

1930

THE PORT OF NEW YORK AUTHORITY

Created by Compact Between the States of
New York and New Jersey and Ratified by Congress



TENTH ANNUAL REPORT

DECEMBER 31, 1930

COMMISSIONERS

NEW YORK

JOHN F. GALVIN

Chairman

HOWARD S. CULLMAN

JOHN F. MURRAY

GEN. GEORGE R. DYER

JOHN J. PULLEYN

A. J. SHAMBERG

NEW JERSEY

FRANK C. FERGUSON

Vice-Chairman

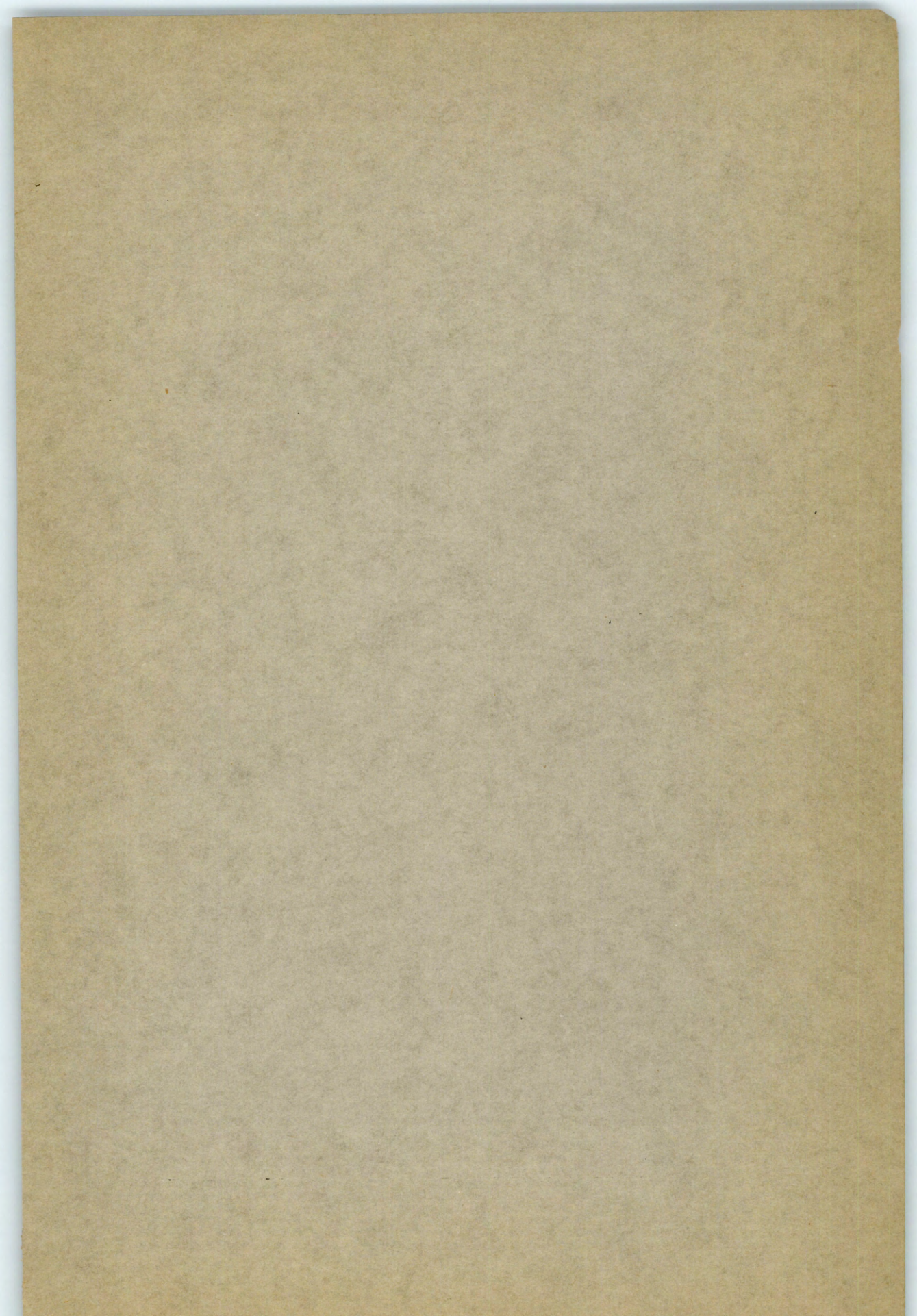
SCHUYLER N. RICE

GEN. WILLIAM C. HEPPENHEIMER

JOSEPH G. WRIGHT

GEORGE deB. KEIM

IRA R. CROUSE



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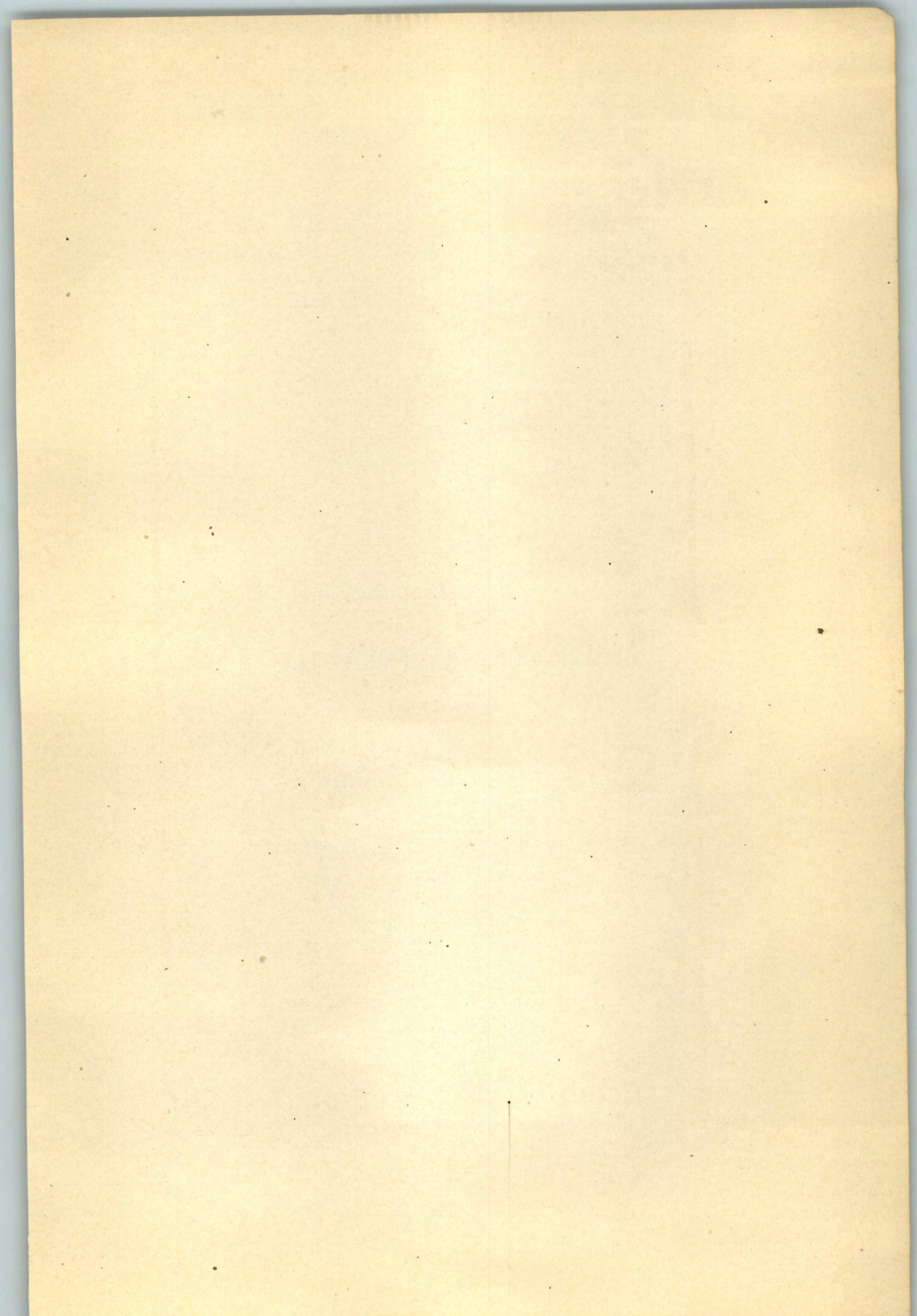
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IN MEMORY

of

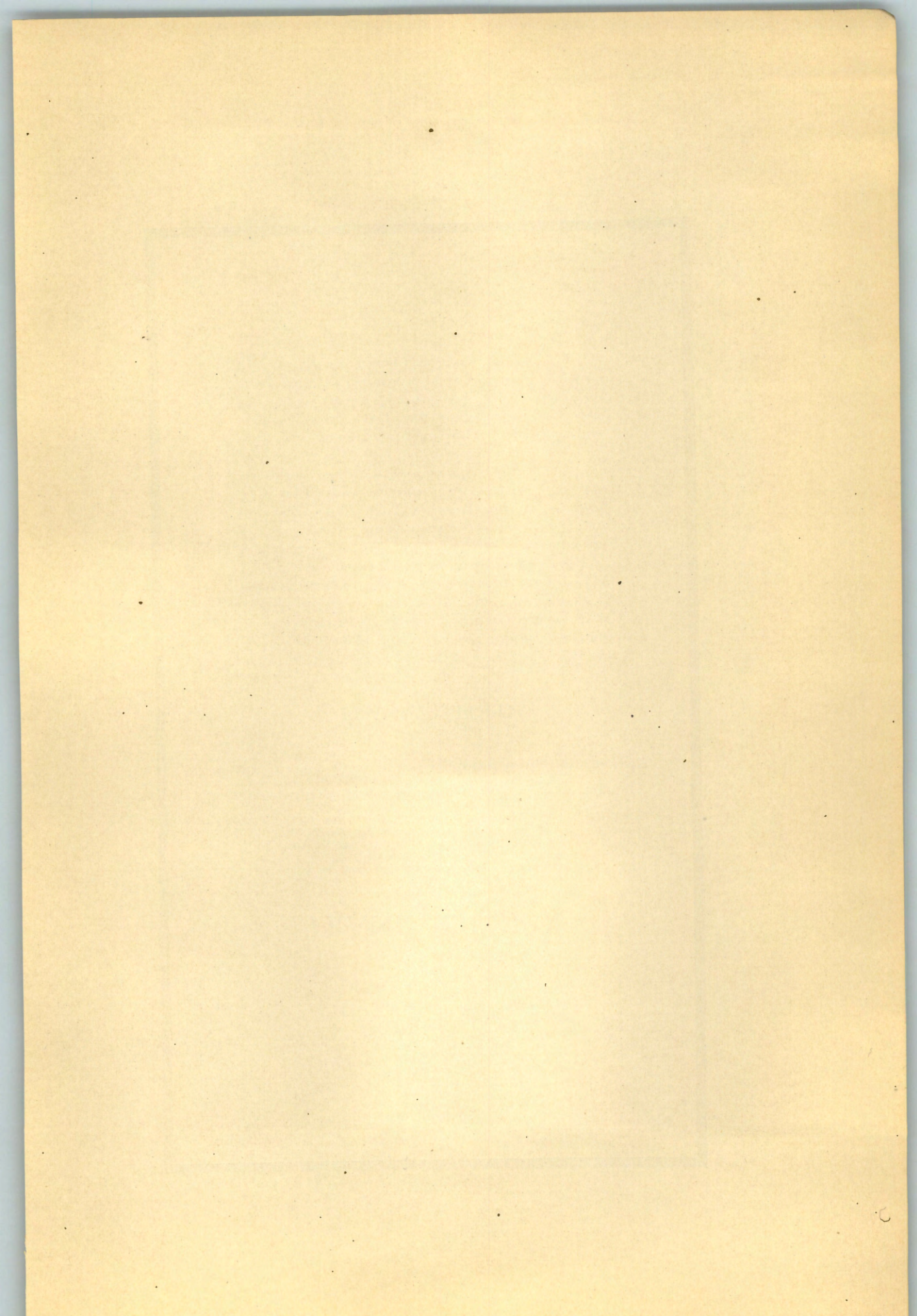
FRANK R. FORD

At a regular meeting of the Commissioners of The Port of New York Authority held in the City of New York on the eighteenth day of September, nineteen hundred thirty, the following tribute to the memory of Mr. Frank R. Ford was offered and unanimously adopted:

FRANK R. FORD

a distinguished engineer, served as a member of the New York-New Jersey Port and Harbor Development Commission during its entire existence from 1917 to 1921. He contributed from his rich fund of engineering and business knowledge to the report of the Commission, which led to the signing of the Port Compact, on April 30, 1921, and the creation of the Port Authority. He was one of the first three Commissioners of the Port Authority from the State of New Jersey, serving from 1921 to 1924. This was the pioneer stage of the work of this agency.

The Commissioners record their regret that Commissioner Ford has passed away and desire to express to his family their deep sympathy. The record of his work as Commissioner is a lasting monument to his public spirit and his ability.



THE PORT OF NEW YORK AUTHORITY

80-90 Eighth Avenue, New York City

EXECUTIVE DEPARTMENT

JOHN E. RAMSEY, General Manager
JOHN J. MULCAHY, Assistant General Manager
L. J. KEEFE, Secretary
WILLIAM LEARY, Treasurer
MORRIS M. FROHLICH, Assistant Secretary
E. E. MENZER, Assistant Treasurer
H. S. QUIGEL, Real Estate Agent
MARION RODGERS, Auditor
E. TRACY LANTERMAN, General Claim Agent

LEGAL

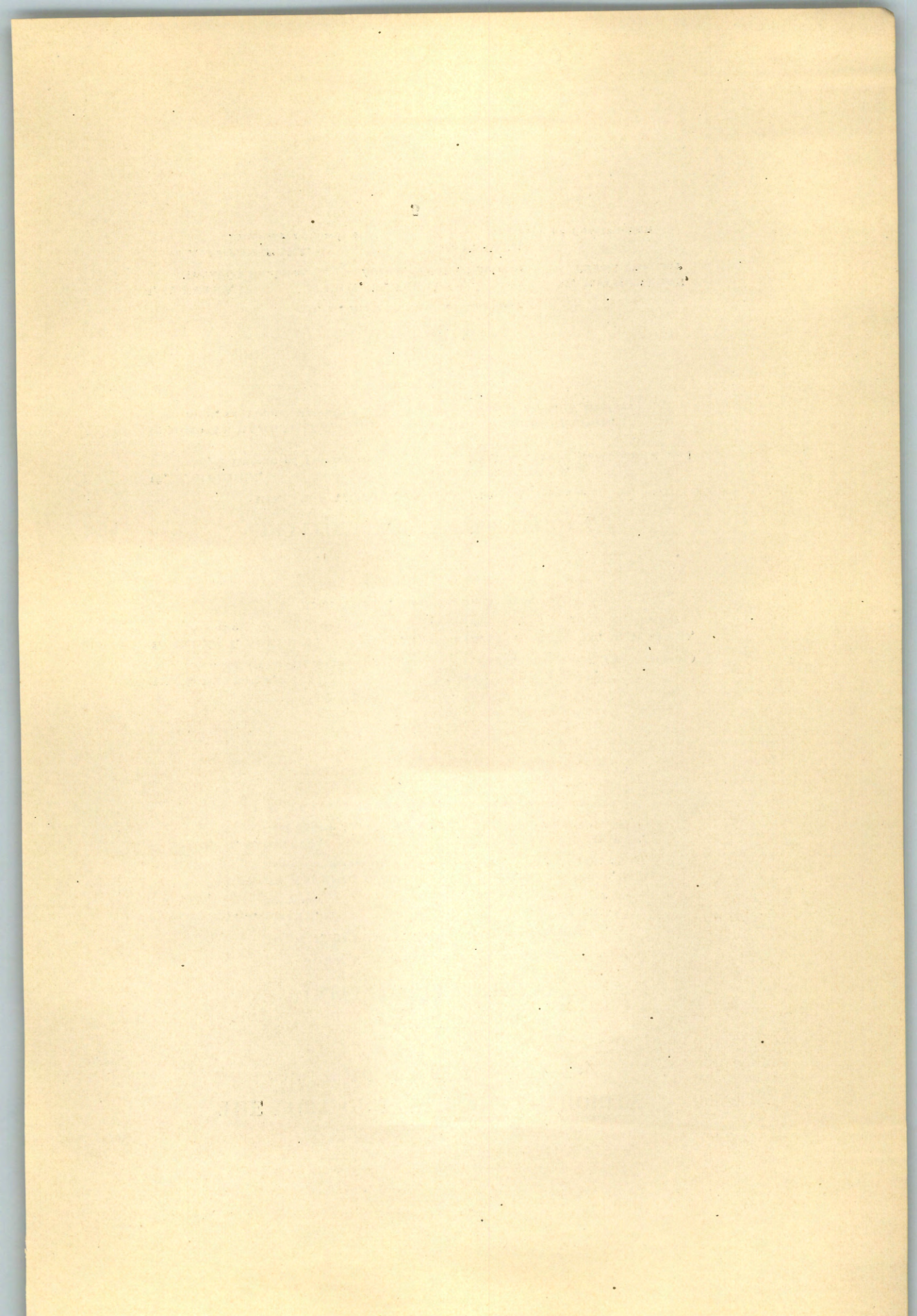
JULIUS HENRY COHEN, General Counsel
PAUL WINDELS, Associate Counsel (Tunnels)
RUSSELL E. WATSON, Associate Counsel (New Jersey)
LEANDER I. SHELLEY, Attorney
T. J. W. GERATY, Attorney
F. B. WETTIG, Attorney
A. J. TOBIN, Real Estate Attorney

DEVELOPMENT AND OPERATION

BILLINGS WILSON, Assistant General Manager
W. P. HEDDEN, Chief, Bureau of Commerce
GLENN S. REEVES, Engineer, Port Development and Transit
E. MORGAN BARRADALE, Supt. of Tunnel Operation
SYDNEY CUMBERLEDGE, General Supt. of Bridges

ENGINEERING

O. H. AMMANN, Chief Engineer
J. C. EVANS, Terminal Engineer
EDW. W. STEARNS, Assistant Chief Engineer
W. E. THOMPSON, Tunnel Engineer
ALLSTON DANA, Engineer of Design
M. B. CASE, Engineer of Construction



CONSULTANTS

WM. H. BURR,
Consulting Engineer

JAMES F. FORGIE,
Consulting Engineer

E. P. GOODRICH,
Consulting Engineer

FREDERIC R. HARRIS,
Consulting Engineer

LEON S. MOISSEIFF,
Advisory Engineer of Design

OLE SINGSTAD, Chief Consulting Engineer on Tunnels

DANIEL E. MORAN,
Consulting Engineer on
Foundations

ROBERT RIDGWAY,
Consulting Engineer

GEORGE L. WATSON,
Consulting Engineer

LEWIS B. STILLWELL,
Consulting Electrical Engineer

JOSEPH B. STRAUSS,
Consulting Engineer

CASS GILBERT, Consulting Architect, Hudson River Bridge and Kill van
Kull Bridge

PROF. CHAS. P. BERKEY, Consulting Geologist

ABBOTT, MERKT & CO., Engineer-Architects for Inland Terminal No. 1

AYMAR EMBURY II, Consulting Architect, Inland Terminal No. 1

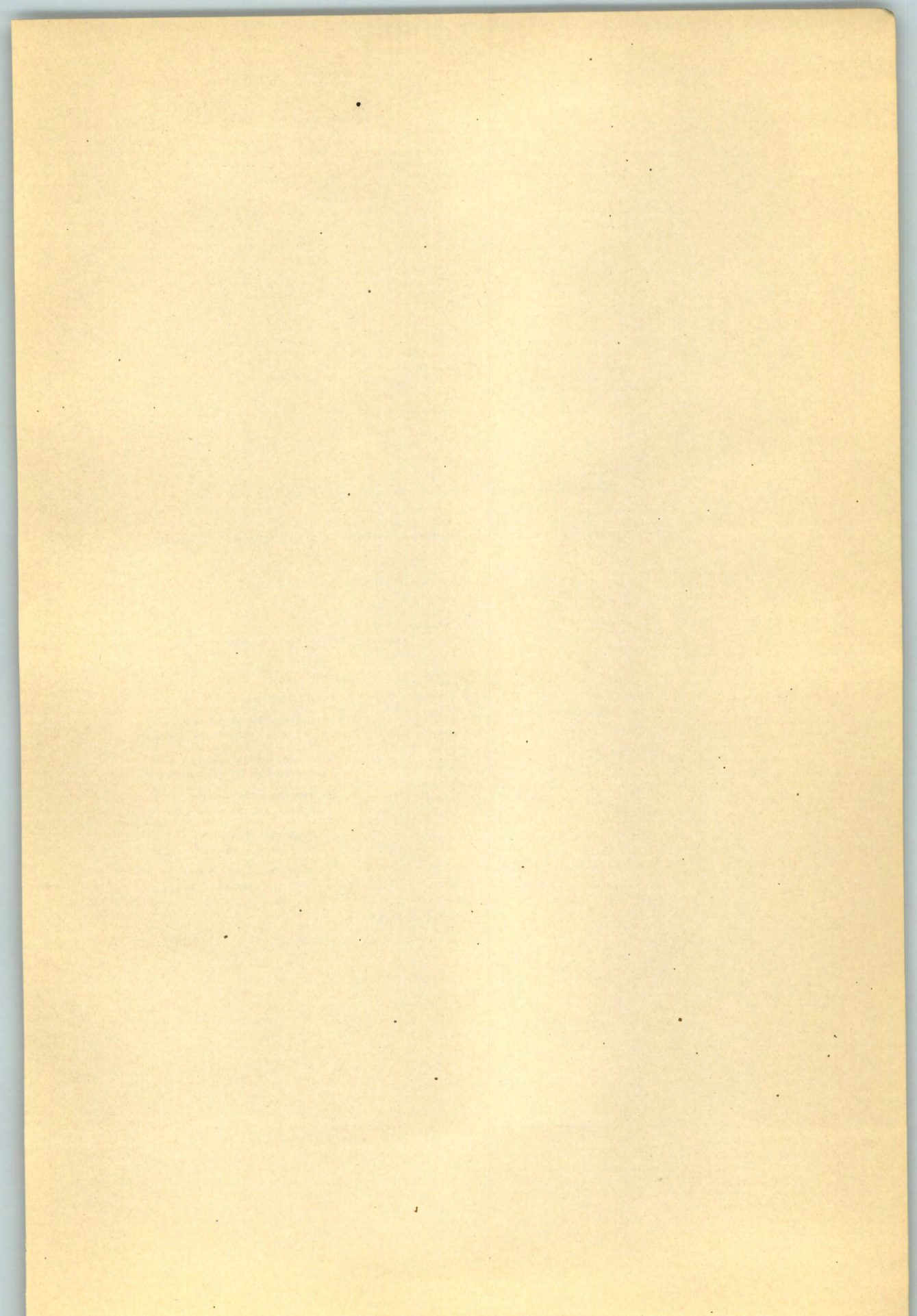
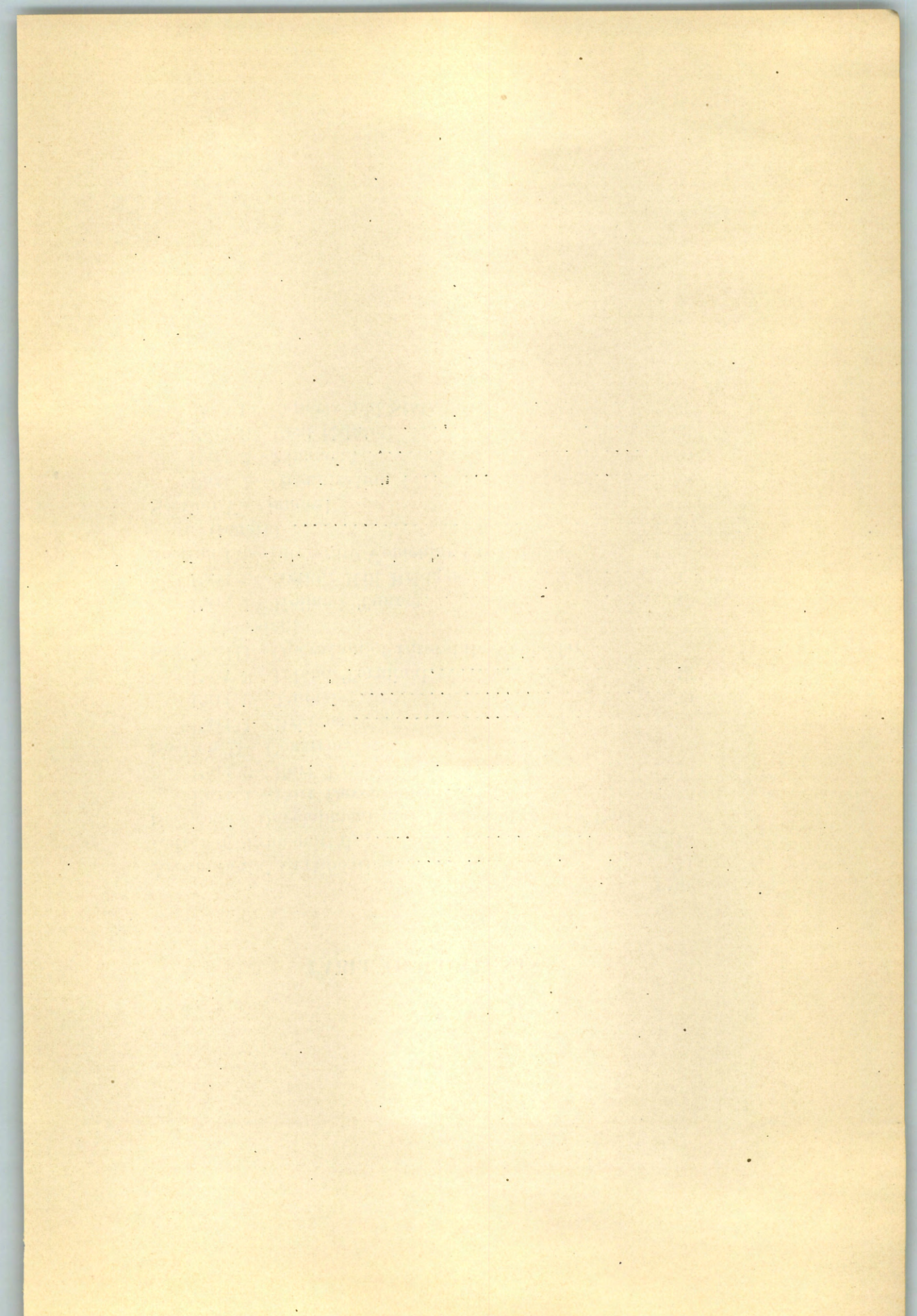


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LAWRENCE SCUDDER & CO.

ACCOUNTANTS AND AUDITORS

February 10, 1931

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, 1930.

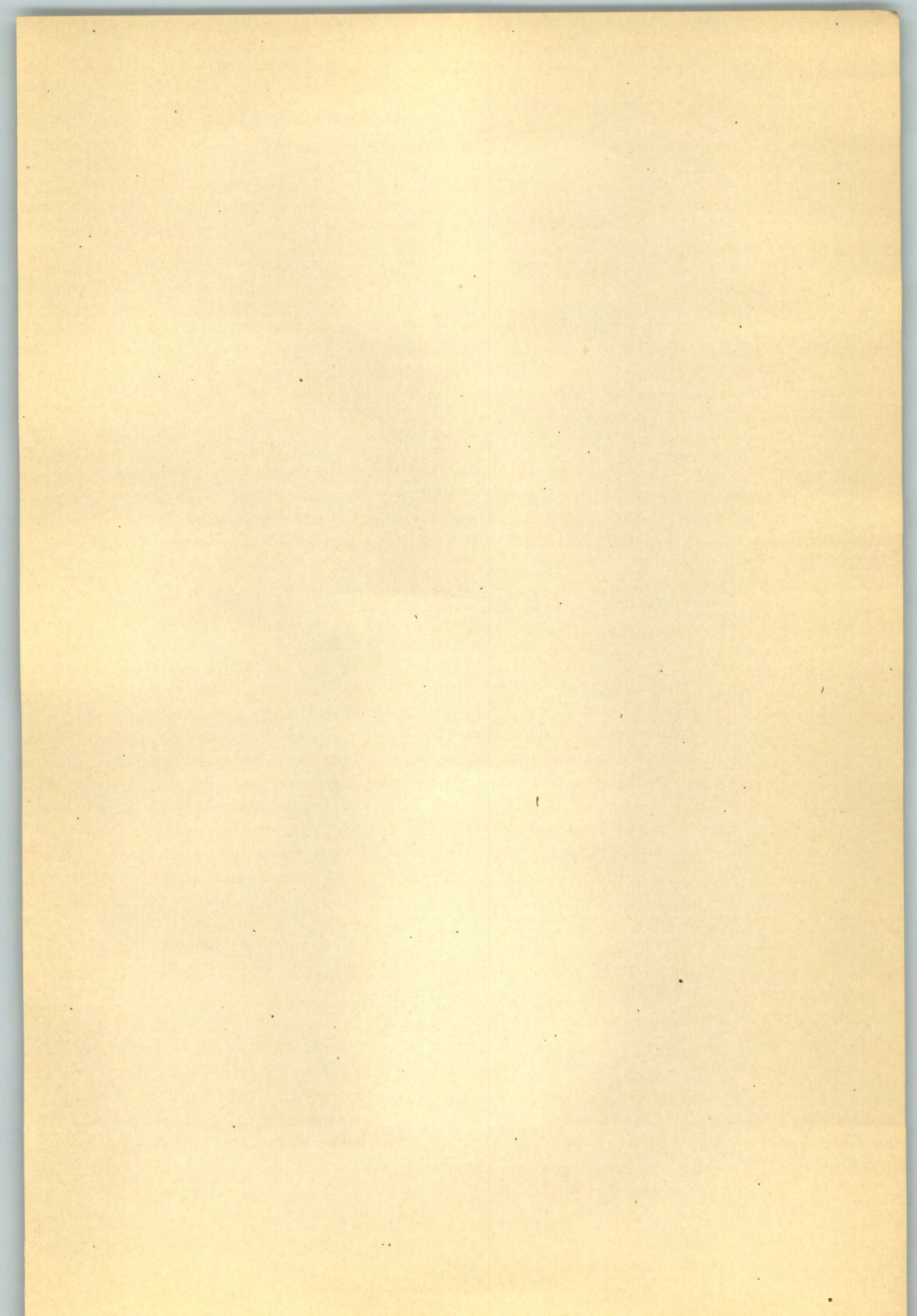
The cash on hand and investment securities in the vault were verified by count. The cash on deposit in the various banks, together with the collateral deposited as security, were verified by certificates received from the depositories.

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, 1930, amounting to \$3,475,580.00, has been charged to bridge construction as a financing cost, in accordance with a resolution of the Commissioners dated March 20, 1930.

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 at December 31, 1930.

Respectfully submitted,
LAWRENCE SCUDDER & CO.



**LETTER OF TRANSMITTAL—ANNUAL REPORT
FOR YEAR 1930**

NEW YORK, *February 20, 1931*

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

This, the tenth annual report of the Port Authority, covers such substantial progress that it is believed no previous report of this organization surpasses it in importance.

After many years of painstaking effort and negotiation, the formal agreement for the first union inland freight station was executed by the railroads, effective December 31, 1930. The actual work of going forward with that project constitutes material accomplishment toward the effectuation of the Comprehensive Plan.

In accordance with your directions, studies and plans for the so-called Midtown Hudson Tunnel were made during the year, and a separate report thereon has already been rendered.

Recognizing the need for unified control and operation, legislation was enacted in the early part of the year which merged the former Tunnel Commissions with the Port Authority. Operation of the Holland Tunnel was taken over on April 21, 1930. However, that part of the report which covers that facility comprehends the entire calendar year.

Studies have been continued on the proposal to develop the "Little Basin" property in Jersey City, and it is felt that with the recent favorable action of the War Department in granting extension of pierhead lines, an economically feasible plan can be drawn and satisfactory negotiations concluded with Jersey City which will permit of some actual accomplishment.

In spite of the general business depression, which has had a direct effect on automobile travel, traffic and revenues of the Arthur Kill Bridges increased last year, as did traffic and revenues of the Holland Tunnel.

Construction work is proceeding at such a rapid rate on both the Hudson River Bridge and the Kill van Kull Bridge, that it is confidently expected they will both be opened to traffic in 1931.

The Staff has continued its studies of suburban transit facilities, belt lines, additional terminals, and various proposed local improvements.

It is anticipated that the year 1931 will see the culmination of several projects now under way, and the commencement of other projects, completion of which will materially assist in the continued development and prosperity of the Port of New York.

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,
JOHN J. PULLEYN,
A. J. SHAMBERG,
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 I—Port Development

It is gratifying to report that harmonious relations with the railroads have continued, and it is felt that even a better spirit of cooperation exists now than was reported last year. In accordance with the agreement made with the Chairman of the Presidents' Conference Committee of the Railroads, the policy of concentrating on a particular project has been followed. The particular one followed since that time has been the establishment of the first union inland terminal. This now having been agreed upon, it is expected that another major project will be soon taken up for formal action.

Union Inland Freight Terminals

Last year it was reported that the railroads had signified their willingness to use the Port Authority's first union inland freight terminal which it was proposed to erect on Manhattan in the block bounded by Fifteenth Street and Eighth Avenue, Sixteenth Street and Ninth Avenue.

Negotiations were conducted during the year, looking toward the adoption of a joint contract for the use and operation of the proposed facility, and the form of contract was approved by the Presidents' Conference Committee of the New York Railroads on April 29, 1930. Effective December 31, 1930, the contract had been executed by all of the railroads concerned.

The contract provides that the terminal shall be constructed by the Port Authority and be ready for use by the railroads within sixteen months after signing of the agreement. The Port Authority is committed to construct two additional inland terminals if and when desired by the railroads. The ultimate and successful development of

these facilities will, it is believed, afford a much better service than that now existing. The system of floating freight back and forth over the waters between Manhattan, Brooklyn, The Bronx, and the railheads in New Jersey, has been in vogue since the railroads were first established. There has been considerable agitation for the release of piers for steamship instead of railroad use, and for more efficient and economical local freight-handling services. It is expected that the establishment of these facilities will ultimately accomplish those purposes.

The first station is being constructed with a view to determining from an actual operating standpoint, what it is claimed theoretically can be done. Naturally, that determination will govern the establishment of other stations in Manhattan, Brooklyn, Queens, The Bronx, as well as at strategic points in New Jersey.

Certain objections were raised when the exact site of the terminal became known and the subject was brought before the Board of Estimate and Apportionment of the City of New York. During the hearings and subsequent thereto, the Port Authority received the cooperation of the Mayor and other members of the municipal administration.

Anticipating a final understanding and agreement on the matter, the Port Authority, months ago, borrowed funds and commenced the acquisition of real estate. All of the property in the block has now been acquired, and it was necessary to condemn in but a few instances. Construction work is under way as explained in another section.

Fruit and Vegetable Terminals

The Port Authority cooperated with a committee called together by the New York State Commissioner of Agriculture in working out recommendations to the truckmen and produce trade with respect to haulage and delivery of fresh fruit and vegetables by motor truck. These recommendations were adopted by both shippers and truckmen in 1930, and the arrangement has been working satisfactorily since that time.

In Newark, New Jersey, the municipal farmers' market at Commerce Street, has been sold by the City and will

be unavailable for the sale of produce from growers' trucks because of building construction on this site. The 1930 Legislature of New Jersey reappointed a Farm Relief Committee under the new name of a Commission to Investigate the Public Market Needs of New Jersey Agriculture, which committee has requested the Port Authority to cooperate in its studies of plans for better facilities in the Newark regional area. A member of the staff has been engaged to assist the Commission in gathering and interpreting the facts which will form the basis for recommendations to be made to the Legislature early in 1931.

New York Food Marketing Research Council

The Port Authority has continued its cooperation with the United States Department of Agriculture and other public bodies in maintaining headquarters for and supporting the work of the New York Food Marketing Research Council. During the year 1930 two additional public agencies were added to the Council membership, bringing the total number of cooperating agencies to ten. The Council held three public meetings with the trade at which the subjects of food standards, distribution of packaged pre-cut meats, and frozen foods were discussed. At the close of the year five additional research projects relating to New York City market were in progress.

Live Poultry Terminal

A corporation, reported to have the backing of large shippers and receivers of live poultry, is conducting negotiations for construction of a union live poultry terminal. This corporation laid before the Port Authority its plans for operating a terminal and proposed that the Port Authority should finance and construct a terminal open to all railroads and lease the same for operation. The matter is being given consideration.

Belt Line No. 7

Belt Line No. 7 of the Statutory Port Plan is a marginal railroad surrounding the northerly and westerly shores of

Jamaica Bay connecting with Belt Line No. 1 which follows the Bay Ridge Division of the Long Island Railroad. The Board of Estimate and Apportionment of the City of New York has authorized the Commissioner of Docks to acquire title to the right of way between the railroad and the head of Paerdegat Basin, Jamaica Bay, and appropriate additional moneys for the dredging of Paerdegat Basin. A special committee was also authorized to continue negotiations with the Long Island railroad with respect to the form of an agreement looking towards construction and operation.

Belt Line No. 9

Progress is reported in the construction of a portion of Belt Line No. 9 of the Statutory Plan, which is a marginal railroad along the westerly shore of Staten Island. The Baltimore & Ohio railroad has extended its rails approximately one and one quarter miles in a southerly direction from the Arlington Yard of the Staten Island Rapid Transit Railway, including construction of an overpass over the approach to the Goethals Bridge at Howland Hook. Construction of this Belt Line will be of great assistance to the industrial development of the westerly shore of Staten Island.

Belt Line No. 13

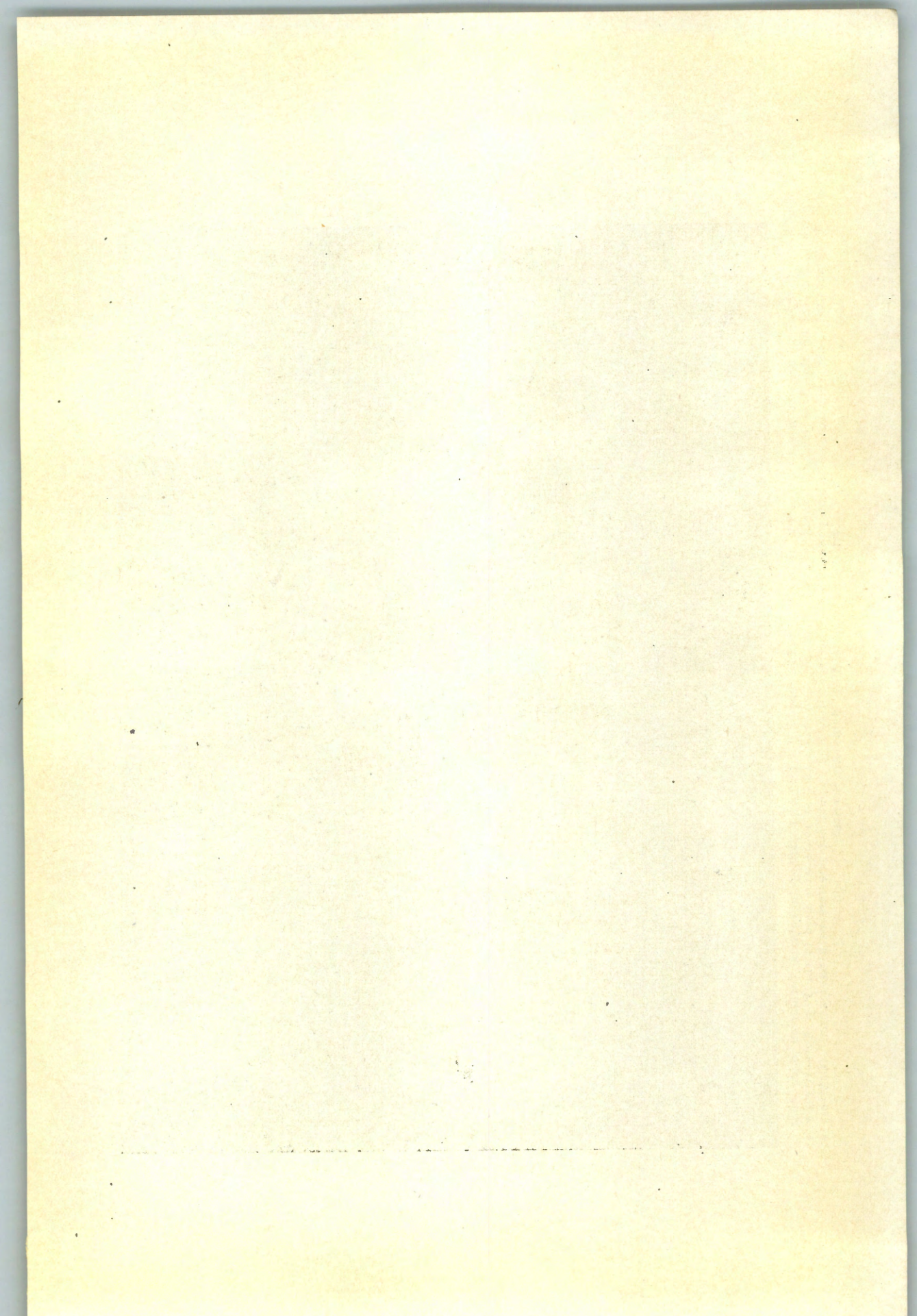
Belt Line No. 13 continues to function under the coordinating supervision of the Director of Operations and the carriers' operating and traffic committees. The situation with respect to joint rates to and from points outside of the territory has been further simplified by the Commission's findings in the Eastern Class Rates Investigation handed down May 13, 1930, and discussed elsewhere in this report. Shippers in Belt Line 13 territory will enjoy the same rate basis to New England and up-State New York points as shippers using Manhattan stations.

Modification of Harbor Lines

The authority to establish and maintain harbor lines is vested by the United States Government in the New York



Marine traffic in Hudson River, Saturday, October 18, 1930, showing steamships sailing in column formation more than a thousand feet off the New Jersey pierhead line. Photographs and charts such as above were used in the Port Authority's brief to demonstrate that an extension in the pierhead line at Jersey City, N. J., would not interfere with navigation. (Courtesy of 14th Photo Section, U. S. Army Air Service)



Harbor Line Board. Applications for changing the existing bulkhead and pierhead lines must therefore be presented to this Board for their review and decision.

The Department of Docks of the City of New York and the New Jersey Board of Commerce and Navigation presented a joint application to the Harbor Line Board requesting modification of the harbor lines on both sides of the Hudson River between 23rd Street and Hoboken on the south and 121st Street and Edgewater Avenue on the north. The proposed modification will maintain, by mutual advance and recession, the same fairway between pierhead lines as now exists. The City of Jersey City filed an application requesting modification of the pierhead line between Communipaw and 5th Street, Hoboken, which involved a slight narrowing of the fairway for navigation in the lower portion of the Hudson River. The staff of the Port Authority made an analysis of the applications and their effect on navigating conditions. An extensive brief was prepared in support of both applications, and submitted to the Harbor Line Board at a public hearing on October 29, 1930.

The Secretary of War approved both applications on January 14, 1931. The modification will not reduce the navigable fairway and will make the construction of 1000-foot piers on the Manhattan side in the 48th Street section economically feasible. The Port Authority is very much interested in the Jersey City application in connection with the development of the proposed Jersey City Marine Terminal. The modification of the Jersey City pierhead line will permit the construction of 1000-foot piers without involving extraordinary excavation and construction expense, and will make unnecessary the destruction of adjacent uplands and street connections.

Jersey City Marine Terminal

The Jersey City waterfront between Exchange Place ferry terminal and Tidewater Basin is one of the most desirable sections of the port for the development of modern steamship terminal facilities; it includes the so-called "Little Basin" property owned by the state.

The New Jersey Legislature in 1930 authorized the Port Authority to submit a bid for the so-called "Little Basin" property — part of the abandoned Morris & Essex Canal. The City of Jersey City had previously submitted a bid for this property bearing in mind a steamship terminal development on this waterfront. The Commissioners of Jersey City and the Commissioners of the Port Authority have conferred and agreed on a joint program for development of this waterfront,—the Port Authority to finance the acquisition of all necessary property, to construct four modern piers, and to lease the completed project to Jersey City over a term of years for an amount sufficient to pay the carrying charges. Upon amortization of the Port Authority's investment the terminal will revert to Jersey City.

Plans for the proposed terminal have been prepared by a joint committee of engineering representatives of Jersey City and the Port Authority, supplemented by the advice and opinions of consulting engineers. Field surveys and test borings have been made as a basis for preparing plans, and negotiations have been started with the State and other owners for the acquisition of the necessary property.

The preliminary plans propose a Marine Terminal which will consist of four double deck steel and concrete piers, each 150 feet wide, with the exception of the most southerly pier, which will be 90 feet wide. Slips will be 300 feet wide with a depth of 45 feet of water at mean low tide. Provision has been made for railroad tracks on each pier and for vehicular access to both docks.

Since modification of pierhead lines was authorized, as reported hereinbefore, further studies and plans have been undertaken with a view to reaching an agreement with Jersey City for the leasing and operating of the proposed terminal.

Hoboken Piers

On June 9, 1930, the United States Shipping Board publicly advertised for bids for the purchase of its Hoboken pier properties, consisting of four double deck piers and

one small, open pier on the Hoboken waterfront in the area bounded by First Street, River Street and Fifth Street. This property, which formerly belonged to the North German Lloyd and the Hamburg American Lines, was seized by the United States Government during the war and subsequently was placed under the control of the Shipping Board. Bids were opened on July 23, 1920, at which time it was found that Mr. Paul W. Chapman, owner of the United States Lines and the Hoboken Manufacturers' Railroad, was the only bidder. His bid was \$4,282,000. The sum of \$110,000 was deposited with the Shipping Board at the time of the bid in accordance with the proposal of sale.

Thereafter Mr. Chapman's representatives approached the Port Authority with a proposition that it should take over his bid, acquire these piers in the public interest, and lease them to one of his operating companies for a term of years at an amount sufficient to pay off the Port Authority obligations.

On October 29, 1930, the Mayor of Hoboken requested a conference with the Port Authority Commissioners. There resulted a series of conferences from which a proposition was evolved, satisfactory to Hoboken, whereby the Port Authority would take over the Chapman bid, lease the properties for operation to the Chapman interests on the aforementioned terms, pay to Hoboken an annual amount in lieu of taxes, construct a new pier and warehouse on available vacant portion of the property, and upon liquidation of the Port Authority investment, title to the entire property was to revert to the City of Hoboken free and clear. The Port Authority's interest in this matter is twofold: first, the firm belief that as a matter of public policy title to this pier property should remain in public hands; secondly, a desire to aid Hoboken in deriving some income from property which prior to the war, and when in private ownership, returned taxes to that municipality in an amount which represented a large proportion of that city's entire tax revenue, and which it has been deprived of for nearly fourteen years.

It was proposed that the City of Hoboken, as its contribution towards the effectuation of the aforementioned plan, would sell to the Port Authority for a nominal consideration certain useful areas of pier use and waterfrontage contained within the properties offered for sale by the Shipping Board. The city claims title to these intervening tracts, and, without their inclusion, a conveyance of the government properties to the Port Authority or to private ownership would seriously affect the value for use and occupancy, of the entire property.

Subsequently, it developed that the Chapman interests were unwilling to go ahead with the proposition on the terms outlined by the Port Authority as necessary to protect its investment in these properties. Mr. Chapman's representatives advised that he was willing to transfer his bid to the Port Authority. Since that time the Port Authority has been negotiating directly with the Shipping Board and with other prospective operators in an endeavor to work out a proposition that will adequately protect a Port Authority investment in these properties, that will assure some income therefrom to the City of Hoboken, and that will be satisfactory to the Shipping Board.

Channel Improvement

Continuing its policy of cooperation with respect to improving navigation conditions within the Port District, the Port Authority has investigated and approved numerous projects in connection with channel improvements. Reference is made below to some of the projects within the Port of New York District authorized in the Rivers and Harbors Bill (Public No. 520—71st Congress, H.R. 11781) signed by President Hoover July 3, 1930.

1. Proposal to increase the width of the Hudson River Channel from 2,000 feet to 2,800 feet between the Battery and 20th Street, Manhattan; the entire channel to have a minimum depth of 40 feet at mean low water.

This is one of the projects in which the Port Author-

ity was extremely active. The original recommendations of the Army Engineers provided that no work should be undertaken until New York City had removed certain temporary extensions to three piers. A representative of the Port Authority went to Washington and appeared before the Rivers and Harbors Committee and urged the restricting clause in the Army Engineers' report be withdrawn as it was unreasonable to hold up so important a project because of the three short pier extensions. The Rivers and Harbors Committee approved the project and waived the Engineers' restricting clause.

2. A project to provide for a channel in Passaic River 30 feet deep and 300 feet wide from Newark Bay to a point 3,000 feet above the Lincoln Highway Bridge.

3. A project providing for widening the mouth of the entrance channel to Newtown Creek, and also for the dredging of the creek proper to a depth of 23 feet with a bottom width of 130 feet, from the entrance channel to a point approximately 200 feet below Maspeth Avenue.

4. Widening the Bay Ridge Channel from 1,200 to 1,750 feet with a minimum depth of 40 feet.

The following are some of the more important of several examinations and surveys which have been authorized for waterways in the Port District:

1. *Hudson River Channel, New York*

Proposed deepening to 40 feet the full width of the river from 59th Street, Manhattan, to deep water in the Upper Bay.

2. *Newark Bay, New Jersey*

Proposed anchorage grounds in the vicinity of Port Newark Terminal.

3. *New York Harbor, New York*

A survey of the Brooklyn waterfront from a point

opposite the lower end of Governors Island to a point near the beginning of the "shore road improvement" in South Brooklyn, with a view to securing wider channels.

4. New York Harbor, New York

A survey of the Upper Bay, the Narrows, the Lower Bay, and Red Hook Flats, with a view to providing additional anchorage areas, the relocating of existing anchorages, the constructing of a breakwater off Staten Island and additional dredging where needed in the interest of navigation.

During the year the Port Authority distributed a map showing authorized harbor improvements and surveys. A copy is appended to this report.

Bridges and Tunnels

The existing law requires all agencies desiring to construct bridges across, or tunnels under navigable water, to make application to the War Department. The Army Engineers have requested opinions from the Port Authority as to the sufficiency of clearances, effects upon navigation, etc., on various applications; the most important of which were as follows:

1. Proposed construction by New York City of a tunnel under the Narrows from 97th Street, Brooklyn, to Wadsworth Avenue (extended), Richmond, Staten Island. The Port Authority endorsed the project.

2. The North River Bridge Company filed an application with the Army Engineers for permission to span the Hudson River at West 57th Street. The Port Authority reported to the Army Engineers that it was in favor of additional interstate crossings of the Hudson River, but such crossings should be planned and carried out with proper regard for the interests of navigation, properly located from the standpoint of highway traffic needs, and properly timed so as to insure their financial success.

3. Proposed construction by City of New York of vehicular tunnels under the East River from the foot of East 37th and 38th Streets, Manhattan to Borden Avenue, Queens, New York City. The Port Authority reported to the Army Engineers that it had no objection to the application.

4. The West Shore Railroad has requested the views of the Port Authority on the necessary horizontal clearances for its proposed bridges over Overpeck Creek. Investigation is being made in order to get the views of the interested communities.

Port Information

The Port Authority continued to handle inquiries concerning port facilities, transportation services and rates from actual and prospective users of the Port. The monthly "Commerce Bulletin" containing current information on the commerce, shipping, channel improvements, port facilities, storage stocks, and traffic movements, is distributed regularly to 1,500 shippers, transportation companies, commercial agents and libraries. In addition to this monthly publication, two special information bulletins have been prepared and distributed during the past year. One deals with harbor regulations, and the other with quarantine regulations. Other informative pamphlets are in process of preparation.

Improvement of Facilities and Services

Public and private agencies who own or operate facilities within the Port of New York, are continually engaged in modernizing existing facilities and constructing new ones, in order to keep abreast of present needs and to provide for future expansion.

While not responsible for the successful completion of the following large improvements, the Port Authority is pleased to report them herein.

City of New York

Pier 3, North River, has been rebuilt and will shortly be occupied by the United Fruit Company.

Preliminary appropriations have been made and construction will soon be started on new piers 32, 34, 45, 88 and 90 North River, and Pier 9, East River.

Pennsylvania Dock and Warehouse Company

A complete unit consisting of an eight-story warehouse building with a frontage of 970 feet on the Hudson River at Jersey City and two steamship piers has been completed. A third pier will be built as demand requires. This new facility, which is served by the Pennsylvania Railroad, was placed in service in January 1931.

Railroads

The Erie Railroad has started construction on a new pier in Jersey City to be known as Pier 8, and to be used for westbound lighterage freight. This pier will be 1,050 feet long and 70 feet wide, and will contain three stories.

The Lehigh Valley Railroad has made additions to its Poineer Street freight yard at Newark, and Grand Street Station at Jersey City, by installing additional team tracks, and new 50-foot driveways. This company has also placed in service a new brick freight house at its 22nd Street Station in Bayonne.

The Lackawanna Railroad opened a new warehouse in Hoboken for the acceptance of storage-in-transit freight, in March of this year.

The New York Central Railroad has made an addition to Pier "K" at Weehawken which resulted in doubling the capacity of this pier. The company has also completed a six-story warehouse for the storage of automobiles and general merchandise in its Kingsbridge Yard, Bronx.

All of the railroads entering the Port District have made additions to their harbor fleet. The Erie Railroad and the New York Central Railroad each placed in service this year a Diesel electric lighter, the most modern type of self-propelled harbor craft.

The Central Railroad of New Jersey and the New Haven Railroads have added new steel carfloats to their fleets and the Lackawanna has placed in service during the last year ten new gasoline hoist lighters, and ten new barges.

Suburban Transit

The Port Authority has continued its suburban transit studies through cooperation with the Suburban Transit Engineering Board. All member agencies of this Board have furnished assistance. The following table indicates the personnel furnished by each agency during 1930:

	Personnel	
	Number	Per cent
Port Authority	8	39.1%
Railroads	8	39.1
Board of Transportation.....	3	14.7
North Jersey Transit Commission.....	1	4.9
Westchester County	1 *	2.0
Nassau County	1 †	0.2
	22	100.0%

As indicated in the report of last year, the three sector planning committees of the Suburban Board (the New Jersey, Westchester and Long Island Committees), have continued their studies and investigated numerous plans for their respective sectors. These studies have gone into the question of cost of construction, estimates of potential traffic and the cost of operation.

The various plans from the sector committees have been assembled into suburban transit system plans for the Metropolitan District. They represent minimum plans rather than comprehensive plans. During the past year six metropolitan studies, following in general the routes indicated in last year's report, have been prepared for consideration by the Suburban Board. No decision has been reached as to which will be recommended in the engineering report the Suburban Transit Engineering Board will issue early in 1931.

The collection of suburban passenger statistics has been continued. The records indicate that 19,000 more passengers daily were carried toward New York in 1929 than on a corresponding day in 1928. Nearly half of these were from the Long Island sector. The following table shows the increase for each sector:

* 5 months.

† ½ month.

DAILY ONE WAY PASSENGERS MOVING TOWARD NEW YORK CITY

Sector	1928	1929	Increase
New Jersey	318,000	323,800	5,800
Westchester	95,400	99,200	3,800
Long Island	167,000	176,400	9,400
Totals	580,400	599,400	19,000

While the passenger railroads in the New York Metropolitan District have enjoyed an increase of approximately 19,000 one-way daily passengers, the Class I Railroads of the whole United States have had a decrease of approximately 15,400 one-way daily passengers. As of 1929, the total passengers on the railroads in the New York District represent 50.6% of the total on Class I Railroads in the United States.

Since the last report, the Federal Census for 1930 has been completed. In all sections of the Metropolitan District, with the exception of the Island of Manhattan, there have been substantial increases in population. The greatest percentage of increase occurred in Nassau County.

SECTION I—DEVELOPMENT AND PROTECTION OF THE PORT

Part 2—Port Protection

Eastern Class Rates Investigation, I. C. C. Docket No. 15879

A general revision of the class rates on domestic traffic in the territory of Buffalo and Pittsburg has been in litigation since 1924, and has been referred to in previous reports. On May 13, 1930, the Interstate Commerce Commission handed down its decision substantially upholding the Port Authority in all of its contentions. The Port of New York District has been treated as a unit for rate making purposes, and Philadelphia and Baltimore put on the same basis as New York in calculating terminal mileage. Various petitions have been filed requesting modification of the Interstate Commerce Commission's findings, and in some instances requesting a reopening of the case. The effective date of the new rates, originally set for November 1, 1930, by the Commission, has since been postponed to April 1, 1931.

Port Charges Investigation, I. C. C. Docket 12681

On November 10, 1930, the Interstate Commerce Commission reopened this case for reargument on the specific issues of accessorial storage and dockage. With the reargument so confined the question of segregation of terminal charges at New York will not be involved.

Gulf Import and Export Rates, I. C. C. F. S. A. 2040, et al.

As previously reported, the presiding Examiner in this proceeding recommended that the southern carriers be prohibited from carrying rates less than seventy-five per cent of the scale which they maintain on domestic non-competitive traffic to the south Atlantic and Gulf ports.

On May 1 and 2, 1930, the Port Authority presented oral argument before the Interstate Commerce Commission supporting the Examiner's recommendations, and protesting against granting the southern lines permission to carry unduly low rates between Gulf and south Atlantic ports and central territory.

On January 6, 1931, the Interstate Commerce Commission rendered its decision following closely the report of the presiding Examiner, but permitting the southern carriers to carry import and export rates at not lower than sixty-five per cent of the domestic scale. The effect of this decision is to give New York a substantial parity with the Gulf ports from the important Chicago district and other points approximately equidistant, and to deny the southern carriers' attempt to invade the eastern portion of central territory which they sought to do by establishing rates to such points as Cleveland, Toledo, Detroit, Columbus, etc., on the same basis as the rates applying between Cincinnati and Philadelphia. Under the Commission's decision New York will continue to maintain rates from these points substantially lower than to the Gulf or south Atlantic ports in accordance with the lesser distance.

Grain Rates Investigation, I. C. C. Docket 17000, Part 7

Pursuant to mandate of the Hoch-Smith Resolution the Interstate Commerce Commission instituted a general investigation of grain rates affecting export rates through all ports. On July 1, 1930, the Commission rendered a decision completely changing the system of constructing grain rates.

Under the decision the differential formerly enjoyed by New Orleans of 15½ cents under New York on grain from Omaha has been reduced to 5½ cents. The 16½ cents differential from Kansas City has been reduced to 11½, the 15½ cents differential from St. Louis to 9½, and the 11½ cents differential from central Illinois points to 3½ cents. Montreal's differential under New York on grain from Omaha, Kansas City, St. Louis and Chicago has been

reduced from 8½ to 3½ cents per 100 pounds. On the whole, the position of New York in the grain carrying trade is strengthened.

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

By complaint filed in April, 1930, the City of Boston and the Boston Port Authority asked the Interstate Commerce Commission to prescribe differential rates to Boston instead of its parity rates with New York, and to cause to have published at New York separately established rates and charges for lighterage, carfloatage, motor truck service, etc. The Port Authority intervened in opposition to this proposal, and counsel cross-examined plaintiffs' witnesses at hearings in Boston from December 1st to 4th, inclusive. The presentation of Boston's case was not completed at that time, and further hearings will be held early in 1931.

Lighterage Charges—I. C. C. Docket 22824

As reported last year two cases are now pending before the Interstate Commerce Commission involving an adjustment in rates and practices governing railroad freight deliveries in the Port District. The first of these cases, Docket 22824, was brought October 31, 1929 by the Attorney General of New Jersey, and the second, Docket 23040, on January 2, 1930, by the New Jersey Traffic Advisory Committee. The State of New York on December 6, 1929, through the Attorney-General, filed an intervening petition opposing the complaint of the State of New Jersey.

The principal issues of the case relate to the practice of the carriers in making delivery to shipside, waterfront stations, and lighterage points on carload freight without extra charge when the deliveries are made by floating equipment or motor truck. The complaint of the New Jersey Traffic Advisory Committee also attacks the long standing practice of grouping the New York and New Jer-

sey sides of the port together and asks for a separation of the New Jersey side for rate-making purposes.

The Port Authority has put at the disposal of the Attorneys-General of both states such available data and information in its possession as they have requested but thus far has taken no further part in the cases.

The Interstate Commerce Commission decided that hearings on both of the New Jersey complaints be held simultaneously and combined also with hearings on the Boston complaint, Docket 23327, above referred to. The first hearing was held at Newark, June 26 to July 18, 1930, at which time the evidence in support of the New Jersey complaints was presented. The second hearing was held on October 20th at Newark. Hearings were continued at Boston December 1 to 4, 1930, at which the evidence in support of the Boston complaint was introduced.

Coordination of Motor Transportation, I. C. C. Docket 23400

On October 17, 1930 the Interstate Commerce Commission announced an *ex parte* investigation into the coordination of motor transportation of passengers and property by, or in connection with, or in competition with, the respondent railroads. Seventeen hearings are scheduled, the one at New York having been held on December 18, 1930.

The Port Authority entered an appearance at the hearings preparatory to taking such action as may subsequently appear necessary to protect the interests of the port.

Miscellaneous Investigations

In accordance with its obligations to protect the commerce of the port, the Port Authority has taken part in other proceedings and in activities which call for informal investigation and negotiation with Federal authorities, transportation agencies and shippers. A few of the important ones are:

Lumber Loading Charges

Following informal negotiations, the Port Authority participated in a public hearing before the Trunk Line Association on March 24th to consider the question of absorbing lumber loading costs at New York on the same basis as at Philadelphia, Baltimore and Wilmington. The Port Authority has been advised by the rail carriers that disposition of this matter would be deferred pending the disposition of litigation affecting practices in New York Harbor now being considered in the complaint of the State of New Jersey, I. C. C. Docket 22824, and New Jersey Traffic Advisory Committee, I. C. C. Docket 23040.

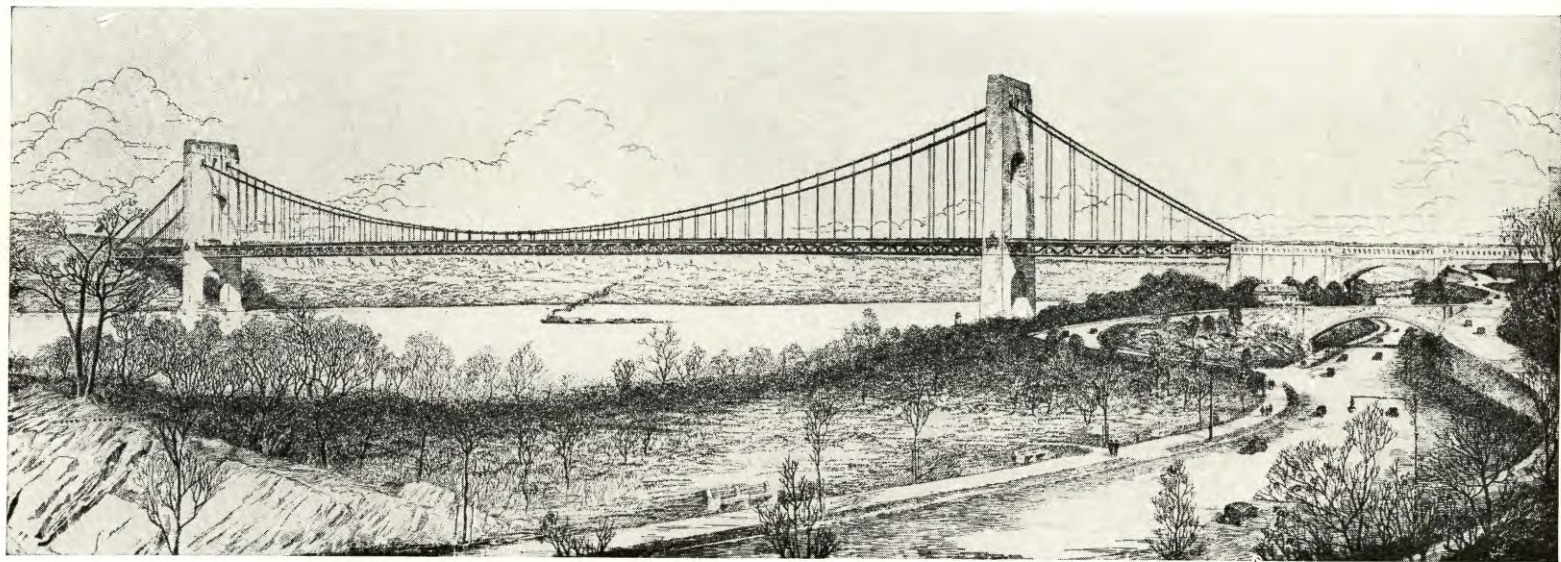
Westbound Ocean Rates

Contract rates on wood pulp from Scandinavian ports to the North Atlantic seaboard during 1930 provided for differential rates in favor of Baltimore and Norfolk over New York. The Port Authority negotiated informally with interested steamship lines with the result that the differential will be removed in 1931 contracts, and all North Atlantic ports placed on a parity.

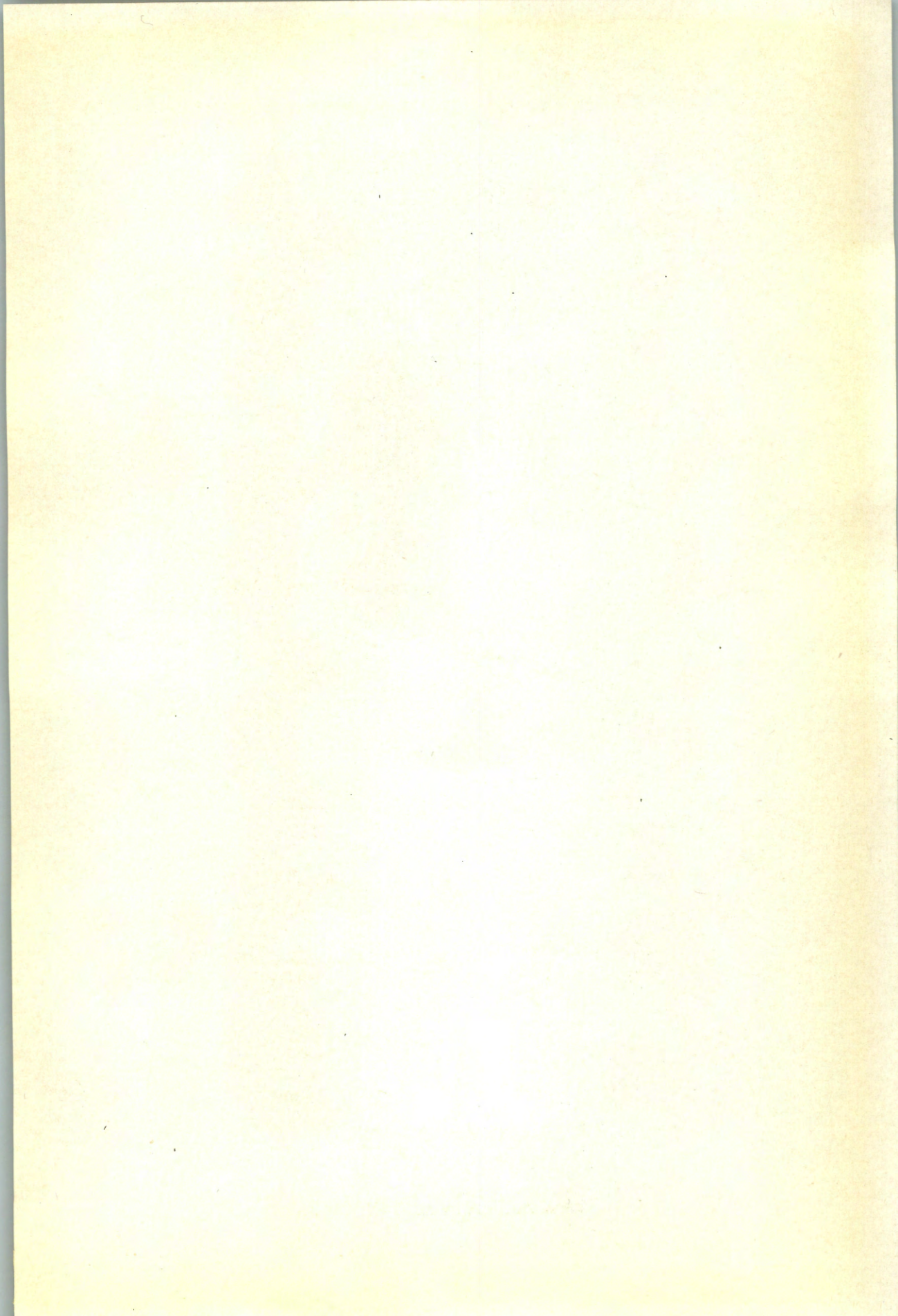
Iron and Steel Proportional Rates

Since the refusal of the Interstate Commerce Commission to grant the request of the Port Authority to reopen the Iron and Steel Rates Investigation, I.C.C. Docket 17000, Part 6, for the purpose of obtaining specific findings as to the rates applicable between the Port of New York District and New England, and rates applicable on iron and steel moving through the ports for subsequent inter-coastal haul by water, the Port Authority has negotiated informally with the carriers for the adoption of proportional rates on iron and steel moving beyond the ports by water, preserving the long-standing port differentials applicable to export and import traffic. On February 19, 1930, a public hearing was held before the Trunk Line Association which resulted in such a confusion of shippers' views that the carriers were unable at the time to

adopt the Port Authority's recommendations. The Port Authority has since continued its negotiations with various steel shippers in an attempt to compose their differences, and arrange for another hearing at which time the Port Authority will again advocate the adoption of proportional rates that will continue the old port differentials.



Perspective of the Hudson River Bridge between Fort Lee, New Jersey, and New York City



SECTION II—CONSTRUCTION

Part I—Bridges

Hudson River Bridge

Substantial progress has been maintained during the past year in carrying out the construction program of the Hudson River Bridge. Cable spinning operations of unprecedented magnitude have been completed with noteworthy success. This was done in advance of schedule and in time to permit the erection of the complete main span floor system and a large percentage of the side span floor system before the advent of severe winter weather. Work on the approaches has also been started and is being carried forward rapidly. Unless unforeseen delays should occur, it may now be expected that the bridge and approaches will be completed in the initial stage and opened for traffic in the latter part of 1931.

At the beginning of the year 1930, the two steel towers had been completed; rock excavation for the New Jersey anchorage had been finished; the anchorage steelwork had been concreted in place; the initial construction of the New York anchorage had been completed; cable spinning operations had been started and about ten per cent of the wires had been put in place; and the demolition of buildings in New York in preparation for the construction of the New York approach was under way.

During the year 1930, construction contracts amounting to a total of \$3,787,244.50 were awarded, as follows:

Main Approach Ramp of the New York Approach	\$ 746,679.00
Construction of Vehicular Tunnel in West 178th Street.....	1,756,945.00
Riverside Drive Connections of the New York Approach.....	995,969.00
Excavation and Miscellaneous Construction for the New Jersey Approach	287,651.50

These contracts, together with the contracts previously awarded, represent a total of \$29,829,577.81 for construction contracts to date.

The spinning of the bridge cables, which had been started on October 18, 1929, was completed on August 7, 1930. The spinning operations,—thus completed in less than ten months,—established a new record for speed in the construction of parallel wire cables. In that time, a total number of 105,896 wires had been strung across the river. These total 107,000 miles in length.

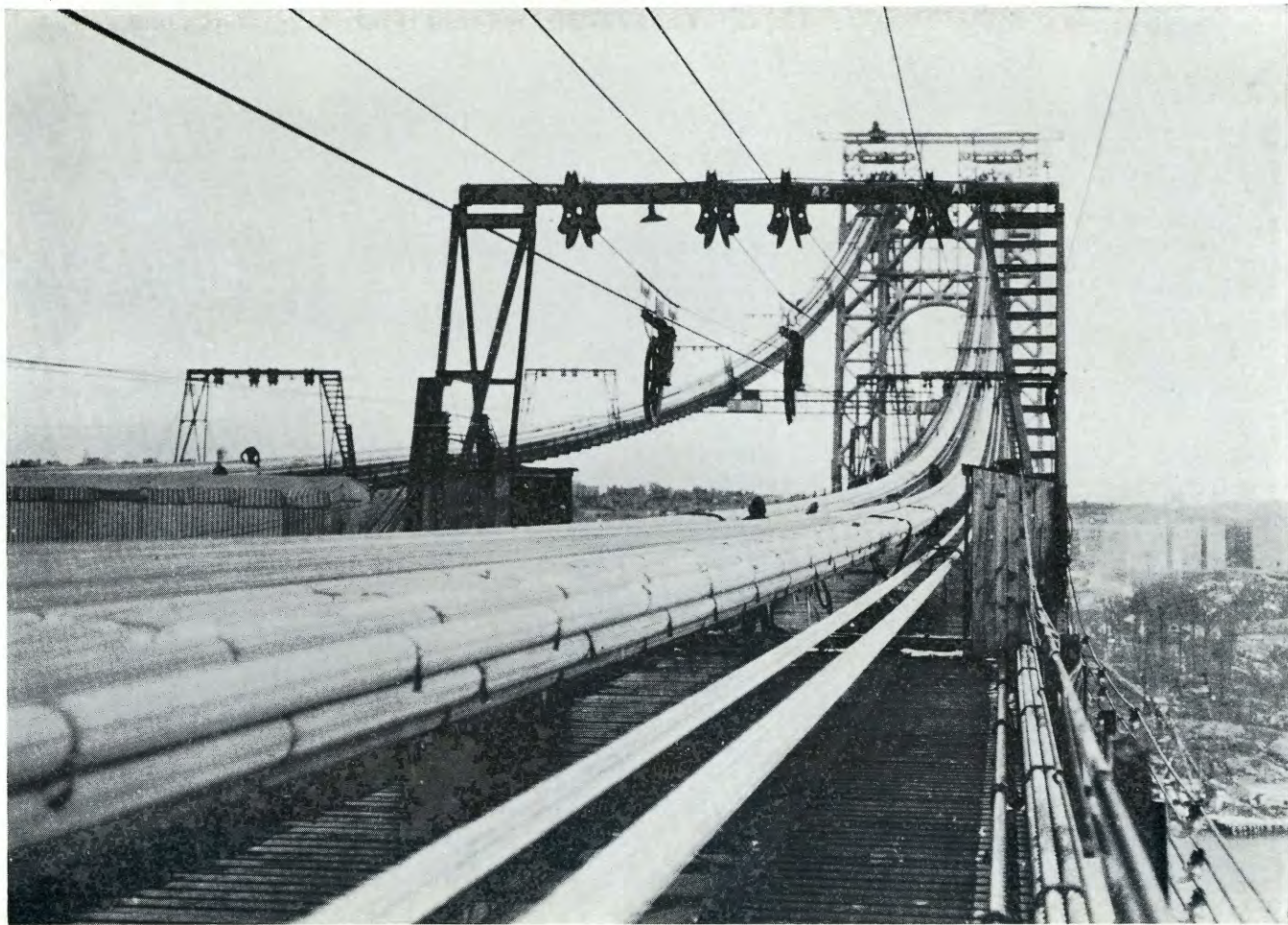
Following the compacting of the cables into the circular section of approximately 36-inch diameter, the cast steel cable bands for holding the suspender ropes in place were clamped to the cables and the footbridge ropes were removed, cut, socketed and erected as suspenders.

Erection of the first panels of floor steel in the main span of the bridge adjacent to the towers was started on October 28, 1930. The work was carried forward rapidly. The closing members were erected at mid-span on December 29, 1930. The structural material for the side spans is about fifty per cent erected.

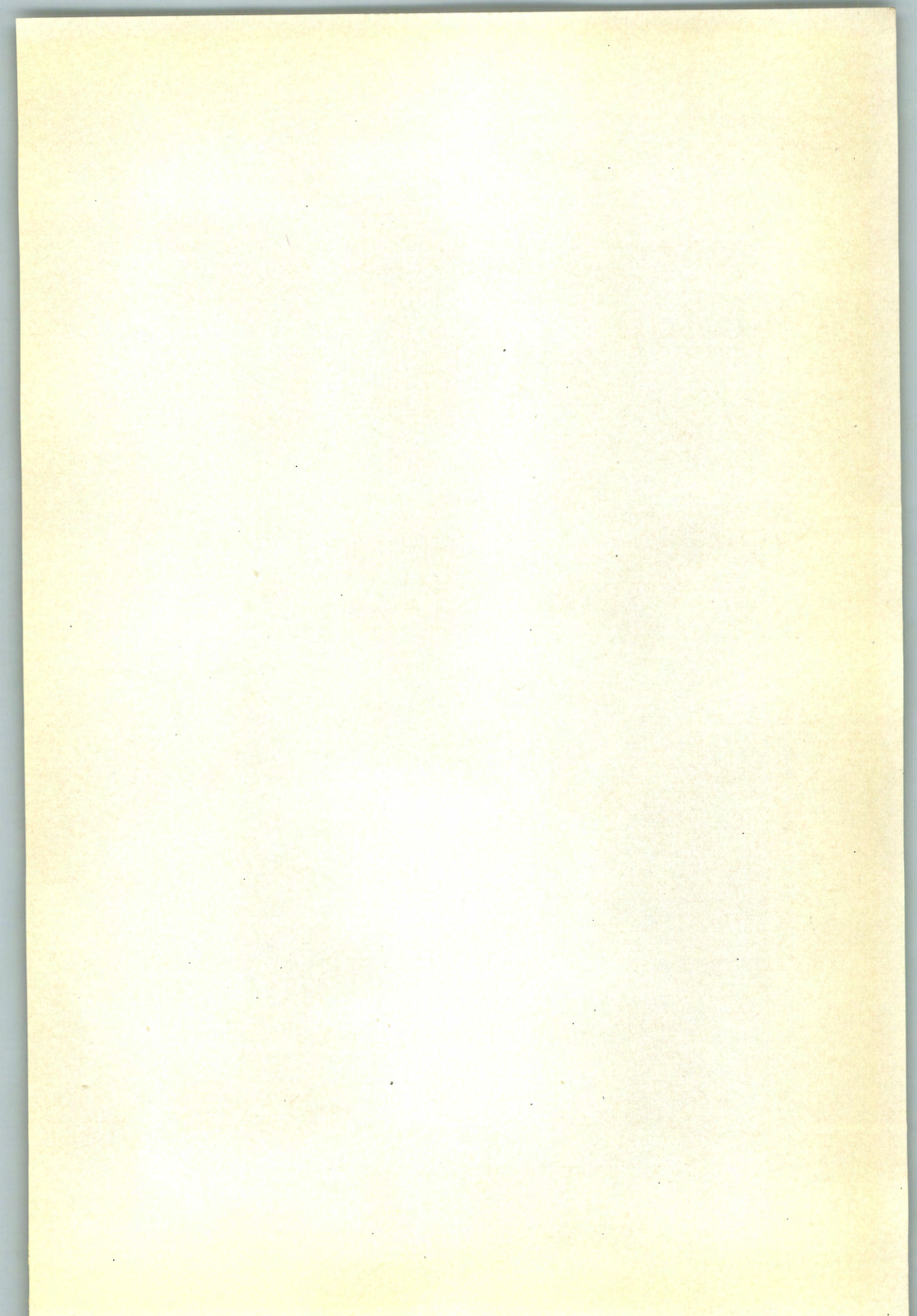
Negotiations between the Port Authority and the City of New York in regard to the New York Approach were finally consummated during the year. Similarly, for the New Jersey Approach, agreements have been concluded between the Port Authority and the State Highway Commission, the County of Bergen and the Borough of Fort Lee.

On the New York side, construction operations are now in progress on the main portion of the approach, including the arch over Riverside Drive, the approach ramp to Fort Washington Avenue and the vehicular tunnel in West 178th Street between Fort Washington and Amsterdam Avenues. The Riverside Drive connections to the New York Approach are also under construction.

On the New Jersey side, rock excavation has been completed for extending the approach roadways from the anchorage to Lemoine Avenue, where connection will be made with highways under construction by the State High-

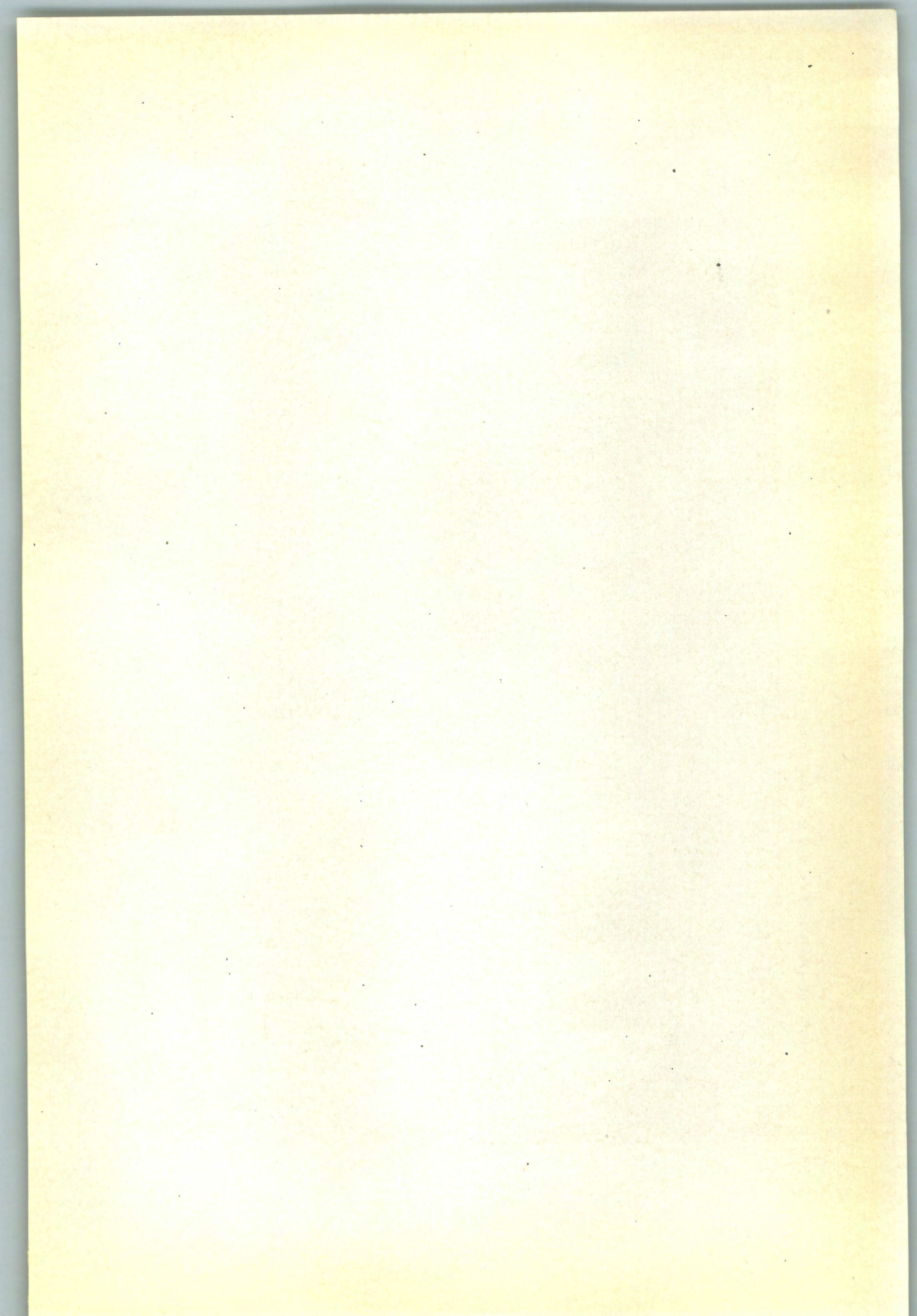


HR-1068-A—Cable Spinning Operations. View at Center of Main Span on February 27, 1930, with Spinning 30 Per Cent Completed.



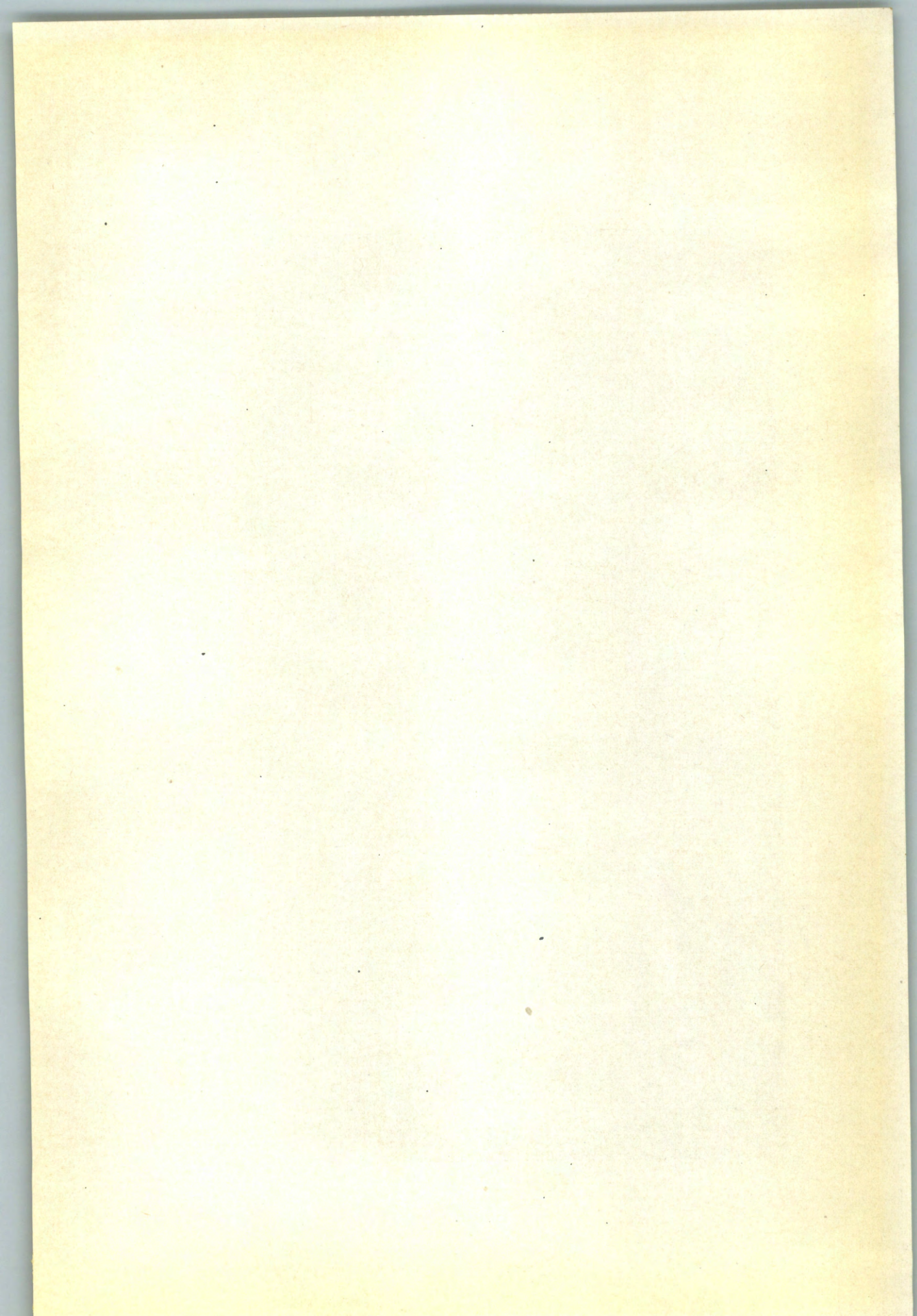


HR-1257—Floor Steel Erection near Middle of Main Span. Status of Work on December 10, 1930





HR-1281—Aerial View of Hudson River Bridge Showing Status of Construction on December 13, 1930



way Commission. Foundations and abutments have also been constructed for an overhead crossing of the approach at Hudson Terrace.

In addition to the work already in progress, plans have been prepared for a contract providing for the remaining construction to complete the roadways on the New Jersey Approach and this portion of the work was placed under contract early in January, 1931. All other operations necessary to the completion of the initial stage of the bridge construction have been scheduled for placing under contract during 1931.

A special progress report on this project is being prepared.

Kill van Kull Bridge

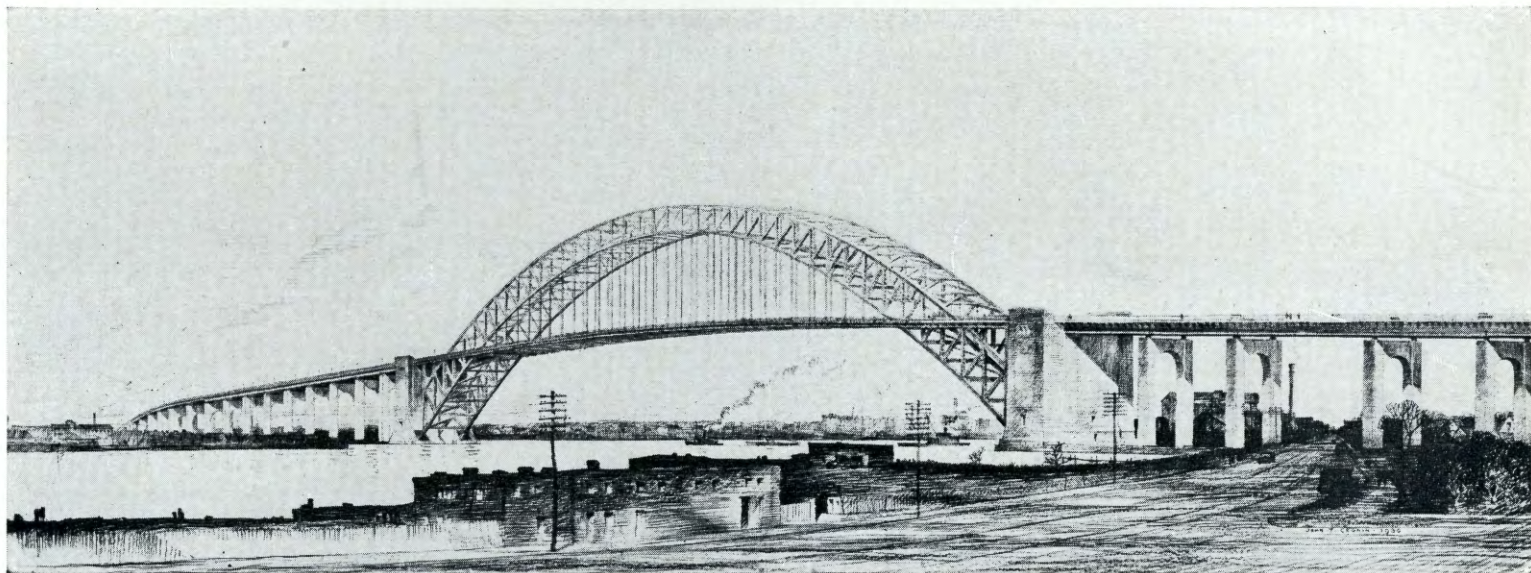
The erection of the steel arch for the main structure of the Kill van Kull Bridge was completed during the past year. Erection of the arch had been started in September, 1929, on the Staten Island side. The arch was erected in two sections, each section being built from the abutment toward the center of the river channel, and during erection was supported by falsework bents. The river channel at the bridge site is near the Staten Island abutment. This fact influenced the location of the falsework bents and the two arch sections were, therefore, of unequal length, the Port Richmond section consisting of fourteen panels and the Bayonne section of twenty-six panels. The Port Richmond section was erected first; the erection equipment was then removed and used for the erection of the Bayonne section of the arch. The two sections were successfully joined and the arch swung free of its temporary supports on October 4, 1930.

The floor steel in the arch span is suspended from the arch trusses by wire rope hangers. Approximately sixty per cent. of the steel floor system has been erected. This work is proceeding rapidly and will be completed early in 1931.

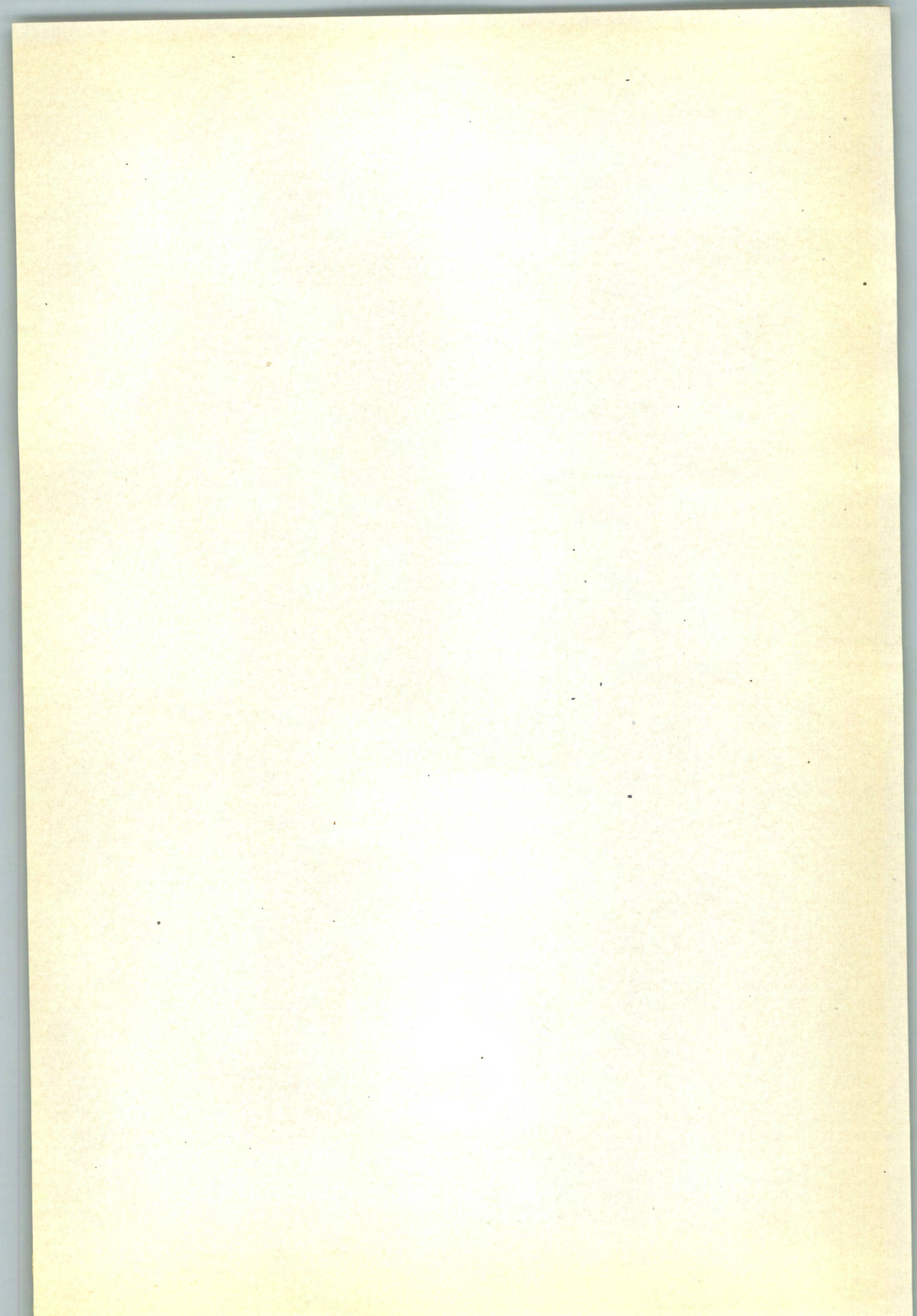
The erection of the steel for the Bayonne Approach, with the exception of two spans which are to be erected in connection with other construction on the approach, was performed during the year. The erection of the Port Richmond Approach was deferred until the completion of the arch in order to permit the use of certain approach girders in the falsework bents which supported the arch sections. Rapid progress is now being made on this erection which will be completed early in 1931.

Contracts are in course of preparation for the remaining portions of the approaches and for the paving and other equipment for the entire bridge. It is anticipated that the structure will be opened to traffic in the latter part of 1931.

A special progress report on the project is being prepared.

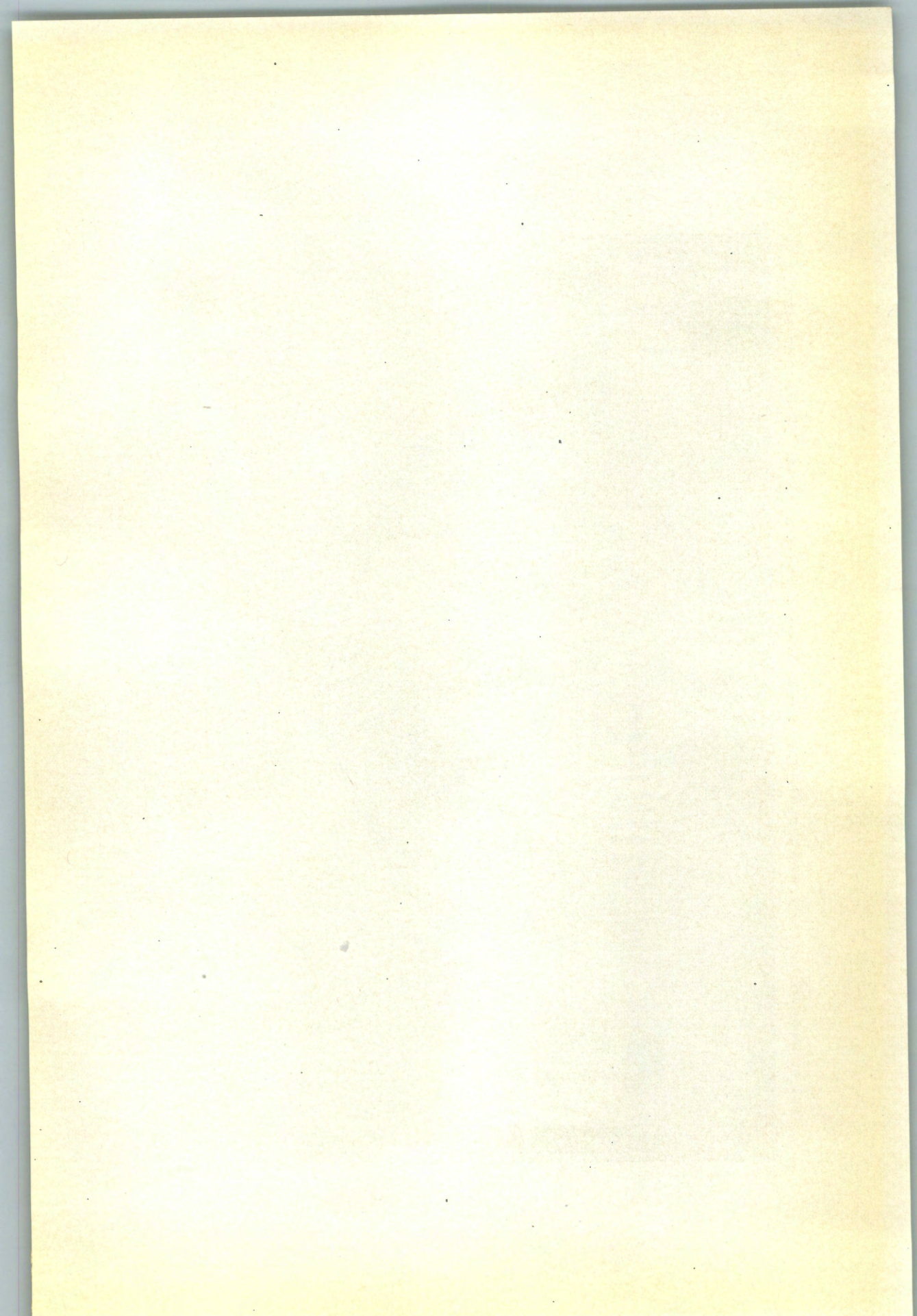


Perspective of the Kill van Kull Bridge between Bayonne, New Jersey, and Port Richmond, Staten Island, New York



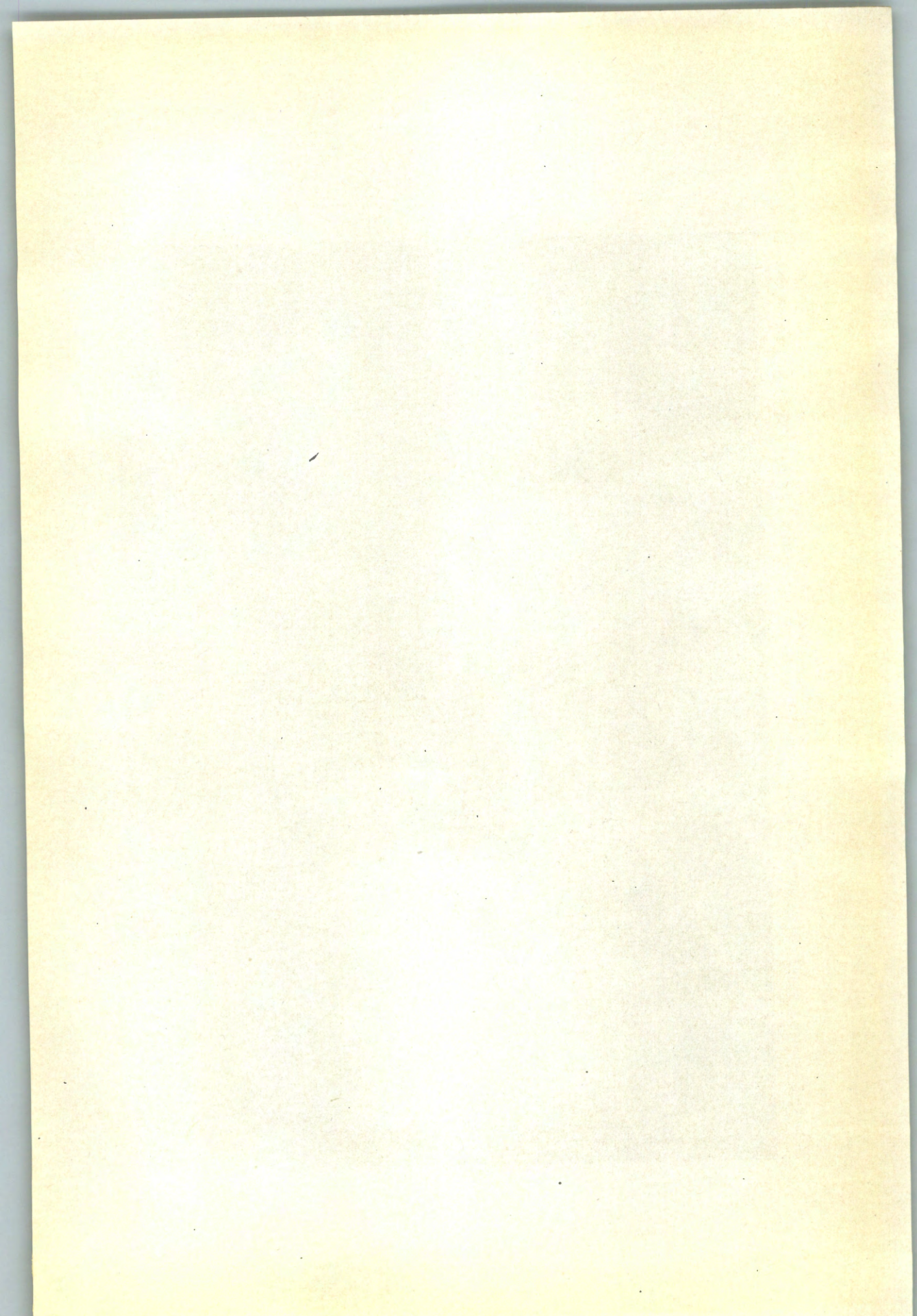


BP-571—Arch Erection Showing Falsework Supports. Traveler Working on Bayonne Section on September 18, 1930



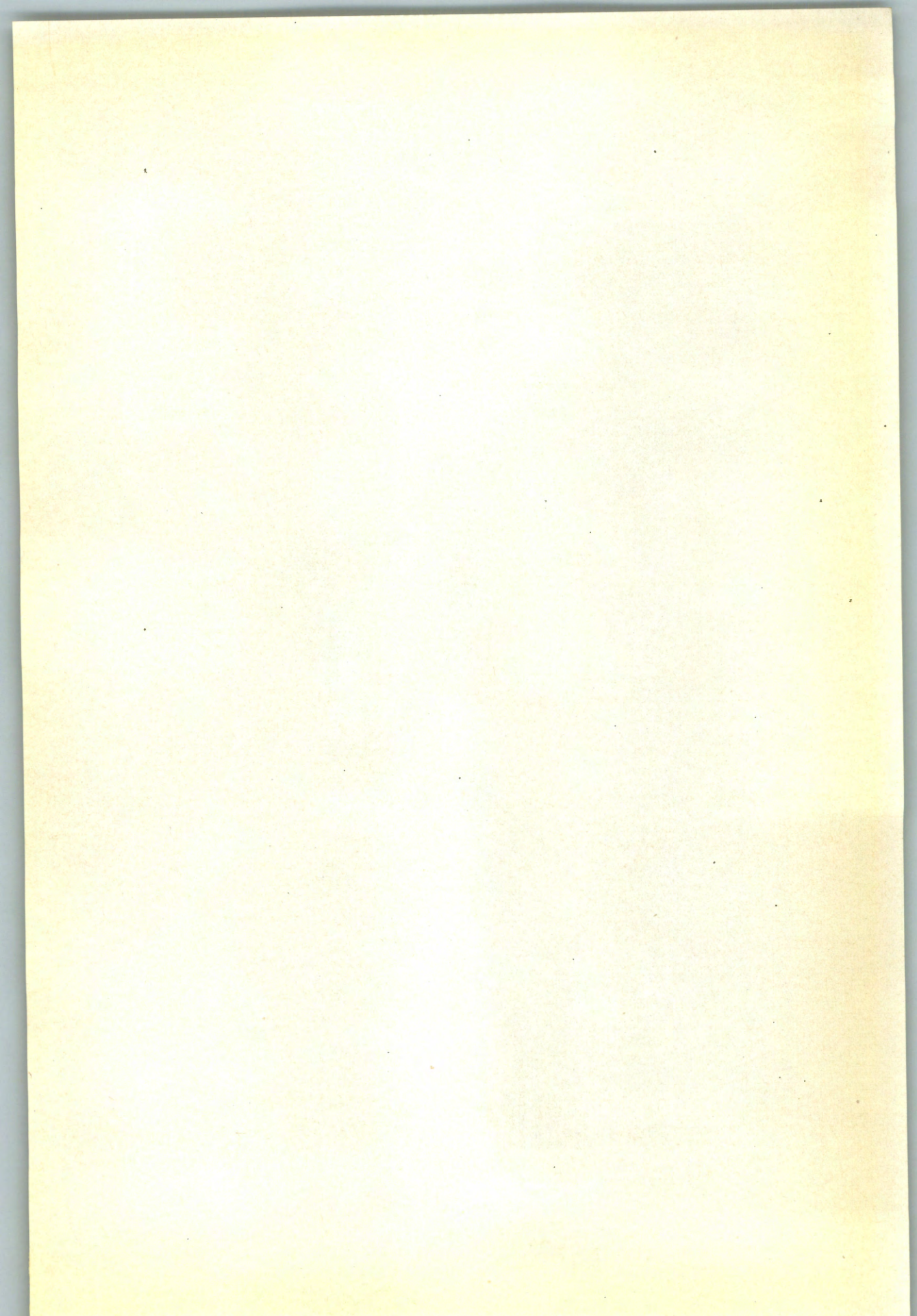


BP-586—Aerial View of Kill Van Kull Bridge. Port Richmond Approach in the Foreground. View Taken Following Joining of the Two Arch Sections on October 4, 1930





BP-599—Erecting Floor Steel on Kill Van Kull Bridge. Port Richmond Abutment in Foreground. Status of Work on December 17, 1930



SECTION II—CONSTRUCTION

Part 2—Tunnels

Holland Tunnel

During the construction of the Holland Tunnel the Bridge and Tunnel Commissions of the two States entered into an agreement with the City of New York for the construction of a pier at the tunnel site, the location of the pier to be such as to span the tubes and afford protection to them. This contract, dated June 6, 1922, provided for the construction of the pier by the City subject to the approval and under the supervision of the Chief Engineer of the Commissions.

Under a contract between the Department of Docks of the City of New York and Allen N. Spooner & Son, Inc., construction of the pier was undertaken in the fall of 1930. To protect the tubes during construction provision was made in the contract regarding the conduct of the operations.

In accordance with the agreement with the City, the Port Authority, in succeeding the Commissions, has undertaken the approval and supervision of the pier construction, to which end a staff of engineers and inspectors has been maintained on the work. To facilitate close coordination of observation and control during pile-driving operations telephone connections have been provided between the surface plant and the tubes. Daily inspections of the air ducts and surveys through the tubes have been made to detect promptly any damage or movement. At the close of the year the pile-driving operations are more than half completed without damage to the tunnel.

A permanent plaza office on Freeman Square, Manhattan, was completed for the use of the Tolls and Tellers Division, to replace a temporary wooden structure. The contract was let on December 18, 1929 to the lowest bidder —

Balaban-Gordon Company of New York, for \$51,490 after public bids were received and opened.

Midtown Hudson Tunnel

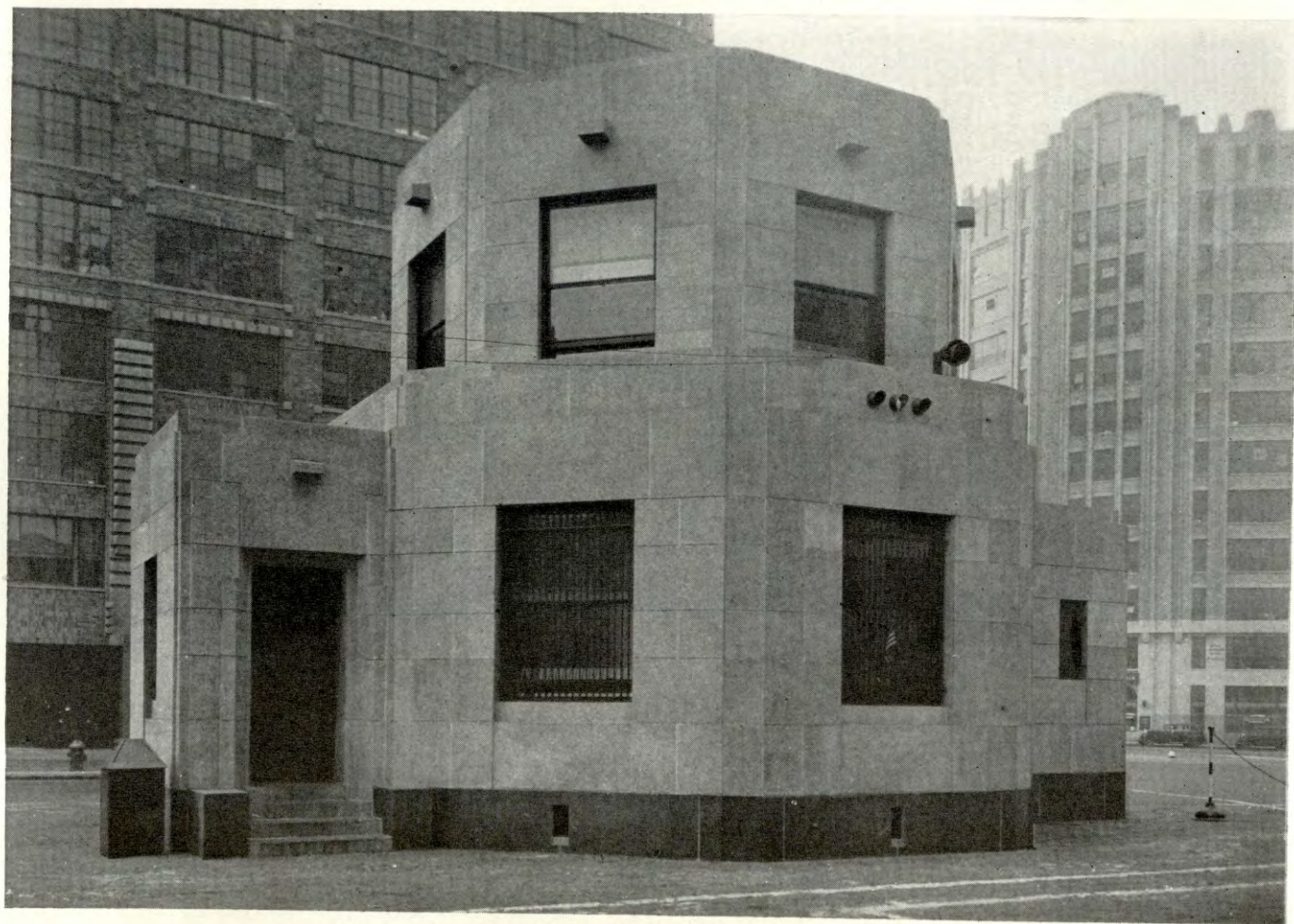
In accordance with the authorization of the Legislatures of New York and New Jersey on April 21, 1930, studies have been made covering all phases of the preliminary investigation of a tunnel for vehicular traffic under the Hudson River, between Midtown Manhattan, in the vicinity of 38th Street, and points opposite in New Jersey. The preliminary investigation has included extensive traffic studies, topographic surveys, triangulation and borings, design studies, approach studies, real estate appraisal and estimates of cost of construction.

A report on the preliminary investigations for the project has been submitted to the Governors and Legislatures of the two States. Its principal conclusions may be briefly summarized as follows:

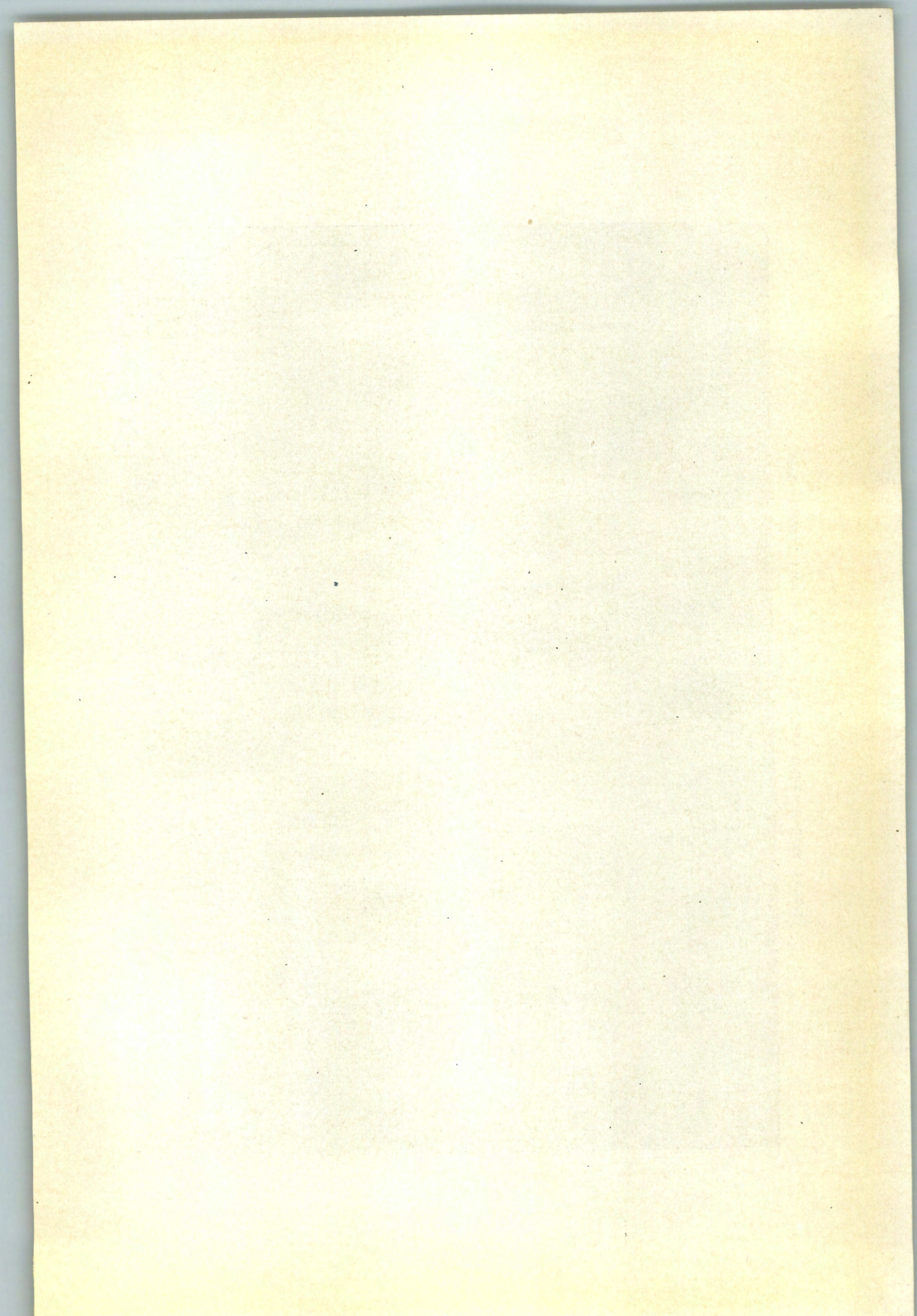
1. A demand for a vehicular crossing opposite the Midtown Manhattan area is indicated by the traffic studies,—a demand which cannot be met by the Holland Tunnel because of capacity limitation, nor by the Hudson River Bridge which is located seven miles to the north in upper Manhattan and will serve other traffic demands.

2. A location of the Manhattan terminus of the tunnel in the vicinity of 38th Street, west of Ninth Avenue, is considered advantageous. It permits most direct connection with the proposed East River Tunnel at 38th Street to be constructed by the City. Such connection may be established by the proposed Cross-town Tunnel under 38th Street, should the latter be constructed.

3. For the new Jersey Approach a five-lane open cut highway with connections with local highways at Weehawken east of the Palisades, connection with the Hudson County Boulevard on top of the Palisades and a terminus in the vicinity of the intersection of State



2609—General View of New York Plaza Office—Holland Tunnel



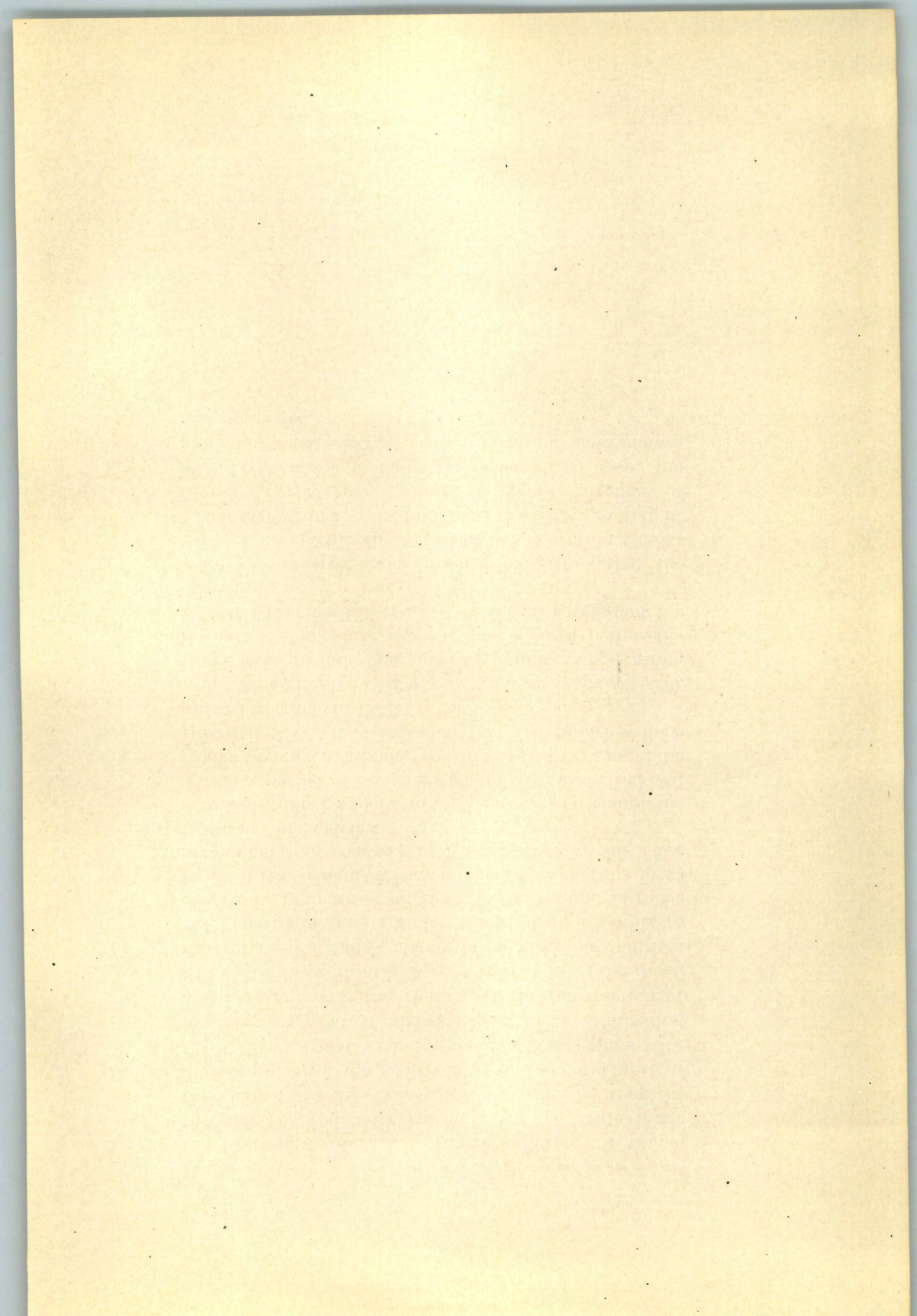
Highway Routes Nos. 1 and 3 at Homestead, west of the Palisades, offers a workable solution. A tunnel through the Palisades consisting of separate bores each with two traffic lanes carrying traffic between the Jersey portal of the river tunnel and a point west of the Palisades and with the desired connections with local highways at Weehawken east of the Palisades, and a terminus in the vicinity of the intersection of State Highway Routes Nos. 1 and 3 at Homestead, west of the Palisades, also offers a workable solution.

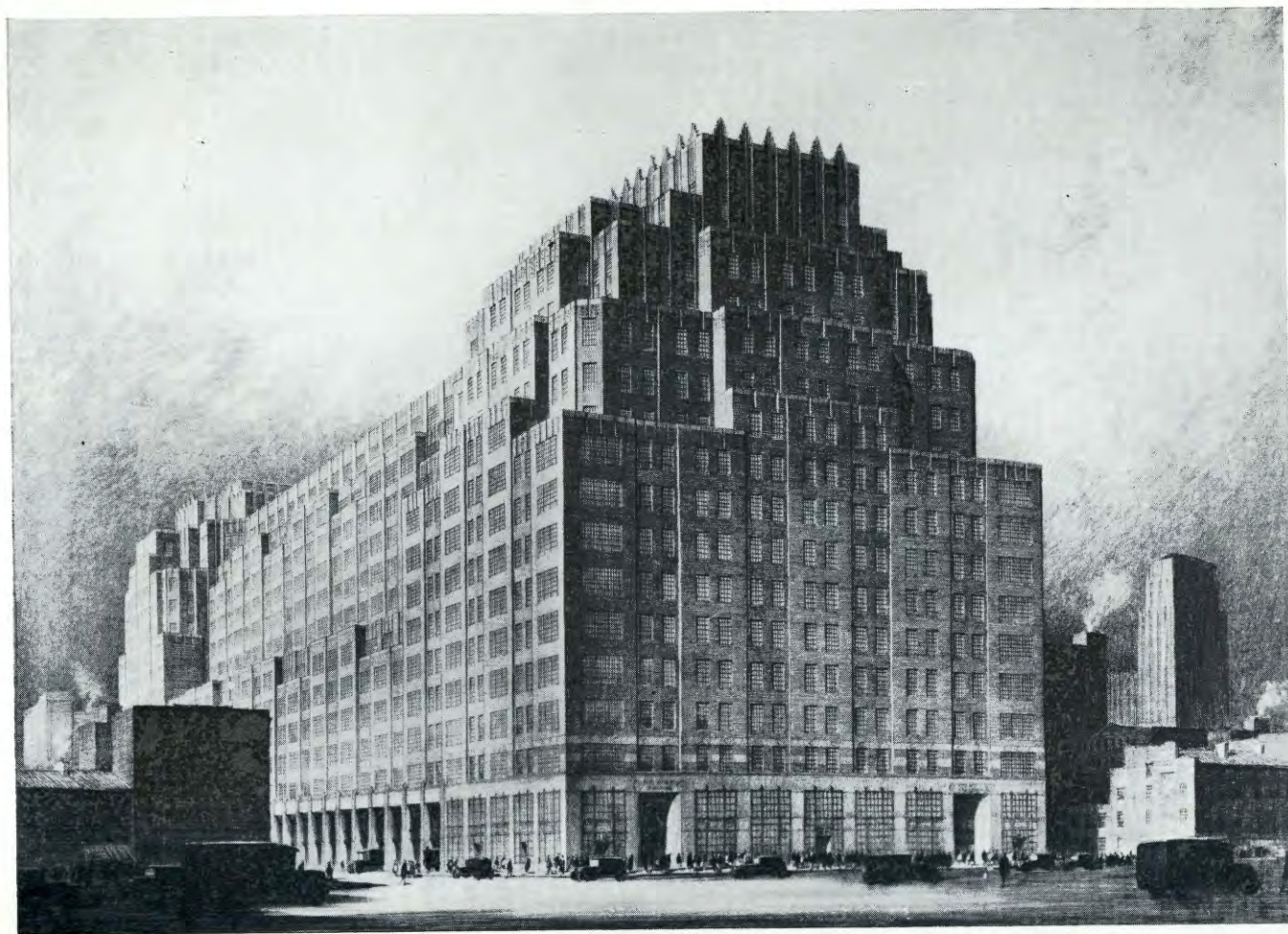
4. The main tunnel under the Hudson River is to consist of twin tubes of 31 ft. diameter and is to be built by the shield driven method. Each tube is to accommodate a roadway at least 21 feet in width for two lanes of vehicles.

5. The tunnel and its approaches can be completed within a period of six years after it is authorized and funds become available, so that if funds should be raised in 1931, it is expected that the tunnel will be opened to traffic in 1937.

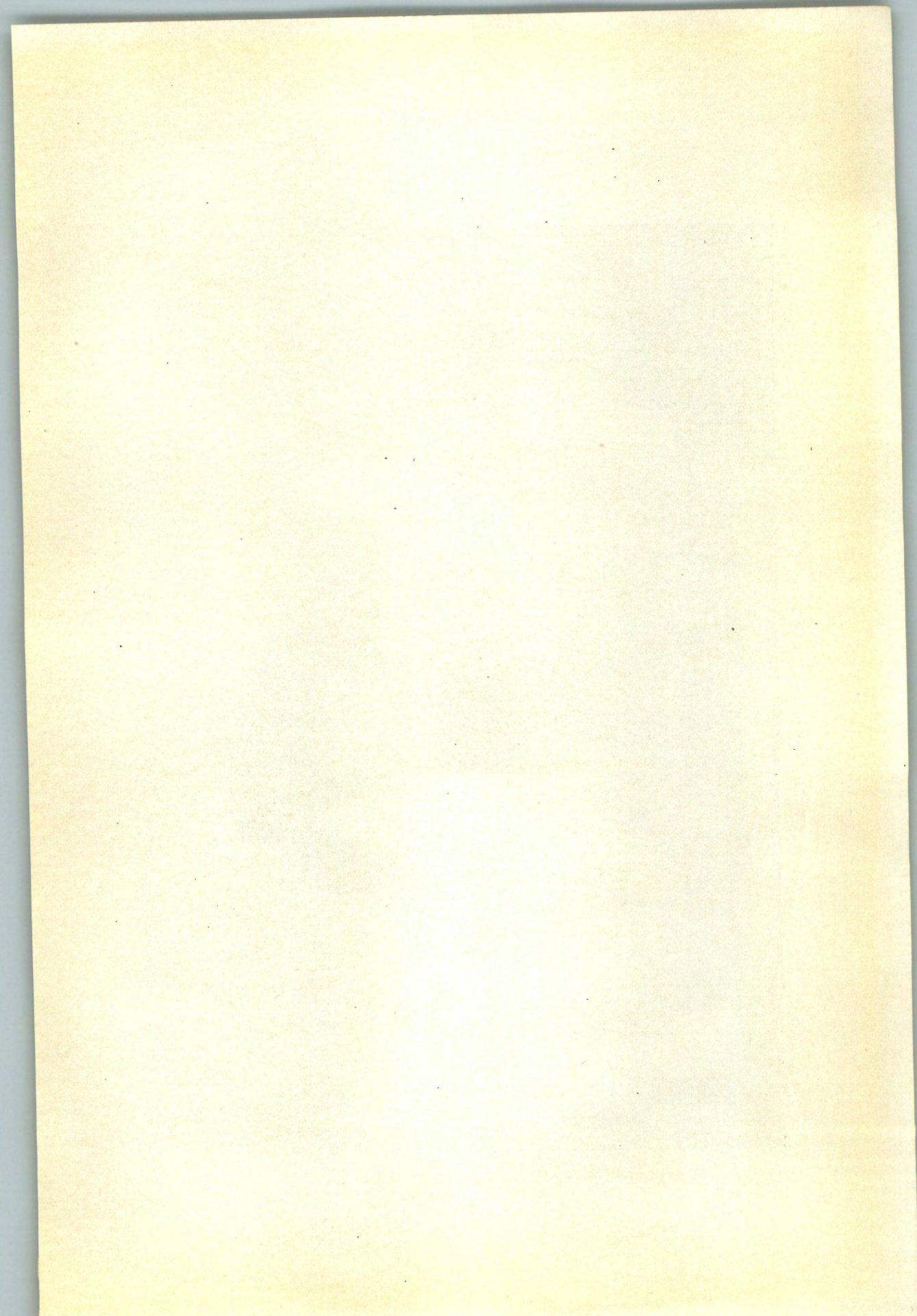
6. The estimated cost of the crossing is \$96,000,000, which cost includes engineering and administration, the cost of real estate, interest during construction, the cost of financing and the cost of initial equipment for operation.

7. Conservative traffic analysis indicates that the total traffic during the first year of operation will be 12,500,000 vehicles yielding, with an average toll of fifty-five cents per vehicle, a gross revenue of \$6,875,000, which is more than enough to cover the annual interest charges, administration, maintenance and operation.





Perspective of Inland Terminal No. 1



SECTION II—CONSTRUCTION

Part 3—Inland Terminal

Inland Terminal No. 1

During the year, negotiations with respect to a contract with the Railroads had progressed to such an extent that it was deemed advisable to proceed toward the preparation of the proposed inland terminal site for construction purposes. The firm of Abbott, Merkt & Company of New York City, had already been retained to act as Engineer-Architects and had made some preliminary studies. They were instructed to proceed as rapidly as possible with the detailed plans. Mr. Aymar Embury II was retained as Consulting Architect.

On July 2, 1930, a contract was let to Philip J. Healy, Inc., for borings, and this work was completed on December 29, 1930.

On December 17, 1930, bids were received for the demolition and removal of all structures on the site. The Klosk Contracting Company, the low bidder, was awarded the contract and the actual razing commenced early in January, 1931.

It is anticipated that bids for excavation and foundation will be received within three months and for the superstructure within approximately six months, which will permit the completion of the terminal by September, 1932. The railroad facilities will be in operation prior to that time.

The proposed Inland Terminal fronts on two 100-foot Avenues and is flanked by two "one-way" 60-foot Streets. It is served by surface cars and an elevated railroad on one frontage. It is served by surface cars and the new 8th Avenue subway, to be in operation prior to the completion of the terminal, on the other frontage. It is accessible from an additional subway line (14th Street) one block removed

from and parallel to a flanking street. A direct entrance to a common station of the 8th Avenue and 14th Street subways is located in the building. It is but one and one-half block distant from a group of piers serving transatlantic lines. It is centrally located (North and South) in the largest package freight center of the world. It will serve and be served by all railroads entering New York by means of shuttle automotive equipment between the various railheads and the terminal. Incoming freight from all railroads will be classified and grouped for individual consignees ("One pick-up"). Outgoing freight from all merchants will be classified and grouped for shipment by individual railroads ("One dump"). All rail activities such as loading, unloading, sorting and classifying will be accomplished with no interruption to or from normal street pedestrian or vehicular traffic.

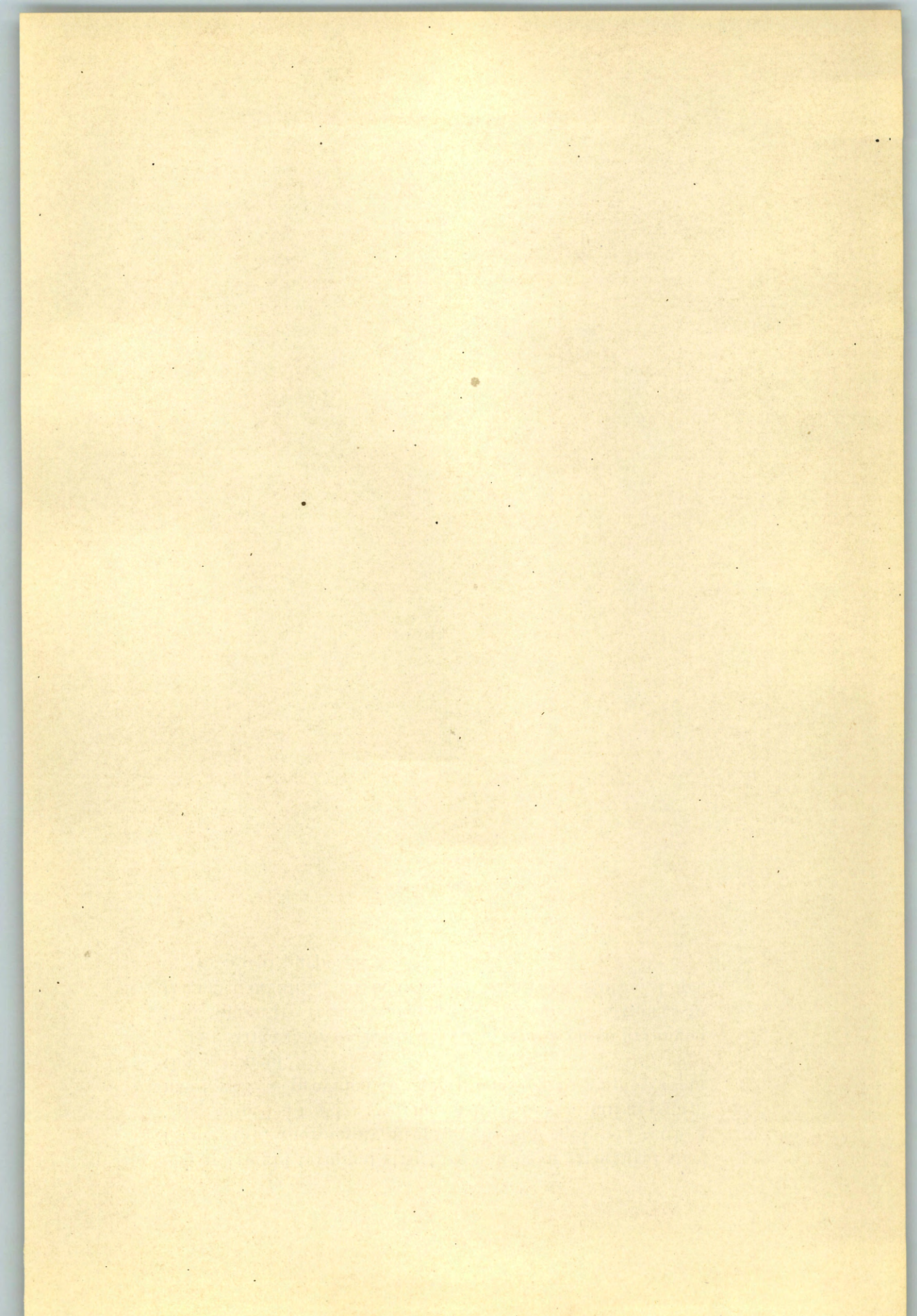
The basement and ground floors will be reserved for freight purposes. The structure composing the fourteen additional floors will accord with the requirements of the building code of the City of New York. The "air rights" commercialized occupy a volume of thirty million cubic feet, approximately eight per cent of which will be store and office space, and ninety-two per cent the most modern loft space construction.

The building will enclose 2,373,140 square feet (gross) of floor space; 152,940 square feet (gross) of which will be for office building purposes and will provide for 112,260 square feet (net) of stores and offices, 282,650 square feet (gross) assigned to Freight Terminal purposes, 1,842,000 square feet (gross) to lofts and light manufacturing purposes, and 95,550 square feet (gross) will be occupied by power, lighting, and heating equipment and service facilities.

Those parts of the structure dedicated to freight usage, consist of ramps connecting Fifteenth and Sixteenth Streets with the basement, which, except for elevator pits, elevator inspection and repair space, and necessary fire exits, is to be occupied by driveways, freight platform, valuable-package room, locker rooms, toilets, mobile equipment repair shop, and employee's lunch room.

The freight terminal structure will be of structural steel framework, thoroughly fireproofed and equipped with a "dry pipe" sprinkler system. Adequate ventilating equipment will be provided to assure comfort to employees in the basement.

The street floor on Eighth Avenue has been so arranged that the entire frontage, except for the main entrances to the office building, can be occupied by a bank, stores, shops, or for allied purposes.



SECTION III—OPERATION OF INTERSTATE VEHICULAR CROSSINGS

Part 1—Holland Tunnel

Since April 21, 1930, the Holland Tunnel has been operated by the Port Authority as agent for the two states. This report, however, covers the entire calendar year. The operation and maintenance of the tunnel continued throughout the year without interruption or serious accident.

Personnel

The number of employees at the tunnel has been reduced from 451 on January 1, 1930 to 437 on December 31, 1930. This decrease can be ascribed to the transfer of auditing and bookkeeping forces to the main office of the Port Authority after the reorganization. There have been minor additions and reductions in other classes of employees. In spite of traffic increase however, there are now 195 policemen employed, whereas on January 1, 1930, the payroll carried 199.

The medical division has continued its efforts to protect the health of the tunnel employees with the result that the number of absences due to illness, have been relatively small. The medical staff is also continuing its investigation and tests in an endeavor to ascertain the effect of working conditions in the tunnel, particularly the effect of carbon monoxide gas on the blood of those men exposed to it. Some valuable scientific data will eventually emanate from these studies.

Tolls

The current toll schedule was continued in effect, with nine classifications. During the course of the year certain minor changes were made in the existing regulations affecting chiefly the allowed lengths, widths, heights and

overhang measurements of vehicles permitted in the tunnel without special permit. These amended regulations, effective August 1, 1930, are as follows:

The present standard toll rates will prevail, without permits, for vehicles with the following limiting dimensions:—

<i>Length</i> —overall, including load	
Single vehicle	45 ft.
Semi-trailer or truck or tractor with 2-wheel trailer	75 ft.
Truck or tractor with 4-wheel trailer	85 ft.
<i>Width</i> —overall, including load.....	8 ft.
<i>Height</i> —overall, from roadway.....	12 ft. 6 in.
<i>Side Overhang</i> —beyond steel rim of wheel	11 in.
<i>Capacity</i> —Truck or trailer.....	10 tons
<i>Capacity</i> —Semi-trailer	15 tons
<i>Axle Load</i> —Not to exceed.....	12 tons

Vehicles in excess of the above limiting dimensions and not exceeding those given in the following schedule, are permitted to use the tunnel between the hours of midnight and 7:00 A. M. (except when traffic is too heavy, as on certain Sunday nights), on the payment of a single toll equal to double the usual toll for the particular type of vehicle concerned.

MAXIMUM DIMENSIONS OF VEHICLES FOR WHICH PASSAGE IS PERMITTED BY THE TOLLS DIVISION

<i>Length</i> —overall, including load	
Single vehicle	90 ft.
Semi-trailer or truck or tractor with 2-wheel trailer.....	90 ft.
Truck or tractor with 4-wheel trailer	90 ft.
<i>Width</i> —overall, including load.....	10 ft.
<i>Height</i> —overall, from roadway.....	12 ft. 6 in.
<i>Side Overhang</i> —Beyond steel rim of wheel	18 in.

No charge is to be made for the survey of a vehicle on tunnel property, but when such survey is made off of tunnel property, a charge of \$10.00 is collected.

Vehicles permitted passage through the tunnel on a special permit or survey are provided with a police escort to prevent other vehicles passing same in tunnel.

Traffic

Traffic showed the usual seasonal variations, the lowest month was February with 772,329 vehicles and the highest was August with 1,148,094 vehicles. Truck traffic on weekdays constituted over sixteen per cent. of the total weekday traffic. The average daily traffic was 33,059; the average Sunday and holiday traffic 46,606 and the average weekday traffic 30,287. For eight consecutive months during the past year traffic in excess of one million vehicles per month used the tunnel as compared with only four such months in the prior year.

A total of 12,066,777 vehicles used the tunnel this year compared with a total of 10,977,910 during the year 1929, an increase of 1,088,867 or approximately ten per cent.

Control of Traffic

Due to a change in regulations effective August 1, 1930, fewer vehicles now require special permits and the police were relieved from the duty of attending special permit vehicles. The completion of the office on the New York Plaza eliminated the necessity for police protection at that point.

Despite the increase in traffic there has been a decrease in the number of summons and arrests, as well as in the number of vehicles stalled on account of lack of gasoline.

The police emergency squad responded to 286 calls to extinguish fires and remove wrecked or stalled vehicles, and there were 135 fires in the tunnels and on the plazas which were extinguished by patrolmen on duty. There were 624 cars towed out of the tunnel by tractor emergency truck or other working equipment.

A total of 645 flat tires were changed in the tunnels.

There were 524 collisions on tunnel property of which 127 vehicles were recorded as colliding with stanchions, lanterns, toll booths, etc. The balance, 397, came in contact with other vehicles; 218 of these were in the tunnels and 179 on the plazas.

Tunnel police made 130 arrests (resulting in ninety-five per cent convictions), served 479 summons and issued 2,591 warning cards for minor violations.

Improvements and Changes

The number of operating speeds of fan motors was changed from three to five by the addition of electrical equipment on the contactor panels. These additional speeds give a more even range of power for increased requirements of air and are effecting economies.

The lot in the rear of the New Jersey administration building was graded and paved for storage space, this contract having been let after public bidding, to the lowest responsible bidder, Lettieri & Bellezza Company, in the sum of \$1,975.

There were purchased a milling machine, a drill press, an air compressor and a lathe, to take care of heavier maintenance work.

Early in the year twenty-five cash registers, which had been in continuous use since the opening of the tunnel and each of which had handled over one million transactions, showed signs of breakdown, and twelve were replaced by new machines.

The Silica Gel air-drying equipment, contracted for last year to replace the use of sulphuric acid, has been in successful operation since July on four of the fourteen recorders. Other improvements have been made on these recorders and research is being carried on further to improve this equipment which constitutes the key of the ventilation system.

The preliminary tests of the photo-electric smoke-recording equipment, started last year, were continued. Although this equipment was strictly of a laboratory type and as yet impracticable for commercial use, the tests indicated that

the use of a suitable recorder of this type would materially help in providing the proper ventilation against smoke.

Revenues and Expenses

The gross income from the Holland Tunnel for the year 1930 was \$6,673,907.80, compared with a gross income of \$6,120,004.61 during 1929, an increase of \$553,903.19, or 9.1 per cent. The net income was \$5,064,136.41, compared with \$4,498,244.30 in 1929, an increase of \$565,892.10, or 12.6 per cent. The ratio of net income to gross income in 1930 was 75.9, as compared with 73.5 in 1929. Total net income was disposed of by proper credits to the two states and no part of this went directly to Port Authority account, inasmuch as this organization is acting merely as agent.

Operating revenues increased \$535,307.85, or 8.8 per cent over 1929. A greater increase which had been anticipated at the beginning of the year did not materialize. This was due to general economic conditions and also to the fact that truck traffic through the tunnel was considerably affected during the last six months of the year because of a diversion to the Cortlandt Street ferry of the Pennsylvania Railroad. This diversion was induced by a twenty-five cent reduction in motor truck tolls on that facility.

Due to reorganization and to changed methods, an explanation in all of its details, of exactly what economies have been brought about is not now practicable. It should be noted, however, that the total expenses, including the so-called "Direct" expenses, decreased \$11,988.91.

An amount of \$90,073.43 represents increases in labor charges. This was brought about partly by automatic increases in the salaries of patrolmen and others whose scale of wages increased in accordance with established standards providing for a prescribed maximum after a specified length of service. An increase of \$26,000 may be attributed directly to that policy. Due to engineering, inspection and other services incidental to the construction work being carried on by the City of New York at the proposed site of new Pier 34, labor charges increased \$17,715. The balance of the increase of \$90,073.43 above

referred to is due mainly to the fact that certain payments which had in 1929 been included in the account "Direct Expenses" were charged to account "Salaries" in 1930.

Considerable economies were effected subsequent to the reorganization which took place in May, 1930, but the results are not fully apparent in the statement of operating costs, because different methods of accounting were pursued. The account "Heat, Light and Power" shows an increase of \$23,051.20. It is only natural to expect a gradual increase in power costs, because, as traffic increases, more power is used to operate the ventilation system. However, \$21,361 of this amount is due to the fact that in establishing the accrual method of accounting subsequent to the reorganization there resulted a charge for thirteen months' electric service instead of twelve during 1930.

It is fair to assume that as time goes on, the cost of medical and hospital expenses will increase inasmuch as the volume of traffic will have a direct effect thereon. Furthermore, serious injuries to employees create a more or less cumulative expense inasmuch as the results persist from year to year, and it is necessary to place certain men on light duty. Heretofore, no workmen's compensation insurance has been carried on Holland Tunnel employees because it had been the policy of the former commissions to practically act as self-insurers. This subject, however, is now being given careful consideration.

There are other minor increases and decreases in various accounts, as may be noted in statistical section.

Miscellaneous

The average number of kilowatt hours consumed per vehicle for ventilation, lighting and auxiliary purposes for the year was .958 K.W.H., as against .988 K.W.H. for the year 1929.

Observations of the vertical and horizontal movement of the tunnels were made regularly. Both the vertical and horizontal movements of the tunnels were practically of the same magnitude and at the same points as those observed during 1928, and were entirely normal and of minor consequence.

SECTION III—OPERATION OF INTERSTATE VEHICULAR CROSSINGS

Part 2—Arthur Kill Bridges

The Goethals Bridge and Outerbridge Crossing have continued to show a growth in business. Traffic over these two bridges for the calendar year 1930 shows an increase of thirteen per cent as compared with 1929. Operating expenses were reduced almost six per cent, and net revenues increased over thirteen per cent.

These bridges were opened to traffic June 29, 1928.

Personnel

With a thirteen per cent increase in traffic for the year, and an eleven per cent higher peak during the summer months, it was found practical to operate the bridges without increase in force. On the other hand, two bridgemen were dismissed for cause; two bridgemasters resigned and two bridgemen were promoted thereby creating four vacancies that were not filled.

A gardener was employed May 16, 1930, to maintain the grounds in the vicinity of the plazas at both bridges.

Comparison of personnel follows:

	Summer 1929	Summer 1930
Superintendents	2	2
Assistant Superintendents	2	2
Bridgemasters	6	6
Bridgemen	21	17
Electrician	1	1
Gardener .....	.....	1
Totals	32	29

Having completed two years of service during the year, the rate of pay of all bridgemen was increased from six dollars to six dollars and fifty cents per day, in accordance with the established policy.

Tolls

As an inducement to increased traffic, monthly commutation rates for pleasure automobiles were established on a

trial basis for a period of three months commencing March 1, 1930. The regular single trip rate for pleasure vehicles is fifty cents plus five cents for each extra passenger. Commutation rates were established in two classes; one permitting twenty-six single one-way trips per month for eight dollars; and the other, sixty one-way trips per month for fifteen dollars; both tickets good over either bridge. The additional charge for extra passengers was continued. This trial proved successful and at the termination thereof, the modified toll was made permanent.

Slight tariff modifications were also made effective November 1, 1930, involving six and eight wheel vehicles, to facilitate auditing of collections.

Traffic

The general business depression that has existed during the past year has reflected itself in travel over the Arthur Kill Bridges. Despite this, however, bridge traffic shows an increase of thirteen per cent but this does not meet expectations. Pleasure car traffic alone shows an increase of 12.7 per cent and truck traffic 30.2 per cent, the latter being truly remarkable under the circumstances. The total traffic between New Jersey and Staten Island over both bridges and the two remaining ferries increased only 5.6 per cent.

During the year 1929, the two ferries handled 21.9 per cent of the total traffic and the Arthur Kill bridges 78.1 per cent while during 1930, the two ferries handled only 16.4 per cent and the bridges 83.6 per cent, indicative of the gradual decline of the competitive ferry traffic.

Bus traffic over the bridges has practically disappeared, the third attempt at regular service having been suspended in December 1929, on account of lack of patronage. However, the renewal of industrial activity on both sides of the Arthur Kill holds promise of this service being re-established.

The distribution of road maps and other information of interest to motorists has been continued, also the main-

tenance of highway directional signs, for the purpose of keeping these bridge routes constantly before the public.

Approach Highway Improvements

The completion of New Jersey State Highway 25 from Kearny, N. J. to Trenton, N. J. has, unquestionably, detracted from the Staten Island route, particularly with respect to through traffic to and from New York City. This highway is now the main road from New York to Philadelphia and South Jersey seashore resorts, via the Holland Tunnel.

On the other hand, the City of New York has completed the construction of its approach highways to the Outerbridge Crossing, opening the Page Street connection spanning the tracks of the Staten Island Rapid Transit at Tottenville, S. I., and affording a direct connection with Hylan Boulevard. This Page Avenue approach was opened to the public on November 22nd, but not sufficiently early to prove of substantial benefit to the Outerbridge Crossing during 1930.

At the St. George Ferries (through the cooperation of the Staten Island Chamber of Commerce, the Police Department and the Department of Docks and Ferries of the City of New York), the method of handling traffic on Sundays and holidays, was reorganized so that delays were materially reduced and the bridge route for through traffic was benefited accordingly.

During September 1929, certain Outerbridge Crossing Plaza property at Tottenville, S. I. was deeded to the City of New York, including North and South Bridge Streets, and, similarly, in March 1930, Plaza property at the Howland Hook side of the Goethals Bridge was deeded to the city. Since that time, the city has lighted, improved and maintained these properties and will continue to do so.

Continuous contact has been maintained with local chambers of commerce, boards of trade and other similar public agencies in the interest of local developments and improvements which will continue to react favorably to bridge operation and the territory contiguous thereto.

Control of Traffic

During the year, ten arrests were made on the bridges, eight for disorderly conduct and two for carrying concealed weapons and kidnapping. Nine convictions were obtained and one case is still pending. Seven warnings were issued for speeding.

Fifty-two motorists on Outerbridge Crossing and three on Goethals Bridge were assisted due to being stalled on account of lack of gasoline. Three were towed off Outerbridge Crossing and two off Goethals Bridge due to mechanical and other failures.

Nine minor automobile accidents occurred on both bridges. Two major accidents occurred on Goethals Bridge in which eight people were injured, and on Outerbridge Crossing, one major accident occurred in which one person was killed, and two injured. The cause of these accidents were beyond control of the Port Authority.

One suicide occurred on Outerbridge Crossing when a man jumped from the bridge into the Arthur Kill.

Two small automobile fires were extinguished, one on each bridge.

Revenues and Expenses

The gross income from the Arthur Kill Bridges for the year 1930 was \$840,809.70, compared with a gross income of \$750,573.44 during 1929, an increase of \$90,236.26, or twelve per cent. The net income of \$76,683.54 compared with a deficit of \$23,340.21 in 1929, an increase of \$100,023.75.

Operating revenues increased \$68,380.25, or 9.6 per cent over 1929. The increase of \$21,136.22 in miscellaneous income is due mostly to increased interest credits on accumulated funds.

It is to be noted that although there was an increase in traffic, operating expenses declined \$9,673.49, and there was also a decrease in the total deductions from gross income of \$9,787.49. The greater portion of this decrease may be attributed to direct payroll savings.

SECTION IV—INTERSTATE VEHICULAR CROSSINGS—GENERAL

The policy indicated by the legislation enacted by the two States in the early part of 1930, has apparently placed upon the Port Authority the duty of recommending not merely specific plans for one additional crossing with an unrelated plan of financing its construction, but rather to consider a complete program dealing with the entire problem of interstate vehicular traffic in the Port District.

In a separate report, recommendations have been made to the Governors and the Legislatures for an interstate policy in this respect comprehending:

1. Immediate authorization of the Midtown Hudson Tunnel and constant study of the interstate vehicular crossing problem so that future construction may be anticipated and recommendations made for authorization to construct additional facilities as traffic growth may demand;
2. Vesting the control and operation of the Holland Tunnel in the Port Authority;
3. Placing under Port Authority, the control and operation of vehicular crossings, subject to such regulations respecting construction and operation as may be determined by the Legislatures;
4. Pooling of surplus revenues and the establishment of reserve funds which would provide greater security for bondholders and materially improve the credit rating of the Port Authority, thus assisting in future construction.

Since the last report, several conferences have been held with representatives of both States and consideration has been given all of the matters involved. There seem to be no serious objections to the principles of the plans presented, and it is recommended that the necessary legislation be enacted as soon as possible.

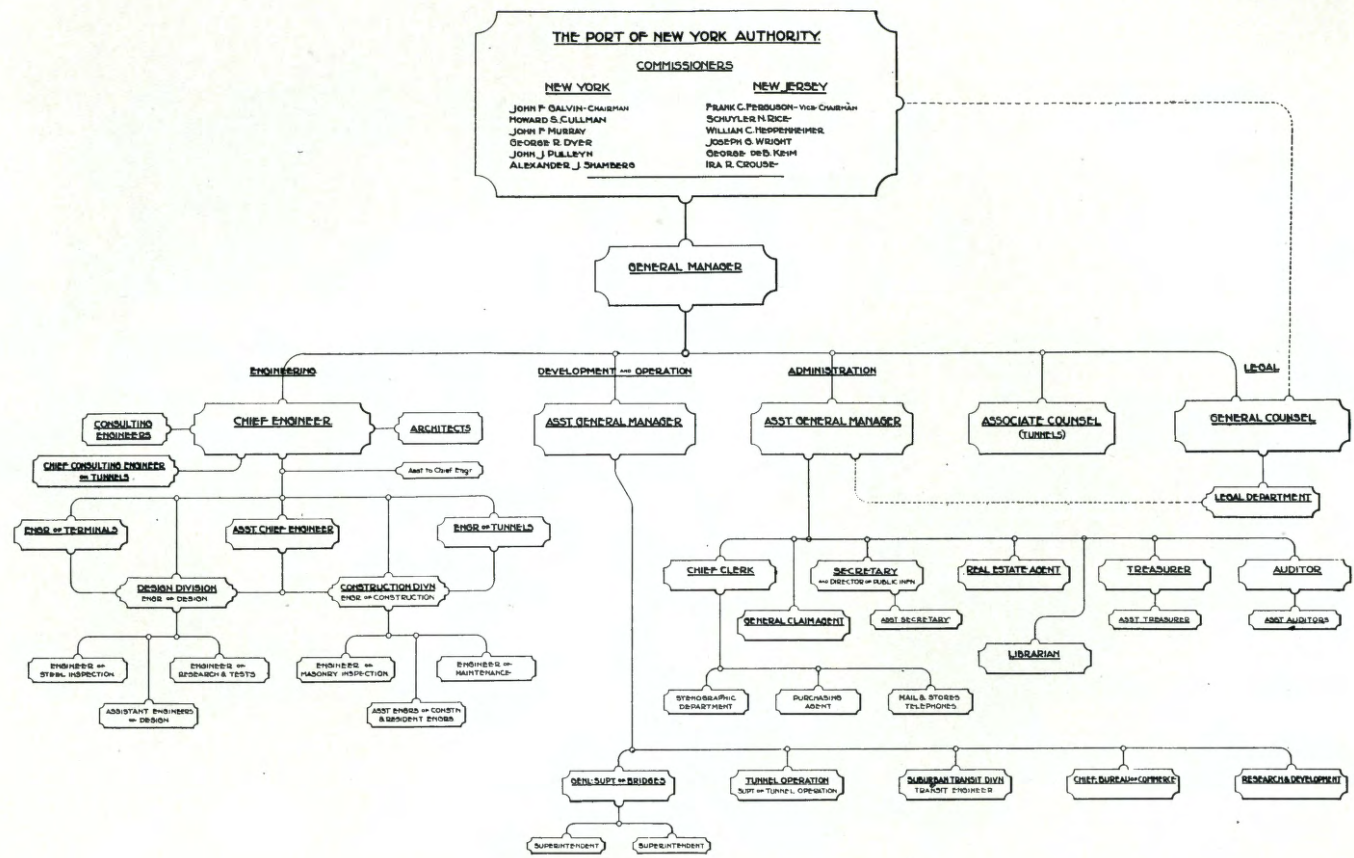
SECTION V—GENERAL

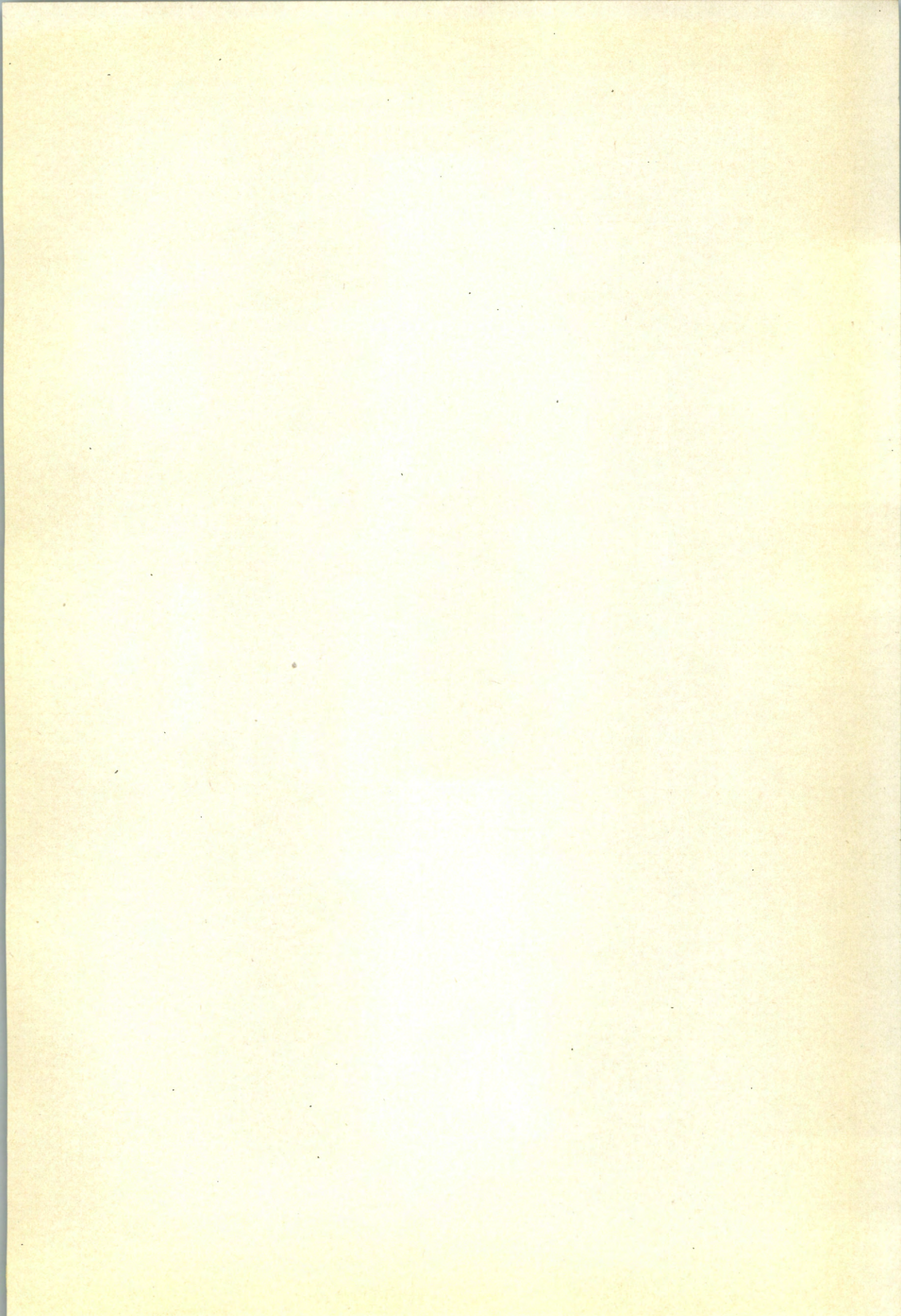
Part 1—Organization

Pursuant to legislation (Chapters 419-422, Laws of New York, 1930, and Chapters 244-248, Laws of New Jersey, 1930) approved by the State of New York April 12, 1930, and by the State of New Jersey April 21, 1930, increasing the number of commissioners to six in each state, making the Port Authority the agent of the two states for the operation and maintenance of the Holland Tunnel, and authorizing it to study and report upon an additional vehicular tunnel under the Hudson River, the Chairman issued instructions under date of April 21, 1930, providing for carrying out the provisions of these mandates.

A meeting of the Port Authority as newly constituted was held at the office of the Port Authority, April 24, 1930, at which John F. Galvin and Frank C. Ferguson were reelected Chairman and Vice-Chairman respectively. After ratifying the Chairman's instructions of April 21, 1930, the Commissioners authorized the Chairman to appoint six commissioners to act as a Committee on Reorganization for the purpose of considering and reporting upon the desirability of amendments to the by-laws and upon changes in the organization and staff. It was also provided that a Special Committee on Tunnel Operation be appointed to function until the Committee on Reorganization reported.

In connection with the placing of the Holland Tunnel under the jurisdiction of the Port Authority, as referred to above, it was deemed desirable and in the interest of the two states and the Port Authority to have an audit of the accounts made. Certified public accountants were therefore engaged, and they conducted a complete audit and rendered a detailed report thereon, including balance





sheet, audit of cash on hand, cash receipts and disbursements, amounts due to the two states and other required accounting data.

Subsequently, on May 1, 1930, a meeting of the Commissioners was held at which the Committee on Reorganization submitted its report on the staff, standing committees, and amendments to the by-laws. The report was adopted substantially as submitted, and the reorganization therein recommended was authorized.

The reorganization of the Commission involved an increase in the number of committees and of the number of members on some of the previously existing committees. The following committees were authorized:

Budget and Staff	Freight Terminals
Program and Work	Marine Terminals
Bridge Construction	Audit
Tunnel Construction	Suburban Transit
Operations	Port Protection
Municipal Authorities	Publicity
Finance	

The reorganization of the staff involved many changes which were made necessary by the expanded functions of the Port Authority.

As shown in the accompanying chart, three general departments were established—the Administrative, in charge of an Assistant General Manager; Development and Operation, in charge of an Assistant General Manager, and Engineering, in charge of the Chief Engineer.

SECTION V—GENERAL

Part 2—Financial

The compact between the two states expressly withholds from the Port Authority power to levy taxes or assess for benefits. It also forbids the Port Authority to pledge the credit of the states which created it. Funds necessary for the creation of facilities must be raised on its own credit. Earnings of facilities must be sufficient to meet debt charges, administration, maintenance and other expenses. The law of economic practicability governs the issuance of Port Authority bonds.

To date, the following issues have been sold:

	Amount of issue	Date of sale	Sale basis	Placed on market at
Series "A".....	\$14,000,000	3/4/1926	97.25	100 (yielding 4.50%)
Series "B".....	20,000,000	12/9/1926	95.6377	97.40 (yielding 4.20%)
Series "C".....	12,000,000	1/5/1928	99.777	101 (yielding 3.92%)
Series "B".....	30,000,000	10/22/1929	92.857	95 (yielding 4.93%)

Depositories for Funds

At the time that funds first became available, the Port Authority adopted what was considered to be a conservative and safe principle to follow in the placing of deposits. Each banking institution where funds are placed is required to agree to certain standards which have been adopted. All accounts are fully protected by the standard requirements for the depositing of either collateral security or a depository bond equal to at least one hundred per cent of the amount of deposit.

All of the funds on hand are distributed widely over the States of New York and New Jersey. During the year, the Port Authority maintained three hundred sixty-six accounts, of which one hundred seventy-nine are in New York and one hundred eighty-seven in New Jersey. The

amounts on deposit and the number of institutions vary from time to time as withdrawals are made for construction purposes.

The Port Authority had a deposit of \$20,211.99 with the Vineland Trust Company of Vineland, New Jersey, when that institution suspended payments on June 13, 1930. This deposit had been secured by a surety bond, and prompt payment was made and no loss sustained.

When the Bank of United States in New York City closed its doors on December 11, 1930, the Port Authority had on deposit an amount totaling \$84,731.06. Against this deposit, the bank had placed as collateral security, bonds in the amount of \$100,000 with the National City Bank of New York. The subject was taken up with the State Superintendent of Banks who had taken over the affairs of that institution, and the Port Authority has received full payment of the amount due.

When the affairs of the Chelsea Bank and Trust Company were placed in the hands of the State Superintendent of Banks on December 23, 1930, the Port Authority's deposit there amounted to \$17,841.08. This deposit was fully secured by thirty thousand dollars par value United States Treasury Gold Notes, held in trust by the American Express Bank and Trust Company.

Only bonds of reputable surety value are accepted for Port Authority deposits, and where collateral is placed, only bonds of a readily ascertainable market value and legal for trust funds in New York and New Jersey are accepted as pledges.

Inland Terminal Financing

In order to avoid delay that would result because of the necessary concluding arrangements which would have to be made before a bond issue could be floated for the Inland Terminal,—a credit of \$3,000,000 was negotiated with the National City Bank of New York so that property could be purchased and preliminary studies carried on. When this credit expired, it was renewed, on December 19th, in the amount of \$6,350,000, which covered the repayment of the

amounts already borrowed and a sum sufficient to cover anticipated expenditures to June 19, 1931. Up to December 19th, there had been expended from the original credit of \$3,000,000, an amount of approximately \$2,150,000. This latter extension of credit was decided upon as being the best means upon which to proceed because an unfavorable bond market prevailed.

If more favorable conditions exist during the early part of 1931, an issue amounting to \$16,000,000 will be negotiated, and the funds from the sale thereof will cover the entire cost of the project.

Sinking Fund—Arthur Kill Bridges

In accordance with the terms of the New York-New Jersey Interstate Bridge Bonds, Series A, the Port Authority must make specific annual payments into a sinking fund.

The following Series A bonds were deposited in said fund:

<i>Serial No.</i>	<i>Cost</i>	<i>Par value</i>
137- 186.....	\$49,655 00	\$50,000 00
257- 258.....	2,000 00	2,000 00
1191-1200.....	9,761 12	10,000 00
1623-1630.....	8,000 00	8,000 00
1636-1638.....	3,000 00	3,000 00
1724-1733.....	9,825 00	10,000 00
1471-1475.....	4,859 53	5,000 00
2052-2065.....	13,554 72	14,000 00
	<hr/>	<hr/>
	\$100,655 37	\$102,000 00
	<hr/>	<hr/>

SECTION V—GENERAL

Part 3—Real Estate

Hudson River Bridge

There remained to be acquired on the New York side at the beginning of the year six parcels of property needed for Riverside Drive approach to the bridge, all located south of 176th Street. Title to one of these parcels has now been acquired through negotiations, and agreements have been reached with owners of two additional parcels. Inability to reach satisfactory agreements with owners of three small parcels made it necessary to institute condemnation proceedings. The aggregate area of these three parcels was but 3075 square feet and of relatively small value, and this is the only area at this locality which was condemned. There had already been acquired through negotiations an area of approximately 565,000 square feet, or nearly thirteen acres, much of which was improved by substantial buildings.

A decision early in the year to construct tunnels underneath 178th and 179th Streets between Fort Washington Avenue and Amsterdam Avenue necessitated the purchase of a site for ventilating buildings between Wadsworth Avenue and St. Nicholas Avenue. Three parcels of property, all improved, were purchased for this purpose and one additional parcel is yet to be acquired. Thus, practically all real estate required for the New York approach to the bridge, according to present plans, has been acquired.

The total amount expended for real estate, including easements, at the New York approach, to the end of the year was \$8,576,775. Of this amount \$463,250 was expended during 1930.

On the New Jersey side practically all property needed had been acquired at the beginning of the year. Five

parcels, three improved and two vacant land, were acquired during the year. In two cases condemnation proceedings were instituted, but agreements were eventually reached with the owners. Only one parcel remains to be acquired.

Expenditures for real estate at the New Jersey approach to the end of the year totaled \$1,002,784. Of this amount \$33,701 was expended during the year, but proceeds from the sale of twenty-six buildings aggregated \$14,795 and reduced the cost to \$18,906. The buildings were removed by the purchasers to nearby vacant property, thus preserving to the community the ratable values.

Kill van Kull Bridge

During the year six parcels of improved residential property and one parcel of unimproved waterfront industrial property were acquired on the New Jersey side. There were unacquired at the end of the year several narrow triangular strips of land projecting into the 150-foot bridge right-of-way, which did not, however, interfere with construction work.

Expenditures for real estate at Bayonne to the end of the year totaled \$1,900,196. Of this amount, \$97,500 was expended during the year, but proceeds from sale of buildings and equipment from a former nitrate plant aggregated \$3,857 and reduced the cost to \$93,643.

No real estate was acquired on the Port Richmond side during the year.

Based upon present plans, there remained to be acquired at the end of the year six parcels of land, only three of which are improved. Indications are that it may be necessary to condemn all of them.

The total net amount expended for real estate at Port Richmond to the end of the year was \$819,603. One building was sold during the year for \$225.

Inland Terminal No. 1

The decision to locate Inland Terminal No. 1 in the block bounded by 15th and 16th Streets, Eighth and Ninth Avenues, Borough of Manhattan, necessitated the acquisi-

tion of all the property in the block—206 x 800 feet, an area of approximately 165,000 square feet, or nearly four acres. This involved the acquisition of forty-six parcels from forty-four separate holders. The property was all improved and included two garages, a theatre, a six-story warehouse, two six-story manufacturing buildings, a large five-story plant engaged in the manufacture of carbonated beverages, a small hotel, a boys' club, a plant engaged in the manufacture of plastic flooring, various business buildings fronting on Eighth and Ninth Avenues, and a number of tenements and rooming houses. Approximately seventy-five per cent of the property, both as to area and value, had been acquired through negotiation prior to October 15, 1930.

Because of inability to reach agreements with twenty-five owners controlling twenty-seven parcels, most of which were small, it was necessary to institute condemnation proceedings. In addition, it was necessary to condemn a leasehold on the warehouse building. These proceedings were started late in October and early in November. After the condemnation proceedings had been instituted, agreements were reached with certain owners. Of the five parcels that it was necessary to condemn, three were located on Eighth Avenue.

By the end of the year the occupants of approximately ninety-five of the buildings had vacated and the buildings were available to the contractor for demolition.

The total purchase price for real estate, including leaseholds, in the Inland Terminal block to December 31st was \$3,127,890.

Jersey City Marine Terminal

Preliminary appraisals were made of property affected by the proposed Marine Terminal at Jersey City.

Midtown Hudson Tunnel

Preliminary appraisals were made of property affected by the proposed Midtown Hudson Tunnel from a point in

the vicinity of 38th Street, Manhattan, to a point opposite in the State of New Jersey.

Power of Condemnation

One of the parties in interest in the proceedings for the condemnation of property for Inland Terminal No. 1 raised the question of the power of the Port Authority to condemn property, and also the question as to whether or not the Inland Terminal as proposed was within the Comprehensive Plan in view of the fact that the upper part of the building was to be rented for commercial purposes generally. The matter came up before the Honorable Justice Alfred H. Townley in Special Term, Part 3, of the Supreme Court of the State of New York, First District, on November 14, 1930. After hearing the argument Mr. Justice Townley rendered the following opinion from the bench:

"I am very definitely of the opinion that Section 3, Chapter 43 of the Laws of 1922 expressly confers on the Port Authority the right to acquire by condemnation, property which may be necessary to carry out the purposes for which that body was created. The language of that section reads that the Port Authority 'is hereby vested with all necessary and proper powers not inconsistent with the Constitution of the United States.' I cannot conceive how the Port Authority can accomplish the purposes for which it was created without the power to condemn property, and I think the clear intention of this section is to confer on that body the power to acquire property by condemnation. The use of the upper stories of the proposed building to my mind is incidental and does not control the purposes for which the building is to be erected. The primary purpose of acquiring this property is for a terminal from which freight can be distributed, at a minimum of cost and a minimum of inconvenience, and I think that is the controlling purpose to be taken into consideration in determining whether or not the building is within the powers and purpose of the act creating the Port Authority. You may take it to be determined by me that the Port Authority for the reasons indicated by me in the course of the argument, has the power to acquire this property by condemnation and has the right to proceed with such condemnation under the statute. You may further take it as determined by me that they are entitled to the possession of this property on January 15th. I shall reserve the question of the amount which shall be deposited by the Port Authority under the award until after I receive whatever you care to submit in the matter on or before November 24th. (From New York Law Journal, Dec. 3, 1930.)

SECTION VI—REPORTS AND STATISTICS

Table

No.

- 1—General Balance Sheet.
- 2—Funded Debt.
- 3—State Advances in Aid of Construction of Interstate Bridges.
- 4—Income Account—Arthur Kill Bridges.
- 5—Income Account—Holland Tunnel.
- 6—Operating Revenue—Arthur Kill Bridges.
- 7—Operating Revenue—Holland Tunnel.
- 8—Operating Expenses—Arthur Kill Bridges.
- 9—Operating Expenses—Holland Tunnel.
- 10—Traffic Statistics—Arthur Kill Bridges.
- 11—Traffic Statistics—Holland Tunnel.
- 12—Expenditures for Construction of Bridges to December 31, 1930.
- 13—Expenditures under Contracts for Construction of Hudson River Bridge.
- 14—Expenditures under Contracts for Construction of Kill van Kull Bridge.
- 15—Summary of Real Estate Purchased.
- 16—Expenditures for effectuation of Comprehensive Plan.

Table No. 1
General Balance Sheet as at December 31, 1930

ASSETS		
INVESTMENTS IN PHYSICAL PROPERTY:		
Arthur Kill Bridges:		
Tottenville-Perth Amboy		\$9,832,766 58
Howland Hook—Elizabeth		7,227,386 95
Total Arthur Kill Bridges		<u>\$17,060,153 53</u>
Kill Van Kull Bridge:		
Bayonne—Port Richmond		10,232,165 51
Hudson River Bridge		42,472,514 02
Inland Terminal Building No. 1		2,841,123 03
Total investment in physical property		<u>\$72,605,956 09</u>
CURRENT ASSETS:		
Cash in banks and on hand	\$25,191,935 74	
Cash in banks and on hand—Holland Tunnel, as agent	1,747,121 92	
Total cash in banks and on hand	<u>\$26,939,057 66</u>	
Investments in marketable bonds (at cost) ..	1,754,768 67	
Accrued interest receivable on investments ..	21,154 10	
Due from subsidiary company	17,988 51	
Bills collectible and reimburse- ments in transit	\$26,618 74	
Bills collectible—Holland Tun- nel, as agent	1,224 76	
		27,843 50
Unexpended balances of amounts made available for com- prehensive plan in hands of State Treasurers:		
State of New York 1930- 1931, per contra	\$55,981 72	
State of New York 1929- 1930, per contra	1,171 14	
State of New Jersey 1930- 1931, per contra	62,794 85	
		119,947 71
Unexpended balances of amounts available for Holland Tunnel construction in hands of State Treasurers:		
State of New York	\$86,301 65	
State of New Jersey	65,499 46	
		151,801 11
Total current assets		29,032,561 26
UNMATURED BALANCES OF AMOUNTS MADE AVAIL- ABLE TO AID IN CONSTRUCTION OF BRIDGES:		
State of New York	\$1,800,000 00	
State of New Jersey	1,800,000 00	
		3,600,000 00
INVESTMENT IN SUBSIDIARY COMPANIES:		
Capital stock	\$2,500 00	
Advances	410,417 15	
		412,917 15
SINKING FUND INVESTMENTS (AT COST)—SERIES "A" BONDS.....		
CASH ON DEPOSIT WITH COUPON PAYING AGENTS FOR UNREDEEMED		
BOND INTEREST COUPONS, PER CONTRA.....		
		100,655 40
		41,922 50
OTHER ASSETS:		
Deposits with clerk of Supreme Court, State of New York re Condemnation Proceedings ..	\$356,000 00	
Preliminary surveys and studies—proposed Midtown Hudson Tunnel	226,104 12	
Unexpired insurance premiums	5,768 87	
Uniforms	232 90	
Advances to United States Department of Commerce—Bureau of Standards—for tests ..	3,072 14	
Tests of registering devices	4,660 03	
Unexpended balance of advance to New Jersey Highway Commission	498,619 40	
Sundry unadjusted debits	\$653 78	
Sundry unadjusted debits—Hol- land Tunnel, as agent	1 00	
		654 78
Insurance and other claims	391 40	
		<u>1,095,503 64</u>
Total assets		<u>\$106,889,516 04</u>

Contracts awarded but not completed at December 31, 1930, as submitted to us, aggregated \$7,028,103.15.

Discount on bonds amounting to \$3,475,580 has been charged to construction in accordance with a resolution of the Commissioners dated March 20, 1930.

General Balance Sheet as at December 31, 1930

LIABILITIES

BONDED INDEBTEDNESS:		
New York-New Jersey Interstate Bridge Bonds:		
Arthur Kill Bridges—Series A, 4½% 1932-1946, authorized and outstanding.....		\$14,000,000 00
Hudson River Bridge—Series B bonds authorized	\$60,000,000 00	
Issued and outstanding:		
4%, Series 1936-1950.....	\$20,000,000 00	
4½%, Series 1939-1953.....	30,000,000 00	
		50,000,000 00
Kill Van Kull Bridge—Series C, 4% 1938-1953 authorized and outstanding.....		12,000,000 00
		<u>\$76,000,000 00</u>
TOTAL BONDED INDEBTEDNESS.....		
CURRENT LIABILITIES:		
Notes payable and accrued interest.....	\$6,872,647 95	
Audited vouchers payable	\$796,400 34	
Audited vouchers payable—Holland Tunnel, as agent.....	30,045 25	
		826,445 59
Mortgages payable and accrued interest....	1,582,422 68	
Surety deposits.....	\$7,550 00	
Surety deposits—Holland Tunnel, as agent.....	55 00	
		7,605 00
Accrued interest on New York-New Jersey Interstate Bridge bonds:		
Series A.....	\$210,000 00	
Series B.....	291,666 70	
Series C.....	236,054 80	
		737,721 50
Unredeemed tickets:		
Arthur Kill Bridges.....	\$3,693 27	
Holland Tunnel, as agent..	33,474 80	
		37,168 07
Due the States of New York and New Jersey, as agent in operation and maintenance of Holland Tunnel:		
State of New York.....	\$894,357 80	
State of New Jersey.....	640,414 83	
		1,534,772 63
Holland Tunnel operating reserve:		
State of New York.....	\$75,000 00	
State of New Jersey.....	75,000 00	
		150,000 00
		<u>11,248,783 42</u>
TOTAL CURRENT LIABILITIES.....		
SUBORDINATED LIABILITY FOR ADVANCES TO AID IN CONSTRUCTION OF BRIDGES AND FOR PRELIMINARY STUDIES AND SURVEYS:		
State of New York.....	\$9,500,000 00	
Less: Amount returned.....	159 83	
		\$9,499,840 17
State of New York—Net.....	9,500,000 00	
State of New Jersey.....		18,999,840 17
UNPAID BOND INTEREST COUPONS, PER CONTRA:		
Series A bonds.....	\$4,747 50	
Series B bonds.....	37,115 00	
Series C bonds.....	60 00	
		41,922 50
UNUSED APPROPRIATIONS—COMPREHENSIVE PLAN:		
State of New York, 1930-1931, per contra....	\$55,981 72	
State of New York, 1929-1930, per contra....	1,171 14	
State of New Jersey, 1930-1931, per contra..	62,794 85	
		119,947 71
APPROPRIATIONS FOR HOLLAND TUNNEL CONSTRUCTION:		
State of New York.....	\$108,638 84	
State of New Jersey.....	82,488 20	
		\$191,127 04
Less: Charges to construction.....	39,325 93	
		151,801 11
DEFERRED CREDITS:		
Accrued depreciation.....	\$4,273 36	
Sundry unadjusted credits.....	1,217 81	
		5,491 17
RESERVE—Accumulated net income—Arthur Kill Bridges.....		321,729 96
		<u>\$106,889,516 04</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, 1930.

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 at December 31, 1930.

LAWRENCE SCUDDER & CO.

New York, N. Y.,
February 10, 1931.

Table No. 2
FUNDED DEBT
DECEMBER 31, 1930

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	
								1945	1,400,000	
								1946	1,500,000	
<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, 1930

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	300,000	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.
								1938	400,000	
								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	
<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	1,500,000	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.
								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. 3
Status of Advances from the States of New York and
New Jersey in Aid of Construction of Interstate
Bridges as of December 31, 1930

	Arthur Kill bridges	Hudson River bridge	Kill van Kull bridge	Total
State of New York:				
Amounts pledged.....	\$2,000,000	\$5,000,000	\$2,000,000	\$9,000,000
Amounts paid.....	2,000,000	4,000,000	1,200,000	7,200,000
Balance, December 31, 1930..	<u> </u>	<u>\$1,000,000</u>	<u>\$800,000</u>	<u>\$1,800,000</u>
State of New Jersey:				
Amounts pledged.....	\$2,000,000	\$5,000,000	\$2,000,000	\$9,000,000
Amounts paid.....	2,000,000	4,000,000	1,200,000	7,200,000
Balance, December 31, 1930..	<u> </u>	<u>\$1,000,000</u>	<u>\$800,000</u>	<u>\$1,800,000</u>
Both States:				
Amounts pledged.....	\$4,000,000	\$10,000,000	\$4,000,000	\$18,000,000
Amounts paid.....	4,000,000	8,000,000	2,400,000	14,400,000
Balance, December 31, 1930..	<u> </u>	<u>\$2,000,000</u>	<u>\$1,600,000</u>	<u>\$3,600,000</u>

Table No. 4
ARTHUR KILL BRIDGES

	Calendar year 1930	Calendar year 1929	Increase or decrease *	June 29, 1928 to December 31, 1930
I <i>Gross income:</i>				
Operating revenue.....	\$778,778 30	\$710,398 05	\$68,380 25	\$1,845,894 25
Rent income.....	1,500 97	781 18	719 79	2,282 15
Miscellaneous income.....	60,530 43	39,394 21	21,136 22	102,698 27
Gross income.....	<u>\$840,809 70</u>	<u>\$750,573 44</u>	<u>\$90,236 26</u>	<u>\$1,950,874 67</u>
II <i>Deductions from gross income:</i>				
Operating expenses.....	\$133,715 16	\$143,388 65	\$9,673 49	\$363,918 59
Interest on funded debt...	630,000 00	630,000 00	.....	1,260,000 00
Miscellaneous income charges	411 00	525 00	114 00	936 00
Total deductions.....	<u>\$764,126 16</u>	<u>\$773,913 65</u>	<u>\$9,787 49</u>	<u>\$1,624,854 59</u>
Net income.....	<u>\$76,683 54</u>	<u>†\$23,340 21</u>	<u>\$100,023 75</u>	<u>\$326,020 08</u>

* Decrease shown in *italics*.
† Deficit.

Table No. 5
HOLLAND TUNNEL
INCOME ACCOUNT

	Calendar Year, 1930	Calendar Year, 1929	Increase or Decrease*	Nov. 13, 1927 to Dec. 31, 1930
I. Gross Income:				
Toll Revenue.....	\$6,590,739 10	\$6,055,431 25	\$535,307 85	\$17,966,890 30
Interest Account— State of New York.....	44,555 46	27,612 44	16,943 02	84,028 42
Interest Account— State of New Jersey.....	14,077 59	11,853 90	2,223 69	33,556 43
Other Income.....	24,535 65	25,107 02	<i>571 37</i>	79,524 28
Gross Income.....	<u>\$6,673,907 80</u>	<u>\$6,120,004 61</u>	<u>\$553,903 19</u>	<u>\$18,163,999 43</u>
II. Deductions from Gross Income:				
Operating Expenses				
(a) Joint Account.....	\$1,595,276 99	\$1,483,228 01	\$112,048 98	\$4,753,782 21
(b) Direct— State of New York.....	8,473 90	25,538 34	<i>17,064 44</i>	161,262 12
(c) Direct— State of New Jersey.....	6,020 50	112,993 95	<i>106,973 45</i>	147,437 46
Total Deductions	<u>\$1,609,771 39</u>	<u>\$1,621,760 30</u>	<u>\$11,988 91</u>	<u>\$5,062,481 79</u>
Net Income....	<u>\$5,064,136 41</u>	<u>\$4,498,244 31</u>	<u>\$565,892 10</u>	<u>\$13,101,517 64</u>
III. Disposition of Net Income:				
Portion credited to:				
(a) State of New York..	\$2,546,080 44	\$2,300,729 23	\$245,351 21	\$6,569,082 48
(b) State of New Jersey..	2,518,055 97	2,197,515 08	320,540 89	6,532,435 16
	<u>\$5,064,136 41</u>	<u>\$4,498,244 31</u>	<u>\$565,892 10</u>	<u>\$13,101,517 64</u>

* Decrease shown in italics.

Table No. 6
ARTHUR KILL BRIDGES
OPERATING REVENUE

CLASS	Calendar Year, 1930	Calendar Year, 1929	Increase or Decrease*	June 29, 1928 to Dec. 31, 1930
Motorcycles, bicycles and horses.....	\$1,862 00	\$1,971 50	<i>\$109 50</i>	\$4,672 50
Passenger automobiles.....	580,418 95	527,490 00	52,928 95	1,380,773 95
Horse drawn vehicles.....	39 50	56 50	<i>17 00</i>	131 50
Motor trucks (less than 2 tons).....	41,272 50	30,344 85	10,927 65	84,084 75
Motor trucks (2 to 4½ tons).....	27,012 75	22,540 95	4,471 80	56,723 70
Motor trucks (5 tons and over).....	27,257 00	22,171 25	5,085 75	55,748 25
Buses.....	2,258 10	10,398 20	<i>8,140 10</i>	21,925 10
Tractors and trailers.....	3,631 40	3,322 00	309 40	7,698 40
Other vehicles.....	421 05	1,517 85	<i>1,096 80</i>	2,519 70
Passengers in vehicles.....	83,326 75	79,764 70	3,562 05	209,491 65
Pedestrians.....	969 80	841 00	128 80	1,810 80
Miscellaneous.....	10,308 50	9,979 25	329 25	20,313 95
Total operating revenue.....	<u>\$778,778 30</u>	<u>\$710,398 05</u>	<u>\$68,380 25</u>	<u>\$1,845,894 25</u>

* Decrease shown in italics.

Table No. 7
HOLLAND TUNNEL
OPERATING REVENUE

Class	Calendar Year 1930	Calendar Year 1929	Increase or Decrease*	Nov. 13, 1927 to Dec. 31, 1930
I. Motorcycles.....	\$5,113 50	\$5,352 25	<i>\$238 75</i>	\$16,267 75
II. Automobiles.....	4,793,355 50	4,304,553 00	488,802 50	12,923,265 00
III. Buses.....	462,440 00	356,934 00	105,506 00	1,060,530 00
IV. Trucks—up to 2 tons..	477,748 00	445,541 50	32,206 50	1,351,301 00
V. Trucks—2 tons to 5 tons	499,119 75	516,882 75	<i>17,763 00</i>	1,471,834 50
VI. Trucks—5 tons to 10 tons	335,176 00	355,259 00	<i>20,083 00</i>	1,006,849 00
VII. Semi-trailers—5 tons to 10 tons.....	22,740 00	21,491 25	1,248 75	51,847 50
VIII. Semi-trailers—10 tons to 15 tons.....	9,786 00	6,639 00	3,147 00	20,167 50
IX. Special.....	13,850 55	26,792 90	<i>12,942 35</i>	64,828 05
Total operating revenue.	\$6,619,329 30	\$6,039,445 65	\$579,883 65	\$17,966,890 30

* Decrease shown in italics.

Table No. 8
ARTHUR KILL BRIDGES
COMPARISON OF OPERATING EXPENSES

	Calendar Year, 1930	Calendar Year, 1929	Increase or Decrease*
I. Maintenance:			
301. Superintendence.....	\$1,280 24	\$273 45	\$1,006 79
302. Painting.....	483 16	.....	483 16
303. Paving.....	15 58	14 71	87
304. Other bridge maintenance.....	4,968 29	772 49	4,195 80
305. Buildings.....	951 53	247 69	703 84
306. Lighting, signal and communication.....	1,786 37	1,690 95	95 42
307. Machinery, tools and equipment.....	1,492 72	2,438 17	<i>895 45</i>
308. Clearing roadways and footwalks.....	818 92	172 08	646 84
309. Insurance.....	15,179 14	15,791 96	<i>612 82</i>
310. Stationery and printing.....	06	.....	06
311. Injuries and damages.....	.....	.....	.....
312. Depreciation of property.....	3,264 72	1,772 64	1,492 08
313. Other expenses.....	.....	.....	.....
Total maintenance.....	\$30,240 73	\$23,224 14	\$7,016 59
II. Operation:			
321. Superintendence.....	\$26,296 64	\$24,330 30	\$1,966 34
322. Directing traffic.....	8,471 94	20,250 46	<i>11,778 52</i>
323. Collecting tolls.....	23,319 80	22,027 64	1,292 16
324. Other operating employees.....	341 84	2,556 98	<i>2,215 14</i>
325. Lighting.....	14,471 54	16,417 04	<i>1,945 50</i>
326. Heating.....	643 51	858 87	<i>215 36</i>
327. Telephone and telegraph.....	1,872 85	1,995 04	<i>122 19</i>
328. Operating automobiles and motorcycles.....	1,939 25	1,519 80	419 45
329. Miscellaneous supplies and expenses.....	1,013 58	5,100 26	<i>4,086 68</i>
330. Advertising.....	3,409 08	5,518 77	<i>2,109 69</i>
331. Insurance.....	4,736 98	5,570 99	<i>834 01</i>
332. Stationery and printing.....	1,430 68	813 05	617 63
333. Injuries and damages.....	.....	159 00	<i>159 00</i>
334. Other expenses.....	858 69	30 05	828 64
Total operations.....	\$88,806 38	\$107,148 25	\$18,341 87
III. General Expenses:			
341. Salaries and expenses of officers.....	\$3,210 75	\$3,413 01	<i>\$202 26</i>
342. Salaries and expenses of other employees..	7,839 01	5,066 54	2,772 47
343. Legal expenses.....	1,004 28	2,370 93	<i>1,366 65</i>
344. Office rental and expenses.....	1,340 43	940 79	399 64
345. Insurance.....	191 68	528 33	<i>336 65</i>
346. Stationery and printing.....	829 82	553 08	276 74
347. Other expenses.....	252 08	143 58	108 50
Total general expenses.....	\$14,668 05	\$13,016 26	\$1,651 79
GRAND TOTAL.....	\$133,715 16	\$143,388 65	\$9,673 49

* Decrease shown in italics.

Table No. 9
HOLLAND TUNNEL
COMPARISON OF OPERATING EXPENSES

Accounts:	Calendar Year 1930	Calendar Year 1929	Increase or Decrease*
I. Joint Accounts:			
Salaries.....	\$1,173,049 02	\$1,082,975 59	\$90,073 43
Heat, light and power.....	241,552 55	218,501 35	23,051 20
Equipment.....	47,478 52	62,364 14	<i>14,885 62</i>
Printing.....	7,341 03	4,691 85	2,649 18
Expense of employees.....	1,260 28	1,427 18	<i>166 90</i>
Rent of offices.....	1,346 87	1,520 00	<i>173 13</i>
Communication.....	5,135 15	4,844 18	290 97
Advertising.....	412 05	986 31	<i>574 26</i>
Cleaning tunnel.....	2,820 27	1,304 35	1,515 92
Cleaning buildings.....	4,543 47	2,364 66	2,178 81
Repairs to structures.....	29,816 15	19,900 07	9,916 08
Repairs to machinery.....	29,475 84	26,860 11	2,615 73
Supplies.....	29,765 09	36,090 47	<i>6,325 38</i>
Insurance.....	2,667 72	5,064 96	<i>2,397 24</i>
Medical and hospital expenses...	3,602 00	737 50	2,864 50
Water.....	1,938 84	1,721 99	216 85
Armored car service.....	7,920 00	7,300 00	620 00
Other expenses.....	5,152 14	4,573 30	578 84
II. Direct Expenses:			
State of New York.....	8,473 90	25,538 34	<i>17,064 44</i>
State of New Jersey.....	6,020 50	112,993 95	<i>106,973 45</i>
TOTAL OPERATING EXPENSES	\$1,609,771 39	\$1,621,760 30	<i>\$11,988 91</i>

* Decrease shown in italics.

Table No. 10
ARTHUR KILL BRIDGES
TRAFFIC STATISTICS

Class:	Calendar Year, 1930	Calendar Year, 1929	Increase or Decrease*	June 29, 1928, to Dec. 31, 1930
101. Motorcycles, bicycles and horses.....	7,440	7,886	<i>446</i>	18,682
102. Passenger automobiles.....	1,189,055	1,054,980	134,075	2,789,765
103. Horse drawn vehicles.....	79	113	<i>34</i>	263
104. Motor trucks (less than 2 tons).....	71,593	51,192	20,401	143,564
105. Motor trucks (2 to 4½ tons).....	36,508	30,201	6,307	76,269
106. Motor trucks (5 tons and over).....	29,377	22,998	6,379	53,695
107. Buses.....	2,258	14,957	<i>12,699</i>	27,265
108. Tractors and trailers.....	3,592	3,321	271	7,658
109. Other vehicles.....	263	845	<i>582</i>	1,491
Total vehicles.....	1,340,165	1,186,493	153,672	3,123,652
110. Passengers in vehicles.....	1,666,535	1,595,294	71,241	4,189,833
111. Pedestrians.....	19,396	16,820	2,576	36,216

* Decrease shown in italics.

Table No. 11
HOLLAND TUNNEL
TRAFFIC STATISTICS

Class:	Calendar Year, 1930	Calendar Year, 1929	Increase or Decrease*	Nov. 13, 1927 to Dec. 31, 1930
I. Motorcycles.....	20,454	21,409	<i>955</i>	65,071
II. Automobiles.....	9,586,711	8,609,106	977,605	25,846,530
III. Buses.....	462,440	356,934	105,506	1,059,661
IV. Trucks — up to 2 tons.....	955,496	891,083	64,413	2,702,602
V. Trucks — 2 tons to 5 tons.....	665,493	689,177	<i>23,684</i>	1,962,446
VI. Trucks — 5 tons to 10 tons.....	335,176	355,259	<i>20,083</i>	1,006,849
VII. Semi-trailers — 5 tons to 10 tons...	18,192	17,193	999	41,366
VIII. Semi-trailers — 10 tons to 15 tons...	6,524	4,426	2,098	13,445
IX. Special.....	16,272	33,323	<i>17,051</i>	77,772
Total traffic.....	<u>12,066,758</u>	<u>10,977,910</u>	<u>1,088,848</u>	<u>32,775,742</u>

* Decrease shown in italics.

Table No. 12
EXPENDITURES FOR CONSTRUCTION OF BRIDGES
YEAR ENDED DECEMBER 31, 1930 AND TOTAL TO DATE

	TOTAL		HUDSON RIVER BRIDGE		BAYONNE—PORT RICHMOND BRIDGE		HOWLAND HOOK—ELIZABETH BRIDGE		TOTTENVILLE—PERTH AMBOY BRIDGE		TOTAL ARTHUR KILL BRIDGES	
	Year 1930	Total to date	Year 1930	Total to date	Year 1930	Total to date	Year 1930	Total to date	Year 1930	Total to date	Year 1930	Total to date
ENGINEERING:												
General superintendence.....	\$70,209 19	\$240,606 85	\$47,830 37	\$151,257 66	\$21,744 81	\$48,811 83	\$271 35	\$17,254 50	\$362 66	\$23,282 86	\$634 01	\$40,537 36
Engineering consultants.....	37,697 43	186,984 23	27,924 78	121,534 51	9,772 65	32,675 68	.....	13,356 75	.....	19,417 29	.....	32,774 04
Architectural consultants.....	25,608 94	184,092 06	23,807 95	127,517 47	.....	994 66	329 39	9,596 38	476 94	14,377 40	806 33	23,973 78
Traffic studies.....	22,687 84	96,821 87	21,790 26	76,570 46	897 58	4,277 39	.....	7,020 95	.....	8,953 07	.....	15,974 02
Design engineering studies.....	36,701 97	151,744 14	20,349 87	93,294 53	16,122 14	48,278 97	.....	4,504 72	229 96	5,665 92	229 96	10,170 64
Design engineering—plans and specifications.....	172,382 46	486,765 91	134,363 22	323,346 00	37,618 68	134,622 23	376 66	13,982 69	23 90	14,814 99	400 56	28,797 68
Design and supervision—engineering consultants.....	.....	389,431 10	.....	.....	.....	.....	.....	155,809 28	.....	233,621 82	.....	389,431 10
Property drawings, blue prints and maps.....	3 85	1,368 06	4 60	154 73	.....	1,213 33	.....	.....	.....	781 50	.....	1,367 35
Miscellaneous drawings, blue prints and maps.....	870 07	4,631 45	697 24	2,479 09	172 08	785 01	.....	585 85	.....	.....	.....	.....
Construction engineering.....	185,775 46	832,200 40	133,121 55	443,705 50	52,164 60	147,636 19	110 91	100,501 69	378 40	140,357 02	489 31	240,858 71
Material inspection.....	131,516 20	497,081 34	73,792 92	284,374 25	57,723 28	129,749 69	.....	37,260 38	.....	45,697 02	.....	82,957 40
Office rental and expenses.....	36,375 58	118,327 49	24,897 38	77,237 62	11,448 20	24,642 81	15 00	6,936 48	15 00	9,510 58	30 00	16,447 06
Office furniture and equipment.....	6,411 87	23,533 74	4,398 17	14,282 00	2,013 70	3,404 84	.....	2,466 23	.....	3,380 67	.....	5,846 90
Engineering equipment.....	2,775 95	19,298 00	2,552 05	12,148 83	2,153 54	3,390 75	944 78*	1,860 33	984 86*	1,898 09	1,929 64*	3,758 42
Laboratory equipment.....	1,259 49	21,196 04	1,027 01	10,777 57	309 36	1,442 45	63 76*	3,588 23	.....	5,387 79	94 12*	8,976 02
Automobile and marine equipment.....	3,297 69	10,597 92	2,468 67	4,577 82	829 02	3,361 14	.....	1,247 35	.....	1,411 61	.....	2,658 96
Operation of automobiles and marine equipment.....	7,138 55	24,957 13	3,049 58	5,278 64	4,088 97	9,470 64	.....	4,522 45	.....	5,685 40	.....	10,207 85
Other engineering expenditures.....	1,318 67	231,171 81	989 01	172,919 30	329 66	58,252 51	.....	.....	.....	.....	.....	.....
Total.....	\$742,031 21	\$3,520,809 54	\$523,064 63	\$1,921,455 98	\$218,463 93	\$684,616 27	\$94 77	\$380,494 26	\$407 88	\$534,243 03	\$502 65	\$914,737 29
INVESTMENT IN LAND:												
Cost of land—east approach.....	\$465,386 21	\$9,548,270 39	\$463,250 00	\$8,576,775 96	\$175 79*	\$819,603 72	\$2,312 00	\$71,890 71	.....	\$80,000 00	\$2,312 00	\$151,890 71
Cost of land—west approach.....	112,549 00	3,934,324 80	18,906 00	1,002,784 60	93,643 00	1,900,196 20	.....	468,500 00	.....	562,844 00	.....	1,031,344 00
Cost of land—salaries and expenses.....	37,990 28	349,831 71	28,497 22	181,539 33	8,815 16	100,508 54	554 16	29,305 06	\$123 74	38,478 78	677 90	67,783 84
Taxes and assessments.....	4,184 62	136,933 38	3,200 12	100,864 49	984 40	28,346 94	.....	2,246 70	.....	5,475 25	.....	7,721 95
Total.....	\$620,110 01	\$13,969,360 28	\$513,853 34	\$9,861,964 38	\$103,266 77	\$2,848,655 40	\$2,866 16	\$571,942 47	\$123 74	\$686,798 03	\$2,989 90	\$1,258,740 50
CONSTRUCTION:												
Test borings.....	\$2,520 35	\$55,442 56	\$1,711 19	\$30,138 60	\$809 16	\$10,837 04	.....	\$5,722 70	.....	\$8,744 22	.....	\$14,466 92
Substructure.....	287,690 03	10,188,327 22	153,769 98	3,185,263 79	100,743 95	1,243,242 89	.....	2,407,957 48	\$33,176 10	3,351,863 06	\$33,176 10	5,759,820 54
Steel superstructure.....	9,553,346 23	28,865,490 18	6,296,494 02	19,934,117 65	3,247,747 40	4,410,124 65	.....	1,905,285 31	9,104 81	2,615,962 57	9,104 81	4,521,247 88
Plazas.....	172,159 22	1,097,551 15	136,315 59	137,815 59	27,126 99	27,126 99	\$5,115 38	383,493 96	3,601 26	549,114 61	8,716 64	932,608 57
Roadways and footwalks.....	138,660 70	1,467,486 86	137,660 70	137,660 70	.....	848 69	.....	576,627 39	1,000 00	752,350 08	1,000 00	1,328,977 47
Conduit lines.....	988 95	23,627 25	.....	.....	988 95	1,588 95	.....	9,609 89	.....	12,428 41	.....	22,038 30
Water lines.....	37 00	2,730 50	.....	.....	.....	.....	.....	2,449 15	37 00	281 35	37 00	2,730 50
Buildings.....	42 00	114,963 03	.....	.....	.....	.....	.....	60,290 63	26 00	54,672 40	42 00	114,963 03
Bridge signs.....	74 42	2,588 55	.....	.....	.....	.....	.....	1,110 96	64 97	1,477 59	74 42	2,588 55
Telephone and signal systems.....	2 52	4,292 50	.....	.....	.....	.....	.....	546 07	2 52	3,746 43	2 52	4,292 50
Lighting system.....	.....	208,798 07	.....	.....	.....	.....	.....	98,005 55	.....	110,792 52	.....	208,798 07
Machinery, tools and equipment.....	746 50	15,089 44	.....	.....	.....	.....	.....	7,441 97	403 27	7,647 47	746 50	15,089 44
Injuries and damages.....	115 00	115 00	.....	.....	.....	.....	.....	115 00	.....	115 00	.....	115 00
Other construction expenditures.....	647,548 54	752,788 19	596,038 14	664,669 47	48,135 40	48,394 83	1,687 50	30,079 20	1,687 50	9,644 69	3,375 00	39,723 89
Total.....	\$10,803,931 46	\$42,799,290 50	\$7,321,989 62	\$24,089,665 80	\$3,425,551 85	\$5,742,164 04	\$7,171 56	\$5,488,620 26	\$49,218 43	\$7,478,840 40	\$56,389 99	\$12,967,460 66
GENERAL EXPENDITURES:												
Salaries and expenses of general officers.....	\$59,005 30	\$204,973 62	\$40,056 25	\$123,489 21	\$18,949 05	\$43,145 98	.....	\$15,874 09	.....	\$22,464 34	.....	\$38,338 43
Salaries and expenses of clerks and attendants.....	88,391 48	296,951 19	61,295 41	184,093 44	26,787 91	59,432 62	552 62	22,328 05	\$255 54	31,067 08	\$308 16	59,425 13
Salaries and expenses of counsel, attorneys and assistants.....	45,245 74	187,382 81	33,282 44	110,709 73	11,545 60	34,855 99	210 70	18,770 45	207 00	23,046 64	417 70	41,817 09
Other law expenditures.....	1,484 31	5,840 33	1,058 34	2,118 60	425 97	682 09	.....	1,478 67	.....	1,360 97	.....	2,839 64
Office rental and expenses.....	40,296 78	148,859 80	27,955 37	89,678 89	12,341 41	26,745 53	.....	12,687 65	.....	19,747 73	.....	32,435 38
Office furniture and equipment.....	7,116 13	19,851 97	4,898 06	11,501 31	2,166 94	3,074 19	25 56	2,143 70	25 57	3,132 77	51 13	5,276 47
Stationery, printing and advertising.....	24,469 54	75,638 91	17,140 74	42,954 50	7,328 80	14,661 03	.....	7,778 23	.....	10,245 15	.....	18,023 38
Insurance.....	66,284 56	112,774 37	63,584 38	75,939 61	2,700 18	6,948 29	.....	11,458 47	.....	18,428 00	.....	29,886 47
Other general expenditures.....	10,130 25	74,594 13	7,183 89	46,651 24	2,421 36	14,128 14	175 00	5,683 68	.....	8,131 07	525 00	13,814 75
Total.....	\$342,424 09	\$1,126,667 13	\$256,454 88	\$687,136 53	\$84,667 22	\$203,673 86	\$463 88	\$98,202 99	\$838 11	\$137,653 75	\$1,301 99	\$235,856 74
INTEREST AND INCOME DURING CONSTRUCTION:												
Interest payable during construction.....	\$2,693,916 26	\$8,328,625 80	\$2,217,859 46	\$5,103,043 55	\$476,056 80	\$1,440,565 18	.....	\$714,010 50	.....	\$1,071,006 57	.....	\$1,785,017 07
Interest earned during construction.....	783,414 29*	3,161,264 82*	617,831 44*	1,708,815 97*	165,582 85*	757,118 80*	.....	278,132 02*	.....	417,198 03*	.....	*695,330 05
Premium or discount during construction.....	10,448 50	3,376,771 26	10,448 50	2,962,143 22	.....	23,544 04	.....	156,433 60	.....	234,650 40	.....	391,084 00
Fees of fiscal agents.....	6,695 50	19,801 58	6,004 00	11,609 83	710 50	5,253 00	\$7 60*	1,175 50	\$11 40*	1,763 25	\$19 00*	2,938 75
Miscellaneous rentals and expenses.....	169,209 85*	883,439 76*	166,827 70*	805,050 67*	2,382 15*	\$77,608 73*	.....	725 38*	.....	54 98*	.....	*780 36
Total.....	\$1,758,436 12	\$7,680,494 06	\$1,449,652 82	\$5,562,929 96	\$308,802 30	\$634,634 69	\$7 60*	\$592,762 20	\$11 40*	\$890,167 21	\$19 00*	\$1,482,929 41
RECAPITULATION:												
Engineering.....	\$742,031 21	\$3,520,809 54	\$523,064 63	\$1,921,455 98	\$218,463 93	\$684,616 27	\$94 77	\$380,494 26	\$407 88	\$534,243 03	\$502 65	\$914,737 29
Investment in land.....	620,110 01	13,969,360 28	513,853 34	9,861,964 38	103,266 77	2,848,655 40	2,866 16	571,942 47	123 74	686,798 03	2,989 90	1,258,740 50
Construction.....	10,803,931 46	42,799,290 50	7,321,989 62	24,089,665 80	3,425,551 85	5,742,164 04	7,171 56	5,488,620 26	49,218 43	7,478,840 40	56,389 99	12,967,460 66
General expenditures.....	342,424 09	1,126,667 13	256,454 88	687,136 53	84,667 22	203,673 86	463 88	98,202 99	838 11	137,653 75	1,301 99	235,856 74
Interest and income during construction.....	1,758,436 12	7,680,494 06	1,449,652 82	5,562,929 96	308,802 30	634,634 69	7 60*	592,762 20	11 40*	890,167 21	19 00*	1,482,929 41
Grand total.....	\$14,266,932 89	\$69,096,621 51	\$10,065,015 29	\$42,123,125 65	\$4,140,752 07	\$10,113,744 26	\$10,588 77	\$7,132,022 18	\$50,576 76	\$9,727,702 42	\$61,165 53	\$16,859,724 60

* Denotes credit.

Table No. 13
HUDSON RIVER BRIDGE
EXPENDITURES UNDER CONSTRUCTION CONTRACTS
March, 1926 to December, 1930, Inc'usive

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.....						\$20,262 58	\$8,164 83	\$28,427 41	Complete
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	1,057,190 00	1,511 43	1,058,701 43	Complete
HRB-3.....	Excavation New Jersey anchorage and approach.....	18	2,765,700 00	694,000 00	694,000 00	1,492,500 00	748,713 44*	153,842 43	902,555 87	Complete†
HRB-4.....	New York anchorage and tower foundation.....	32	1,773,425 00	986,600 00	986,600 00	1,778,900 00	1,072,433 04	5,512 25	1,077,945 29	99% complete
HRB-5A.....	Steel towers and floors.....	3	10,621,020 00	10,134,440 00	10,134,440 00	10,483,400 00	9,802,272 80	77,271 17	9,879,543 97	95% complete
HRB-5B.....	Wire cables.....	3	14,979,455 00	12,339,977 00	12,339,977 00	15,355,200 00	10,059,763 88	14,811 64	10,074,575 52	97% complete
HRB-6.....	Main approach ramp of New York approach.....	9	1,153,210 00	746,679 00	746,679 00	930,050 00	174,358 44	1,462 46	175,820 90	35% complete
HRB-7.....	Clearing site—New York approach.....	9	256,450 00	149,000 00	149,000 00	450,000 00	149,000 00	462 38	149,462 38	Complete
HRB-8.....	Vehicular Tunnel in West 178th St. of New York approach.....	11	2,965,000 00	1,756,945 00	1,756,945 00	2,713,570 00	331,129 01	.....	331,129 01	25% 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	85,015 08	.....	85,015 08	8% 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	275,018 02	2,890 87	277,908 89	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	.....	.....	.....	.....

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 unforeseen foundation conditions.

† Final payment, not made to contractor.

Table No. 14
KILL VAN KULL BRIDGE
EXPENDITURES UNDER CONSTRUCTION CONTRACTS
March, 1926 to December, 1930, Inclusive

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	\$2,043 23	498,339 18	Complete
BP-3.....	Steel work.....	3	5,469,950 00	5,041,770 00	5,041,770 00	5,781,000 00	4,318,103 11	111,196 18	4,429,299 29	94% 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	9,946 35		9,946 35	36% complete

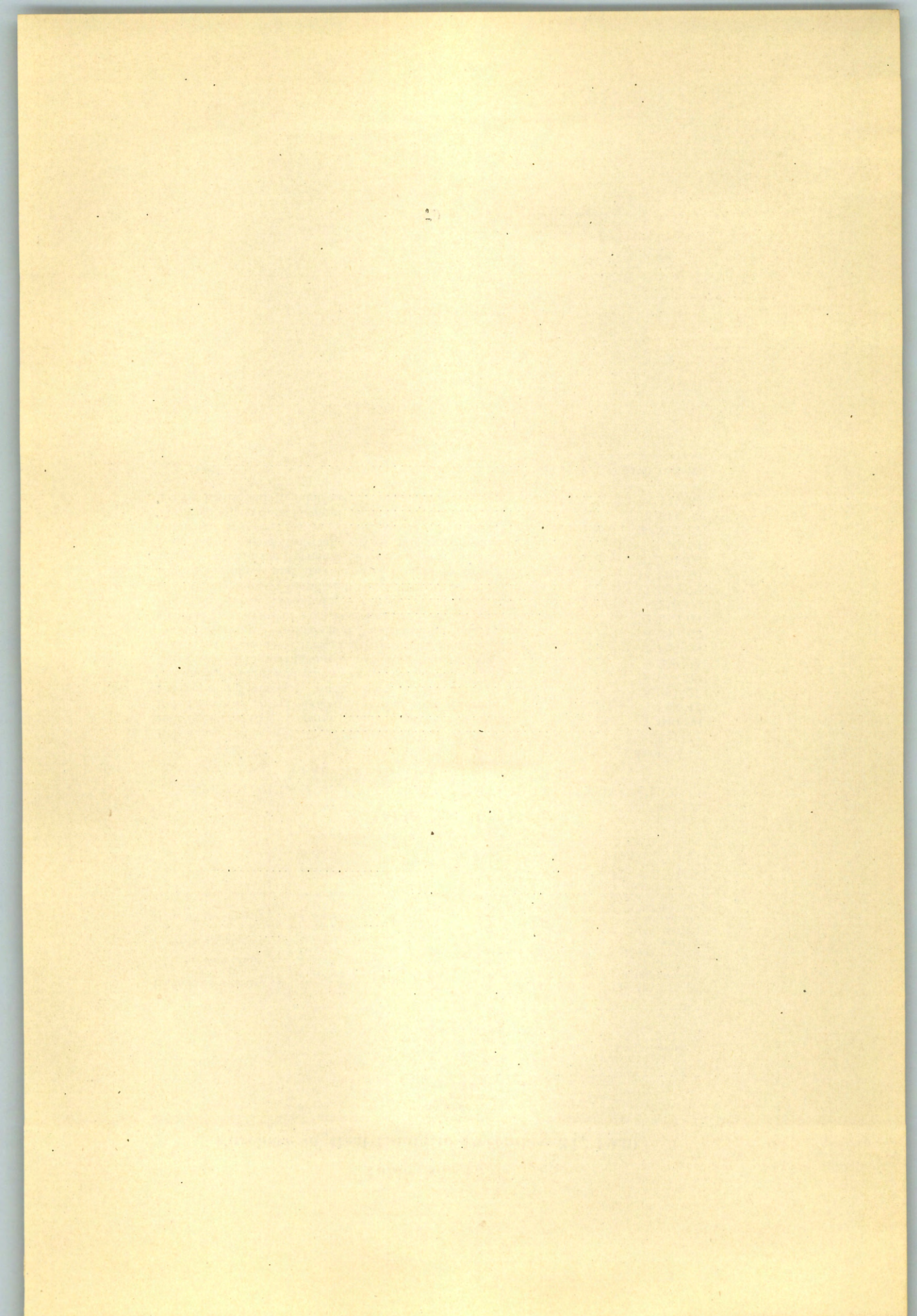
NOTE.— Engineer's estimate of contract items is arrived at on basis of estimated quantities at an assumed unit price for each contract item. Contractors' bids represent an aggregate estimated cost, based on fixed unit prices bid by the contractor and the engineers' estimate of quantities.

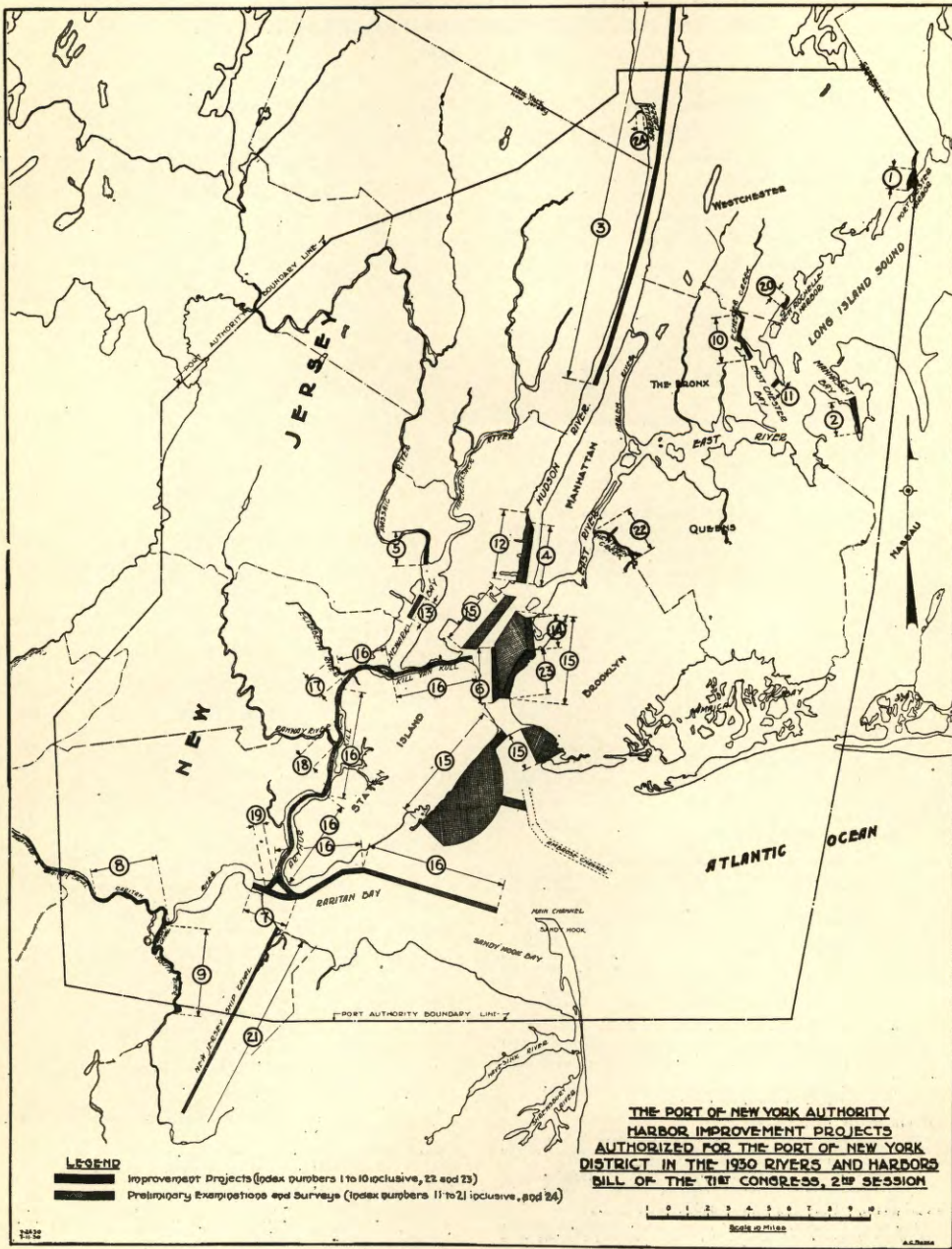
Table No. 15
Purchase of Real Estate to December 31, 1930

PROJECT	Location	NUMBER OF PARCELS ACQUIRED		Cost	
		To December 31, 1929	To December 31, 1930	To December 31, 1929	To December 31, 1930
Hudson river bridge....	New York City..	43	50	\$8,113,525.96	\$8,576,775.96
	Fort Lee.....	101	106	983,878.60	1,002,784.60
Kill van Kull bridge....	Port Richmond..	80	80	819,779.51	819,603.72
	Bayonne.....	138	145	1,806,553.20	1,900,196.20
Goethals bridge.....	Howland Hook..	8	9	69,578.71	71,890.71
	Elizabeth.....	57	57	468,500.00	468,500.00
Outerbridge crossing....	Tottenville.....	1	1	80,000.00	80,000.00
	Perth Amboy....	89	89	562,844.00	562,844.00
Inland Terminal No. 1..	New York City..	.....	46	.....	2,605,958.72
Total.....	.....	517	583	\$12,904,659.98	\$16,088,553.91

Table No. 16
EXPENDITURES FOR EFFECTUATION OF COMPREHENSIVE PLAN
YEAR ENDED DECEMBER 31, 1930

<i>Project</i>	<i>Amount</i>
Belt Lines — General.....	\$41.72
Belt Line No. 13 — General.....	1,049.90
Belt Line No. 13 — Hoboken Manufacturers Railroad.....	33.42
Bridges and Tunnels — North River.....	5,291.27
Channels, Bridges and Anchorages.....	8,688.00
Consolidated Lighterage and Carfloatage Operations.....	309.24
Food Distribution — Marketing Research Council.....	1,896.08
Food Receiving Terminals and Food Distribution.....	6,340.63
General Development Port District.....	52,386.03
Hoboken Marine Terminal.....	259.02
I. C. C. and State Commission Cases.....	17,394.72
Inland Terminals and Movement of Freight by Motor Trucks.....	14,262.80
Jersey City Marine Terminal.....	30,791.06
New York Central Railroad — West Side Improvement.....	40.54
Suburban Transit.....	39,797.67
Terminal Operations General.....	3,314.93
Traffic Rates and Regulations.....	8,141.36
Total.....	\$190,038.39





**INDEX TO CHANNEL IMPROVEMENTS AND SURVEYS FOR THE PORT OF NEW YORK
AUTHORIZED IN THE RIVERS AND HARBORS BILL (PUBLIC NO. 520-71ST
CONGRESS H.R. 11781) SIGNED BY PRESIDENT HOOVER
JULY 3, 1930**

IMPROVEMENT PROJECTS

Projects providing for the improvement of various waterways in the Port of New York are shown in solid black. A description of these projects, by index numbers, follow:

- (1) **Port Chester Harbor, New York:**
The project provides for widening the turning basin and other improvements.
The Port Authority conferred with the local Chamber of Commerce and industries located in Port Chester, in this matter and assisted them in the preparation of their data to be submitted to the Army Engineers.
Estimated Cost to Government.....\$44,500.00
Estimated Cost to Local Interests..... 5,500.00
- (2) **Manhasset Bay, New York:**
The improvement for this waterway provides for a channel 8 feet deep, 100 feet wide from deep water in the bay to Crompton Brothers wharf at Great Neck, with a turning basin at that point. This work is contingent upon local interests contributing \$60,000.00 and furnish suitable disposal areas for spoil.
Estimated Cost to Government.....\$62,000.00
Estimated Cost to Local Interests..... 50,000.00
- (3) **Hudson River, New York:**
The project is part of the New York to Albany Channel and only a small amount of work will be necessary within the Port District. The project provides for widening and deepening the channel from Fort Lee to Feughkeepsie, so as to provide a channel with a minimum depth of 27 feet.
Estimated Cost to Government.....\$169,000.00
Estimated Cost to Local Interests..... None
- (4) **Hudson River (Battery to 20th Street, Manhattan, N. Y.):**
The project provides for increasing the width of the Hudson River Channel from 2000 feet to 2800 feet between the Battery and 20th Street, Manhattan; the entire channel to have a minimum depth of 40 feet at mean low water.
This is one of the projects in which the Port Authority was extremely active. The original recommendations of the Army Engineers provided that no work should be undertaken until New York City had removed certain temporary extensions to three piers. A representative of the Port Authority went to Washington and appeared before the Rivers and Harbors Committee and urged the restricting clause in the Army Engineer's report be withdrawn as it was unreasonable to hold up so important a project because of the three short pier extensions. The Rivers and Harbors Committee, acting on the Port Authority's suggestion, approved the project and waived the Engineers' restricting clause.
Estimated Cost to Government.....\$720,000
Estimated Cost to Local Interests..... None
- (5) **Panama River, New Jersey:**
The project provides for a channel 30 feet deep and 300 feet wide from Newark Bay, to a point 3,000 feet above the Lincoln Highway Bridge.
The Port Authority appeared before the 2nd District Engineers when the necessity for improving this Channel was being considered and presented various data and evidence to show the necessity for improving this waterway.
Estimated Cost to Government.....\$1,266,000
Estimated Cost to Local Interests..... None
- (6) **New York Harbor—Anchorage Channel, Upper Bay:**
The project provides for shifting the southerly section of the Anchorage channel eastward so as to provide a channel 2000 feet wide and 40 feet deep.
The eastward shift of the anchorage channel was necessary because of the congestion at the Quarantine Anchorage which lies immediately west of the Anchorage Channel.
The Port Authority appeared before the 1st District Engineers when this Channel was under consideration and urged that the Channel be shifted eastward in order to avoid having vessels pass through the congested Quarantine Anchorage.
Estimated Cost to Government.....\$460,000
Estimated Cost to Local Interests..... None
- (7) **Raritan Bay and Raritan River, New Jersey:**
The project provides for a channel 300 feet wide and 25 feet deep extending from a point near Great Beds Light to deep water above the New York and Long Branch Division at the Central Railroad of New Jersey.
Estimated Cost to Government.....\$172,000
Estimated Cost to Local Interests..... None
- (8) **Raritan River, New Jersey:**
The project provides for a channel 10 feet deep in soft material, 11 feet deep through rock, generally 100 feet wide, from the Washington Canal to New Brunswick, New Jersey.
Estimated Cost to Government.....\$130,000
Estimated Cost to Local Interests..... None
- (9) **Washington Canal and South River, New Jersey:**
The project provides for a channel 12 feet deep and 100 feet wide in the Washington Canal, and 12 feet deep and 150 feet wide in the South River up to Old Bridge.
This work is subject to the provision that local interests dredge a channel 12 feet deep and generally 150 feet wide between the highway bridge at South River and Old Bridge and further that they shall furnish all rights of way and necessary disposal areas without cost to the Federal Government.
Estimated Cost to Government.....\$90,000
Estimated Cost to Local Interests.....See local co-operation clause.
- (10) **East Chester Creek, New York:**
The project provides for a channel 8 feet deep, with increased width at various points, from Long Island Sound to the head of navigation.
This work is contingent upon local interests dredging certain slips and basins and furnishing disposal areas
Estimated Cost to Government.....\$283,000
Estimated Cost to Local Interests.....See local co-operation clause.
- (22) **Newtown Creek, New York:**
The project provides for widening the mouth of the entrance channel and also for the dredging of the creek proper to a depth of 23 feet with a bottom width of 130 feet, from the entrance channel to a point approximately 200 feet below Maspeth Avenue. The Port Authority appeared before the 1st District Engineers when the improvement of this waterway was under consideration and urged that entrance channel be widened and that further consideration be given to a deeper channel in the creek, in order to accommodate the enormous tonnage moving in this waterway.
Estimated Cost to Government.....\$269,500
Estimated Cost to Local Interests..... None
- (23) **Bay Ridge Channel, Brooklyn, New York:**
The project provides for widening the Bay Ridge Channel from 1200 feet to 1750 feet with a minimum depth of 40 feet.
The action of Congress in placing this project in the Rivers and Harbors Bill follows the recommendation of the Port Authority presented in February 1930, at a public hearing before the 1st District Engineers. The Port Authority suggested the widening of the Channel to 800 feet in order to accommodate the large passenger lines now docking in south Brooklyn. The Army Engineers cut this increase to 650 feet in their recommendation.
Estimated Cost to Government.....\$1,150,000
Estimated Cost to Local Interests..... None

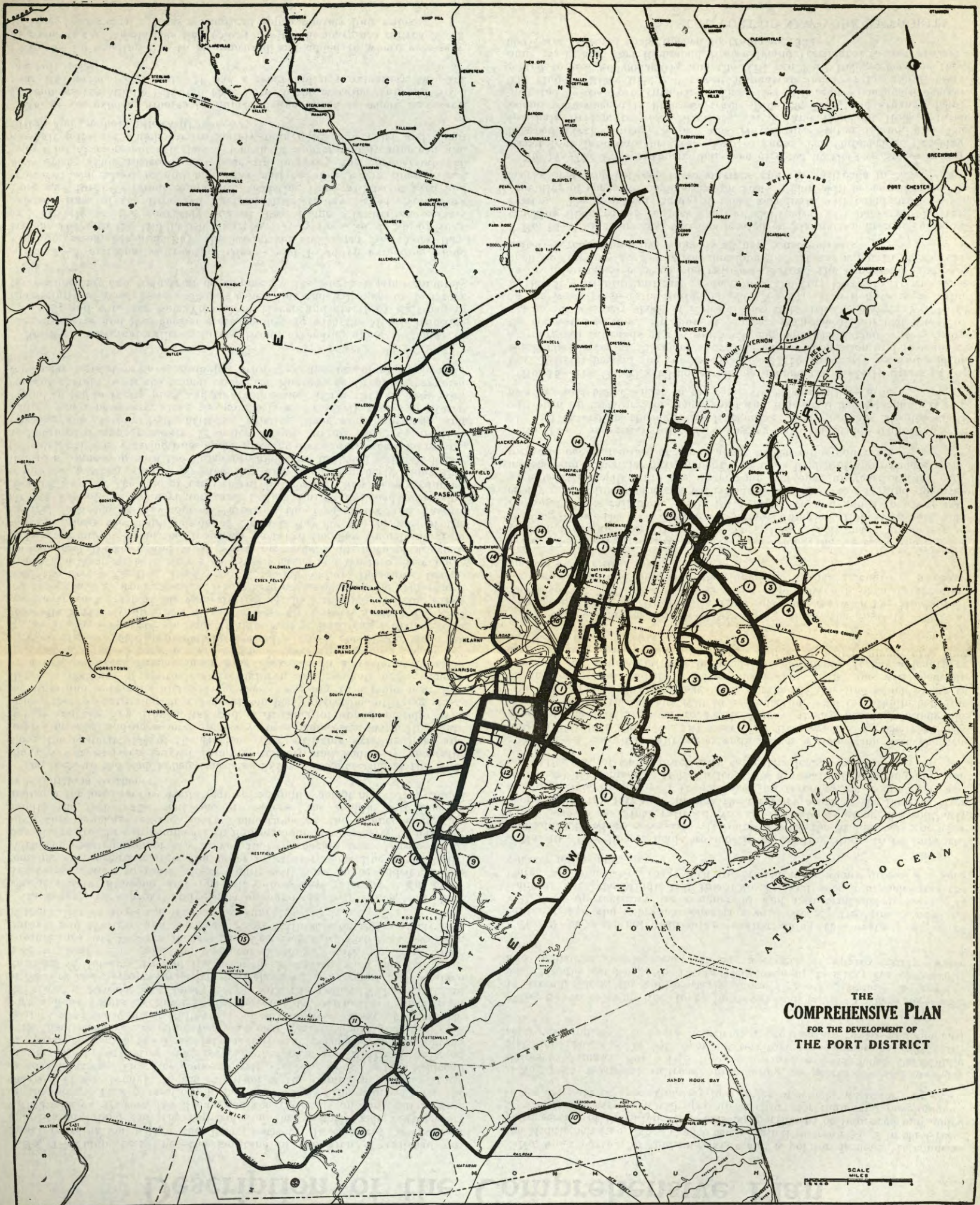
PRELIMINARY EXAMINATIONS AND SURVEYS

The examinations and surveys authorized for waterways in Port District are shown in cross hatched lines. A description of these projects, by index numbers, follow:

- (11) **East Chester Bay, New York:**
A survey with a view to constructing a breakwater at or near City Island.
- (12) **Hudson River Channel, New York:**
A survey with a view to securing a depth of 40 feet for the full width of the river from 59th Street, Manhattan, to deep water in the upper bay.
- (13) **Newark Bay, New Jersey:**
A survey with a view to providing anchorage grounds in the vicinity of Port Newark Terminal.
- (14) **New York Harbor, New York:**
A survey of the Brooklyn waterfront from a point opposite the lower end of Governors Island to a point near the beginning of the "shore road improvement" in south Brooklyn with a view to securing wider channels.
- (15) **New York Harbor, New York:**
A survey of the Upper Bay, the Narrows, the Lower Bay and Red Hook Flats, with a view to providing additional anchorage areas, the relocating existing anchorages, the constructing a breakwater off Staten Island and additional dredging where needed in the interest of navigation.
- (16) **New York and New Jersey Channels:**
A survey of the New York and New Jersey Channels, from deep water in the vicinity of Sandy Hook, through the Lower Bay, Raritan Bay, Arthur Kill, Kill van Kull, to deep water in the Upper Bay, with a view to securing channels of sufficient depth and width for vessels using such channels.
- (17) **Elizabeth River, New Jersey:**
Survey not described in Rivers and Harbors Bill.
- (18) **Rahway River, New Jersey:**
Survey not described in Rivers and Harbors Bill.
- (19) **Raritan Bay, New Jersey:**
A survey to provide a cut-off channel at Perth Amboy, New Jersey, to connect the Raritan River Channel with the southerly end of the Arthur Kill.
- (20) **New Rochelle Harbor, New York:**
Survey not described in Rivers and Harbors Bill.
- (21) **New Jersey Ship Canal, New Jersey:**
A survey of the New York Bay-Delaware River section of the intercoastal waterways, to find the most desirable route for a canal, with a minimum depth of 25 feet and adequate width.
- (24) **Sparkhill Creek, Rockland County, New York:**
Survey not described in Rivers and Harbors Bill.

**THE PORT OF NEW YORK AUTHORITY
80-80 Eighth Avenue
New York, New York**

J. B. LYON COMPANY, PRINTERS, ALBANY, N. Y.



THE
COMPREHENSIVE PLAN
 FOR THE DEVELOPMENT OF
 THE PORT DISTRICT

SCALE
 MILES
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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 West Hoboken; 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 new 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. It is made up mostly of existing lines—the Erie Terminals, Jersey Junction, Hoboken Shore, and National Docks railroads. It is to be improved and added to where necessary. This line, connected with Middle belt line (No. 1), and operated as a belt line will serve the waterfront and open up territory for commercial and industrial development. It has a length of approximately sixteen and one-half miles, of which about fifteen miles now exist.

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 terminal stations located on Manhattan in zones of equal trucking distance, as to pick-ups and deliveries, will be served by this system. The overhead rights of these terminals will be utilized by the providing of space for commercial purposes. They will be served by motor trucks operating between these stations and the railroads in New Jersey.

No. 17—The Port Authority has been directed by the two States to construct four interstate bridges. Two of these, The Outerbridge Crossing, between Perth Amboy, N. J., and Tottenville, Staten Island, and The Goethals Bridge, between Elizabeth, N. J., and Howland Hook, Staten Island were opened to highway traffic June 29, 1928, and are now being operated by the Port Authority. Their cost will approximate \$16,800,000. The Hudson River Bridge, between Manhattan and Fort Lee, N. J. (estimated to cost \$60,000,000); and the Kill van Kull Bridge, between Bayonne, N. J., and Port Richmond, Staten Island (estimated to cost \$16,000,000), are expected to be opened to traffic in 1932.

