maintenance		9,977.05	
Miscellaneous		4,261.11	
		\$ 331,863.49	

Financial:

Bond interest		981,861.19	
Financial advisory fees		137,055.74	
Commitment fees		950,138.68	
Preparation, offer, sale, and issuance of bonds		94,995.86	
Fiduciary fees and expenses		4,086.85	
Bond counsel fees		120,712.95	
		2,288,851.27	
			61,742,621.78
Less Income from interim investment of construction fund			109,008.59
			\$61,633,613.19

See Notes to Financial Statements which are an integral part hereof.

NEW JERSEY TURNPIKE AUTHORITY

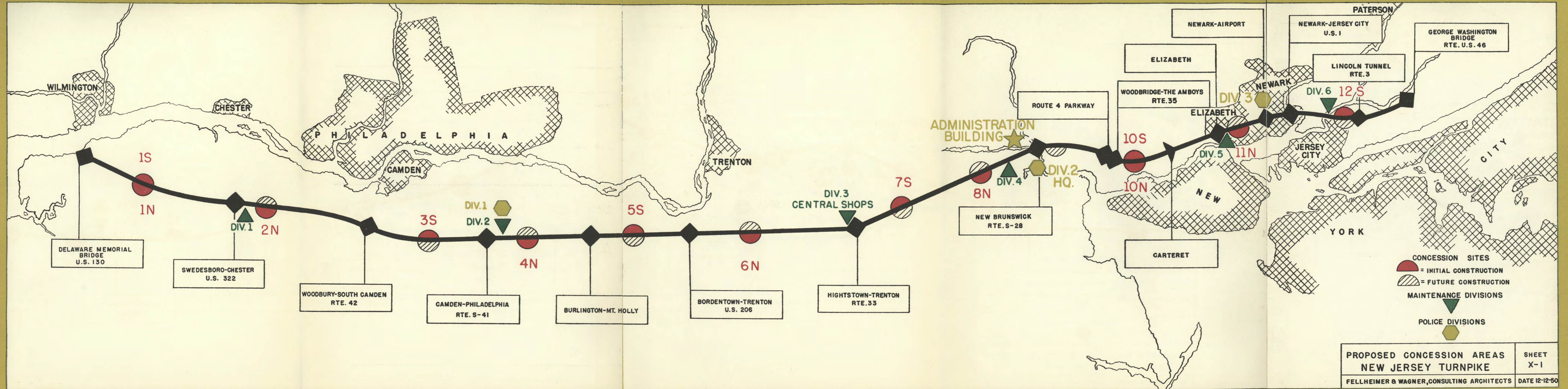
Notes to Financial Statements As Of December 31, 1950

- (1) **AUTHORIZING LEGISLATION**—New Jersey Turnpike Authority is a body corporate and politic created by the New Jersey Turnpike Authority Act of 1948 approved by the Legislature of the State of New Jersey October 27, 1948 (Amended January 31, 1950), authorized and empowered to construct, maintain, repair and operate turnpike projects at such locations as shall be established by law, and to issue turnpike revenue bonds of the Authority, payable solely from tolls and other revenues of the Authority. Under the provisions of the Act, turnpike revenue bonds shall not be deemed to constitute a debt or liability or a pledge of the faith and credit of the State or any political subdivision thereof. Specific authority for the turnpike project under construction at December 31, 1950 was granted by supplemental legislation enacted April 14, 1949 (Amended January 31, 1950).
- (2) **AGREEMENTS WITH BONDHOLDERS**—The funds necessary for the construction and completion of the turnpike are being obtained by the issuance and sale from time to time to purchasers with whom bond purchase agreements have been concluded, of Turnpike Revenue Bonds (1950 Issue) issued under and pursuant to a Resolution of the Authority adopted February 10, 1950, providing for the issuance prior to January 1, 1953 of such bonds in an aggregate principal amount not exceeding \$220,000,000. Bond purchase agreements have been executed for the maximum principal amount authorized and a commitment fee of $\frac{1}{2}$ of 1% per annum from January 1, 1950 is required to be paid by the Authority on the unissued principal amount of bonds covered by purchase agreements. The bonds mature January 1, 1985 and bear interest at $3\frac{1}{4}$ % per annum, payable semi-annually January 1 and July 1 in each year. Provision is made in the Resolution for redemption of the bonds prior to maturity on and after January 1, 1960. Minimum annual sinking fund payments are required in increasing amounts commencing January 1, 1960 sufficient to retire by January 1, 1985 the aggregate principal amount of bonds to be issued.
- (3) **CONSTRUCTION COST**—Included with construction costs are expenses in connection with the offering, selling and issuance of bonds issued for construction purposes; commitment fees under bond purchase agreements; interest on bonds (less interest earned on unexpended construction funds); cost of certain real estate in excess of right-of-way requirements which will be sold and the proceeds applied in reduction of construction costs; and administrative and legal expenses during the construction period.
- (4) **INTEREST**—Interest due January 1, 1951 on Turnpike Revenue Bonds (1950 Issue) in the amount of \$1,056,250 had been deposited with the Paying Agent at December 31, 1950.





Service facilities in Woodbridge, Middlesex County



PROPOSED CONCESSION AREAS NEW JERSEY TURNPIKE	SHEET X-1
FELLHEIMER & WAGNER, CONSULTING ARCHITECTS	DATE 12-12-50

