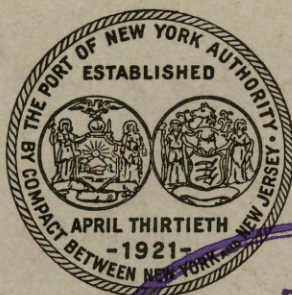


THE PORT OF NEW YORK AUTHORITY

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DECEMBER 31, 1931

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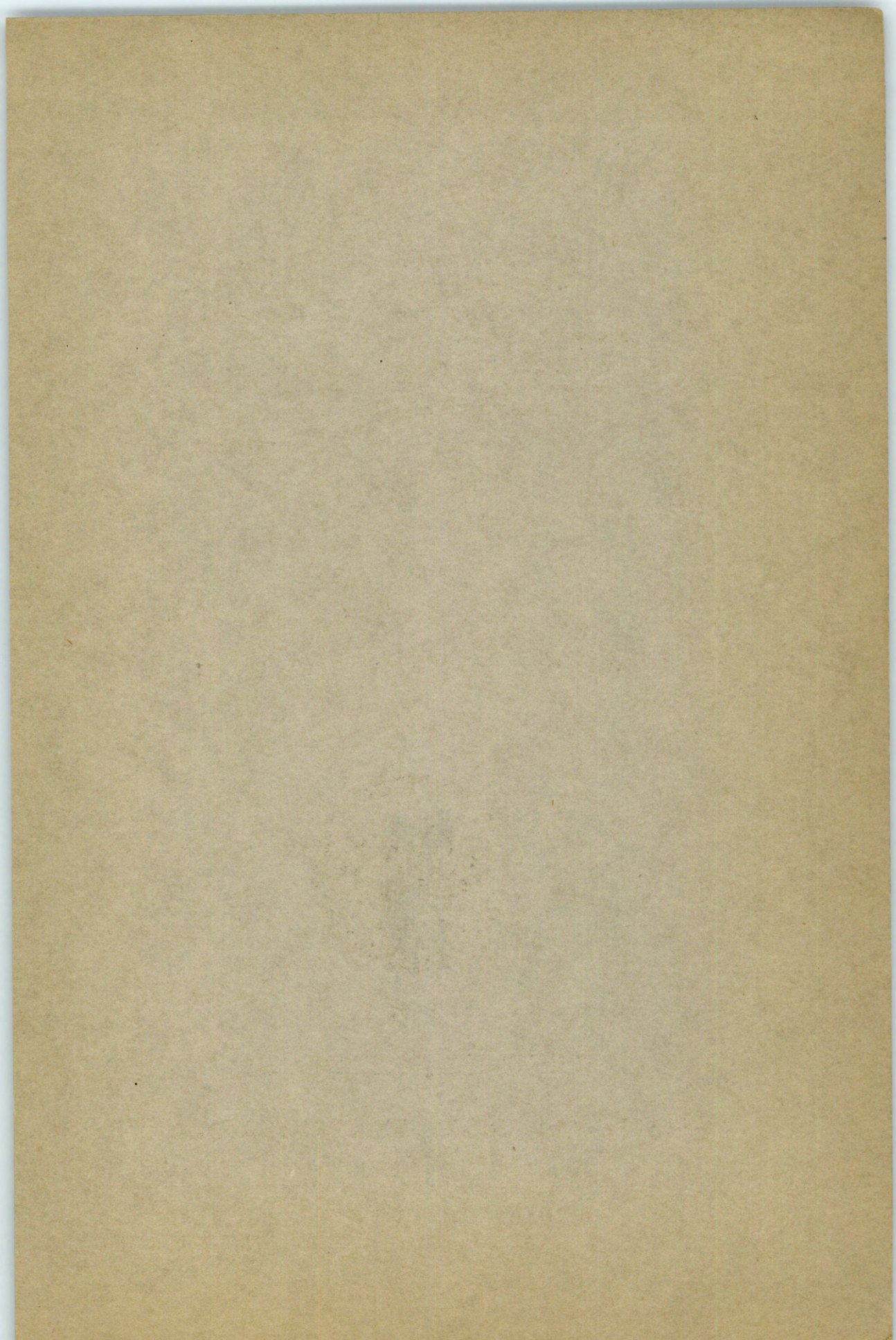
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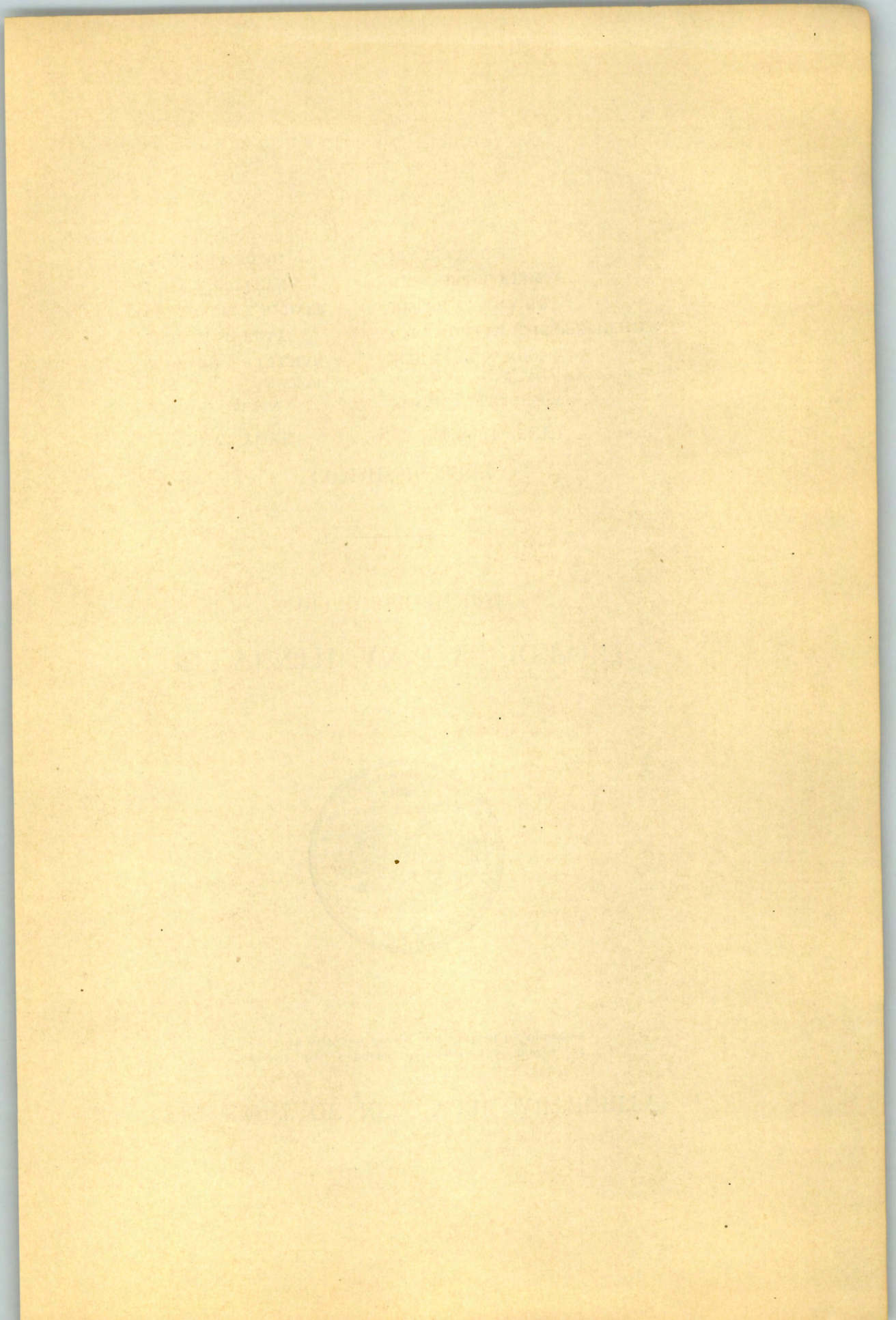
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THE PORT OF NEW YORK AUTHORITY

89-90 Eighth Avenue, New York City

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W. P. HEDDEN,

Chief, Bureau of Commerce

GLENN S. REEVES,

Engineer, Port Development and
Transit

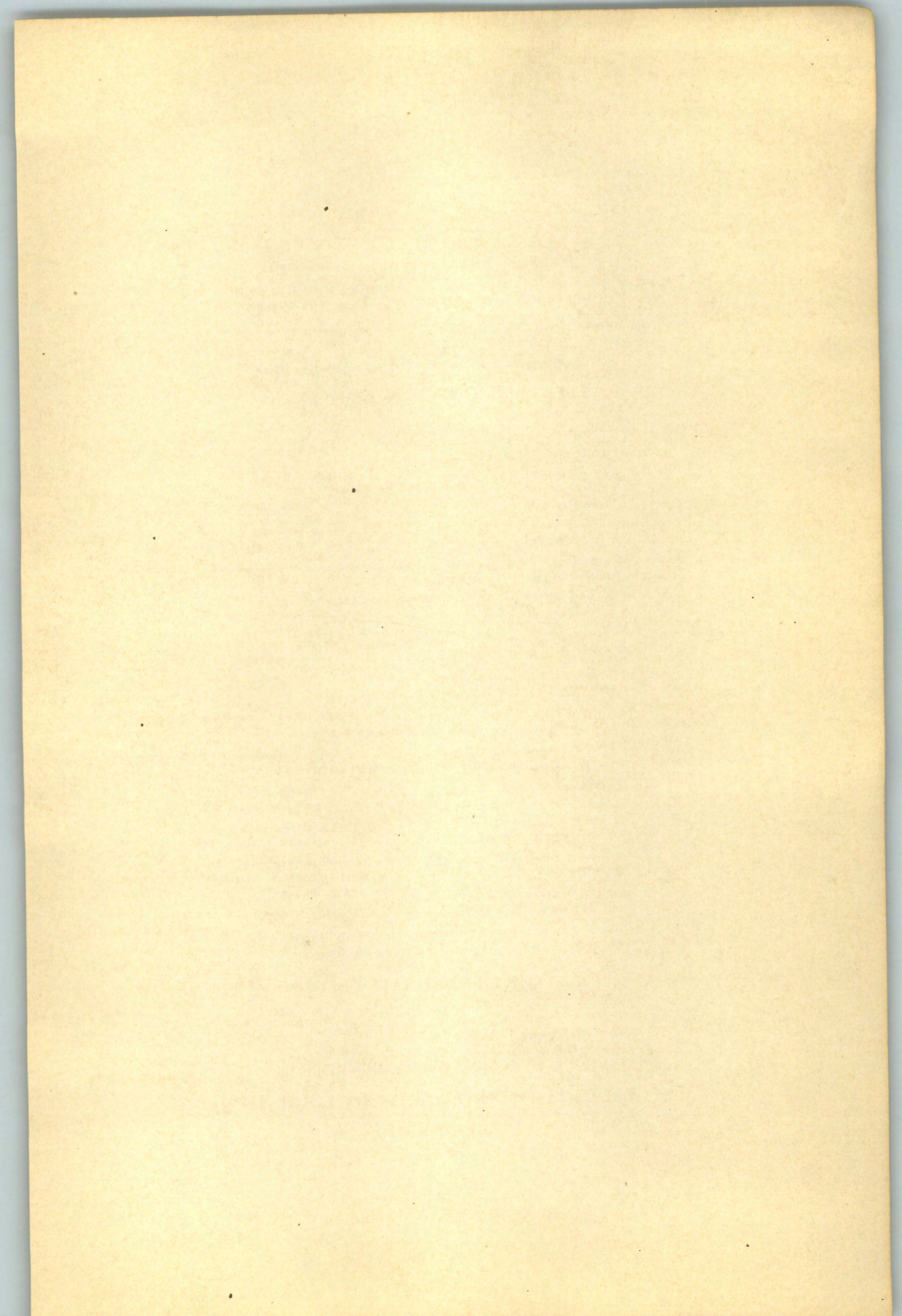
E. MORGAN BARRADALE,

Superintendent of Tunnel Operation

SYDNEY CUMBERLEDGE,

General Superintendent of Bridges

CORNELIUS F. CAHALANE, Police Consultant



ENGINEERING

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Assistant Chief Engineer

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ALLSTON DANA,
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MONTGOMERY B. CASE,
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H. J. BAKER,
Engineer of Steel Inspection

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Acting Resident Engineer

AKSEL ANDERSEN,
Assistant Engineer of Design

CHAS. S. GLEIM,
Assistant Engineer of Construction

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Engineer of Masonry Inspection

W. A. CUENOT
Chief Draftsman

JOHN N. DODD,
Electrical Engineer

E. W. BOWDEN,
Assistant to Chief Engineer

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Consulting Engineer

OLE SINGSTAD,
Chief Consulting Engineer on Tunnels

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ROBERT RIDGWAY,
Consulting Engineer

GEORGE L. WATSON,
Consulting Engineer

DANIEL E. MORAN,
Consulting Engineer on
Foundations

RALPH SMILLIE,
Consulting Engineer

CONSULTING ARCHITECTS

CASS GILBERT, George Washington Bridge and Bayonne Bridge
AYMAR EMBURY II, Inland Terminal No. 1

ENGINEER-ARCHITECTS FOR INLAND TERMINAL

ABBOTT, MERKT & CO.

CONSULTING GEOLOGIST

PROF. CHAS. P. BERKEY

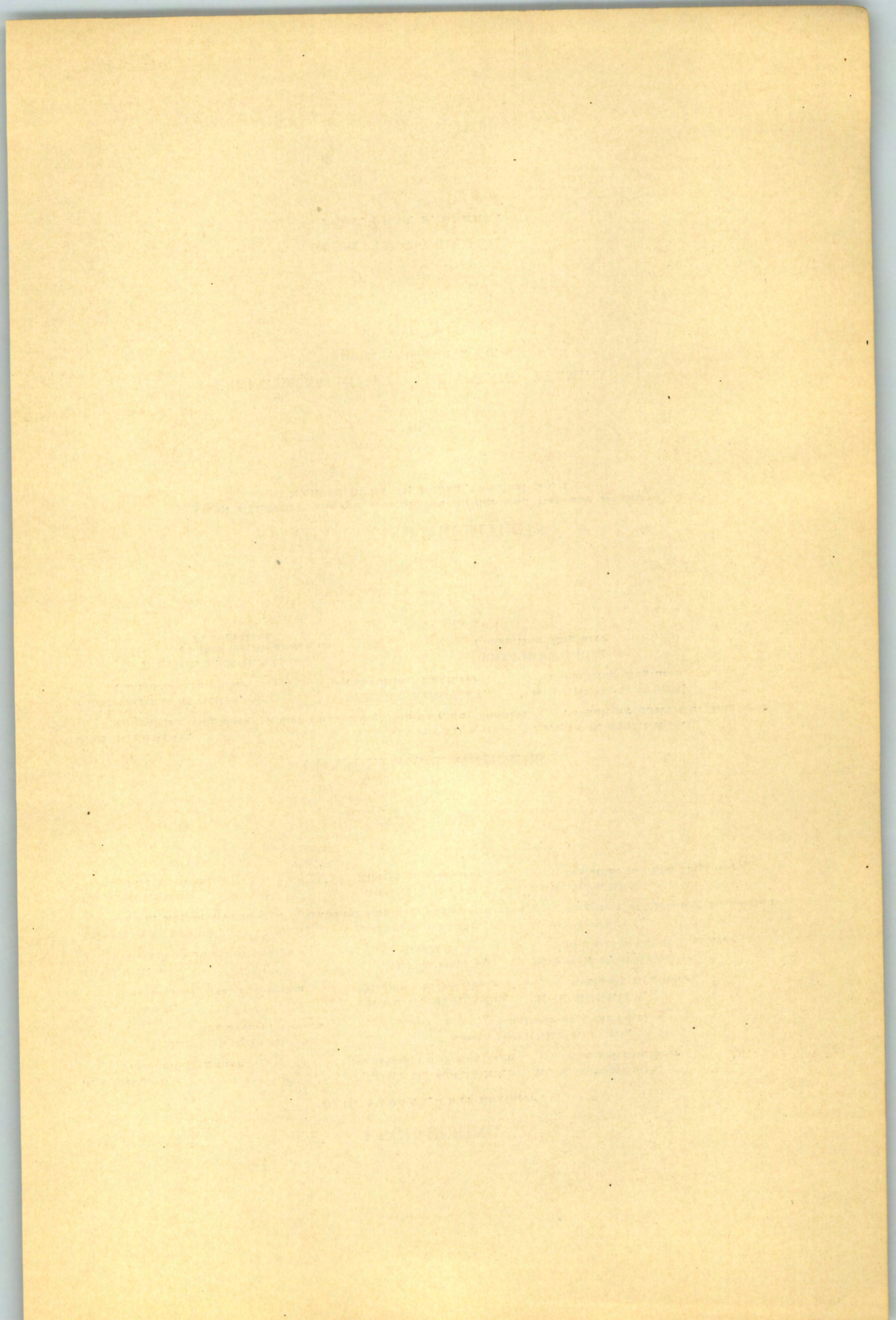
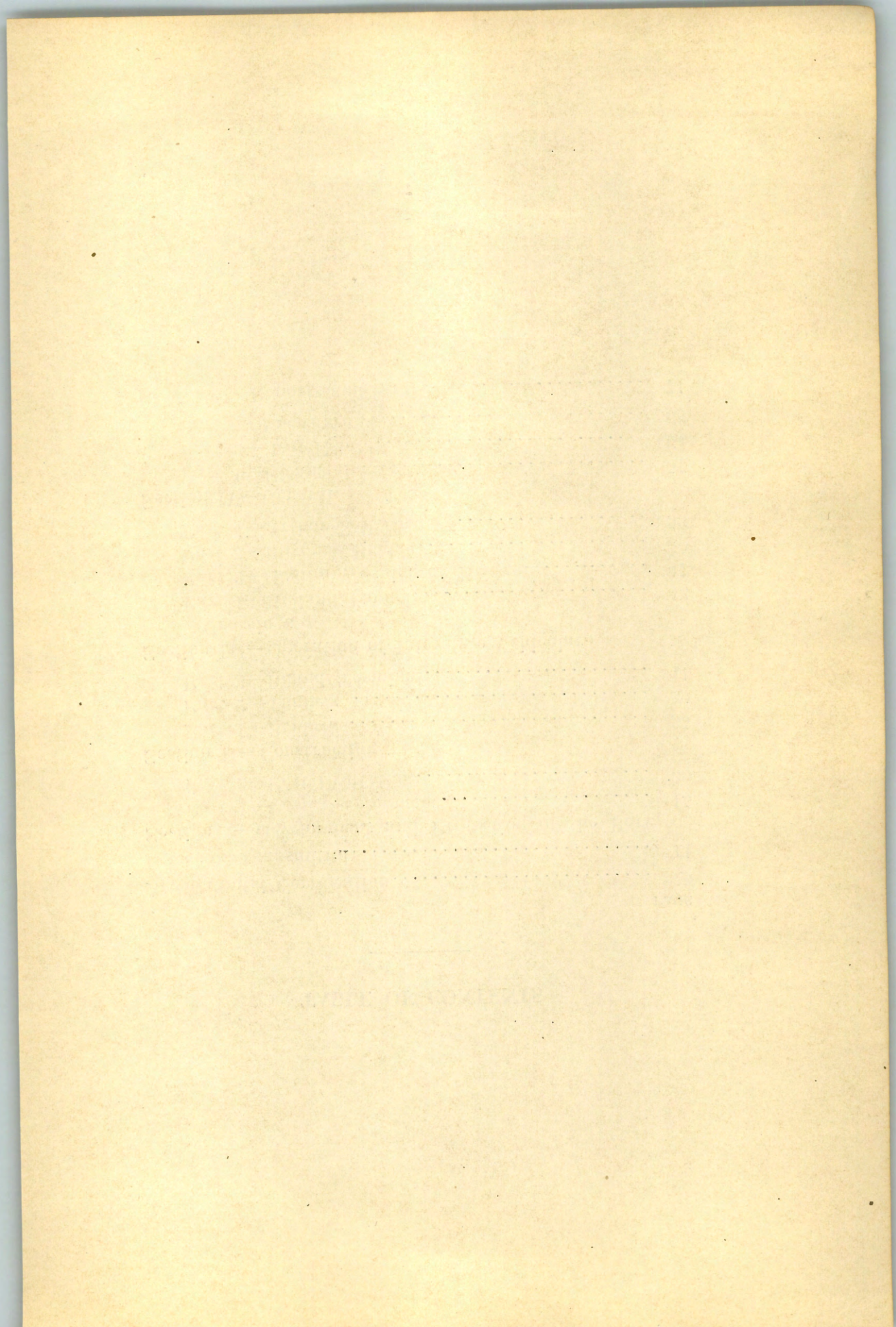


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LAWRENCE SCUDDER & CO.

ACCOUNTANTS AND AUDITORS

February 15, 1932

The Port of New York Authority,
80-90 Eighth Avenue,
New York, N. Y.

GENTLEMEN:

We have made an examination of the books of account and records of The Port of New York Authority for the year ended December 31, 1931.

The cash on hand and investment securities in the vault were verified by count. Sinking Fund and General Reserve Fund investments were similarly verified. The cash on deposit in the various banks, together with the collateral deposited as security, were verified by certificates received from the depositories.

All vouchers supporting disbursements from the funds of The Port of New York Authority were audited by us. Expenditures from the funds in custody of the State Treasurers of the States of New York and New Jersey are made after the Comptrollers of the respective States audit the vouchers.

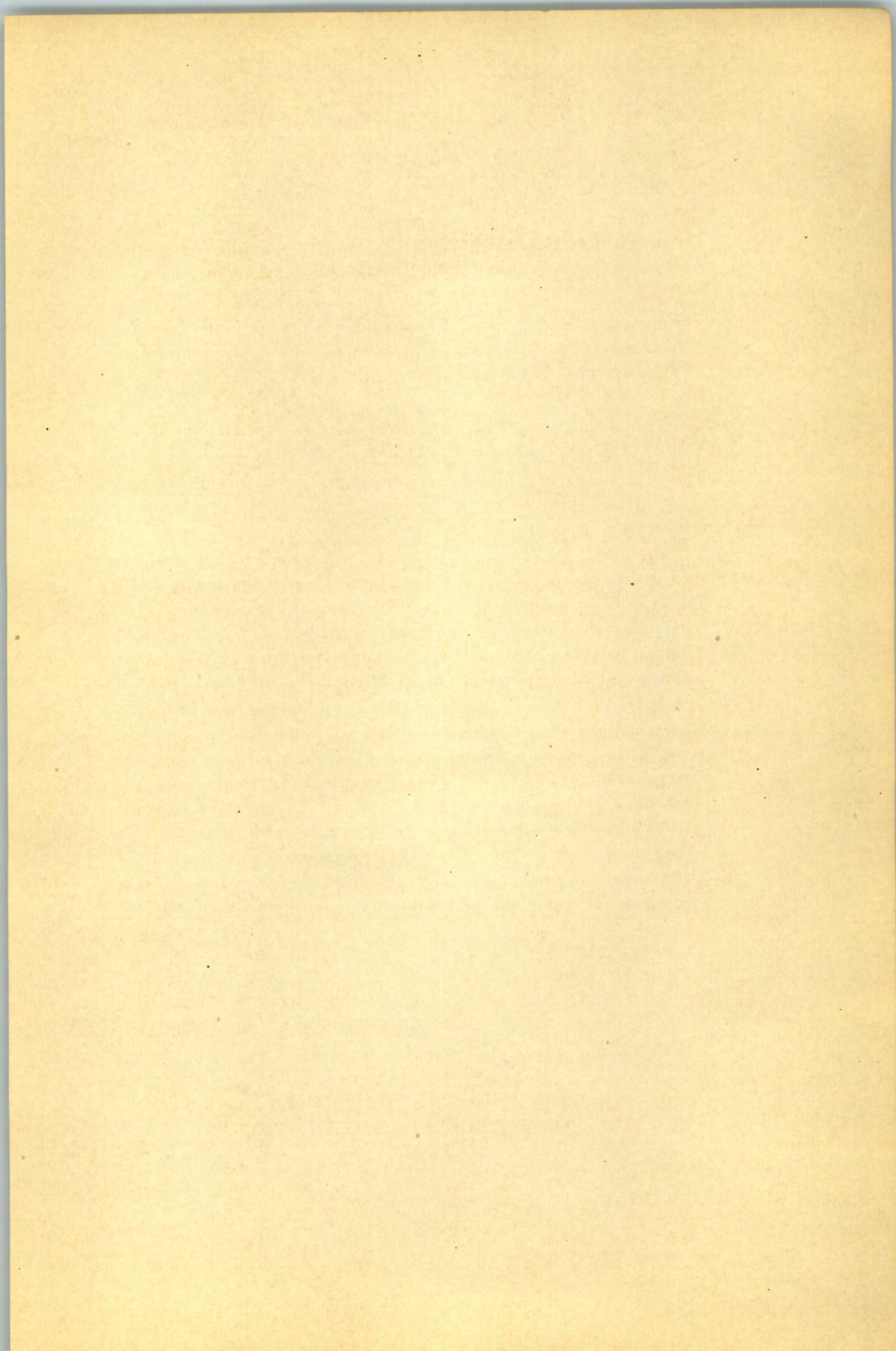
Discount on bonds sold to December 31, 1931, has been charged to investment account in accordance with the policy adopted by the Commissioners.

Interest on bonds of George Washington Bridge and Bayonne Bridge to December 31, 1931, has been charged to investment account.

We hereby certify that the accompanying General Balance Sheet, subject to the Comments thereon, correctly reflects the financial condition of The Port of New York Authority as at December 31, 1931.

Respectfully submitted,

LAWRENCE SCUDDER & CO.



**LETTER OF TRANSMITTAL—ANNUAL REPORT
FOR YEAR 1931**

NEW YORK, February 18, 1932.

*To the Governor and Legislature of the State of New York:
To the Governor and Legislature of the State of New
Jersey:*

The Port Authority, with abiding and optimistic confidence in a great and prosperous future for the Port of New York, reports to you that it has proceeded as rapidly as practicable with development work, and has carried out to the best of its ability those mandates assigned to it.

The opening to traffic of the George Washington Bridge and the Bayonne Bridge are the outstanding physical accomplishments of the year. Both of these facilities were opened several months before the dates scheduled, and costs have been kept within the estimates. Ceremonies dedicating the George Washington Bridge were held on October 24, 1931, and it was opened for vehicular traffic on October 25 at 5.00 A. M. Ceremonies dedicating the Bayonne Bridge were held on November 14, 1931, and it was opened for vehicular traffic on November 15 at 5.00 A. M.

The actual work of building Inland Terminal No. 1 was started early in 1931. By the end of the year, excavation work and foundations had been completed and construction had progressed substantially on the superstructure. It is confidently expected the building will be entirely completed before the end of 1932.

The legislation passed in the early part of 1931, pursuant to which the Holland Tunnel was acquired by the Port Authority, and setting forth a policy with respect to construction of future interstate crossings, was of vital

importance. With an asset such as the excellent revenue-producing Holland Tunnel, it is felt that the future credit of the Port Authority is assured, especially in view of the liberal provisions of those sections of the laws permitting the Port Authority to establish a general reserve fund for surplus revenues from any facility, and from which fund, the Port Authority may withdraw moneys to meet any emergencies which may arise in connection with the payment of interest, amortization, etc.

Satisfactory financing arrangements were made in March, 1931, when an issue of Fifty Million Dollars 4 $\frac{1}{4}$ % Port Authority bonds were sold for the purpose of refunding to the States of New York and New Jersey their respective investments in the Holland Tunnel. Concurrently, there was also issued Sixteen Million Dollars 4 $\frac{1}{4}$ % Port Authority bonds to cover the estimated cost of constructing Inland Terminal No. 1. There still remains on the current finance program, the matter of selling bonds to obtain funds for constructing the proposed Midtown Hudson Tunnel which was authorized by both States early in 1931. Due to credit conditions, this financing has been deferred and the money to cover the cost of preliminary work, including preparation of plans and purchases of certain real estate, has been obtained through temporary loans.

The continued business depression has finally had its effect on the revenues of the Staten Island bridges. Traffic over the Arthur Kill bridges during 1931 was not up to expectations, although the revenues received were sufficient to pay operating expenses, bond interest, and still leave a balance of net income available for sinking fund and other purposes. Traffic over the Bayonne Bridge has been somewhat disappointing due not only to the present business depression, but also to the fact that the ferries have continued to operate on a considerably reduced tariff scale and have thus retained considerable patronage which it was anticipated would use the bridge. Conversely, however, Holland Tunnel traffic increased over 1930 5.71% despite the fact that the opening of the George Washing-

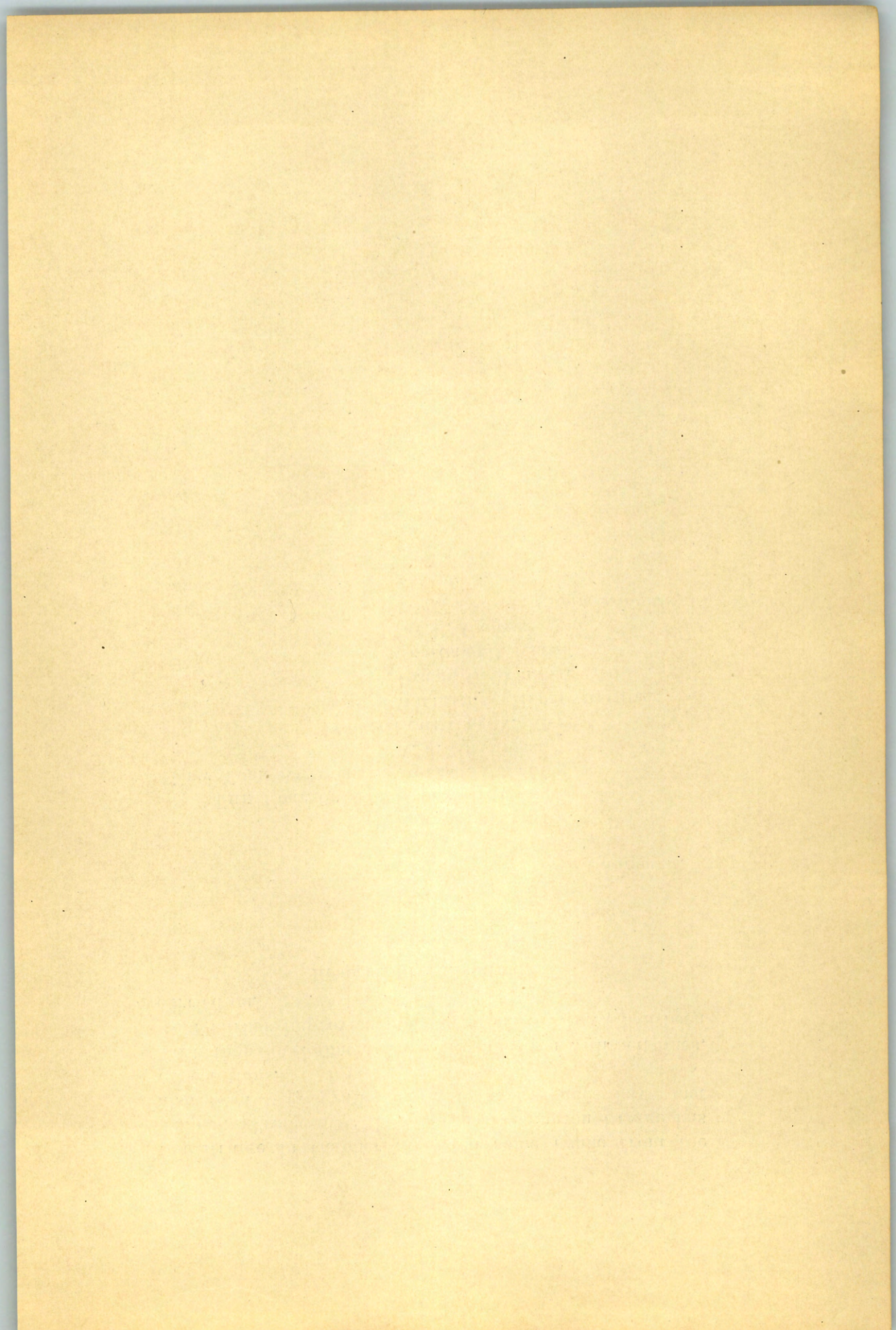
ton Bridge in October attracted some traffic from the Tunnel. Traffic over the George Washington Bridge has also been very gratifying and the revenues have met expectations.

Further development work in connection with belt lines, local harbor improvements, port facilities, etc., has been carried on.

Respectfully submitted,

THE PORT OF
NEW YORK AUTHORITY

{ JOHN F. GALVIN,
Chairman,
FRANK C. FERGUSON,
Vice Chairman,
HOWARD S. CULLMAN,
JOHN F. MURRAY,
GEORGE R. DYER,
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SCHUYLER N. RICE,
WILLIAM C. HEPPENHEIMER,
JOSEPH G. WRIGHT,
GEORGE DEB. KEIM,
IRA R. CROUSE,
Commissioners,



SECTION I—DEVELOPMENT AND PROTECTION OF THE PORT

Part 1—Port Development

Belt Line Number 1

The plans for this proposed facility are being revised, and studies are under way to bring up to date the necessary economic data. This proposed line, when completed, will provide a direct all rail loop connecting the easterly and westerly sides of the port. It begins at the railroad classification yards on the New Jersey side west of the Palisades and runs to Greenville, N. J., thence through a new freight tunnel under the upper bay to Bay Ridge, Brooklyn, where it will connect with the present Bay Ridge Division of the Long Island Railroad, thence through Fresh Pond Junction to the New York Connecting Railroad and finally over Hell Gate to the terminals of the New York Central and New York, New Haven & Hartford Railroads in the Bronx.

The most vital point in this particular project is the construction of the so-called Greenville Tunnel, which cannot be undertaken until economically justified. Joint committees on fact-finding and policy have been designated by the Pennsylvania Railroad and Brooklyn Chamber of Commerce to cooperate with the Port Authority in bringing estimates of cost and savings up to date.

Belt Line Number 13

The advantages of co-ordinated Belt Line No. 13 from Edgewater to Bayonne, on the New Jersey shore, have been brought to the attention of the public by the issuance of an illustrated booklet setting forth the location, services, interchange schedules and rate bases. This pamphlet was prepared in cooperation with the interested carriers and published as Port Information Bulletin No. 3 and has had a wide circulation among the railroad and shipping public.

Through the publication of new rates in conformity with the decision of the Interstate Commerce Commission in the Eastern Class Rate Case, rates between Belt Line No. 13 territory and New England are now on a parity with the rates from the New York side of the Port District. Rates to upper New York State have also been made uniform from all points on the Belt Line, thus completing the revision of rates from this territory which was started as a result of negotiation between the carriers and the Port Authority in 1923.

At the request of New Jersey shippers, discussions have been started with the Trunk Line Association relative to establishment of switching rates in lieu of class and commodity rates on local movements between industries and stations on Belt Line No. 13.

Jersey City Marine Terminal

Following a favorable ruling from the Secretary of War permitting extension of pierhead line abutting the site of the proposed Jersey City Marine Terminal, further studies and plans were made. A layout for piers and supporting terminal facilities has been tentatively chosen and studies of costs, carrying charges, prospective revenues, and financial schedules under which Jersey City would lease the terminal from the Port Authority have been worked out. Preliminary conferences on the basis of this plan have been held with the Jersey City officials, who in turn are negotiating with prospective operators for the properties.

In order to provide adequate depth of water for large steamers approaching the terminal a representative of the Port Authority appeared before the First District Engineer on November 24, 1931, urging a favorable recommendation on a survey for the deepening of the Hudson River Channel to 40 feet up to the pierhead line on the New Jersey side.

Hoboken Piers

As noted in the Tenth Annual Report, the Port Authority negotiated during 1930 with the United States Shipping Board, the City of Hoboken, and Mr. Paul W. Chapman,

for the purpose of working out a proposition which would permit the taking over of the Hoboken piers by the Port Authority for lease to a responsible operator under such terms as would adequately protect the Port Authority investment, and at the same time insure some income to the City of Hoboken in lieu of taxes. The plan under which the Port Authority would have taken over Mr. Chapman's bid to the Shipping Board, and then in turn leased the piers to Mr. Chapman, proved unsatisfactory when the Chapman interests stated they were unwilling to proceed on the terms outlined by the Port Authority as necessary to protect its investment. Mr. Chapman withdrew his bid in January, 1931.

On February 10 and 11, 1931, bills were introduced in the House of Representatives and the United States Senate authorizing the Shipping Board to sell the Hoboken pier property directly to The Port of New York Authority for the sum of \$4,282,000. The Senate bill was passed on March 3, 1931, but the House bill remained in Committee.

By resolution of June 4, 1931, the Port Authority decided to submit a bid for the Hoboken piers in the event the United States Shipping Board should again advertise them for sale. In view of the shipping depression which caused three of the four lines operating from the Hoboken piers to move elsewhere in 1931 the Shipping Board upset price of \$4,282,000 appears too high for present consideration. The Shipping Board has not readvertised the piers for sale on any new terms.

Transportation Survey of Northern New Jersey

In order to facilitate the study of transportation needs of the Jersey section of the Port District west of the Hackensack River, arrangements are being made to open a Field Office at Room 2828 Lefcourt-Newark Building, 11 Commerce Street, Newark, N. J.

In Northern New Jersey, west of the main railroad classification yards, is a vast system of trackage, freight stations and private industrial sidings for which no complete traffic records have ever been compiled. Arrange-

ments are being made for carrier co-operation in making an extensive collection of transportation data which will show the volume and distribution of less-than-carload-freight, and will throw a light on the need, if any, for union stations for handling this traffic. The survey will also show the character and amount of carload traffic which is being interchanged by rail between industries and stations, compared to the amount handled by other types of transportation.

The Newark Field Office will provide a center from which direct contact with the carriers and shippers in this territory can be maintained, with respect to local problems of port development in New Jersey.

Food Terminals

The Port Authority assisted the Commission to Investigate the Market Needs of New Jersey Agriculture, appointed by the New Jersey Legislature in 1930, in the collection and analysis of data and the preparation of its "Report of Progress" published in March, 1931. This report recommended that the first market to be developed should be in the Newark Region, the largest primary market in the State.

In order to determine the available warehouse space for storing perishable foods, the Port Authority made a new survey of public storage warehouses in the Port District which included dry storage warehouses as well as those equipped with cold storage facilities.

New York Food Marketing Research Council

The Port Authority has continued its cooperation with the U. S. Department of Agriculture, and other public bodies, in maintaining headquarters for the New York Food Marketing Research Council. Four research studies relating to the New York City market were brought to completion, and three public meetings were held with the trade in which the subjects of milk supply, restaurants as food outlets, and reduction of wastage in perishable food distribution, were discussed.

Federal Aid to the New York Barge Canal

The New York State Barge Canal is of great importance to the commerce of the Port of New York since it constitutes a low-cost route to the interior for transportation of bulk commodities which make up the "bottom" cargo of ships plying to and from the port. The present Barge Canal system upon which the State of New York has spent \$175,000,000 furnishes the only means of competing with the Mississippi River system serving the Port of New Orleans, and the St. Lawrence waterways serving the Canadian ports of Montreal and Quebec, both of which are maintained and improved at national expense.

The program of improvement in the New York State Barge Canal system, including deepening to 14 feet between locks, raising of bridges to provide 20 feet vertical clearance, and widening at strategic points, at an estimated cost of \$50,000,000 has been found justified by the Chief of Engineers of the U. S. War Department in anticipation of the increased traffic which will use this waterway. Looking towards further improvements at Federal expense, Congress, in the 1930 Rivers and Harbors Act, authorized the Secretary of War to accept the transfer of title and operation of the canal from the State of New York. However, the terms of the proposed transfer do not appear to adequately protect the interest of the State.

At a hearing before a Committee of the New York State Legislature, the Port Authority urged that continued efforts be made to promote improvement of the canal with Federal aid, suggesting that the State should take steps to formulate terms and conditions upon which federalization might be accomplished. Realizing that the formulation of such terms, and the necessary amendment to the State Constitution to permit federalization will take several years, the Port Authority will urge Congress to give immediate aid for improvement of the Barge Canal as a national water highway, through a "grant-in-aid" to the State of New York under specifications to be laid down by the Secretary of War. In furtherance of this program a resolution was introduced and passed endorsing the policy of a federal

grant-in-aid at the 27th Convention of the National Rivers and Harbors Congress. A bill to effectuate the Federal aid program will be introduced in Congress during the 1932 session.

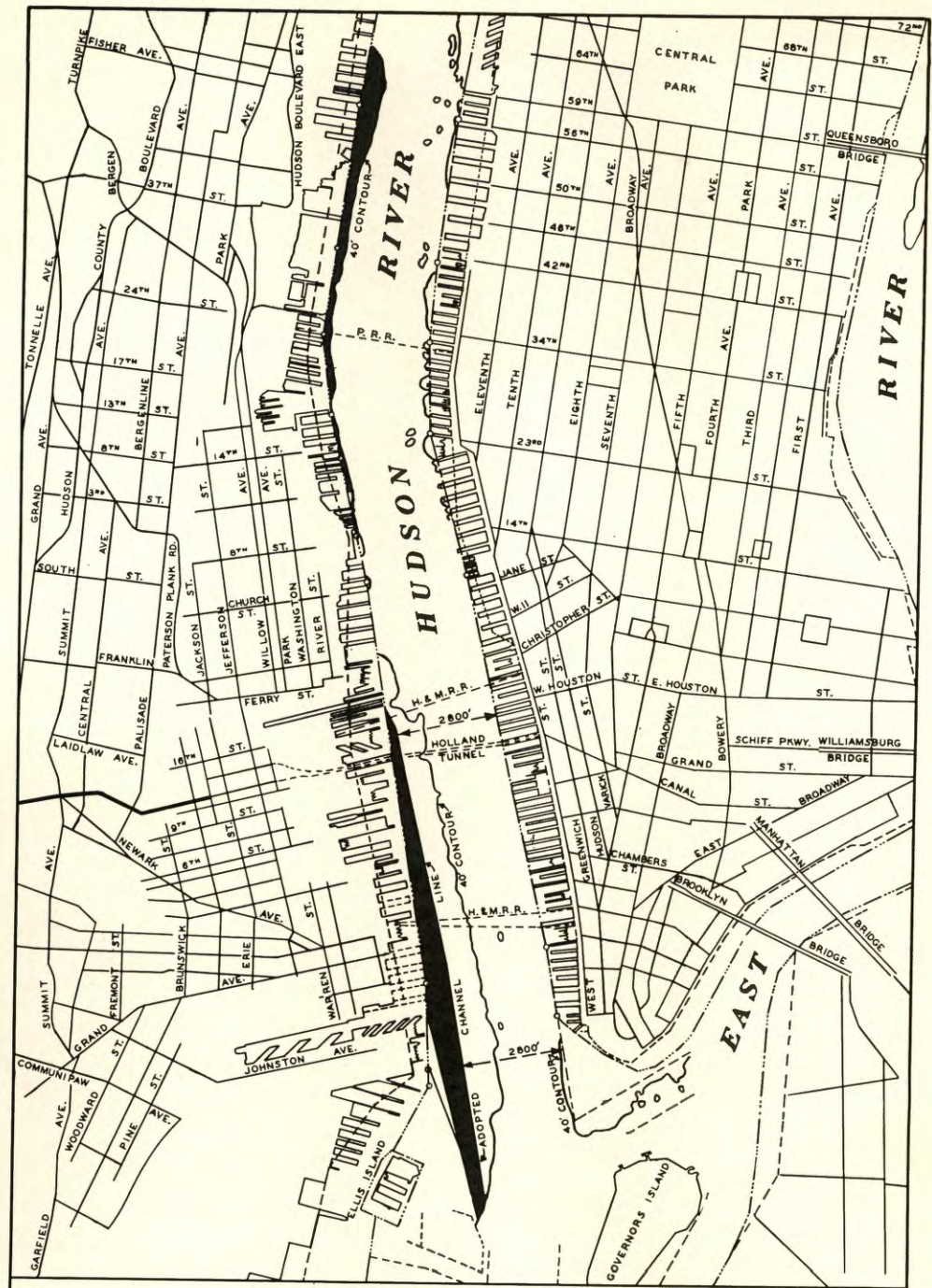
Channel Improvements

The policy of co-operating with the Army Engineers to improve navigating conditions in the Port District was continued, and as a result of field investigations and traffic surveys conducted by the staff, recommendations were submitted to the United States Engineers at public hearings on proposed channel improvement projects. Some of the projects in which the Port Authority took an active part were:

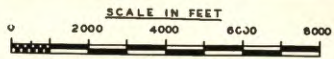
1. Proposal for dredging Hudson River to a depth of 40 feet for its full width from 59th Street to Upper New York Bay.

2. Proposal to improve New York and New Jersey Channels from deep water in Lower Bay through Raritan Bay, Arthur Kill, Kill van Kull, to deep water in Upper Bay in order to secure sufficient depth and width for vessels using these channels. The Port Authority submitted an extensive brief, recommending the adoption of a comprehensive plan for the gradual improvement of these channels. The specific recommendations were as follows:

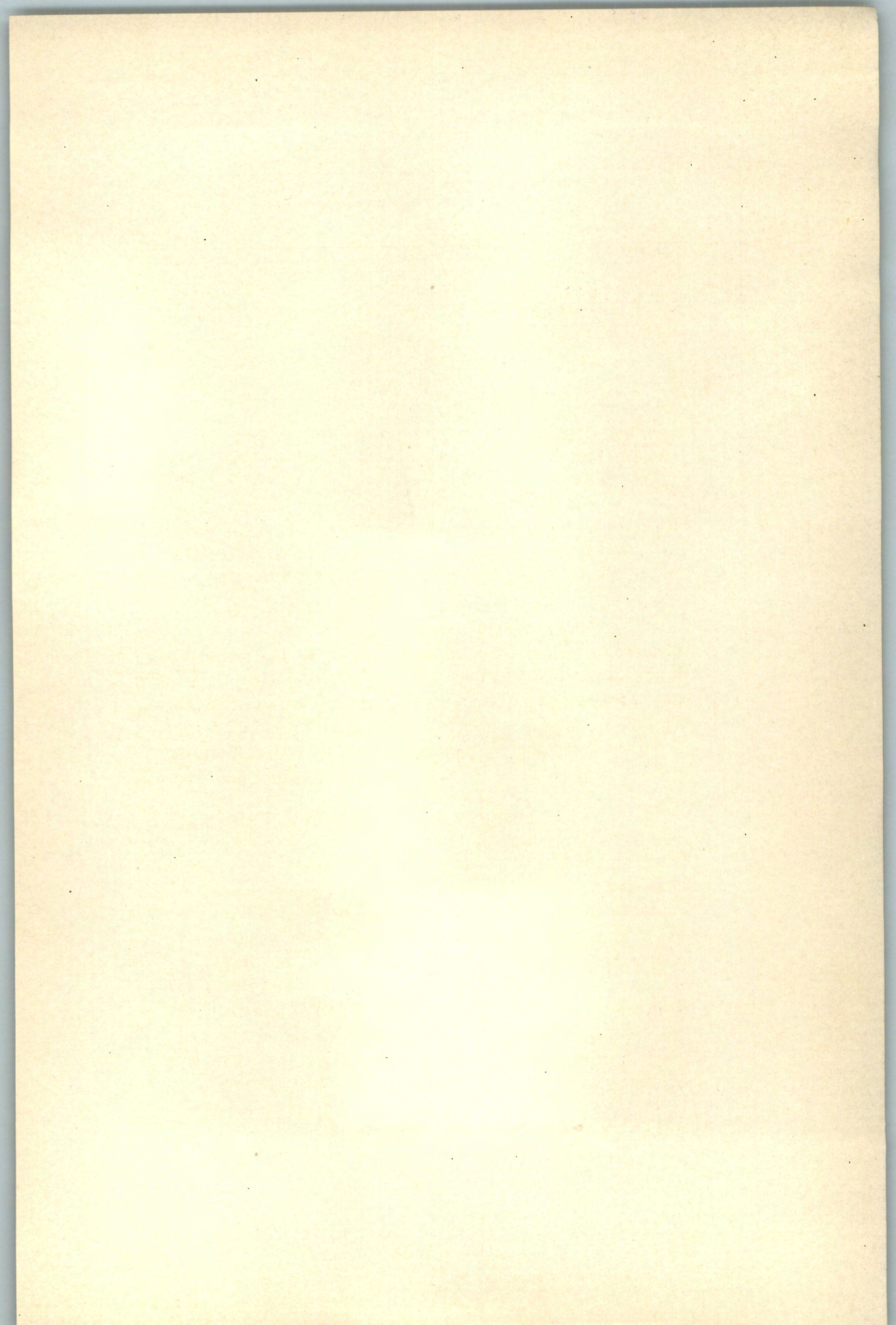
- (a) Remove sufficient rock in the vicinity of Bergen Point Light to improve navigating conditions during bad tide and wind conditions.
- (b) Widen and deepen the channel north of Shooters Island to relieve congestion in the south channel.
- (c) Increase the depth of the Kill van Kull to 35 feet and the width to 1,000 feet to provide safe navigation for vessels while passing.
- (d) Widen the Arthur Kill to 600 feet and increase the depth to 35 feet.
- (e) Dredge the Raritan Bay Channel to 35 feet with a width of 800 feet.
- (f) A quarantine anchorage at Perth Amboy large enough for three sea-going vessels.



**THE PORT OF NEW YORK AUTHORITY
CONTEMPLATED WIDENING OF HUDSON RIVER CHANNEL**



OFFICE OF ENGINEER-PORT DEVELOPMENT AND TRANSIT



3. Proposed cut-off channel at Perth Amboy, N. J., to connect the Raritan River Channel with the southerly end of the Arthur Kill.

4. Improvement of the Rahway River to a depth of 12 feet (14 feet through rock cuts) to facilitate the economical handling of heavy raw materials and fuel and to promote the future industrial development of this section of the port.

5. Improvement of the Elizabeth River to a depth of 12 feet between harbor lines so that barges may tie up alongside of industrial bulkheads without hampering the movement of other craft in the fairway, with the understanding that the Federal Government shall bear the entire cost of dredging provided the local interests pay the cost of bulkheading.

Bridges and Tunnels

The Federal Government requires all agencies desiring to construct bridges across, or tunnels under navigable waterways, to make application to the War Department for a permit. The Army Engineers requested opinions from the Port Authority as to the sufficiency of clearances for navigation, etc., on various applications during the year, the most important of which were:

(1) Formulation of standard bridge clearances over the Hudson River from Spuyten Duyvil north, in connection with future bridges across that river. In order to protect this important waterway for navigation in the future the Port Authority recommended a minimum clearance from Spuyten Duyvil to Hastings of 185 feet. From Hastings north to the Port District line a minimum clearance of 150 feet above mean high water was recommended.

(2) Application covering construction of a new bridge across Gowanus Canal, at Hamilton Avenue, Brooklyn. This application was recommended as acceptable by the Port Authority if the original plan were modified by relocation of bridge fenders so as to permit a wider horizontal clearance for navigation.

Modification of Harbor Lines

The authority to establish and maintain harbor lines is vested by the United States Government in the New York Harbor Line Board. Applications for changing the existing bulkhead and pierhead lines must therefore be presented to this Board for their review and decision.

During the past year the Port Authority submitted recommendations on applications modifying the existing harbor lines of the Hudson River requested by the Hoboken Land and Improvement Company; of the Passaic River requested by the Erie Railroad Company, and of the Harlem River suggested by the U. S. District Engineer.

Port Information

The Port Authority continues to handle numerous inquiries concerning port facilities, transportation services and channel depths from present and prospective users of the port. The monthly "Commerce Bulletin," containing current information on commerce, shipping, channel improvements, port facilities, storage holdings, and other economic data relating to the port, is distributed regularly to 1,600 shippers, transportation companies, commercial agents and libraries both in the United States and abroad.

Suburban Transit

The Port Authority has continued its suburban transit studies and its support of the work of the Suburban Transit Engineering Board, which has been studying passenger traffic conditions and endeavoring to prepare a regional plan for facilitating the movement of commuter traffic about the Metropolitan District. This Board comprises engineering representatives of the following agencies:

New Jersey Regional Planning Commission.
Board of Transportation, City of New York.
Board of Supervisors, Westchester County.
Board of Supervisors, Nassau County.
Board of Supervisors, Suffolk County.
The Port of New York Authority.

Committee of Railroad Executives.
New York Central Railroad.
Erie Railroad.
Central Railroad of New Jersey.
Pennsylvania Railroad.
Delaware, Lackawanna & Western Railroad.
New York, New Haven, & Hartford Railroad.

This Board has functioned through three sector planning committees; namely, New Jersey sector, Westchester sector and Long Island sector. Traffic operating statistics together with construction costs were made for numerous studies in each sector and these sector studies were submitted to the Board for its consideration. From the results of these findings the Report Committee of the Board prepared a tentative draft, dated August 13, 1931, of an Engineering Report on suburban plan for the Metropolitan District which was transmitted to the Board for its approval.

The Suburban Board, at a meeting on October 15, 1931, laying on the table the draft of the Engineering Report, stated that circumstances beyond its control prevent it from making a report at this time, and adopted the following resolution:

Whereas, The Suburban Transit Engineering Board, having been for some time engaged in studying the suburban transit engineering problems of the Metropolitan District, and

As present conditions are materially different from those obtaining during the seventeen year period ending with 1928, on which the studies were based; due to recent changes in cost of construction, cost and availability of money, trend of passenger traffic, both urban and suburban, and

As these and other factors create considerable doubt as to the future;

Be It Resolved, That pending more information as to the future, this Board recommends to the member agencies that further consideration of the suburban

transit plan be suspended for a period of at least a year, but that the Board continue to observe the changing conditions and renew active planning when it deems conditions more appropriate.

Some of the agencies are continuing their support of activities on a reduced scale, but exhaustive engineering studies involving plans and estimates of cost of construction will be suspended for the coming year. During this interim suburban traffic statistics extending over six years or more are being compiled from the records of the railroads. This data will form the basis for the operating analyses and economic studies for a suburban transit plan at a future date.

Highway Traffic Studies

In connection with the financing, construction, and operation of its various interstate vehicular crossings, the Port Authority has continued its highway traffic surveys and studies. These studies embrace the present and indicated future trend of total interstate vehicular traffic, its origin, destination and directional flow, the types and dimensions of vehicles, and the hourly and seasonal variations in travel.

During 1931 a comprehensive traffic and revenue study of the proposed Midtown Hudson Tunnel was completed. This investigation covered not only estimates of prospective traffic and revenues for financing purposes but also directional flow for purposes of plaza and approach highway design and trends in types and dimensions of vehicles in order to determine the proper tunnel dimensions.

Pursuant to a resolution of the New Jersey Legislature authorizing a preliminary survey of a bridge across Raritan Bay, connecting Staten Island and New Jersey, extensive studies were made of the economic feasibility of this project. The traffic and revenue studies included field clockings on sixteen days during the summer of 1931 at Victory Bridge, Perth Amboy, and other gateways leading to the New Jersey seashore territory. Origin and destination of more than 100,000 vehicles were determined on

eight different days in May and July, 1931, by a squad of fifty carefully trained inspectors, simultaneous checks being made at the Victory Bridge, at the Arthur Kill bridges and ferries, and at the Bayonne ferry, with the cooperation of the State and City police, Motor Vehicle Commissioner, and State Highway and Traffic Commissions. These data were supplemented by traffic counts obtained from the New Jersey State Highway Department, records of bus and railroad travel and attendance at beaches and park resorts. Test runs were also made to determine travel time and mileage via existing routes as compared to the proposed new Raritan Bay Bridge route. The facts and conclusions drawn therefrom with respect to the economic feasibility of the Raritan Bay Bridge have been incorporated in a separate report.

Supervision of Emergency Works Bureau Forces

The Emergency Works Bureau, which is providing employment from funds of the Emergency Unemployment Relief Committee, requested the Port Authority to outline and in a general way supervise activities which would profitably employ men in the so-called "white collar" class. The Port Authority agreed to provide a limited amount of technical supervision, provided the Emergency Works Bureau assumed full responsibility for the personnel, and assigned both New York and New Jersey residents in equal proportions.

A branch office of the Emergency Works Bureau located at 14th Street and 8th Avenue was opened on November 16, 1931. These quarters were made available through the courtesy of the management of the County Trust Building. Men paid from the Emergency Unemployment Relief Committee's fund are assigned to this office for a period of three days each week, one shift working Monday, Tuesday and Wednesday and another Thursday, Friday and Saturday. At times both shifts have been assigned on the same day, including Sundays, to cover special field surveys.

Beginning with the assignment of thirty men in the first week, this force has been built up to about 600 men.

The men have been used on field and office studies in collecting, compiling and analyzing records which will prove of value to the Port Authority and other public agencies, and which could not otherwise have been collected because of the expense involved.

Among the projects upon which the Emergency Works Bureau force has been engaged are:

- (1) Traffic counts to ascertain directional flow of traffic, street capacity, etc.
- (2) Counts of commuter passenger traffic at important terminals in the Metropolitan Area.
- (3) Records of the geographic distribution of steamship cargoes handled on the Brooklyn, Manhattan, and New Jersey waterfronts.

Other projects of similar character will be pursued during the early part of 1932.

Improvement of Facilities and Services

Private and public agencies in the port of New York, other than the Port Authority, completed extensive construction work and added new equipment during 1931.

City of New York

Appropriations totaling nearly \$13,000,000 were made by the City of New York during the year 1931 for construction work on nine steamship piers on the Hudson, East River and Brooklyn waterfronts. Initial contracts have been awarded on all of these projects.

On the Hudson River waterfront work has been started on the construction of three of the five piers planned to accommodate the new superliners in the section between West 48th and West 52nd Streets. These piers will be 1,100 feet long and 125 feet wide with slip widths of 400 feet between. They will be designated as new piers 88, 90 and 92.

Progress was made during 1931 on several other piers under construction on the Hudson River waterfront. Work is advancing on the substructure of Pier 25, foot of North Moore Street, 900 feet long by 125 feet wide, which will

be leased to the Eastern Steamship Company for coastwise service. Construction of the substructure of Pier 32 at the foot of Canal Street is almost completed. This pier is 1,019 feet long by 125 feet wide. Upon it will be erected a two-story shed completely equipped for the handling of modern passenger vessels. It will be used, upon completion, by the North German Lloyd Steamship Company.

Very satisfactory progress has been made in the construction of Pier 34 located at the foot of Spring Street. This pier is approximately 1,024 feet long by 160 feet wide. It is built directly over the Holland Tunnel. During the construction period the Port Authority cooperated with the City of New York to prevent damage to the Tunnel. The pier and its shed will be completed during 1932 and will be occupied by the Clyde-Mallory Line coastwise service.

The initial contracts have been awarded for the construction of Pier 45, located at the foot of West 10th Street. This pier will be 900 feet long by 100 feet wide and will be leased to the Italian Lines for use by the ships of the Cosulich, Lloyd Sabauda and Navigazione Generale Italiana.

On the East River waterfront initial contracts have been let for demolition of the old piers 9 and 10 preliminary to building new pier 9 at the foot of Old Slip. The new pier, which is to be 650 feet by 140 feet, will be leased to the Munson Steamship Company for the accommodation of their New York-West Indies service.

On the Brooklyn waterfront old pier 6, New York Dock Company, is under reconstruction by the Board of Transportation of the City of New York. The Board of Transportation took over this pier in connection with the Cranberry Street Rapid Transit Tunnel construction. The new pier will be 532 feet long by 125 feet wide.

Other Pier Improvements

In addition to the construction program of the City of New York, progress has been made during 1931 on projects financed by private capital. Piers 15 and 16 East River, owned by the City of New York and under lease to

the Atlantic, Gulf and West Indies Steamship Company, have been extended and improved by the lessee. Both piers have been extended 50 feet giving a total length of 600 feet. New sheds have been erected on Pier 16 and on the bulkhead.

The Erie Railroad Company completed construction of Pier D, Weehawken, early in 1931, which is now being used by the Bernstein Line for the handling of unboxed automobiles to Continental Europe. This pier is 832 feet long by 101 feet wide and has a three story superstructure equipped with special shipside elevators for handling automobiles.

The Erie Railroad has also under construction Pier 8, Jersey City. This pier is 1,050 feet long and 70 feet wide and is served by railroad tracks. The pier will be covered with a three-story shed to be used for storage and handling westbound lighterae freight.

Pier 15, Hoboken, which was damaged by fire early in 1930, is being reconditioned by the Lamport & Holt Line.

Railroad Terminals

During 1931 excavation and foundation work was started by the New York Central Railroad for its Spring Street Freight Terminal, part of the West Side improvement program, which includes the electrification and grade separation of trackage. The Spring Street Terminal, located between Washington and West streets, will cost approximately \$12,000,000.

Foundation work for the New York Central's new yard at 30th Street in connection with the West Side improvement project is also in progress. Construction has also been started on a new cold storage plant to be located at the south side of West 14th Street, east of 10th Avenue.

Early in 1931 the Pennsylvania Railroad opened an additional bulkhead pier station at the foot of Desbrosses Street for the receipt and delivery of carload and less-than-carload freight.

The Lehigh Valley Railroad opened new yard and station facilities for handling carload and less-than-carload freight in the old 27th Street yard in connection with the erection of the Starrett-Lehigh Building at that point.

New Equipment

New electric crane equipment has been installed by the Delaware, Lackawanna & Western Railroad at Pier 3, Hoboken, and by the Lehigh Valley Railroad at Poinier Street yard, Newark, and at Grand Street, Jersey City. New Diesel-electric locomotives have been put in operation by the New York Central Railroad on the West Side freight line.

SECTION I—DEVELOPMENT AND PROTECTION OF THE PORT

Part 2—Port Protection

Boston Differential Case, I. C. C. Docket 23327

As noted in the Tenth Annual Report, the City of Boston and the Boston Port Authority, by complaint filed in April 1930, requested the Interstate Commerce Commission to prescribe differentially lower rates to Boston in place of present parity of rates with New York, and to order publication of separately established rates and charges for terminal services, such as lighterage, carfloatage, motor-truck service to off-track stations, etc. The Port Authority intervened in opposition to the Boston complaint and participated at hearings in Boston, New York City, and in Brooklyn. Briefs opposing the Boston complaint were filed.

The Port Authority took the position that the Boston complaint was opposed by the business interests of New England; that nothing in Boston's geographical and transportation situation justified lower rates than the rates via the Port of New York; that the complaint was simply an opportunist attempt to take advantage of the lighterage complaint filed by the State of New Jersey; and that the complaint was based on unsound principles and was contrary to law. The Port Authority will continue to participate in these proceedings until the matter is determined.

Lumber Loading Charges at Newark, I. C. C. Docket 24254

The 1930 Annual Report mentioned the Port Authority's activity in seeking a removal of the discrimination against the Port of New York, particularly at Port Newark, in the matter of absorbing lumber loading costs. The

carriers absorb such costs at the competing ports of Philadelphia, Baltimore, and Wilmington but fail to do so at Port Newark.

In February the City of Newark and the Newark Chamber of Commerce, together with several lumber dealers, filed a complaint against the Pennsylvania Railroad bringing the matter formally to the attention of the Interstate Commerce Commission. The Port Authority intervened and supported this complaint. In September the Interstate Commerce Commission examiner recommended the removal of the discrimination. The Examiner's report completely sustains the contentions of the applicants and the Port Authority. It is anticipated the Commission will uphold the examiner's report and remove the discrimination.

Carriers Application for Increased Rates, Ex Parte 103

In connection with the application of the carriers to the Interstate Commerce Commission for permission to make a horizontal fifteen per cent increase in freight rates, the Port Authority took part in order to protect the interests of the Port of New York. No opinion with respect to the necessity for, nor the measure of, the proposed increase was expressed but the Commission was requested to make no changes in the present port differentials should a general increase be granted. The Commission's decision to permit a limited increase protects the port differentials. The permitted increase is based on a flat charge instead of a percentage of the old rate and therefore puts the Port of New York at no further disadvantage in relation to competitive ports enjoying differentials.

Class Rates Within New York State, P. S. C. Docket 5294

A general revision of the intrastate class rates in New York State was proposed by the carriers as an outgrowth of the decision of the Interstate Commerce Commission in Eastern Class Rates Investigation, I. C. C. Docket 15,879. On November 21, 1931, the Public Service Commission of the State of New York handed down a decision, substan-

tially upholding the views of the Port Authority. At the hearings before the Commission, the Port Authority contended that rates from New Rochelle, Mt. Vernon and stations on the New Haven Railroad in the easterly part of the Bronx to destinations north and west of Greendale, New York, should be the same as the rates from Manhattan and other sections of the Port District. The Commission's decision upholding this contention will help industries and shippers in the Bronx and strengthen the unity of the port from a rate standpoint.

Export Steamship Rates, U. S. S. B. Docket 72

The Atlantic Refining Company of Philadelphia has filed a complaint against various steamship lines sailing to African ports alleging discrimination against Philadelphia shippers and in favor of shippers through the Port of New York in the movement of petroleum products. The case has been set for hearings before United States Shipping Board on January 13, 1932. The Port Authority intervened in this case in order to clarify the interpretation of the Shipping Act relating to prejudice and discrimination and to protect shippers through the Port of New York from the necessity of subsidizing special and exceptional service to out-port shippers.

Miscellaneous Investigations

Import, Export and Intercoastal Rates

On September 18, 1931, the Trunk Line Association, New England Trunk Line Association, and the Central Freight Association lines held a joint hearing at Buffalo at which proposed export, import and intercoastal rates between North Atlantic ports and the middle west were considered. The Port Authority was represented at the hearing and supported the carriers' proposals. These proposed rates will preserve the differential relationship between the North Atlantic ports which has existed for many years and which the Port Authority is making every effort to keep from being widened to the advantage of competing ports. The carriers have filed with the Interstate

Commerce Commission, application for authority to make some departures from the long and short haul provision as contained in Section 4 of the Interstate Commerce Act, in order that the rates proposed at the Buffalo hearing might be established. The Port Authority urged the granting of such authority. In December the Interstate Commerce Commission granted the authority and the carriers have filed tariffs effective January 3, 1932.

Export, Import and Intercoastal Rates between Albany and the Middle West

On November 21, 1931, the Trunk Line Association held a public hearing on a proposal to extend the Baltimore port differentials on export and import traffic to similar traffic at Albany. At the hearing, the Port Authority opposed in principle the extension of port differentials and favored in principle the equalization of all ports, adding however, that if the differential basis of rate making is to be continued, Albany is entitled to equality with Baltimore.

Lightering of L C L Eastbound Freight

On November 21, 1931, the Trunk Line Association held a public hearing on a proposal to amend New York lighterage tariffs revising the eastbound arrangement, under which LCL freight with carload freight eastbound is lightered without charge, by the establishment of a charge of 3½c per hundred pounds on such LCL eastbound freight. Protest was entered on behalf of the Port Authority against the establishment of this proposed charge, on the ground that it would unjustifiably increase cost of handling freight in the Port of New York. The proposal was unanimously opposed by all shippers present at the hearing and it is believed that the proposal will not be adopted.

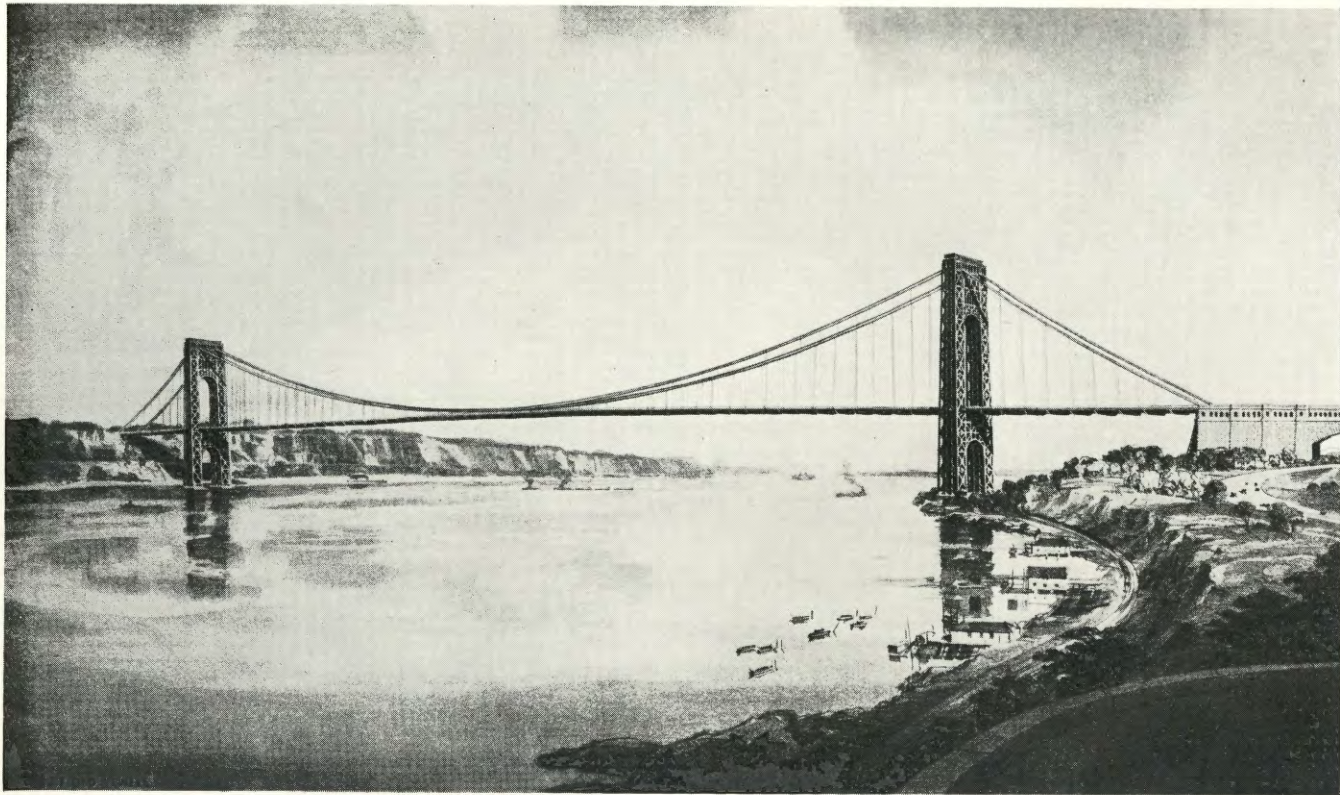
Proposed Increase in Heavy Lift Charges

In December 1931, the New England Freight Association proposed to establish a rule providing for extra charges at New York Harbor for handling heavy articles weighing over three tons. The charges proposed by the New Haven exceeded those assessed by the Trunk Line Railroads at

New York and the Port Authority therefore protested against the establishment of the proposed regulation unless and until the charges proposed were amended to conform with present charges assessed by the Trunk Lines operating in New York Harbor. There is no apparent reason for charging New England shippers more than other shippers to do business in the Port of New York.

Custom House Bonds

In September, 1931, the Treasury Department announced that surety bonds filed in connection with the importation of merchandise at the Port of New York would be cumulative and after a sufficient number of entries had been made to equal the amount of the bond as originally filed, individual bonds would have to be filed on subsequent entries. This procedure would add materially to the cost of imported goods through the Port of New York. The matter was investigated in cooperation with several trade interests and as a result of a protest the effective date was indefinitely postponed.



George Washington Bridge as seen from New York shore south of bridge

SECTION II—CONSTRUCTION

Part I—Bridges

George Washington Bridge

Further substantial progress was made during the past year in the construction of the George Washington Bridge, with the result that it was possible to open the structure to vehicular and pedestrian traffic at 5 A. M. on Sunday, October 25, 1931. The date of opening—marking the conclusion of almost exactly four and one-half years work—was approximately eight months in advance of the date which had been anticipated when construction was commenced in 1927. All of the construction work has not yet been completed, but the remaining work can be done without interruption of traffic.

The main structure of this bridge is of the wire-cable suspension type with a main span 3500 feet in length, a suspended side span 610 feet in length on the New Jersey side, and a suspended side span 650 feet in length on the New York side. The steel towers which support the cables rise to a height of approximately 600 feet above the river. The four cables are each 36 inches in diameter and each composed of 26,474 parallel wires. The bridge has been constructed with a single deck, paved with two separate roadways for vehicular traffic, each 28 feet 9 inches wide between curbs, and two sidewalks approximately 10 feet wide. The roadway capacity of the bridge can be increased in the future by additional paving on this deck to provide up to eight lanes of vehicular traffic. Furthermore, the bridge has been designed for the construction in the future of a second deck, which is to be located below the existing deck and is intended for use by rapid transit passenger railway traffic. The clear height for shipping will be 215 feet at mid-span after the lower deck has been constructed.

The approaches to the bridge have been designed with a view to distribute traffic to a sufficient number of highways on each side to avoid congestion, to avoid roadway

crossings at the same grade and, so far as possible, left turns against traffic. On the New York side the approach provides roadways to street level in the vicinity of Fort Washington Avenue, roadway connections from this point to Riverside Drive, and connection by vehicular tunnel with Amsterdam Avenue and Washington Bridge over the Harlem River. On the New Jersey side direct connections are provided with the principal highways. All vehicular toll collections are made on the New Jersey side.

At the beginning of the year, erection of the floor steel for the main bridge had been practically completed, and the final members were put in place January 26, 1931. Construction work had already been started in 1930 on the main portion of the New York approach, the vehicular tunnel in West 178th Street, and the Riverside Drive connections of the New York approach. Excavation for the New Jersey approach had been completed during 1930.

A contract for the paving and completion of the New Jersey Approach was awarded in January, 1931; a contract for the paving, railings and other construction necessary for completion of the main bridge was awarded in March, 1931; a contract for electrical equipment was awarded in June, 1931; and contracts for the construction of the toll buildings and for flood light towers for the toll areas were awarded in July and September, 1931. These contracts provided for completion of principal construction on the bridge structure and approaches. Contracts were made in June, 1931, for construction of the field office and the necessary mechanical equipment in it; in July, 1931, for alterations to an apartment house in New York in conjunction with the Riverside Drive connections; and in August, 1931, for final painting of the structural steel towers. Practically all of the work under these contracts, as well as under contracts awarded previously, has been completed. Wrapping of the cables with wire was begun in July 1931, after the paving had been put in place. The wrapping and final painting of the cables were completed in October, and the footbridges were removed prior to the opening of the bridge to traffic.



George Washington Bridge—Main Structure and New Jersey Approach as seen from New York tower. November 1, 1931

Bayonne Bridge

The Bayonne Bridge was opened to traffic at 5 A. M. on Sunday, November 15, 1931. Construction of this bridge was commenced in August, 1928, and a total time of only slightly more than three years was required for its completion in readiness for traffic. The structure is at present in an initial stage of construction, and the facilities in use comprise only a part of the total capacity for which the bridge has been designed. It has now a single roadway for four-lane vehicular traffic, 40 feet in width between curbs, and has one sidewalk. These facilities may be supplemented in the future by widening the roadway to a width of 65 feet between curbs, or by the provision of two lines of rapid transit railway tracks in addition to the 40-foot roadway.

The Bayonne Bridge spans the waterway of the Kill van Kull, between Bayonne and Port Richmond, with a single steel arch 1,675 feet between centers of bearings at the abutments. The arch steel reaches a total height of 327 feet above mean water level, and the bridge deck is at such height that, at the center of the span, there is a clear height of 150 feet for shipping. Vehicular tolls are collected on the Staten Island side.

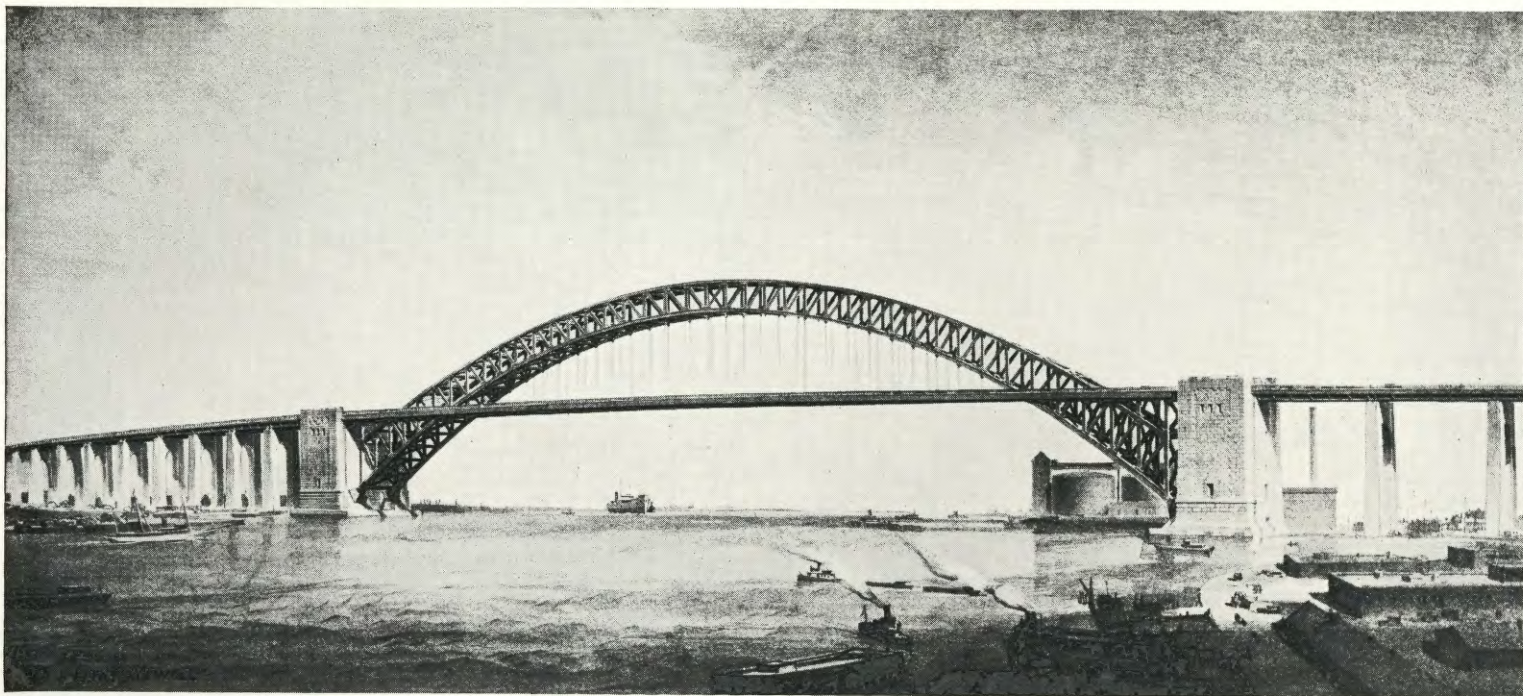
As the result of a modification in the original plan for the Staten Island Approach, agreed upon between the Port Authority and the City of New York in 1931, the approach has been extended beyond the plaza, by a new street along the line of Trantor Place, from Hooker Place to Forest Avenue.

Ten construction contracts were awarded during 1931, covering the building of the masonry and fill sections of the approaches; paving of the arch span and approaches and installation of railings and other miscellaneous items; electrical equipment; buildings for operating headquarters and toll collection; and extension of the Staten Island approach along the line of Trantor Place.

Operations have been carried on actively under all of the construction contracts throughout the year, and prac-

tically all work has been completed with the exception of the field office, which will be finished early in 1932.

The construction already performed and under contract includes all the elements involved in the initial stage of construction, excepting completion of the two arch abutments on which granite masonry walls are to be built to enclose the present steel supports of the roadway.



Bayonne Bridge—Perspective of bridge as it will appear with abutments completed

SECTION II—CONSTRUCTION

Part 2—Tunnels

Holland Tunnel

Under a prior agreement made with the New York State Bridge and Tunnel Commission, and the New Jersey Holland Tunnel Commission, the City of New York has been engaged in the construction of a pier (designated Pier No. 34) which is located over the Holland Tunnel. During the progress of this work, the Port Authority Staff, in collaboration with representatives of the New York City Department of Docks, maintained close supervision of the work, and made daily inspections of the tunnel structure in order to maintain its safety and prevent the possibility of damage to it.

Midtown Hudson Tunnel

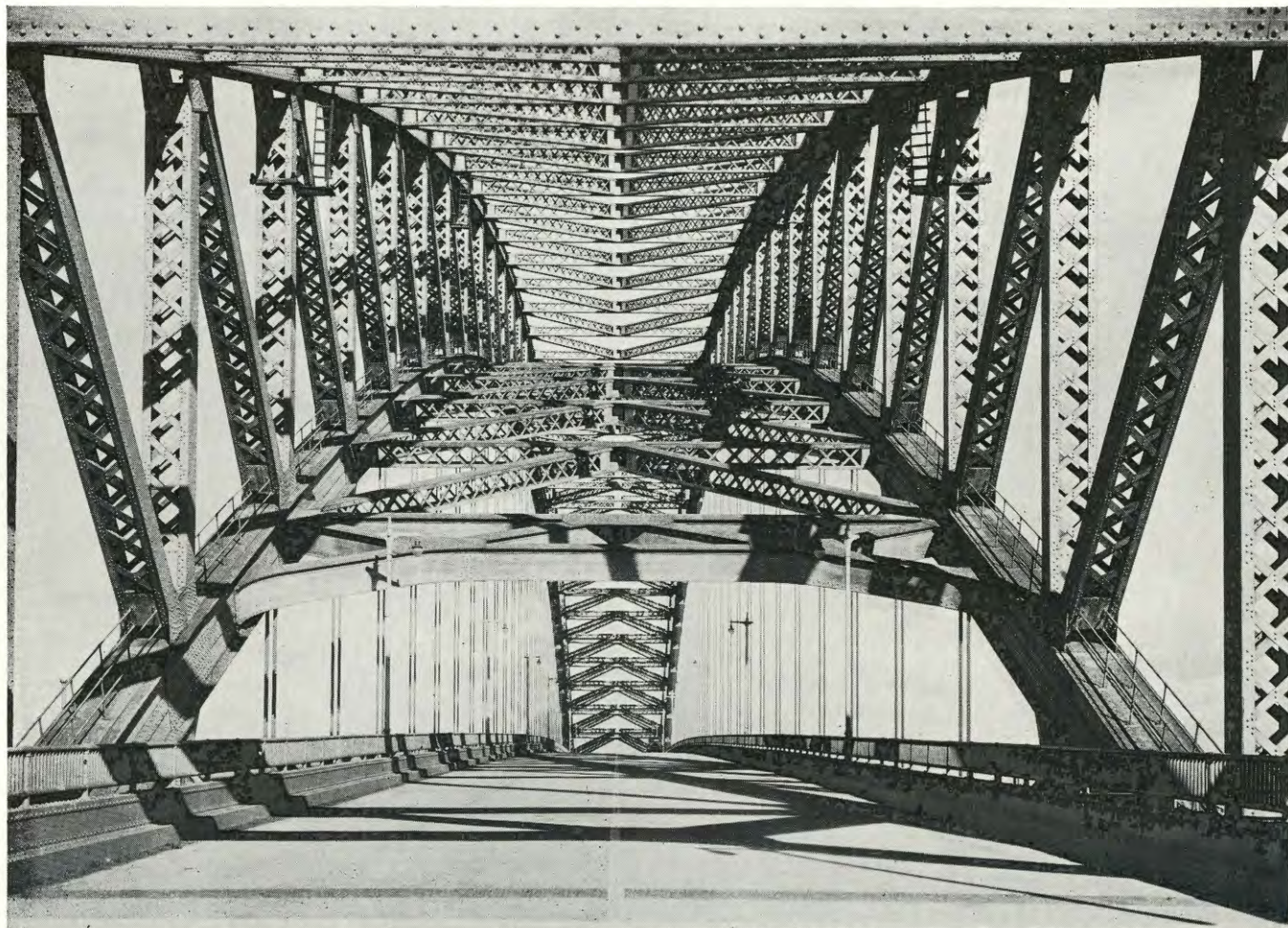
Authorization was given to the Port Authority by the legislatures of New York and New Jersey in February, 1931, for the construction of the Midtown Hudson Tunnel between New York City and Weehawken. Elaborate studies have been made in connection with this project, and detailed plans are now under way in preparation for construction of the tunnel.

In order to supplement the information obtained in 1930 by preliminary borings, additional borings have been made during 1931 to further explore subsurface conditions both under the river and on each shore at the proposed location of this tunnel.

The design work carried on during the year has included particularly elaborate studies of the approach facilities to be provided both in New York and in New Jersey. On the New York side it is contemplated that the exit and entrance facilities will provide for connections with the proposed vehicular tunnel to be built by the City of New York in West 38th Street, as well as for uninterrupted flow of

traffic to and from the city streets. On the New Jersey side connections will be made at Weehawken for local traffic, and, in addition, a through route will be provided extending westwardly through the Palisades cliffs, and making connections with the New Jersey State Highway system at route No. 1.

The main tunnel structure will comprise twin tubes of the cast iron lined tunnel type, similar in general design to the Holland Tunnel, with a length of approximately 7500 feet from portal to portal. On the New Jersey side an open cut approximately 6200 feet in length will extend from the tunnel portal. The length of the structure from plaza to plaza will be approximately 13,700 feet. On account of the trend in vehicle design to wider trucks and buses, the roadway in the new tunnel will be made 21 feet 6 inches wide between curbs as compared with the 20 feet width of roadway in the Holland Tunnel. The increased width of roadway, together with the requirements for ventilation over the necessary length of tunnel structure, will result in an outside diameter of approximately 31 feet as compared with 29 feet 6 inches for the Holland Tunnel. The tunnel will be built by the shield driven method, and it is anticipated that it can be completed within a period of approximately six years after funds for construction become available.



Bayonne Bridge—Arch Span as seen from roadway, looking toward Bayonne. December 2, 1931

SECTION II—CONSTRUCTION

Part 3—Inland Terminal

Inland Terminal No. 1

Substantial progress has been made during the year in the construction of Inland Freight Terminal No. 1, located in the block between 15th and 16th Streets and 8th and 9th Avenues in Manhattan.

This Inland Terminal will be a 15 story and basement structure of steel and concrete fireproof construction. The trunk line railroads serving the New York District will use the building as a central clearing house for handling less-than-carload freight. No railroad tracks will enter the building, but the freight will be trucked from the railheads to the terminal by the railroads. The prevailing freight rates for New York will apply to this terminal. The freight handling operations will occupy the entire basement and first floor of the building with the exception of ground floor space facing 8th Avenue and 9th Avenue, which is to be occupied by stores, banks, etc. Above the freight handling floors, will be space for industrial, commercial, manufacturing and office uses. The building has a frontage of 206 feet on 8th Avenue and 9th Avenue, and a length of 800 feet on 15th and 16th Streets.

The building will have four large truck elevators, two at each end, each of sufficient capacity for a truck 33 feet long, weighing 40,000 pounds. These elevators will carry trucks directly to each floor of the building, and through them, each floor will have all the advantages of a street level location. In addition to the truck elevators the building will be provided with twelve package freight elevators and sixteen high speed passenger elevators. The commercial floors vary in area from 165,000 to 88,000 square feet each, and are designed to support a live load of 200 pounds per square foot.

Demolition of the buildings at the site was started early in January and completed in April 1931. A contract for excavation and foundations for the building was awarded in April, and a contract for the superstructure of the building was awarded in October 1931. The excavation and foundation work has been practically completed.

Construction operations on the superstructure were commenced in October, the first of the steel columns of the building were erected in November, and satisfactory progress is being made in the shop and field operations incident to this work.

It is contemplated that the railroad areas of the building will be ready for use in August 1932, and that the entire building will be completed in December 1932.



Port Authority Inland Terminal No. 1—Perspective showing 15th Street and Eighth Avenue fronts.

SECTION III—OPERATION OF INTERSTATE VEHICULAR CROSSINGS

Part I—Holland Tunnel

From April 21, 1930, to March 1, 1931, the Holland Tunnel was operated by the Port Authority as agent for the two States. Effective March 1, 1931 the control, operation, tolls and other revenue of the Holland Tunnel has been vested in the Port Authority.

Tolls

The sale of combination tickets for use over Bayonne Bridge and through the Holland Tunnel was put into effect on November 15, when the classifications as shown in the following table were established:

COMBINATION TICKETS		
Classification Number	Description	Combination Rates
I	Motorcycles	\$0 35
II	Passenger automobile (single seat).....	75
II	Passenger automobile (two seats, including rumble seat when occupied).....	85
II	Passenger automobile with two wheel trailer (3 axles)	1 35
III	Single deck bus (2 axles).....	1 40
III	Single deck bus (3 axles).....	1 50
IV	Trucks up to and including two tons capacity (2 axles)	75
V	Trucks over two tons and including five tons capacity (2 axles)	1 00
VI	Trucks over five tons capacity (2 axles).....	1 25
VII	Tractor and semi-trailer (3 axles) or truck (3 axles).	1 50
VIII	Tractor and trailer (4 axles) or truck and trailer (4 axles)	2 50

Joint tickets for the use of the Holland Tunnel or existing Port Authority bridges were placed on sale effective November 15, 1931, covering the following classifications:

	\$	Good for Passage At
Light truck	50	Holland Tunnel or George Washington Bridge
Medium truck	75	Holland Tunnel or any bridge
Heavy truck	1 00	Holland Tunnel or any bridge
Bus (4 wheel).....	1 00	Holland Tunnel or any bridge

Control of Traffic

There were 1009 cars towed out of the tunnel by Port Authority emergency equipment. A total of 683 flat tires were changed in the tunnels. There were 492 collisions on tunnel property of which 93 vehicles were recorded as colliding with stanchions, lanterns, toll booths, etc. The balance, 399, came in contact with other vehicles; 219 of these were in the tunnels and 180 on the plazas.

Tunnel police made 55 arrests (resulting in 60 per cent convictions), served 155 summonses and issued 1992 warning cards for minor violations.

Improvements and Changes

The Silica Gel air-drying equipment, to replace the use of sulphuric acid, had been in successful operation since July, 1930, on four of the fourteen carbon monoxide recorders. Other improvements have been made on these recorders and research is being carried on continuously to improve this equipment which constitutes the key of the ventilation system.

Preliminary tests of photo-electric smoke recording equipment were continued. Although this equipment was strictly of a laboratory type and as yet impracticable for commercial use, the tests to date indicate that the development of a suitable recorder of this type would materially help in providing the proper ventilation against smoke.

One thousand feet of moving light signals have been installed in the south tunnel as an experiment in the control, spacing and speed of traffic.

Night depositories were installed in the plaza offices on each side of the river. This has resulted in a reduction of the force of tellers from eight to four men, and a rearrangement of their duties so that each teller now covers both plazas during his shift.

Neon signs were installed on the New York and New Jersey plazas reading "The Port of New York Authority—Holland Tunnel."

"Headlight On" signs at tunnel exits were changed from incandescent lights to the flashing Neon tube type, for greater visibility.

Police booth at south tunnel exit was moved to a position east of its old location at end of granite wall to facilitate safe crossing of exit roadway by pedestrians.

Traffic

A total of 12,756,174 revenue vehicles used the Holland Tunnel during the year 1931 as compared with 12,066,758 during the previous year, an increase of 689,416 or 5.71 per cent. This is considered quite a remarkable result especially in view of the general business depression and also in view of the fact that the George Washington Bridge (opened October 25, 1931) was estimated to divert approximately five per cent of Holland Tunnel traffic.

Passenger automobiles increased from 9,586,711 in 1930 to 10,256,926 in 1931 or approximately seven per cent. The number of light trucks (up to two tons) increased about fourteen per cent, but there was a considerable decrease in trucks over two tons and up to ten tons. The reason for this decrease may be attributed to general business conditions.

Traffic showed the usual seasonal variations—the lowest month being February with 816,584 vehicles, and the highest August with 1,223,866. For nine consecutive months (April to December) over 1,000,000 vehicles used the tunnel each month, as against eight such months last year (April to November).

Revenues and Expenses

The gross income from the Holland Tunnel for the year 1931 was \$7,020,417.11 compared with gross income of \$6,673,907.80 during 1930, an increase of \$346,509.31 or 5.19 per cent. (The gross income credited to the Port Authority for the ten months, March to December, inclusive, was \$6,087,627.78.) The net income for the calendar year amounted to \$3,709,477.73 whereas the net income reported for 1930 was \$5,064,136.41. A fair comparison of these amounts is not possible, however, for the reason that during 1930 the facility was being operated for the benefit of the two States and the income account contained no amounts representing debt charges. In other words, the

net operating income was being turned over to the States of New York and New Jersey in whose accounts debt charges were being absorbed. The Port Authority's share of 1931 net income (after deducting costs of operation and maintenance and debt charges) amounted to \$3,031,987.89.

Operating revenues increased \$299,167.30 or 4.5 per cent. The greater portion of this increase was due to increased passenger automobile traffic.

Operating expenses for the twelve months of 1931 amounted to \$1,566,113.21 compared with \$1,609,771.39 in 1930, a decrease of \$43,658.18. Considerable operating economies were effected during the year but results thereof were offset to a considerable degree on account of expenses incurred in connection with an oil leak which developed on the New Jersey side and which necessitated the employment of a temporary labor gang for several months. Furthermore, when the tunnel was taken over by the Port Authority in March, all of the employees were at once covered by Workmen's Compensation insurance which had not theretofore been in effect. A detailed comparative statement of operating expenses is not possible for the reason that when the tunnel was taken over a new classification of operating accounts was placed in effect. A detailed comparison will be available for next year's report.



George Washington Bridge—Toll collection plaza on New Jersey Approach. November 1, 1931

SECTION III—OPERATION OF INTERSTATE VEHICULAR CROSSINGS

Part 2—George Washington Bridge

The George Washington Bridge was opened to traffic at 5 A. M., Sunday, October 25, 1931. Until midnight of that day 56,857 vehicles and 33,540 pedestrians used the bridge.

Personnel

Men for the supervisory positions were selected from the experienced operating staff of the Holland Tunnel and Arthur Kill bridges and 73 other positions were filled by carefully selected men, following physical and mental examinations of approximately 350 applicants. On September 21, the men who had been selected for employment commenced a period of intensive training, with respect to the handling of traffic, first aid, fire prevention and fire fighting, operation of toll collection apparatus and accounting.

Tolls

The following schedule of tolls was adopted:

Group No.	Vehicle Type	Rate
1.	Passenger auto—single seat, ambulance, hearse, tractor without trailer, extra trailer.....	\$0 50
	Horse-drawn vehicle	50
2.	Passenger auto—2 seats including rumble when occupied, station wagon	50
3.	Passenger auto—with 2-wheel trailer.....	70
4.	Motorcycle	25
	Bicycle, animals per head.....	25
5.	Truck up to and including 2 tons carrying capacity (2 axles) ..	50
6.	Truck over 2 tons and including 5 tons carrying capacity (2 axles)	75
7.	Truck over 5 tons carrying capacity (2 axles).....	1 00
8.	Tractor and semi-trailer and 3 axle truck.....	1 25
9.	Tractor and trailer or truck and trailer (4 axles).....	1 50
10.	Bus (2 axles).....	1 00
11.	Bus (3 axles).....	1 10
	Pedestrians	10

Toll Equipment

The work of installing and putting into operation toll recording apparatus at the George Washington Bridge has

not been completed but it is expected that early in 1932 ten toll lanes will be completely equipped with traffic and toll recording devices. Three additional emergency lanes, at Hudson Terrace, equipped with cash registers and vehicle counters will be in operation.

The equipment was selected as the result of exhaustive experimental tests carried on for about a year at the Goethals Bridge.

The vehicle counters consist of rubber counting treadles embedded in the pavement, one in each toll lane, in such a position that all vehicles must pass over them when paying tolls. The overhead tariff indicators and remote panel boards, when installed, will be so synchronized that from a distance the accuracy of toll assessed can be verified.

Work Equipment

The bridge is equipped with fire-fighting apparatus as well as suitable rolling stock for snow plowing, roadway cleaning, bridge lighting, etc.

To supplement present snow removal equipment, contracts have been executed with outside contractors for plowing and removing snow in case of heavy fall. There is also on hand the usual complement of wrecking equipment, first-aid facilities, etc., for use in emergencies.

An adequately equipped shop is operated for the general maintenance and light repair of automotive equipment.

Signs, Advertising, Etc.

For the benefit of the motorist desirous of using this bridge, 22 illuminated billboards and 360 smaller, vitreous enamel signs have been erected in territory tributary to this bridge. This work of properly posting all highways leading to the bridge is being continued in 1932 in a comprehensive way.

Maps, descriptive pamphlets and other literature advertising the bridge have been distributed through chambers of commerce, tourist agencies, commercial organizations and other similar channels as a means of stimulating traffic. A combined road map and folder describing all Port Authority bridges and the Holland Tunnel, including toll rates, was published in colors, for public distribution

and has proven quite useful. Likewise, all traffic rules, regulations and rates were put in pamphlet form and have been freely distributed.

Traffic, Revenues and Expenses

A total of 1,043,894 revenue vehicles used the George Washington Bridge during the period October 25, 1931 to December 31, 1931. During this same period tolls were collected from 243,994 pedestrians.

Passenger automobiles exceeded by far any other class of equipment and amounted to 982,252 vehicles. During this same period 27,707 buses crossed the bridge.

The gross income to December 31, 1931, amounted to \$570,821.78 and after deducting operating expenses there remained a net income of \$504,264.08.

Early in November the ferries adjacent to the bridge (125th Street and Dyckman Street) reduced their toll rates approximately thirty per cent on passenger vehicles in an effort to retain traffic. Undoubtedly this caused some traffic to return to the ferries but not to any considerable degree. It is felt that with favorable conditions during 1932 between seven and one-half and eight million vehicles will use the George Washington bridge.

SECTION III—OPERATION OF INTERSTATE VEHICULAR CROSSINGS

Part 3—Bayonne Bridge

The Bayonne Bridge was opened to traffic on Sunday, November 15, 1931, at 5 A. M. Up to midnight 7,031 vehicles and 6,933 pedestrians passed over the bridge.

Personnel

Personnel selected for the operation and maintenance of this bridge was appointed and trained in the same manner, and at the same time, as the personnel for the George Washington Bridge. The men were also given actual operating experience at the George Washington Bridge before transfer to the Bayonne Bridge.

Tolls

The following schedule for tolls has been adopted:

Group No.	Vehicle Type	Single Trip Rates	Combination Rates with	
			Holland Tunnel	Arthur Kill Bridges
1.	Passenger auto—single seat, ambulance, hearse, tractor without trailer, extra trailer	\$0 50	\$0 75	\$0 75
	Horse-drawn vehicle	50	.....	0 75
2.	Passenger auto—2 seats including rumble when occupied, station wagon.....	60	85	85
3.	Passenger auto—with 2-wheel trailer.....	70	1 35	1 35
4.	Motorcycle	25	35	35
	Bicycle, animals, per head.....	25	.....	35
5.	Truck up to and including 2 tons carrying capacity (2 axles).....	60	75	90
6.	Truck over 2 tons and including 5 tons carrying capacity (2 axles).....	75	1 00	1 25
7.	Truck over 5 tons carrying capacity (2 axles)	1 00	1 25	1 50
8.	Tractor and semi-trailer and 3 axle truck.	1 10	1 50	1 75
9.	Tractor and trailer or truck and trailer (4 axles)	1 50	2 50	2 75
10.	Bus (2 axles).....	1 00	1 40	1 50
11.	Bus (3 axles).....	1 10	1 50	1 60
	Pedestrians	05	.....	.....

All tolls are collected on the Staten Island side of this bridge except for pedestrians who pay as they enter, on both sides.



Bayonne Bridge—Toll Booths, Staten Island Plaza

The same scale of commutation rates has been inaugurated as applies to the two Arthur Kill bridges, these tickets being good for passage over any of the three Staten Island bridges.

Combination reduced rate tickets are sold at the Bayonne Bridge covering a continuous movement within two hours over either of the Arthur Kill bridges to the south or the Holland Tunnel to the north, and are proving quite popular and within competitive range of rates charged on neighboring ferry routes.

Toll Equipment

This bridge is operated in the same manner, and with the same efficient type of toll recording, checking and accounting facilities as the George Washington Bridge. Installation of all toll equipment will be completed on six toll lanes early in 1932, the installation of certain of the devices having been delayed by reason of the permanent field office not having been completed.

Traffic, Revenues and Expenses

A total of 62,360 revenue vehicles used the Bayonne Bridge from November 15, 1931 to December 31, 1931. During this same period tolls were collected from 22,970 pedestrians. The greater portion of the vehicular traffic consists of passenger automobiles of which 53,876 used the facility during the period mentioned above. The gross income from the Bayonne Bridge for the period of November 15 to December 31, 1931 was \$38,014.73 and the net income \$25,400.29.

Miscellaneous

On both sides of the Kill van Kull, local communities are provided with good highways serving the bridge, but the completion of the projected state highway on the Bayonne Peninsula and the widening and resurfacing of Morningstar Road on the Staten Island side will be of material additional benefit.

In line with the general policy adopted in connection with other crossings, 9 large billboard directional signs have been erected to guide the motoring public seeking the

Bayonne Bridge, together with 100 vitreous enamel directional signs. Since the opening of the bridge, a large quantity of the usual route maps, informatory pamphlets and similar literature has been distributed and the practice will be continued.

SECTION III—OPERATION OF INTERSTATE VEHICULAR CROSSINGS

Part 4—Arthur Kill Bridges

The Goethals Bridge and Outerbridge Crossing (known as the Arthur Kill bridges) have been in operation since June 29, 1928.

Tolls

In order to establish the same tariff on all three Staten Island bridges, the following changes were made at the Arthur Kill bridges coincident with the opening of the new Bayonne Bridge on November 15, 1931:

(a) The toll on passenger automobiles which had formerly been 50c per car and driver plus 5c for extra passengers was modified by creating a flat rate of 50c for single seat cars and a flat rate of 60c for double seat cars, including cars with rumble seats occupied. It was felt that this change would benefit summer and week-end travel by local residents, and would return about the same gross revenue. No charge for extra passengers is now made on any Port Authority crossing.

(b) Combination rates were inaugurated whereby motorists traveling between Bayonne and Elizabeth or Perth Amboy could secure the advantage of a reduced rate for continuous movement over two bridges as against paying two tolls at local rates. A two-hour time limit was placed on such tickets to discourage "scalping."

The present tariff applying to the Arthur Kill bridges is as follows:

Group No.	Vehicle Type	Single Trip Rates	Combination (Continuous Trip) Rates with Bayonne Bridge
1.	Passenger auto—single seat, ambulance, hearse, tractor without trailer, extra trailer.....	\$0 50	\$0 75
	Horse-drawn vehicle	50	75
2.	Passenger auto—2 seats including rumble when occupied, station wagon.....	60	85

3. Passenger auto—with 2-wheel trailer.....	70	1 35
4. Motorcycle	25	35
Bicycle, animals, per head.....	25	35
5. Truck up to and including 2 tons carrying capacity (2 axles).....	60	90
6. Truck over 2 tons and including 5 tons carrying capacity (2 axles).....	75	1 25
7. Truck over 5 tons carrying capacity (2 axles)	1 00	1 50
8. Tractor and semi-trailer and 6-wheel truck (3 axles)	1 10	1 75
9. Tractor and trailer or truck and trailer (4 axles)	1 50	2 75
10. Bus (2 axles).....	1 00	1 50
11. Bus (3 axles).....	1 10	1 60
Pedestrians	05	.....

The automobile repair shop at Outerbridge Crossing was closed, and all motor vehicle repairs for the three Staten Island bridges are now handled in the shop at Goethals Bridge.

Goethals Bridge Bus Line

On December 26, 1929, private bus operations ceased over the Goethals Bridge due to lack of patronage and financial instability of the operator. This bus service had been conducted by several companies consecutively from the opening of this bridge except for a period of six weeks in the latter part of 1928.

Discontinuance of the service involved a loss in toll revenue aggregating approximately \$8,000 per year. An attempt was made, in accordance with public demand, to find other operators that would re-establish the service, but without success. The Port Authority decided to re-establish the bus operation with its own personnel and equipment in order to keep the service alive and also with a view to keeping employed surplus employees who would otherwise be released. It was hoped that such a service would tend to populate local communities adjacent to the bridge. It was also hoped to build up this bus service to the point where it would prove attractive to private operators who would take it over and thus eventually return some revenue in the form of bridge tolls. Three second-hand White buses were purchased and the service was resumed on March 1, 1931.

During the ten months from March 1 to December 31, 197,137 passengers have been carried, yielding \$19,873.55

in gross revenue. Total operating expenses for this period amounted to \$28,873.80, leaving an operating deficit of \$9,000.25. Of the total expenses \$15,849.24 represented payroll charges. These buses were operated 162,053 miles at a cost of \$.178 per mile.

The following table shows in detail the results of this bus service by months since its inauguration:

Month	Revenue	Expenses	Net deficit	Bus mileage	Pass. carried	Revenue per mile	Cost per mile
Feb.*	.....	\$828 87	\$828 87	.....	.....	.....	.....
March	\$1,376 90	3,737 91	2,361 01	18,849	13,769	\$.073	\$.198
April	1,632 00	2,616 91	984 91	15,367	16,320	.106	.170
May	1,944 00	2,765 73	821 73	16,632	19,440	.117	.166
June	2,295 60	2,659 40	363 80	15,845	22,956	.145	.168
July	2,596 20	3,875 21	1,279 01	16,548	25,962	.157	.234
Aug.	2,356 30	2,449 22	92 92	16,765	23,563	.141	.146
Sept.	1,981 00	2,765 52	784 52	15,573	19,810	.127	.178
Oct.	1,908 70	2,940 12	1,031 42	16,212	19,087	.118	.181
Nov.	1,784 70	1,979 38	194 68	15,920	17,847	.112	.124
Dec.	1,998 15†	2,255 53	257 38	14,342	18,383†	.139	.157
Total, 10 mo. ...	\$19,873 55	\$28,873 80	\$9,000 25	162,053	197,137	\$.123	\$.178

* Preliminary expenses, incurred prior to start of operations.

† December revenue, includes some traffic at 15¢ fare.

On December 5, the bus route was extended from Elizabethport into the business center of Elizabeth, for which an extra 5c charge is made. Under this arrangement the number of trips per day has been reduced and the revenue increased. Also on December 5, 1931 interchange arrangements were made with the Tompkins Bus Company and the Boulevard Transit Company at Egbert Square, adjacent to the Bayonne Bridge Plaza.

It is anticipated that these extensions and improvements in service will increase the attractiveness of this operation, and result in a considerable increase in traffic and revenues and at the same time bring about a decrease in operating expenses.

Traffic, Revenues and Expenses

It was reported last year that traffic showed an increase of thirteen per cent over the prior year but that this did not meet expectations. The general business depression has so affected conditions in the territory local to these facilities that the total number of vehicles during the year 1931 amounted to 1,250,335 as compared with 1,340,165 in 1930, a decrease of 89,830 or 6.73 per cent. Most of this decrease occurred at the Outerbridge Crossing where the

“through” or “tourist” traffic forms a considerable part of the total patronage. This class of traffic seems to have been more seriously affected by the business depression than has the local traffic. The bridges during 1931 handled 85 per cent of the total traffic crossing the Arthur Kill while the ferries handled 15 per cent, which is approximately the same ratio as obtained during 1930.

Operating revenues for 1931 amounted to \$744,909.26 as compared with \$778,778.30 in 1930, a decrease of \$33,869.04 or 4.35 per cent. Operating expenses increased \$8,392.66 or 6.28 per cent over 1930 due to the operation of buses over the Goethals Bridge as described hereinbefore.

SECTION IV—GENERAL

Part 1—Financial

The Port Authority reports a stronger position financially than it has ever enjoyed. It has now outstanding \$142,000,000 of bonds which are direct obligations and are secured by revenues remaining after meeting expenses of operation and maintenance. Inasmuch as the Compact between the two States expressly withholds from the Port Authority the power to levy taxes or assess for benefits, a conservative policy of financing has been followed with a view to having in hand at all times sufficient reserves with which to meet every ordinary contingency. The result of that policy is that the Port Authority now, despite the general depression which has had its effect upon traffic, has on hand sufficient assets to meet all requirements for several years to come.

Bond Issues

Early in the year arrangements were completed for financing the construction of Inland Terminal No. 1 and acquiring, by purchase, the Holland Tunnel from the two States. This was accomplished through the sale of the following issues:

Series D, New York-New Jersey Terminal	
Bond, 4¼ per cent.....	\$16,000,000
Series E, New York-New Jersey, Interstate	
Tunnel Bond, 4¼ per cent.....	\$50,000,000

These bonds were dated March 1, 1931, and mature serially from 1933 to 1960. Considering all conditions, a very favorable price was obtained on these issues. The cost to the Port Authority was 4.349 and they were placed on the market at a rate to yield 4.20. An important feature of this transaction was the fact that the bonds were floated strictly on the basis of the Port Authority's own credit standing, and, unlike all previous issues, were not sup-

ported by any pledged advance from either of the two States. Accordingly the Port Authority's credit had been so firmly established that it was possible to carry out financing without state aid. The proceeds from the sale of the Series D bonds were used to repay to the National City Bank of New York the amount of \$6,250,000, which had been borrowed under a temporary credit arrangement entered into for the purpose of obtaining funds to carry out work on Inland Terminal No. 1 until such time as that facility could be permanently financed. The balance of the proceeds, \$9,750,000, was made available for completion of construction work on the Inland Terminal.

The proceeds from the sale of the Series E bonds were used to make payments to the two States for the agreed cost of the Holland Tunnel. A statement summarizing the method of settlement covering cost of the Holland Tunnel is included in this report. Prior to March, 1931, the Port Authority had been operating the Holland Tunnel for the benefit of the two States and all surplus revenues over and above operating and maintenance costs were remitted to the two States. Commencing March, 1931, all revenues and expenses of the Holland Tunnel came into actual possession of the Port Authority and were included in its accounts.

General Reserve Fund

In its Annual Report for 1930, the Port Authority recommended among other things the authorization of the proposed Midtown Hudson Tunnel; the placing of control and operation of the Holland Tunnel with the Port Authority; the placing of control and operation of all fixed vehicular crossings in the Port District under the Port Authority; and the pooling of surplus revenues and the establishment of reserve funds which would provide greater security for bondholders.

These recommendations were approved and the necessary legislation enacted by both States early in the year. All of the law enacted in this connection is important, far-seeing and beneficial. But the most vital provision, particularly from a financial standpoint, is that which enables

the Port Authority to pool surplus revenues through the establishment of a general reserve fund. As a result of operations ending December 31, 1931, there has been transferred to this general reserve fund the sum of \$1,031,987.89. This represents a portion of surplus revenues of the Holland Tunnel for the ten months, March to December, inclusive. Actual surplus amounted to \$3,031,987.89, but from this the sum of \$1,000,000 was transferred to construction account of the George Washington Bridge under the provisions of Chapter 47, Laws of New York, 1931, and represented the pledged advance due from the State of New York. These pledged advances had been deducted from New York's share in the settlement for the Holland Tunnel. Similarly, a transfer of \$400,000 was made, representing New York's pledged advance to the construction fund of the Bayonne Bridge. In addition to these transfers, an operating reserve of \$600,000 was created to cover any contingency that might arise in connection with the operation of the Holland Tunnel. The assets now in the general reserve accounts are made up as follows:

130 Series A Bonds.....	\$132,587 44
490 Series E Bonds.....	491,463 34
Cash	407,937 11
Total	<u>\$1,031,987 89</u>

The amount of cash in this general reserve fund has been given a particular account designation but it is understood that when the opportunity presents itself to make favorable investments this will be done.

Withdrawals may be made from this fund for the payment of interest on or maturities of any bond issue of the Port Authority, or for other purposes benefiting bondholders. Under the terms of the enabling acts the general reserve fund shall be built up and maintained in an amount equal to ten per cent of the par value of all bonds outstanding.

Although the financial reports indicate net income after operation and maintenance from all the bridges, none of these moneys are available for transfer to the general reserve due to certain special provisions in the bond requir-

ing the building up of a special reserve fund and partial repayment to the States on account of their advances, before any surplus revenues are indicated.

At this time it is not anticipated that, during 1932, the amount which has been transferred to the general reserve fund (\$1,031,987.89) will be drawn upon for any purpose. The fund will, in all probability, be considerably enhanced by the addition of anticipated surplus revenues resulting from this year's operations.

Sinking Funds and Other Reserves

As of December 31, 1931, the New York-New Jersey Interstate Bridge Series A sinking fund had been established in accordance with the terms of the bond resolutions. This sinking fund is definitely set aside in safe deposit boxes and separately accounted for. It is at present made up as follows:

No. of bonds	Name of bonds	Coupon rate	Maturity	Cost	Par value
344	New York-New Jersey Interstate Bridge, Series "A".....	4 1/2	1932-1946	\$336,144 60	\$344,000 00
20	Village of Portchester, N. Y....	4 1/2	1934-1936	20,263 38	20,000 00
5	Town of Huntington, N. Y.....	4 1/2	1937	5,071 05	5,000 00
120	City of Asbury Park, N. J.....	5 3/4	1934	125,205 12	120,000 00
78	City of Union City, N. J.....	4 3/4	1934-1935	78,831 33	78,000 00
15	City of Perth Amboy, N. J.....	4 3/4	1933	15,122 07	15,000 00
20	Town of Rye, N. Y.....	4 2/5	1936-1939	20,189 23	20,000 00
Total				\$600,826 78	\$602,000 00

In addition to the general reserve and sinking funds there remained in the cash and investment accounts the following amounts applicable to the facilities enumerated. These balances reflect the amounts held in reserve, as of December 31, 1931, for future bond interest payments, sinking fund requirements, construction costs and contingencies.

Project	Cash	Investments	Total
Arthur Kill bridges.....	\$328,266 87	\$708,224 22	\$1,036,491 09
George Washington Bridge	6,087,470 68	1,377,287 75	7,464,758 43
Bayonne Bridge	1,243,777 80	1,054,915 99	2,298,693 79
Holland Tunnel	1,141,287 07	1,285,376 50	2,426,663 57
Inland Terminal No. 1...	8,745,176 63	1,543,678 20	10,288,854 83
Total	\$17,545,979 05	\$5,969,482 66	\$23,515,461 71

State Advances

Of the total amount of \$18,000,000 pledged equally by the two States in support of the construction of the Arthur Kill bridges, the Bayonne Bridge and the George Wash-

ington Bridge, there remains unpaid \$1,800,000 all of which is due from the State of New Jersey. The sum of \$1,400,000 is due during the fiscal year ending June 30, 1932 and \$400,000 is due in the succeeding year. \$1,000,000 of this represents a portion of the George Washington Bridge pledge and \$800,000 represents a portion of the Bayonne Bridge pledge.

Investments

With surplus funds available and with the purpose so to manage the various sinking funds and the general reserve funds in a manner so that they would produce the greatest possible income yet at the same time provide a prudent safety factor, the Port Authority has purchased bonds legal for investment from time to time as it determined the market to be favorable. As of December 31, 1931, the Port Authority had invested the sum of \$7,194,360.22.

This includes, of course, not only investments for sinking funds but also investments for other reserve accounts. All of such securities were purchased at prices now yielding very favorable returns on the investments.

Depositories for Funds

Cash totaling \$18,803,522.83 as of December 31, 1931, was carried in 387 banks—198 in New Jersey and 189 in New York. The policy of caution with respect to securing of deposits has been maintained. All accounts are fully protected either by the placing of collateral in trust or by the furnishing of surety bonds. No deposit exceeds twenty per cent of the capital and surplus of the institution in which it is placed and in a great majority of the cases the amounts deposited are considerably lower than that level. During the past year when sudden market fluctuations affected the value of securities, it was the policy of the Port Authority to make daily computations of the market value of collateral securing deposits, and calls were made on the various institutions for additional protection when the value receded below a safe level. Not only was the usual procedure followed in connection with protecting deposits but further steps were taken in the employment of

a firm of public accountants during the month of December to make a check of thirty-one banks whose records indicated that large amounts of collateral were posted in trust as security for 285 depositories. The accountants, without previous notice to the banks, made an actual count of the securities reported as being held in trust. It was gratifying to find that no exceptions existed.

Although a considerable number of banks in which the Port Authority had deposits have been closed or suspended, no loss has as yet occurred.

Midtown Hudson Tunnel

Early in 1930, the States of New York and New Jersey appropriated two hundred thousand dollars each for the purpose of carrying on preliminary studies relative to the proposed Midtown Hudson Tunnel. A large part of these funds had been expended at the time that the preliminary report was rendered on January 9, 1931. After the legislatures had authorized the Port Authority to proceed with this project it became necessary to negotiate with banks for additional funds to carry on the work. Inasmuch as conditions in the bond market were not favorable to the floating of a bond issue, it was deemed advisable to enter into a temporary credit arrangement.

On June 29, 1931, a credit agreement for five million dollars was entered into with the National City Bank and a group of banks associated with that institution in the matter of extending credit to the Port Authority. On that same date, a note for five hundred thousand dollars, at three per cent, against this credit was executed, and the proceeds were used to cover cost of engineering studies, real estate purchases, etc. On December 1, 1931, a similar note for additional funds was issued in the amount of one million dollars at five per cent. These notes expired on December 31, 1931,—coincident with the expiration date of the credit agreement.

Just prior to the expiration of the credit agreement, negotiations had been conducted with the National City Bank and associated banks, and it was deemed inadvisable, on account of market conditions, to renew the credit at this

time. The negotiations resulted in the renewal of the loan of \$1,500,000 for a thirty-day period, carrying an interest rate of five per cent.

Due to unsettled conditions, it was determined to slow up the work on this particular project until credit conditions improve to such an extent that the Port Authority would be enabled to float a bond issue carrying a coupon rate of four and one-quarter or four and one-half per cent. In the meantime, additional studies will be carried on with the balance of approximately \$800,000 which was available as of December 31, 1931. Renewals of this loan will be made from time to time during the year.

SECTION IV—GENERAL

Part 2—Real Estate

George Washington Bridge

With the exception of four small parcels, needed in connection with the Riverside Drive approach to the bridge, all property immediately required on the New York side had been acquired at the beginning of the year. Three of the parcels were in process of condemnation. Agreement was eventually reached with the owners of one of the parcels; in the other two cases condemnation proceedings were carried to a conclusion, with awards to the owners of less than one-third of the price which they had demanded. In one case the award was approximately \$4,000 less than the amount which the Port Authority had offered, and, in the other case, but \$300 in excess of what the Port Authority had been willing to pay. The fourth parcel was acquired by negotiation.

Operation of eleven apartment houses was continued during the year. Pending completion of its new church building, the congregation of the Fourth Church of Christ, Scientist, continued to occupy the property purchased from that congregation.

The total amount expended to the end of the year for real estate on the New York side was \$8,625,143.51, of which \$48,367.55 was expended during 1931.

The decision to widen Hudson Terrace north and south of the bridge approach on the New Jersey side, necessitated the acquisition of seven parcels of property, all unimproved. One of these parcels, embracing an area in excess of the combined area of the other six, was acquired from the Palisades Interstate Park Commission. In three cases agreements were readily reached with owners without difficulty, while in the three remaining cases it was necessary to institute condemnation proceedings. Agreement was subsequently reached in two of the cases. In the other

case the proceeding was carried to a conclusion with an award which the Port Authority considered most favorable, and much below the value assigned the parcel by the owner.

A plot on the westerly side of Hoyt Avenue, improved by a two story dwelling and garage, was also acquired during the year as part of the site for the administration building.

The total amount expended to the end of the year for real estate on the New Jersey side was \$1,045,465.97, of which \$42,681.37 was expended during the year.

The total expenditure for real estate on both the New York and New Jersey sides of the river to the end of the year was \$9,670,609.48.

Bayonne Bridge

No property was acquired on the New Jersey side during the year.

On the Staten Island side there remained to be acquired at the beginning of the year, according to the then approved plans, five parcels of property, four of which were unimproved. One of the parcels was acquired through negotiation; four were condemned. In one case condemnation was necessary because the owner was not competent to convey title and, in another, although there was agreement upon price, condemnation was necessary because a defective will was found in the chain of title. In the remaining two cases the owners demanded prices which were considered grossly excessive. The awards were but slightly in excess of the amounts which the Port Authority had indicated a willingness to pay and very much below the amounts demanded by the owners.

The later decision to extend the Port Richmond approach to provide connection with Forest Avenue necessitated the acquisition of an additional strip of property 60 feet in width and 2100 feet in length. This affected 23 parcels and 21 owners. Agreements with the sellers of three parcels, improved by dwellings, permitted them to retain title to the dwellings, which were removed to other locations, thus continuing in the ratables of the Municipality the

assessed value of these dwellings. Agreements were reached with the owners of 19 of the 23 parcels, and the remaining four parcels were condemned. The property owners in these condemnation proceedings demanded \$8,624.89 for their property. The awards made by the Commissioners totalled \$3,019.30, a sum which the Port Authority would have been willing to pay in private acquisition had the property owners been willing to accept it.

The acquisition of the right-of-way for the extension of the approach to Forest Avenue involved a determination of comparative real estate costs as between the location actually selected and an alternative location, which contemplated the widening of Morningstar Road. The aggregate purchase price, including the awards in condemnation, for the property affected by the adopted location was \$62,489.30, or about one-fourth the estimated value of real estate that would have been affected by the proposed widening of Morningstar Road.

The total cost of real estate on the Staten Island side to the end of the year was \$894,192.13, of which \$74,588.41 was expended during the year. Expenditures on the New Jersey side to the end of the year amount to \$1,900,196.20, giving a total of \$2,794,388.33 for real estate for this project to December 31.

Arthur Kill Bridges

Although agreements were reached during the summer of 1926 with the Staten Island Rapid Transit Railway Company and the New York Transit Railway Co. Ltd., subsidiaries of the Baltimore & Ohio Railroad Company, for the acquisition of certain property at Howland Hook and Tottenville, and the Port Authority was in possession of the property during the interim, title to these properties was not conveyed to the Port Authority until July 16, 1931, due to certain questions affecting title. This concluded the acquisition of real estate for these bridges.

Inland Terminal No. 1

Agreements had been reached at the beginning of the year for the acquisition of all property required for

Inland Terminal No. 1, with the exception of five parcels involving the fee, and one leasehold on a warehouse property the fee to which parcel had previously been acquired. Condemnation proceedings on these were prosecuted during the year. The awards made were much below the values which the owners had assigned to their respective properties. The amount originally claimed by the lessees of the warehouse as represented value of their leasehold was \$300,000. The award, including allowance for trade fixtures, was \$7,425.

The total amount expended for property required for Inland Terminal No. 1 to the end of the year was \$3,681,104.96, with a portion of the condemnation awards remaining to be paid at the end of the year.

Midtown Hudson Tunnel

Location plans for the proposed Midtown Hudson Tunnel had been sufficiently advanced by September to justify the acquisition of some of the property required in connection with this project. By the end of the year 30 parcels had been purchased through "dummy" corporations organized by the Port Authority for the purpose, and one parcel was contracted for directly in the name of the Port Authority, at an aggregate purchase price of \$2,809,000.

SECTION IV—GENERAL

Part 3—Insurance

The Port Authority has consistently followed the policy of protecting its property and operations through appropriate insurance. It is felt that this has brought about additional confidence on the part of the bondholders.

In February, 1928, a special form of contract, providing for "all risk" insurance on the Arthur Kill bridges was entered into with reliable companies, in an aggregate amount of \$4,500,000; \$2,900,000 being applicable to the Outerbridge Crossing, and \$1,600,000 to the Goethals Bridge. The coverage was for a period of one year at an annual premium of \$15,750. Renewals were made in 1929 at the same rate and again in 1930 at a lower rate. In December, 1930, the policies were changed to a three-year period and the annual premium reduced to \$7,500.

During the latter stages of construction, certain portions of the Bayonne Bridge and the George Washington Bridge were covered under so-called "all risk" policies, and the risks assumed by the insurance companies were established on a basis which provided for increases in the amount thereof, representing as near as possible a direct ratio to the actual progress of construction.

At the present time, the coverage on the Bayonne Bridge amounts to \$5,410,000, in the form of a policy written for three years and expiring on December 17, 1933. The approximate annual cost for the year 1931 is \$14,000, or at an apportioned rate of twenty-five cents per hundred dollars. The insurance contract provides, however, that the rate during 1932 and 1933 will be that applying for the three-year period, or at an apportioned rate for each year of sixteen and two-thirds cents per hundred dollars.

The total "all risk" insurance now in force at the George Washington Bridge amounts to \$25,000,000, this

coverage being provided in policies written for a three-year period, and which expire on April 1, 1934. The annual cost for this insurance is \$41,666.67, or at a rate of sixteen and two-thirds cents per hundred dollars.

In March, 1931, when the Holland Tunnel was acquired by the Port Authority, "all risk" insurance was written thereon in the total amount of \$30,000,000. The policies by which this coverage is provided are written for a period of three years and expire in March, 1934. The apportioned annual premium is \$50,000, or at the rate of sixteen and two-thirds cents per hundred dollars.

In addition to purchasing insurance providing against a hazard of collapse and other damages, and in order to insure revenues to meet all financial requirements, it was deemed desirable, in order to protect the bondholders, that the anticipated revenue from Holland Tunnel traffic be insured. A form of contract was negotiated which insures gross revenue estimated to be \$7,000,000 per annum. This contract was written in a form which provides that should any emergency arise causing suspension of operations and resultant loss of revenue for any period in excess of two days, the insuring companies will adjust claims based upon the computed loss of revenue occurring during the period of inoperation on the basis of one-three hundred sixty-fifths of \$7,000,000 for each day thereof. The annual apportioned premium is \$8,750, or at the rate of twelve and one-half cents per hundred dollars.

The so-called "all risk" insurance is written in the form of a special contract evolved through collaboration with representatives of the foremost insurance companies and the Port Authority staff. The coverage on the George Washington Bridge provides against loss or damage to the anchorages, towers, tower foundations, cables and suspended structure; to the main span in the case of the Arthur Kill bridges; to the main span and abutments in the case of the Bayonne Bridge; and in the case of the Holland Tunnel, to the twin tubes under the Hudson River between the portals on the New Jersey and New York sides. The policies described in connection with these various facilities

are each written with a "deductible clause," the deductible in each case being \$100,000.

In addition to the more important items referred to above, the following insurance is also carried:

Workmen's Compensation, covering all employees.

Fidelity Schedule Position Bond, covering all positions of trust.

Public Liability against personal injury and property damage, along with fire, theft and collision, on all automotive equipment.

Hold-up and Burglary, incident to the collection of operating revenue.

SECTION V—REPORTS AND STATISTICS

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Bridges
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Jersey Covering Cost of Holland Tunnel

Table No. 1
General Balance Sheet as at December 31, 1931

ASSETS

INVESTMENT IN PHYSICAL PROPERTY:		
Arthur Kill Bridges:		
Tottenville-Perth Amboy	\$9,838,863 04	
Howland Hook-Elizabeth	7,277,222 14	
Total Arthur Kill Brdges.....	<u>\$17,116,085 18</u>	
Bayonne Bridge:		
Bayonne-Port Richmond	12,857,772 74	
George Washington Bridge.....	52,977,900 44	
Holland Tunnel	50,508,908 41	
Midtown Hudson Tunnel.....	701,125 04	
Inland Terminal No. 1.....	5,818,476 56	
Total investment in physical property.....	<u>\$139,980,268 37</u>	
CURRENT ASSETS:		
Cash in banks and on hand.....	\$18,626,261 49	
Investments in marketable bonds (at cost) ..	5,969,482 66	
Accrued interest receivable on investments..	82,465 76	
Bills collectable and reimbursements in transit	20,445 95	
General reserve fund (contra):		
Cash	\$407,937 11	
Investments in marketable bonds (at cost).....	624,050 78	
Unexpended balances of amounts made available for comprehensive plan in hands of State Treasurers:		
State of New York 1931-1932, per contra.....	\$46,427 58	
State of New York 1930-1931, per contra.....	9,507 84	
State of New Jersey 1931-1932, per contra.....	56,908 06	
Unexpended balance—State of New Jersey—Raritan Bay Bridge survey, contra.....	<u>3,262 09</u>	
Total current assets.....	<u>25,846,749 32</u>	
UNMATURED BALANCES OF AMOUNTS MADE AVAILABLE TO AID IN CONSTRUCTION OF BRIDGES:		
Treasury assets, per contra.....	\$400,000 00	
State of New Jersey.....	<u>1,800,000 00</u>	2,200,000 00
INVESTMENT IN SUBSIDIARY COMPANIES:		
Capital stock	\$5,000 00	
Advances	446,509 34	<u>451,509 34</u>
SINKING FUND—SERIES A BONDS:		
Investments in marketable bonds (at cost).....		600,826 78
CASH ON DEPOSIT WITH COUPON PAYING AGENTS FOR UNREDEEMED BOND INTEREST COUPONS, PER CONTRA.....		
		45,973 75
OTHER ASSETS:		
Deposit with clerk of Supreme Court—State of New York re condemnation proceedings.	\$38,000 00	
Unexpired insurance premiums.....	274,598 07	
Unexpended balance of advance to New Jersey Highway Commission.....	262,104 75	
Sundry unadjusted debits.....	8,268 19	
Total other assets.....	<u>582,971 01</u>	
Total assets	<u>\$169,708,298 57</u>	

Contracts awarded but not completed at December 31, 1931, as submitted to us aggregated \$8,330,592.59.
Discount on bonds has been charged to investment account in accordance with the policy adopted by the Commissioners.
Interest on bonds of the George Washington Bridge and Bayonne Bridge to December 31, 1931, has been charged to investment account.

Table No. 1 (Continued)
General Balance Sheet as at December 31, 1931

LIABILITIES AND RESERVES	
BONDED INDEBTEDNESS:	
New York-New Jersey Interstate Bridge bonds:	
Arthur Kill Bridges—Series A, 4¼%, 1932-1946, authorized and outstanding.....	\$14,000,000 00
George Washington Bridge—Series B bonds:	
Authorized	<u>\$60,000,000 00</u>
Issued and outstanding:	
4%, Series 1936-1950.....	\$20,000,000 00
4½%, Series 1939-1953.....	<u>30,000,000 00</u>
Bayonne Bridge—Series C, 4% 1938-1953, authorized and outstanding	50,000,000 00
New York-New Jersey Interstate Tunnel bonds:	12,000,000 00
Holland Tunnel—Series E, 4¼% 1933-1960, authorized and outstanding	50,000,000 00
New York-New Jersey Terminal bonds:	
Inland Terminal No. 1—Series D, 4¼% 1936-1960, authorized and outstanding.....	16,000,000 00
Total bonded indebtedness.....	<u>\$142,000,000 00</u>
CURRENT LIABILITIES:	
Notes payable and accrued interest.....	\$1,500,205 48
Audited vouchers payable.....	191,672 01
Mortgages payable and accrued interest.....	776,062 27
Accrued interest on bonds.....	1,672,721 52
Unredeemed tickets	49,087 86
Accrued compensation insurance.....	18,061 29
Total current liabilities.....	4,207,810 43
TREASURY OBLIGATIONS—UNMATURED, PER CONTRA.....	
SUBORDINATED LIABILITY FOR ADVANCES TO AID IN CONSTRUCTION OF BRIDGES AND FOR PRELIMINARY STUDIES AND SURVEYS:	
State of New York.....	\$9,499,840 17
State of New Jersey.....	<u>9,500,000 00</u>
UNPAID BOND INTEREST COUPONS, PER CONTRA.....	18,999,840 17
UNUSED APPROPRIATIONS—COMPREHENSIVE PLAN:	45,973 75
State of New York 1931-1932, per contra....	\$46,427 58
State of New York 1930-1931, per contra....	9,507 84
State of New Jersey 1931-1932, per contra..	<u>56,908 06</u>
UNUSED APPROPRIATIONS—RARITAN BAY BRIDGE SURVEY:	112,843 48
State of New Jersey, per contra.....	3,262 09
DEFERRED CREDITS:	
Accrued depreciation	\$11,598 76
Sundry unadjusted credits.....	<u>2,670 70</u>
RESERVE—ARTHUR KILL BRIDGES—ACCUMULATED NET INCOME...	14,269 46
RESERVE—BAYONNE BRIDGE—ACCUMULATED NET INCOME.....	362,403 33
RESERVE—GEORGE WASHINGTON BRIDGE—ACCUMULATED NET INCOME	25,519 62
GENERAL RESERVE, CONTRA	504,388 35
OPERATING RESERVE—HOLLAND TUNNEL.....	1,031,987 89
INCOME APPLIED IN REDUCTION OF UNFUNDED DEBT—HOLLAND TUNNEL	600,000 00
TUNNEL	<u>1,400,000 00</u>
Total liabilities and reserves.....	<u>\$169,708,298 57</u>

CERTIFICATE OF AUDIT

We have made an examination of the books of account and records of The Port of New York Authority for the year ended December 31, 1931.
We Hereby Certify that, in our opinion, the above general balance sheet, subject to the above comments, correctly reflects the financial condition of The Port of New York Authority as at December 31, 1931.

LAWRENCE SCUDDER & CO.,
Accountants and Auditors.

New York, N. Y.,
 February 15, 1932.

Table No. 2
CONSOLIDATED INCOME ACCOUNT

**Holland Tunnel, George Washington,
Arthur Kill and Bayonne Bridges**

CALENDAR YEAR 1931

	Amount
I. Gross income:	
Operating revenue.....	\$7,367,288 39
Rent income.....	3,463 25
Miscellaneous income.....	139,317 83
Gross income.....	\$7,510,069 47
II. Deductions from gross income:	
Operating expenses.....	\$1,532,093 68
Interest on funded debt.....	2,288,680 61
Interest on unfunded debt.....	84,153 37
Miscellaneous income charges.....	2,816 18
Total deductions.....	\$3,907,743 84
Net income.....	\$3,602,325 63

NOTES.— Account includes income as follows:

- (a) Holland Tunnel — March to December inclusive — ten months.
- (b) George Washington Bridge — October 25 to December 31, inclusive.
- (c) Arthur Kill Bridges — full calendar year.
- (d) Bayonne Bridge — November 15 to December 31, inclusive.

Table No. 3
HOLLAND TUNNEL
Income Account

	March 1 to Dec. 31, 1931
I. Gross income:	
Operating revenue.....	\$6,016,987 86
Miscellaneous income.....	70,639 92
Gross income.....	\$6,087,627 78
II. Deductions from gross income:	
Operating expenses.....	\$1,310,813 72
Interest on funded debt.....	1,658,680 61
Interest on unfunded debt.....	84,153 37
Miscellaneous income charges.....	1,992 19
Total deductions.....	\$3,055,639 89
Net income.....	\$3,031,987 89
Net income — year 1931.....	\$3,031,987 89
Net income — prior years.....	.....
Total.....	\$3,031,987 89

Table No. 4
GEORGE WASHINGTON BRIDGE
Income Account

	Oct. 25, 1931* to Dec. 31, 1931
I. Gross income:	
Operating revenue.....	\$567,619 86
Rent income.....	3,000 00
Miscellaneous income.....	201 92
Gross income.....	<u>\$570,821 78</u>
II. Deductions from gross income:	
Operating expenses.....	\$66,557 70
Total deductions.....	<u>\$66,557 70</u>
Net income.....	<u>\$504,264 08</u>

* Opened for operations, October 25, 1931.

Table No. 5
ARTHUR KILL BRIDGES
Income Account

	Calendar year, 1931	Calendar year, 1930	Increase or decrease*	June 29, 1928 to December 31, 1931
I. Gross income:				
Operating revenue.....	\$744,909 26	\$778,778 30	\$33,869 04	\$2,590,803 51
Rent income.....	241 25	1,500 97	1,259 72	2,523 40
Miscellaneous income.....	68,454 67	60,530 43	7,924 24	171,152 94
Gross income.....	<u>\$813,605 18</u>	<u>\$840,809 70</u>	<u>\$27,204 52</u>	<u>\$2,764,479 85</u>
II. Deductions from gross income:				
Operating expenses.....	\$142,107 82	\$133,715 16	\$8,392 66	\$506,026 41
Interest on funded debt.....	630,000 00	630,000 00	.....	1,890,000 00
Miscellaneous income charges..	823 99	411 00	412 99	1,759 99
Total deductions.....	<u>\$772,931 81</u>	<u>\$764,126 16</u>	<u>\$8,805 65</u>	<u>\$2,397,786 40</u>
Net income.....	<u>\$40,673 37</u>	<u>\$76,683 54</u>	<u>\$38,010 17</u>	<u>†\$366,693 45</u>

* Decrease shown in italics.

† Net income — year 1931.....	\$40,673 37
Net income — prior years.....	326,020 08

Total.....	<u>\$366,693 45</u>
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Table No. 6
BAYONNE BRIDGE
Income Account

	Nov. 15, 1931* to Dec. 31, 1931
I. Gross income:	
Operating revenue.....	\$37,771 41
Rent income.....	222 00
Miscellaneous income.....	21 32
Gross income.....	\$38,014 73
II. Deductions from gross income:	
Operating expenses.....	\$12,614 44
Total deductions.....	\$12,614 44
Net income.....	\$25,400 29

* Opened for operations November 15, 1931.

Table No. 7
HOLLAND TUNNEL
Operating Revenue

Class	Calendar year, 1931	Calendar year, 1930	Increase or decrease*
Motorcycles.....	\$5,165 95	\$5,113 50	\$52 45
Automobiles.....	5,127,175 90	4,793,355 50	333,820 40
Buses.....	462,273 60	462,440 00	<i>166 40</i>
Trucks — up to 2 tons.....	544,221 20	477,748 00	66,473 20
Trucks — 2 tons to 5 tons.....	455,296 50	499,119 75	<i>43,823 25</i>
Trucks — 5 tons to 10 tons.....	286,287 50	335,176 00	<i>48,888 50</i>
Semi-trailers — 5 tons to 10 tons.....	25,300 80	22,740 00	2,560 80
Semi-trailers — 10 tons to 15 tons.....	16,837 50	9,786 00	7,051 50
Special.....	340 10	13,850 55	<i>13,510 45</i>
Miscellaneous†.....	20,133 20	24,535 65	<i>4,402 45</i>
Total operating revenue.....	\$6,943,032 25	\$6,643,864 95	\$299,167 30

NOTE: — Revenue is stated for full calendar year for comparative purposes. The revenue for January and February, 1931 was credited to the States of New York and New Jersey, the subsequent ten months revenue being included in the income account of the Port Authority.

* Decrease shown in *italics*.

† Included as Other Income in 1930 Report.

Table No. 8
GEORGE WASHINGTON BRIDGE
Operating Revenue

CLASS	Oct. 25, 1931* to Dec. 31, 1931
Passenger automobiles.....	\$491,147 80
Motorcycles and bicycles.....	666 25
Trucks — up to 2 tons.....	10,051 50
Trucks — 2 tons to 5 tons.....	4,674 00
Trucks — over 5 tons.....	3,295 00
Tractors and semi-trailers and 6 wheel trucks.....	1,933 45
Tractors and trailers or trucks and trailers.....	139 50
Buses.....	27,709 60
Pedestrians.....	24,399 40
Miscellaneous.....	3,603 36
Total operating revenue.....	\$567,619 86

* Opened for operation October 25, 1931.

Table No. 9
ARTHUR KILL BRIDGES
Operating Revenue

Class	Calendar year, 1931	Calendar year, 1930	Increase or decrease*
Passenger automobiles.....	\$544,234 79	\$580,458 45	<i>\$36,223 66</i>
Motorcycles and bicycles.....	1,127 23	1,862 00	<i>734 77</i>
Trucks — up to 2 tons.....	41,438 82	41,272 50	166 32
Trucks — 2 tons to 5 tons.....	22,222 59	27,012 75	<i>4,790 16</i>
Trucks — over 5 tons.....	27,863 80	27,257 00	606 80
Tractors and semi-trailers and 6-wheel trucks.....	4,531 34	3,631 40	899 94
Tractors and trailers or trucks and trailers.....	124 25	421 05	<i>296 80</i>
Buses.....	1,781 40	2,258 10	<i>476 70</i>
Passengers in vehicles†.....	70,854 40	83,326 75	<i>12,472 35</i>
Pedestrians.....	435 25	969 80	<i>534 55</i>
Miscellaneous.....	\$30,295 39	10,308 50	19,986 89
Total operating revenue.....	\$744,909 26	\$778,778 30	<i>\$33,869 04</i>

* Decrease shown in *italics*.

† Toll charge for passengers in vehicles discontinued effective Nov. 15, 1931.

‡ Includes \$19,873.55 revenue from operation of buses.

Table No. 10
BAYONNE BRIDGE
Operating Revenue

CLASS	Nov. 15, 1931* to Dec. 31, 1931
Passenger automobiles.....	\$29,482 33
Motorcycles and bicycles.....	45 52
Trucks — up to 2 tons.....	1,566 63
Trucks — 2 tons to 5 tons.....	525 71
Trucks — over 5 tons.....	117 25
Tractors and semi-trailers and 6 wheel trucks.....	107 01
Tractors and trailers or trucks and trailers.....	27 00
Buses.....	4,648 60
Pedestrians.....	1,148 50
Miscellaneous.....	102 86
Total operating revenues.....	\$37,771 41

* Opened for operations November 15, 1931.

Table No. 11
HOLLAND TUNNEL
Operating Expenses

	Calendar year, 1931
I. Maintenance and operation:	
301. Superintendence	\$174,483 88
302. Painting	13 12
303. Paving	493 79
304. Other maintenance — bridges and tunnels	39,138 28
305. Maintenance of buildings and other structures	17,400 54
306. Depreciation of property	4,150 52
307. Cleaning roadways, footwalks and plazas	50,365 58
308. Cleaning buildings and grounds	39,235 80
309. Heating	15,779 33
310. Lighting	80,876 96
311. Power for ventilation	132,819 83
312. Other ventilation expenses	171,828 72
313. Machinery and shop equipment	4,155 67
314. Small tools and supplies	6,004 91
315. Automobiles, motorcycles and other vehicles	54,057 11
316. Policing	474,495 01
317. Collecting tolls	125,721 34
318. Other operating employees .....	.....
319. Telephone and telegraph	3,298 85
320. Other communication and signal expenses	5,755 92
321. Advertising	5,472 36
322. Insurance	63,392 74
323. Stationery and printing	7,109 42
324. Injuries and damages	9,712 41
325. Miscellaneous supplies and expenses	11,279 66
Total maintenance and operation	\$1,497,041 75
II. General expenses:	
341. Administrative salaries and expenses	\$47,489 09
342. Legal salaries and expenses	7,383 65
343. Medical salaries and expenses	6,267 66
344. Office rental and expenses	4,054 49
345. Insurance .....	.....
346. Stationery and printing	1,076 81
347. Other general expenses	2,799 76
Total general expenses	\$69,071 46
Grand total	\$1,566,113 21
Operating expenses, 1930	\$1,609,771 39
Operating expenses, 1931	1,566,113 21
Decrease	\$43,658 18

NOTE.— Operating expenses are stated for full calendar year for comparative purposes. The operating expenses for January and February 1931, were charged to the States of New York and New Jersey, the subsequent ten months operation expenses being included in the income account of the Port Authority.

Table No. 12
GEORGE WASHINGTON BRIDGE
Operating Expenses

	Oct. 25, 1931* to Dec. 31, 1931
I. Maintenance and operation:	
301. Superintendence	\$11,009 34
302. Painting	
303. Paving	
304. Other maintenance—bridges and tunnels	1,016 43
305. Maintenance of buildings and other structures	705 61
306. Depreciation of property	
307. Cleaning roadways, footwalks and plazas	634 35
308. Cleaning buildings and grounds	618 23
309. Heating	87 64
310. Lighting	3,742 83
311. Power for ventilation	
312. Other ventilation expenses	
313. Machinery and shop equipment	280 30
314. Small tools and supplies	395 59
315. Automobiles, motorcycles and other vehicles	837 22
316. Policing	14,164 05
317. Collecting tolls	12,344 14
318. Other operating employees	
319. Telephone and telegraph	141 13
320. Other communication and signal expenses	
321. Advertising	3,807 92
322. Insurance	7,949 46
323. Stationery and printing	660 74
324. Injuries and damages	186 87
325. Miscellaneous supplies and expenses	1,296 10
Total maintenance and operation	\$59,878 00
II. General expenses:	
341. Administrative salaries and expenses	\$4,656 33
342. Legal salaries and expenses	1,271 53
343. Medical salaries and expenses	66 08
344. Office rental and expenses	549 07
345. Insurance	
346. Stationery and printing	120 69
347. Other general expenses	16 00
Total general expenses	\$6,679 70
Grand total	\$66,557 70

* Opened for operations October 25, 1931.

Table No. 13
ARTHUR KILL BRIDGES
Comparison of Operating Expenses

	Calendar year, 1931	Calendar year, 1930	Increase or decrease *
I. Maintenance and operation:			
301. Superintendence.....	\$23,413 34	\$27,576 88	\$4,163 54
302. Painting.....	50 64	483 16	432 52
303. Paving.....	2,655 95	15 58	2,640 37
304. Other maintenance — bridges and tunnels.....	1,504 78	4,968 29	3,463 51
305. Maintenance of bldgs. and other structures.....	4,792.13	951 53	5,743 66
306. Depreciation of property.....	1,456 08	3,264 72	1,808 64
307. Cleaning roadways, footwalks and plazas..	2,337 57	818 92	3,156 49
308. Cleaning buildings and grounds.....	740 25	643 51	96 74
309. Heating.....	15,014 76	14,471 54	543 22
310. Lighting.....	124 00	1,492 72	1,368 72
311. Power for ventilation.....	94 29	1,939 25	1,844 96
312. Other ventilation expenses.....	†16,979 24	8,471 94	8,507 30
313. Machinery and shop equipment.....	6,877 49	23,319 80	16,442 31
314. Small tools and supplies.....	20,189 18	341 84	19,847 34
315. Automobiles, motorcycles and other vehicles.....	†10,081 60	1,872 85	8,208 75
316. Policing.....	1,329 72	1,786 37	456 65
317. Collecting tolls.....	3 19	3,409 08	3,405 89
318. Other operating employees.....	3,305 29	19,916 12	16,610 83
319. Telephone and telegraph.....	13,343 24	1,430 74	11,912 50
320. Other communication and signal expenses.....	2,424 37	8 06	2,416 31
321. Advertising.....	3,305 29	1,872 27	1,433 02
322. Insurance.....	13,343 24	19,916 12	6,572 88
323. Stationery and printing.....	2,424 37	1,430 74	993 63
324. Injuries and damages.....	8 06	8 06	00 00
325. Miscellaneous supplies and expenses.....	1,646 66	1,872 27	225 61
Total maintenance and operation.....	<u>\$128,371 83</u>	<u>\$119,047 11</u>	<u>\$9,324 72</u>
II. General expenses:			
341. Administrative salaries and expenses.....	\$11,785 37	\$11,049 76	\$735 61
342. Legal salaries and expenses.....	1,005 18	1,004 28	90
343. Medical salaries and expenses.....	24 20	24 20	00 00
344. Office rental and expenses.....	704 01	1,340 43	636 42
345. Insurance.....	151 72	191 68	39 96
346. Stationery and printing.....	65 51	829 82	764 31
347. Other general expenses.....	65 51	252 08	186 57
Total general expenses.....	<u>\$13,735 99</u>	<u>\$14,668 05</u>	<u>\$932 06</u>
Grand total.....	<u>\$142,107 82</u>	<u>\$133,715 16</u>	<u>\$8,392 66</u>

* Decrease shown in *italics*.

† Includes \$22,773.82 covering the cost of operating buses.

Table No. 14
BAYONNE BRIDGE
Operating Expenses

	Nov. 15, 1931* to Dec. 31, 1931
I. Maintenance and operation:	
301. Superintendence.....	\$2,280 53
302. Painting.....	.....
303. Paving.....	.....
304. Other maintenance—bridges and tunnels.....	6 02
305. Maintenance of buildings and other structures.....	6 06
306. Depreciation of property.....	.....
307. Cleaning roadways, footwalks and plazas.....	268 93
308. Cleaning buildings and grounds.....	292 36
309. Heating.....	.....
310. Lighting.....	768 04
311. Power for ventilation.....	.....
312. Other ventilation expenses.....	.....
313. Machinery and shop equipment.....	4 71
314. Small tools and supplies.....	12 99
315. Automobiles, motorcycles and other vehicles.....	41 66
316. Policing.....	1,123 16
317. Collecting tolls.....	1,888 42
318. Other operating employees.....	.....
319. Telephone and telegraph.....	36 58
320. Other communication and signal expenses.....	.....
321. Advertising.....	488 32
322. Insurance.....	2,163 16
323. Stationery and printing.....	1,066 00
324. Injuries and damages.....	.....
325. Miscellaneous supplies and expenses.....	105 04
Total maintenance and operation.....	\$10,551 98
II. General expenses:	
341. Administrative salaries and expenses.....	\$1,829 76
342. Legal salaries and expenses.....	131 65
343. Medical salaries and expenses.....	2 50
344. Office rental and expenses.....	71 95
345. Insurance.....	.....
346. Stationery and printing.....	25 91
347. Other general expenses.....	69
Total general expenses.....	\$2,062 46
Grand total.....	\$12,614 44

* Opened for operations November 15, 1931.

Table No. 15
HOLLAND TUNNEL

Traffic Statistics

Class:	Calendar year, 1931	Calendar year, 1930	Increase or Decrease *
Motorcycles	20,674	20,454	220
Automobiles	10,256,926	9,586,711	670,215
Buses	465,005	462,440	2,565
Trucks — up to 2 tons	1,088,608	955,496	133,112
Trucks — 2 tons to 5 tons	607,084	665,493	<i>58,409</i>
Trucks — 5 tons to 10 tons	286,292	335,176	<i>48,884</i>
Semi-trailers — 5 tons to 10 tons	20,242	18,192	2,050
Semi-trailers — 10 tons to 15 tons	11,225	6,524	4,701
Special	118	16,272	<i>16,154</i>
Total traffic	12,756,174	12,066,758	689,416

* Decrease shown in *italics*.

Table No. 16
GEORGE WASHINGTON BRIDGE

Traffic Statistics

Class:	Oct. 25, 1931* to Dec. 31, 1931
Passenger automobiles	982,252
Motorcycles and bicycles	2,665
Trucks—up to 2 tons	20,103
Trucks—2 tons to 5 tons	6,232
Trucks—over 5 tons	3,295
Tractors and semi-trailers and 6 wheel trucks	1,547
Tractors and trailers or trucks and trailers	93
Buses	27,707
Total vehicles	1,043,894
Pedestrians	243,994

* Opened for operations, October 25, 1931.

Table No. 17
ARTHUR KILL BRIDGES
Traffic Statistics

Class:	Calendar year, 1931	Calendar year, 1930	Increase or Decrease *
Passenger automobiles.....	1,106,023	1,189,134	83,111
Motorcycles and bicycles.....	4,505	7,440	2,935
Trucks—up to 2 tons.....	72,897	71,593	1,304
Trucks—2 tons to 5 tons.....	30,457	36,508	6,051
Trucks—over 5 tons.....	30,464	29,377	1,087
Tractors and semi-trailers and 6 wheel trucks.....	4,122	3,592	530
Tractors and trailers or trucks and trailers.....	86	263	177
Buses.....	1,781	2,258	477
Total vehicles.....	1,250,335	1,340,165	89,830
Passengers in vehicles †.....	1,417,088	1,606,535	249,447
Pedestrians.....	8,705	19,396	10,691

* Decrease shown in *italics*.

† Discontinued effective Nov. 15, 1931.

Table 18
BAYONNE BRIDGE
Traffic Statistics

Class:	Nov. 15, 1931* to Dec. 31, 1931
Passenger automobiles.....	53,876
Motorcycles and bicycles.....	183
Trucks—up to 2 tons.....	2,682
Trucks—2 tons to 5 tons.....	740
Trucks—over 5 tons.....	120
Tractors and semi-trailers and 6 wheel trucks.....	100
Tractors and trailers or trucks and trailers.....	18
Buses.....	4,641
Total vehicles.....	62,360
Pedestrians.....	22,970

* Opened for operations, November 15, 1931.

Table No. 20
CLASSIFICATION OF EXPENDITURES FOR INVESTMENT
IN INLAND TERMINAL NO. 1
Year Ended December 31, 1931 and Total to Date

	TOTAL	
	Year 1931	Total to date
ENGINEERING:		
Pay and expenses of employees.....	\$35,943 67	\$38,089 02
Engineering and architectural consultants.....	140,182 52	264,578 13
Office and other engineering expenses.....	4,396 56	6,692 49
Total.....	\$180,522 75	\$309,359 64
INVESTMENT IN LAND:		
Cost of land.....	\$1,066,155 49	\$3,681,104 96
Pay and expenses of employees.....	34,082 11	47,457 83
Other expenditures.....	263 31	708 28
Total.....	\$1,100,500 91	\$3,729,271 07
CONSTRUCTION:		
Clearing sites.....	\$65,941 32	\$65,941 32
Foundation.....	767,378 78	767,378 78
Superstructure.....	132,313 55	132,313 55
Other construction expenses.....	1,604 09	1,604 09
Total.....	\$967,237 74	\$967,237 74
GENERAL EXPENDITURES:		
Pay and expenses of employees.....	\$42,428 36	\$45,018 89
Soliciting tenants.....	6,078 89	6,078 89
Advertising.....	37,341 58	38,180 73
Office and other expenses.....	18,636 28	19,124 01
Insurance.....	*82 27	2,598 66
Total.....	\$104,402 84	\$111,001 18
INTEREST AND INCOME DURING CONSTRUCTION:		
Interest payable during construction.....	\$609,479 39	\$698,711 07
Interest earned during construction.....	*194,433 61	*199,870 00
Premium or discount during construction.....	205,466 57	205,466 57
Fees of fiscal agent.....	1,032 50	1,032 50
Miscellaneous income and expense.....	4,614 05	*2,263 60
Total.....	\$626,158 90	\$703,076 54
RECAPITULATION:		
Engineering.....	\$180,522 75	\$309,359 64
Investment in land.....	1,100,500 91	3,729,271 07
Construction.....	967,237 74	967,237 74
General expenditures.....	104,402 84	111,001 18
Interest and income during construction.....	626,158 90	703,076 54
Grand total.....	\$2,978,823 14	\$5,819,946 17

* Denotes credit.

Table No. 19
EXPENDITURES FOR CONSTRUCTION OF BRIDGES
YEAR ENDED DECEMBER 31, 1931 AND TOTAL TO DATE

	TOTAL		GEORGE WASHINGTON BRIDGE		BATONNE BRIDGE		GOETHALS BRIDGE		OUTERBRIDGE CROSSING		TOTAL ARTHUR KILL BRIDGES	
	Year 1931	Total to date	Year 1931	Total to date	Year 1931	Total to date	Year 1931	Total to date	Year 1931	Total to date	Year 1931	Total to date
ENGINEERING:												
General superintendence.....	\$86,753 52	\$327,360 37	\$52,063 20	\$203,320 86	\$34,599 74	\$83,411 57	\$90 58	\$17,345 08		\$23,282 86	\$90 58	\$40,627 94
Engineering consultants.....	37,867 81	224,852 04	28,649 92	150,184 43	150,184 43	41,893 57	13,356 75	19,417 29		19,417 29		32,774 04
Architectural consultants.....	55,394 99	239,487 05	48,025 26	175,542 73	7,369 73	39,970 54	9,596 38	14,377 40		14,377 40		23,973 78
Traffic studies.....	29,098 89	125,920 76	21,941 67	98,512 13	7,148 24	11,425 63	12*	7,020 83	\$9 10	8,962 17	8 98	15,983 00
Design engineering studies.....	24,569 70	176,313 84	15,502 28	108,796 81	9,067 42	57,346 39	4,504 72	5,665 92		5,665 92		10,170 64
Design engineering — plans and specifications.....	237,101 47	723,867 38	170,761 04	494,107 04	65,393 91	200,016 14	623 88	14,606 57	322 64	15,137 63	946 52	29,744 20
Design and supervision — engineering consultants.....		389,431 10						155,809 28		233,621 82		389,431 10
Property drawings, blue prints and maps.....		1,368 06		154 73		1,213 33						
Miscellaneous drawings, blue prints and maps.....	3,561 43	2,707 14	8,192 88	5,186 23	854 29	1,639 30		585 85		781 50		1,367 85
Construction engineering.....	215,938 41	1,048,138 81	163,935 74	607,641 24	51,587 30	199,223 49	314 26	100,815 95	101 11	140,458 13	415 37	241,274 08
Material inspection.....	138,586 45	635,667 79	90,730 20	375,104 45	47,814 69	177,564 38	12	37,260 50	41 44	45,738 46	41 56	82,998 96
Office rental and expenses.....	29,165 90	147,493 39	17,601 73	94,839 35	11,564 17	36,206 98		6,936 48		9,510 58		16,447 06
Office furniture and equipment.....	1,549 01	25,082 75	948 58	15,230 58	600 43	4,005 27		2,466 23		3,380 67		5,846 90
Engineering equipment.....	1,716 08	21,014 08	660 29	12,809 12	1,055 79	4,446 54		1,860 33		1,898 09		3,758 42
Laboratory equipment.....	2,312 16	23,508 20	1,744 04	12,521 61	568 12	2,010 57		3,588 23		5,387 79		8,976 02
Automobile and marine equipment.....	1,025 60	11,623 52	712 63	5,290 45	307 99	3,669 13	2 49	1,249 84	2 49	1,414 10	4 98	2,663 94
Operation of automobiles and marine equipment.....	6,442 36	31,399 49	2,945 83	8,224 47	3,490 27	12,960 91	6 26	4,528 71		5,685 40	6 26	10,214 11
Other engineering expenditures.....	86 17	231,257 98	64 62	172,983 92	21 55	58,274 06						
Total.....	\$871,169 95	\$4,391,979 49	\$618,994 17	\$2,540,450 15	\$250,661 53	\$935,277 80	\$1,037 47	\$381,531 73	\$476 78	\$534,719 81	\$1,514 25	\$916,251 54
INVESTMENT IN LAND:												
Cost of land — east approach.....	\$156,771 96	\$9,705,042 35	\$48,367 55	\$8,625,143 51	\$74,588 41	\$894,192 13	\$33,066 00	\$104,956 71	\$750 00	\$80,750 00	\$33,816 00	\$185,706 71
Cost of land — west approach.....	42,331 37	3,976,656 17	42,681 37	1,045,465 97		1,900,196 20		468,500 00	350 00*	562,494 00	350 00*	1,030,994 00
Cost of land — salaries and expenses.....	70,820 44	420,652 15	43,299 96	224,839 29	27,040 08	127,543 62	360 88	29,665 94	119 52	38,598 30	480 40	68,264 24
Taxes and assessments.....	1,809 76	138,743 14	323 35	101,187 84	329 87	28,676 81	1,156 54	3,403 24		5,475 25	1,156 54	8,878 49
Total.....	\$271,733 53	\$14,241,093 81	\$134,672 23	\$9,996,636 61	\$101,958 36	\$2,950,613 76	\$34,583 42	\$606,525 89	\$519 52	\$687,317 55	\$35,102 94	\$1,293,843 44
CONSTRUCTION:												
Test borings.....	\$110 50	\$55,553 06	\$110 50	\$30,249 10		\$10,837 04		\$5,722 70		\$8,744 22		\$14,466 92
Substructure.....	8,053 55	10,196,380 77	8,053 55	3,193,317 34		1,243,242 89		2,407,957 48		3,351,863 06		5,759,820 54
Steel superstructure.....	3,256,000 94	32,121,491 12	2,650,177 74	22,584,295 39	\$605,823 20	5,015,947 85		1,905,285 31		2,615,962 57		4,521,247 88
Plazas.....	464,407 29	1,561,958 44	140,049 59	277,865 18	324,357 70	351,484 69		333,493 96		549,114 61		932,608 57
Roadways and footwalks.....	1,548,262 32	3,015,749 18	903,667 05	1,041,327 75	644,595 27	645,443 96		576,627 39		752,350 08		1,328,977 47
Conduit lines.....	2,820 15	26,447 40			2,820 15	4,400 10		9,609 89		12,428 41		22,038 30
Water lines.....		2,730 50						2,449 15		281 35		2,730 50
Buildings.....	500,613 47	615,576 50	427,611 32	427,611 32	72,299 91	72,299 91	\$389 99	60,680 62	\$312 25	54,984 65	\$702 24	115,665 27
Bridge signs.....	27,056 81	29,645 36	17,256 86	17,256 86	2,455 72	2,455 72	3,553 61	4,664 57	3,790 62	5,268 21	7,344 23	9,932 78
Telephone and signal systems.....	3,289 40	7,581 90	550 00	550 00	209 40	209 40	1,145 00	1,691 07	1,385 00	5,131 43	2,530 00	6,822 50
Lighting system.....	134,755 96	343,554 03	66,778 98	66,778 98	67,976 98	67,976 98		98,005 55		110,792 52		208,798 07
Machinery, tools and equipment.....	82,204 35	97,293 79	47,410 42	47,410 42	26,417 11	26,417 11	8,895 60	16,337 57	518 78*	7,123 69	8,376 82	23,466 26
Injuries and damages.....	50 00	165 00	37 50	37 50	12 50	12 50		115 00		115 00		115 00
Other construction expenditures.....	3,512,644 50	4,265,432 69	3,492,043 41	4,156,712 88	20,494 83	68,889 66		30,170 71	14 75	9,659 44	106 26	39,830 15
Total.....	\$9,540,269 24	\$52,339,559 74	\$7,753,746 92	\$31,843,412 72	\$1,767,462 77	\$7,509,626 81	\$14,075 71	\$5,502,695 97	\$4,983 84	\$7,483,824 24	\$19,059 55	\$12,986,520 21
GENERAL EXPENDITURES:												
Salaries and expenses of general officers.....	\$41,087 83	\$246,061 45	\$26,432 03	\$149,921 24	\$14,655 80	\$57,801 78		\$15,874 09		\$22,464 34		\$38,338 43
Salaries and expenses of clerks and attendants.....	70,407 83	367,359 02	47,420 20	231,513 64	22,925 33	82,357 95	\$36 40	22,364 45	\$25 90	31,122 98	\$62 30	53,487 43
Salaries and expenses of counsel, attorneys and assistants.....	35,227 75	222,610 56	24,562 09	135,271 82	10,633 08	45,489 07	32 58	18,803 03		23,046 64	32 58	41,849 67
Other law expenditures.....	2,835 74	8,576 07	1,732 09	3,850 69	1,203 37	1,885 46	14	1,478 81	14	1,361 11	28	2,839 92
Office rental and expenses.....	27,384 58	176,244 38	17,299 86	106,978 75	10,080 38	36,825 91	2 17	12,689 82	2 17	19,749 90	4 34	32,439 72
Office furniture and equipment.....	3,609 60	23,461 57	2,262 50	13,763 81	1,238 71	4,312 90	54 44	2,198 14	53 95	3,186 72	108 39	5,384 86
Stationery, printing and advertising.....	17,059 09	92,698 00	9,364 22	52,318 72	7,694 87	22,355 90		7,778 23		10,245 15		18,023 38
Insurance.....	44,910 84	157,685 21	29,263 82	105,203 43	15,647 02	22,595 31		11,458 47		18,428 00		29,886 47
Other general expenditures.....	92,098 93	166,693 06	61,198 18	107,849 42	30,890 23	45,018 37	5 26	5,688 94	5 26	8,136 33	10 52	13,825 27
Total.....	\$334,722 19	\$1,461,389 32	\$219,534 99	\$906,671 52	\$114,968 79	\$318,642 65	\$130 99	\$98,333 98	\$87 42	\$137,741 17	\$218 41	\$236,075 15
INTEREST AND INCOME DURING CONSTRUCTION:												
Interest payable during construction.....	\$2,588,657 31	\$10,917,283 11	\$2,139,581 12	\$7,242,624 67	\$468,326 19	\$1,908,891 37	\$7,700 00*	\$706,310 50	\$11,550 00*	\$1,059,456 57	\$19,250 00*	\$1,765,767 07
Interest earned during construction.....	363,961 49*	3,525,226 31*	291,381 28*	2,000,197 25*	72,580 21*	829,699 01*		278,132 02*		417,198 03*		*695,330 05
Premium or discount during construction.....	99,059 03	3,475,830 29	67,809 03	3,029,952 25	12,000 00	35,544 04	7,700 00	164,133 60	11,550 00	246,200 40	19,250 00	410,334 00
Fees of fiscal agents.....	5,044 50	24,846 08	3,083 50	14,693 33	1,942 00	7,195 00	7 60	1,183 10	11 40	1,774 65	19 00	2,957 75
Miscellaneous rentals and expenses.....	94,252 95*	977,692 71*	93,559 50*	898,610 17*	710 95*	78,319 68*		725 38*	17 50	37 48*	17 50	*762 86
Total.....	\$2,234,546 40	\$9,915,040 46	\$1,825,532 87	\$7,388,462 83	\$408,977 03	\$1,043,611 72	\$7 60	\$592,769 80	\$28 90	\$890,196 11	\$36 50	\$1,482,965 91
RECAPITULATION:												
Engineering.....	\$871,169 95	\$4,391,979 49	\$618,994 17	\$2,540,450 15	\$250,661 53	\$935,277 80	\$1,037 47	\$381,531 73	\$476 78	\$534,719 81	\$1,514 25	\$916,251 54
Investment in land.....	271,733 53	14,241,093 81	134,672 23	9,996,636 61	101,958 36	2,950,613 76	34,583 42	606,525 89	519 52	687,317 55	35,102 94	1,293,843 44
Construction.....	9,540,269 24	52,339,559 74	7,753,746 92	31,843,412 72	1,767,462 77	7,509,626 81	14,075 71	5,502,695 97	4,983 84	7,483,824 24	19,059 55	12,986,520 21
General expenditures.....	334,722 19	1,461,389 32	219,534 99	906,671 52	408,977 03	1,043,611 72	7 60	98,333 98	87 42	137,741 17	218 41	236,075 15
Interest and income during construction.....	2,234,546 40	9,915,040 46	1,825,532 87	7,388,462 83	408,977 03	1,043,611 72	7 60	592,769 80	28 90	890,196 11	36 50	1,482,965 91
Grand total.....	\$13,252,441 31	\$82,349,062 82	\$10,552,481 18	\$52,675,633 83	\$2,644,028 48	\$12,757,772 74	\$49,835 19	\$7,181,857 37	\$6,096 46	\$9,733,798 88	\$55,931 65	\$16,915,666 25

* Denotes credit.

Table No. 21
GEORGE WASHINGTON BRIDGE
Expenditures Under Construction Contracts
MARCH, 1926 TO DECEMBER, 1931, INCLUSIVE

85

Contract reference	DESCRIPTION	BIDS RECEIVED				Engineer's estimate of contract items	EXPENDITURES			Remarks
		Number	High bid	Low bid	Accepted bid		Contract items	Contingent work	Contract items plus contingent work	
HRB-1.....	Test borings.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
HRB-2.....	Foundation and tower bases — New Jersey.....	12	\$2,723,350 00	\$1,160,200 00	\$1,160,200 00	\$2,599,200 00	\$20,262 58	\$8,164 83	\$28,427 41	Complete
HRB-3.....	Excavation, New Jersey anchorage and approach.....	18	2,765,700 00	694,000 00	694,000 00	1,492,500 00	1,057,190 00	1,511 43	1,058,701 43	Complete
HRB-4.....	New York anchorage and tower foundation.....	32	1,773,425 00	986,600 00	986,600 00	1,778,900 00	*748,713 44	153,842 43	902,555 87	Complete†
HRB-5A.....	Steel towers and floors.....	3	10,621,020 00	10,134,440 00	10,134,440 00	10,433,400 00	1,072,433 04	5,512 25	1,077,945 29	99% complete
HRB-5B.....	Wire cables.....	3	14,979,455 00	12,339,977 00	12,339,977 00	15,355,200 00	10,605,634 74	95,297 57	10,700,932 31	Complete†
HRB-6.....	Main approach ramp of New York approach.....	9	1,153,210 00	746,679 00	746,679 00	930,050 00	11,815,460 72	64,554 45	11,880,015 17	Complete†
HRB-7.....	Clearing site — New York approach.....	9	256,450 00	149,000 00	149,000 00	450,000 00	766,349 60	41,738 42	808,088 02	99% complete
HRB-8.....	Vehicular tunnel in West 178th street of New York approach.....	11	2,965,000 00	1,756,945 00	1,756,945 00	2,713,570 00	149,000 00	462 38	149,462 38	Complete
HRB-9.....	Riverside drive connections of New York approach.....	11	1,497,747 00	995,969 00	995,969 00	1,413,670 00	1,829,231 62	12,021 48	1,841,253 10	99% complete
HRB-10.....	New Jersey approach excavation and miscellaneous construction at Hudson terrace.....	13	543,655 00	277,404 80	287,651 50	602,000 00	1,058,446 32	6,021 34	1,064,467 66	99% complete
HRB-11.....	Paving and miscellaneous construction of New Jersey approach.....	2	489,925 00	469,467 00	469,467 00	580,575 00	320,015 61	3,062 80	323,078 41	Complete
							530,424 67	34,352 27	564,776 94	Complete

NOTE.— Engineer's estimate of contract items is arrived at on basis of estimated quantities at an assumed unit price for each contract item. Contractors' bids represent an aggregate estimated cost, based on fixed unit prices bid by the contractor and the engineer's estimate of quantities.

* Occasioned by necessary changes in plans account of unforeseen foundation conditions.

† Final payment not made to contractor.

Table No. 21—(Continued)
GEORGE WASHINGTON BRIDGE—(Continued)

98

Contract reference	DESCRIPTION	BIDS RECEIVED				Engineer's estimate of contract items	EXPENDITURES			Remarks
		Number	High bid	Low bid	Accepted bid		Contract items	Contingent work	Contract items plus contingent work	
HRB-12...	Paving, railings and miscellaneous construction for main bridge and New York anchorage.....	16	\$736,116 00	\$456,128 60	\$456,128 60	\$648,740 00	\$446,759 23	\$13,349 19	\$460,108 42	Complete†
HRB-13A...	Construction of field office building.....	25	234,600 00	167,000 00	189,000 00	240,000 00	168,399 00	.....	168,399 00	Complete†
HRB-13B...	Heating and ventilating systems of field office building.....	23	24,899 00	12,544 00	12,544 00	20,000 00	10,950 91	.....	10,950 91	99% complete
HRB-13C...	Electrical system of field office building.....	15	7,490 00	3,750 00	3,750 00	7,000 00	3,341 25	.....	3,341 25	99% complete
HRB-13D...	Plumbing system of field office building.....	12	7,882 00	5,220 00	5,975 00	6,000 00	5,323 72	.....	5,323 72	99% complete
HRB-14...	Electrical equipment and installation.....	24	156,633 55	75,487 00	75,487 00	110,000 00	65,900 15	.....	65,900 15	99% complete
HRB-15...	Toll buildings.....	7	154,600 00	129,344 00	129,344 00	150,000 00	127,344 00	17,906 69	145,250 69	99% complete
HRB-16...	Alterations to Nos. 134-138 and 150 Haven avenue.....	10	122,480 00	79,630 00	79,630 00	90,000 00	68,011 47	.....	68,011 47	95% complete
HRB-17...	Final field painting of towers....	14	81,080 00	26,900 00	26,900 00	50,000 00	23,967 90	.....	23,967 90	Complete
HRB-18...	Flood light towers.....	7	58,100 00	40,590 00	40,590 00	45,000 00	36,165 69	.....	36,165 69	99% complete

NOTE.— Engineer's estimate of contract items is arrived at on basis of estimated quantities at an assumed unit price for each contract item. Contractors' bids represent an aggregate estimated cost, based on fixed unit prices bid by the contractor and the engineer's estimate of quantities.

† Final payment not made to contractor.

Table No. 22
BAYONNE BRIDGE
Expenditures Under Construction Contracts
MARCH, 1926 TO DECEMBER, 1931, INCLUSIVE

27

Contract reference	DESCRIPTION	BIDS RECEIVED				Engineer's estimate of contract items	EXPENDITURES			Remarks
		Number	High bid	Low bid	Accepted bid		Contract items	Contingent work	Contract items plus contingent work	
BP-1.....	Test borings.....	4	\$9,180 00	\$4,856 25	\$4,856 25	\$10,000 00	\$5,721 25	.....	\$5,721 25	Complete
BP-2.....	Main bridge abutments.....	15	777,900 00	515,709 00	515,709 00	851,200 00	496,295 95	.....	498,339 18	Complete
BP-3.....	Steel works.....	3	5,469,950 00	5,041,770 00	5,041,770 00	5,781,000 00	4,858,442 95	165,967 58	5,024,410 53	Complete
BP-4.....	Bayonne approach piers.....	13	571,500 00	387,930 00	387,930 00	524,200 00	392,644 59	6,404 03	399,048 62	Complete
BP-5.....	Port Richmond approach piers.....	19	555,415 00	314,780 00	314,780 00	456,000 00	317,398 27	8,548 11	325,946 38	Complete
BP-6.....	Bayonne plaza fill.....	6	28,868 00	16,569 00	16,569 00	25,000 00	16,530 02	650 62	17,180 64	Complete
BP-7.....	Filling of Port Richmond approach.....	4	60,856 75	34,245 00	34,245 00	50,000 00	37,138 70	7,520 78	44,659 48	Complete
BP-8.....	Bayonne approach, 3d to 7th Sts.....	9	389,321 00	248,072 10	248,072 10	308,355 00	229,036 96	.....	229,036 96	Complete*
BP-9.....	Plaza section of Port Richmond approach.....	9	311,650 70	249,957 00	249,957 00	282,660 00	280,304 56	9,340 01	289,644 57	Complete
BP-10.....	Paving, railings and miscellaneous construction.....	9	444,188 90	339,397 50	339,397 50	361,320 00	350,002 96	1,650 53	351,653 49	Complete
BP-11.....	Trantor place approach.....	4	74,655 00	63,681 00	63,681 00	78,785 00	66,189 08	535 89	66,724 97	Complete
BP-12.....	Electrical equipment and installation.....	10	89,362 00	76,606 00	76,606 00	100,000 00	67,566 49	.....	67,566 49	99% complete
BP-13.....	Toll buildings.....	6	49,344 00	41,490 00	41,490 00	55,000 00	34,353 72	975 00	35,328 72	99% complete
BP-14A.....	Field office building.....	12	55,099 00	42,230 00	42,230 00	42,500 00	20,908 85	.....	20,908 85	62% complete
BP-14B.....	Heating system of field office building.....	6	6,594 00	5,589 00	5,589 00	6,800 00	653 91	.....	653 91	60% complete
BP-14C.....	Electrical system of field office building.....	5	3,100 00	1,407 00	1,407 00	2,100 00	227 93	.....	227 93	40% complete
BP-14D.....	Plumbing system of field office building.....	3	2,360 00	1,940 00	1,940 00	2,500 00	698 40	.....	698 40	60% complete

NOTE.—Engineer's estimate of contract items is arrived at on basis of estimated quantities at an assumed unit price for each contract item. Contractors' bids represent an aggregate estimated cost, based on fixed unit prices bid by the contractor and the engineers' estimate of quantities.
 * Final payment not made to contractor.

Table No. 23
INLAND TERMINAL NO. 1
Expenditures Under Construction Contracts
JULY, 1930 TO DECEMBER, 1931, INCLUSIVE

Contract reference	DESCRIPTION	BIDS RECEIVED				Engineer's estimates of contract items	EXPENDITURES			Remarks
		Number	High bid	Low bid	Accepted bid		Contract items	Contingent work	Contract items plus contingent work	
IT 1-3.....	Test borings.....	7	Bids made on unit price basis	Low bid.....	\$4,000 00	\$3,190 07	.....	\$3,190 07	Complete	
IT 1-4.....	Demolition.....	19	\$114,200 00	\$64,000 00	\$64,000 00	75,000 00	64,000 00	\$708 82	64,708 82	Complete
IT 1-5.....	Excavation and foundation.....	7	1,398,200 00	855,000 00	855,000 00	1,350,000 00	758,822 95	8,555 83	767,378 78	99% complete
IT 1-6.....	Construction above foundation..	4	8,911,000 00	7,591,000 00	7,591,000 00	7,887,250 00	132,313 55	.....	132,312 55	12½% complete

NOTE.— Engineer's estimate of contract items is arrived at on basis of estimated quantities at an assumed unit price for each contract item. Contractors' bids represent an aggregate estimated cost, based on fixed unit prices bid by the contractor and the engineers' estimate of quantities.

Table No. 24

EXPENDITURES FOR EFFECTUATION OF COMPREHENSIVE PLAN YEAR ENDED DECEMBER 31, 1931

Project	Amount
Belt Lines — General.....	\$2,128 33
Belt Line No. 1.....	295 76
Belt Line No. 13 — General.....	4,998 07
Channels, Bridges and Anchorages.....	13,460 14
Consolidated Lighterage and Carfloatage Operations.....	48 24
Food Distribution — Marketing Research Council.....	1,278 03
Food Receiving Terminals and Food Distribution.....	9,380 23
General Development Port District.....	73,102 04
Hoboken Marine Terminal.....	3,663 48
I. C. C. and State Commission Cases.....	21,919 76
Inland Terminals and Movement of Freight by Motor Trucks.....	899 75
Jersey City Marine Terminal.....	20,372 84
Suburban Transit.....	33,235 83
Terminal Operations — General.....	7,011 76
Traffic Rates and Regulations.....	15,394 62
Total.....	\$207,188 88

Table No. 25

PURCHASE OF REAL ESTATE TO DECEMBER 31, 1931

PROJECT	LOCATION	NUMBER OF PARCELS ACQUIRED		COST	
		To December 31, 1930	To December 31, 1931	To December 31, 1930	To December 31, 1931
George Washington Bridge.....	New York City..	50	56	\$8,576,775 96	\$8,625,143 51
	Fort Lee.....	106	113	1,002,784 60	1,045,465 97
Bayonne Bridge.....	Port Richmond..	80	108	819,603 72	894,192 13
	Bayonne.....	145	145	1,900,196 20	1,900,196 20
Goethals Bridge.....	Howland Hook..	9	9	71,890 71	104,956 71
	Elizabeth.....	57	57	468,500 00	468,500 00
Outerbridge Crossing...	Tottenville....	1	1	80,000 00	80,750 00
	Perth Amboy....	89	89	562,844 00	562,494 00
Inland Terminal No. 1..	New York City..	46	51	2,605,958 72	3,681,104 96
	New York City..	.....	30	.....	*424,471 39
Midtown Hudson Tunnel	New York City..	.....	1	.....	*8,800 00
	Weehawken.....	.....	.....	.....	.....
Total.....	.....	583	660	\$16,088,553 91	\$17,796,074 87

* Balances remain to be paid on a number of parcels acquired, these amounts representing actual cash payments to December 31, 1931.

Table No. 26
FUNDED DEBT
DECEMBER 31, 1931

DESIGNATION	Series	Date of issue	Amount authorized	Amount issued	Rate	INTEREST		MATURITIES		Special provisions
						Date payable	Payable at	Date	Amount	
<i>New York-New Jersey Interstate Bridge</i> Construction of bridges across the Arthur Kill between Perth Amboy, N. J., and Tottenville, Staten Island, N. Y.; Elizabeth, N. J., and Howland Hook, Staten Island, N. Y.	" A "	3/1/1926	\$14,000,000	\$14,000,000	4½%	March 1 and Sept. 1	National City Bank of New York	March 1		Legal for investment of funds of the States of New York and New Jersey and their municipal subdivisions; also insurance companies and associations, savings banks, executors, administrators, guardians, trustees and all other fiduciaries of the two States. Free from New York and New Jersey taxes. Exempt from Federal Income Tax. Callable on any interest payment date on or after March 1, 1936, at 105 and accrued interest.
								1932	\$300,000	
								1933	400,000	
								1934	500,000	
								1935	600,000	
								1936	700,000	
								1937	800,000	
								1938	900,000	
								1939	1,000,000	
								1940	1,000,000	
								1941	1,100,000	
								1942	1,200,000	
								1943	1,300,000	
								1944	1,300,000	
<i>New York-New Jersey Interstate Bridge</i> Construction of a bridge over the Hudson River between Fort Lee, N. J., and 178th Street, Manhattan, New York City.	" B "	12/1/1926	60,000,000	20,000,000	4%	June 1 and Dec. 1	National City Bank of New York	Dec. 1		Legal for investment of funds of the States of New York and New Jersey and their municipal subdivisions; also insurance companies and associations, savings banks, executors, administrators, guardians, trustees and all other fiduciaries of the two States. Free from New York and New Jersey taxes. Exempt from Federal Income Tax. Callable on any interest payment date on or after December 1 1936, at par and accrued interest
								1936	1,000,000	
								1937	1,000,000	
								1938	1,000,000	
								1939	1,000,000	
								1940	1,000,000	
								1941	1,000,000	
								1942	1,000,000	
								1943	1,500,000	
								1944	1,500,000	
								1945	1,500,000	
								1946	1,500,000	
								1947	1,500,000	
								1948	1,500,000	
1949	2,000,000									
1950	2,000,000									

FUNDED DEBT (Continued)

DECEMBER 31, 1931

DESIGNATION	Series	Date of issue	Amount authorized	Amount issued	Rate	INTEREST		MATURITIES		Special provisions
						Date payable	Payable at	Date	Amount	
<i>New York-New Jersey Interstate Bridge</i> Construction of a bridge over the Kill van Kull connecting Bayonne, N. J., and Port Richmond, Staten Island, N. Y.	" C "	1/3/1928	12,000,000	12,000,000	4%	Jan. 3 and July 3	Guaranty Trust Company	Jan. 3		Legal for all state and municipal officers and bodies, all banks, bankers, trust companies, savings banks, savings and loan associations, investment companies, insurance associations, administrators, executors, guardians, trustees and other fiduciaries, and may properly and legally be deposited with and received by any state or municipal officers or agencies for any purpose for which bonds or other obligations of the two States may be deposited. Free from New York and New Jersey taxes. Exempt from Federal Income Tax. Callable on any interest payment date on or after January 3, 1938, at 103 and accrued interest.
								1938	300,000	
								1939	400,000	
								1940	400,000	
								1941	400,000	
								1942	500,000	
								1943	600,000	
								1944	700,000	
								1945	800,000	
								1946	900,000	
								1947	1,000,000	
								1948	1,000,000	
								1949	1,000,000	
								1950	1,000,000	
								1951	1,000,000	
								1952	1,000,000	
1953	1,000,000									
<i>New York-New Jersey Interstate Bridge</i> Construction of a bridge over the Hudson River between Fort Lee, N. J., and 178th Street, Manhattan, New York City.	" B "	11/1/1929	60,000,000	30,000,000	4½%	May 1 and Nov. 1	National City Bank of New York	Nov. 1		Legal for investment of funds of the States of New York and New Jersey and their municipal subdivisions; also insurance companies and associations, savings banks, administrators, guardians, trustees and all other fiduciaries of the two States. Free from New York and New Jersey taxes. Exempt from Federal Income Tax. Callable on any interest payment date on or after November 1, 1939, at 105 and accrued interest.
								1939	1,500,000	
								1940	1,500,000	
								1941	1,500,000	
								1942	1,500,000	
								1943	1,500,000	
								1944	1,500,000	
								1945	1,500,000	
								1946	2,250,000	
								1947	2,250,000	
								1948	2,250,000	
								1949	2,250,000	
								1950	2,250,000	
								1951	2,250,000	
								1952	3,000,000	
								1953	3,000,000	

Table No. 26
FUNDED DEBT (Continued)
 DECEMBER 31, 1931

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DESIGNATION	Series	Date of issue	Amount authorized	Amount issued	Rate	INTEREST		MATURITIES		Special provisions
						Date payable	Payable at	Date	Amount	
<i>New York-New Jersey Terminal</i> Construction of a union freight terminal at West 15th Street, West 16th Street, Eighth Avenue and Ninth Avenue, New York City, N. Y.	" D "	3/1/1931	\$16,000,000	\$16,000,000	4¼%	March and Sept. 1	City Bank Farmers Trust Company	March 1	\$300,000	Legal for all state and municipal officers and bodies, all banks, bankers, trust companies, savings banks, savings associations, and building and loan associations, investment companies, insurance companies and associations, administrators, executors, guardians, trustees and other fiduciaries, and may properly and legally be deposited with and received by any state or municipal officers or agencies for any purpose for which bonds or other obligations of the two States may be deposited. Free from New York and New Jersey taxes. Exempt from Federal Income Tax. Callable on any interest payment date on or after March 1, 1941, at 105 and accrued interest.
								1936	300,000	
								1937	300,000	
								1938	300,000	
								1939	300,000	
								1940	300,000	
								1941	400,000	
								1942	400,000	
								1943	400,000	
								1944	400,000	
								1945	400,000	
								1946	400,000	
								1947	500,000	
								1948	500,000	
								1949	500,000	
								1950	500,000	
								1951	500,000	
								1952	500,000	
								1953	500,000	
								1954	600,000	
1955	600,000									
1956	600,000									
1957	600,000									
1958	600,000									
1959	600,000									
1960	5,000,000									

FUNDED DEBT (Continued)

DECEMBER 31, 1931

DESIGNATION	Series	Date of issue	Amount authorized	Amount issued	Rate	INTEREST		MATURITIES		Special provisions
						Date payable	Payable at	Date	Amount	
<p><i>New York-New Jersey Interstate Tunnel</i> For repayment to the State of New York and the State of New Jersey of amounts expended in the construction of the Holland Tunnel.</p>	" E "	3/1/1931	\$50,000,000	\$50,000,000	4¼%	March 1 and Sept. 1	City Bank Farmers Trust Company	<p>March 1</p> <p>1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960</p>	<p>\$1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 1,000,000 2,000,000 2,000,000 2,000,000 2,000,000 2,000,000 2,000,000 2,000,000 2,000,000 2,000,000 2,000,000 2,000,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000 2,500,000</p>	<p>Legal for all state and municipal officers and bodies, all banks, bankers, trust companies, savings banks, savings and loan associations, investment companies, insurance companies and associations, administrators, executors, guardians, trustees and other fiduciaries, and may properly and legally be deposited with and received by any state or municipal officers or agencies for any purpose for which bonds or other obligations of the two States may be deposited.</p> <p>Free from New York and New Jersey taxes. Exempt from Federal Income Tax.</p> <p>Callable on any interest payment date on or after March 1, 1941, at 105 and accrued interest.</p>

Table No. 27

STATUS OF ADVANCES FROM THE STATES OF NEW YORK AND NEW JERSEY IN AID OF CONSTRUCTION OF INTERSTATE BRIDGES AS OF DECEMBER 31, 1931

	Arthur Kill Bridges	George Washington Bridge	Bayonne Bridge	Total
State of New York:				
Amounts pledged.....	\$2,000,000 00	\$5,000,000 00	\$2,000,000 00	\$9,000,000 00
Amounts paid.....	2,000,000 00	5,000,000 00	2,000,000 00	9,000,000 00
Balance, December 31, 1931.....				
State of New Jersey:				
Amounts pledged.....	\$2,000,000 00	\$5,000,000 00	\$2,000,000 00	\$9,000,000 00
Amounts paid.....	2,000,000 00	4,000,000 00	1,200,000 00	7,200,000 00
Balance, December 31, 1931.....		\$1,000,000 00	\$800,000 00	\$1,800,000 00
Both States:				
Amounts pledged.....	\$4,000,000 00	\$10,000,000 00	\$4,000,000 00	\$18,000,000 00
Amounts paid.....	4,000,000 00	9,000,000 00	3,200,000 00	16,200,000 00
Balance, December 31, 1931.....		\$1,000,000 00	\$800,000 00	\$1,800,000 00

Description of the Comprehensive Plan

No. 1—Middle Belt Line—the keystone of the arch of railroad terminal coordination within the Port District. It connects New Jersey and Staten Island and the railroads on the westerly side of the port with Brooklyn, Queens, the Bronx and the railroads on the easterly side of the port. This connection is the most direct, the shortest and the cheapest of any brought to the attention of the Commissioners for study or consideration. This line connects with the New York Central Railroad in the Bronx; with the New York, New Haven and Hartford Railroad in the Bronx; with the Long Island Railroad in Queens and Brooklyn; with the Baltimore and Ohio Railroad near Elizabethport and in Staten Island; with the Central Railroad Company of New Jersey at Elizabethport and at points in Newark and Jersey City; with the Pennsylvania Railroad in Newark and Jersey City; with the Lehigh Valley Railroad in Newark and Jersey City; with the Delaware, Lackawanna and Western Railroad in Jersey City and the Secaucus Meadows; with the Erie Railroad in Jersey City and the Secaucus Meadows; with the New York, Susquehanna and Western Railroad in North Bergen; with the New York, Ontario and Western and the West Shore Railroads on the westerly side of the Palisades above the Weehawken tunnel.

Its length is approximately sixty-one and one-half miles, of which approximately fifty-one and one-half miles have already been built. Additional tracks to those already built will have to be added. There remains only approximately ten miles of entirely new line to be built. With the construction of the tunnel and approaches from Greenville to Bay Ridge freight can commence to flow without the necessity of building any other trackage except short connections at the tunnel ends. To handle the full traffic that should traverse the Middle Belt Line or utilize it for local service would require the improvement of existing tracks and additions to them.

The route to the Middle Belt Line is as follows: Connecting at the Hudson River at Spuyten Duyvel running easterly and southerly generally along the easterly side of the Harlem River, utilizing existing lines and improving and adding where necessary, to a connection with Hell Gate Bridge and the New Haven Railroad, a distance of approximately seven miles; thence continuing in a general southerly direction, utilizing existing lines and improving and adding where necessary to a point near Bay Ridge, a distance of approximately eighteen and one-half miles; thence by a new two-track tunnel under New York Bay in a westerly direction to a portal in the Greenville yard of the Pennsylvania Railroad in Jersey City, a distance of approximately five miles, to a connection with the tracks of the Pennsylvania and Lehigh Valley Railroads; thence in a generally northerly direction along the easterly side of Newark Bay and the Hackensack River at the westerly foot of the Palisades, utilizing existing tracks and improving and adding where necessary, making connections with the Jersey Central, Pennsylvania, Lehigh Valley, Delaware, Lackawanna and Western, Erie, New York, Susquehanna and Western, New York, Ontario and Western, and West Shore railroads, a distance of approximately ten miles. From the Greenville portal of the Bay tunnel and from the line along the easterly side of Newark Bay by the bridges of the Central Railroad of New Jersey (crossing the Hackensack and Passaic Rivers) and of the Pennsylvania and Lehigh Valley Railroads (crossing Newark Bay) to the line of the Central Railroad of New Jersey running along the westerly side of Newark Bay and thence southerly along this line to a connection with the Baltimore and Ohio Railroad south of Elizabethport, utilizing existing lines and improving and adding where necessary, a distance of approximately 12 miles; thence in an easterly direction crossing the Arthur Kill, utilizing existing lines and improving and adding where necessary, along the northerly and easterly shores of Staten Island to the city piers and to a connection, if the City of New York consent thereto, with the tunnel under the Narrows to Brooklyn provided for under legislation as a municipal project—a distance of approximately nine miles.

No. 2—A marginal railroad in the Bronx extending along the shore of the East River and Westchester Creek connecting with the Middle Belt Line (No. 1), and with the New York, New Haven and Hartford Railroad in the vicinity of Westchester. This is a new line and will open up territory for commercial and industrial development. Its length is approximately eight miles.

No. 3—A marginal railroad in Queens and Brooklyn extending along Flushing Creek, Flushing Bay, the East River and upper New York Bay. It connects with the Middle Belt Line (No. 1), by lines No. 4, No. 5, No. 6 and directly at the southerly end at Bay Ridge. It utilizes certain existing lines of the Brooklyn Eastern District, Jay Street, New York Dock and Bush Terminal companies. Existing lines will be utilized and improved and added to and new lines will be built where lines do not now exist. This railroad will open up territory for commercial and industrial development. It has a length of approximately nineteen and one-half miles, of which approximately four miles now exist and about fifteen and one-half miles will be new.

No. 4—An existing line to be improved and added to where necessary. It connects the Middle Belt Line (No. 1) with the marginal railroad No. 3 near its northeasterly end. It has a length of approximately two and one-half miles.

No. 5—An existing line to be improved and added to where necessary. It connects the Middle Belt Line (No. 1), with the marginal railroad No. 3, in Long Island City. It has a length of approximately four miles.

No. 6—A portion of this line exists and a portion is new. It connects the Middle Belt Line (No. 1) with the marginal railroad No. 3 in the Greenpoint section of Brooklyn. The existing portion to be improved and added

to where necessary. It will open up territory for industrial development. It has a length of approximately four miles, of which two miles now exist.

No. 7—A marginal railroad surrounding the northerly and westerly shores of Jamaica Bay. This line is new and connects with the Middle Belt Line (No. 1). It will open up territory for commercial and industrial development. It has a length of approximately twelve and one-half miles.

No. 8—An existing line, to be improved and added to where necessary. It extends along the southeasterly shore of Staten Island. It connects with Middle Belt Line (No. 1), and will open up territory for commercial and industrial development. It has a length of approximately twelve miles.

No. 9—A marginal railroad extending along the westerly shore of Staten Island and a branch connection with No. 8. This line is new and will open up territory for commercial and industrial development. It connects with the Middle Belt Line (No. 1), and with a branch from the Outer Belt Line (No. 15); with its branch it is about fifteen and one-quarter miles long.

No. 10—This line is made up mostly of existing lines, to be improved and added to where necessary. It connects with the Middle Belt Line (No. 1) by way of marginal railroad No. 11. It extends along the southerly shore of Raritan Bay and through the territory south of the Raritan River reaching New Brunswick. It will open up territory for commercial and industrial development. It has a length of approximately twenty-nine and one-half miles, of which practically the entire length exists.

No. 11—A marginal railroad extending from a connection with the proposed Outer Belt Line (No. 15) near New Brunswick along the northerly shore of the Raritan River to Perth Amboy, thence northerly along the westerly side of the Arthur Kill to a connection with the Middle Belt Line (No. 1) south of Elizabethport. The portion of this line which exists to be improved and added to where necessary. This line will open up territory for commercial and industrial development. It has a length of approximately fifteen and one-quarter miles, of which about nine and one-half miles now exist.

No. 12—A marginal railroad extending along the easterly shore of Newark Bay and the Hackensack River and connects with the Middle Belt Line (No. 1). This line which does not now exist will open up territory for commercial and industrial development. It has a length of approximately seven miles.

No. 13—A marginal railroad extending along the westerly side of the Hudson River and the Upper New York Bay, is made up mostly of existing lines—the Erie Terminals, New Jersey Junction, Hoboken Shore and National Docks Railroad. This line is now operated as a belt line approximately sixteen and one-half miles in length and, serving the New Jersey water front, has opened up territory for commercial and industrial development. It will be connected with the Middle Belt Line (No. 1).

No. 14—A marginal railroad connecting with the Middle Belt Line (No. 1), and extending through the Hackensack and Secaucus Meadows. It will open up territory for commercial and industrial development. It is a new line and has a length of approximately twenty-three miles.

No. 15—The Outer Belt Line, extending around the westerly limits of the Port District beyond the congested section. Its northerly terminus is on the Hudson River at Piermont above the harbor congestion and it connects by marginal railroads at the southerly end with the harbor waters below the congested section. By spurs it connects with the Middle Belt Line (No. 1), on the westerly shore of Newark Bay and with the marginal railroad on the westerly shore of Staten Island (No. 9). It will have great value in that it will afford military protection to the Port District. It will serve as an interchange between the railroads beyond the congestion and will open up territory for industrial development. It has a length of approximately seventy-one miles which is all new construction.

No. 16—Union freight stations located at focal points throughout the Port district, as a solution of the problems of freight handling and distribution for L C L shipments. The overhead rights of these terminals will be utilized as space for commercial purposes. The stations will be served by motorized equipment operating to and from railheads. The first unit, Inland Terminal No. 1, located in the block bounded by 15th and 16th streets and 8th and 9th Avenues in Manhattan, is under construction and scheduled for opening to operation the latter part of 1932.

No. 17—By authorization of the States of New York and New Jersey, the Port Authority has constructed four interstate bridges, has acquired the Holland Tunnel, and has been directed to proceed with the construction of an additional trans-Hudson tunnel from the midtown section of Manhattan to Weehawken, New Jersey. Three of the four Port Authority bridges connect Staten Island with New Jersey, as follows: Outerbridge Crossing, between Perth Amboy, N. J., and Tottenville, S. I.; Goethals Bridge, between Elizabeth, N. J. and Howland Hook, S. I.; and the Bayonne Bridge, between Port Richmond, S. I. and Bayonne, N. J. The two former bridges were opened to traffic on June 29, 1928, and the Bayonne Bridge, November 15, 1931. The fourth bridge, George Washington Bridge, spanning the Hudson River between Fort Lee, N. J. and Fort Washington, New York City, was opened to traffic October 25, 1931. The Holland Tunnel, between Jersey City and Manhattan, has been in operation since November 13, 1927. It was acquired by the Port Authority March 1, 1931.

THE PORT OF NEW YORK AUTHORITY.

Table No. 28

SUMMARY OF PAYMENTS MADE TO THE STATES OF NEW YORK AND NEW JERSEY COVERING COST OF THE HOLLAND TUNNEL, PURSUANT TO CHAPTER 47, LAWS OF NEW YORK 1931, AND CHAPTER 4, LAWS OF NEW JERSEY 1931

	State of New York	State of New Jersey	Total
Moneys contributed toward cost of tunnel.....	\$24,057,858 71	\$24,136,813 58	\$48,194,673 29
Interest thereon at 4¼% to March 1, 1931.....	6,131,048 36	6,266,013 74	12,397,062 10
Additional interest March 1 to 21, 1931, inclusive...	58,826 41	59,019 47	117,845 88
Total	\$30,247,734 48	\$30,461,846 79	\$60,709,581 27
Less share of net income November 13, 1927, to February 28, 1931, inclusive	6,908,793 18	6,870,214 30	13,779,007 48
Less interest at 4¼% to March 1, 1931.....	13,481 21	416,124 12	829,605 33
Less additional interest March 1 to 21, 1931 inclusive	16,893 42	16,799 09	33,692 51
Total deductions	\$7,339,167 81	\$7,303,137 51	\$14,642,305 32
Total cost of Holland tunnel—less income	\$22,908,566 67	\$23,158,709 28	\$46,067,275 95
Addition of amount to increase New Jersey-Camden bridge—Holland tunnel sinking fund to \$36,000,000	1,906,112 10	1,906,112 10	3,812,224 20
Balance due covering share of net income of the Holland tunnel November 13, 1927, to February 28, 1931, inclusive, with interest thereon, March 1 to 21, 1931, inclusive...	1,310,299 19	413,254 12	1,723,553 31
Credit to State of New York covering advances in aid of construction of Hudson River and Kill von Kull bridges, less discount at 4¼%	1,757,500 00*	.....	1,757,500 00*
Grand total	\$24,367,477 96	\$25,478,075 50	\$49,845,553 46

* Deduction.

11th Annual Report of the
Port of New York Authority

Dec. 1931

170.318

DATE

4/24/47

ISSUED TO

Mr. Sawyer

Eleventh Annual Report of the
Port of New York Authority

Dec. 1931

170.318

NEW JERSEY STATE HIGHWAY DEPARTMENT

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STATE HOUSE ANNEX

TRENTON, N. J.

RULES

1. Books and magazines are to be loaned to Highway Department employees only.
2. Books may be kept for two weeks and magazines for one week, and may be renewed for the same period except when the publication is in demand.
3. Please take good care of books as some are valuable and cannot be replaced.



