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## THE PORT OF NEW YORK AUTHORITY

CREATED BY COMPACT BETWEEN THE STATES OF  
NEW YORK AND NEW JERSEY AND RATIFIED BY CONGRESS

7th

## ANNUAL REPORT

FOR THE CALENDAR YEAR 1927

GEORGE S. SILZER  
Chairman  
FRANK C. FERGUSON  
SCHUYLER N. RICE

JOHN F. GALVIN  
Vice-Chairman  
HOWARD S. CULLMAN  
HERBERT K. TWITCHELL

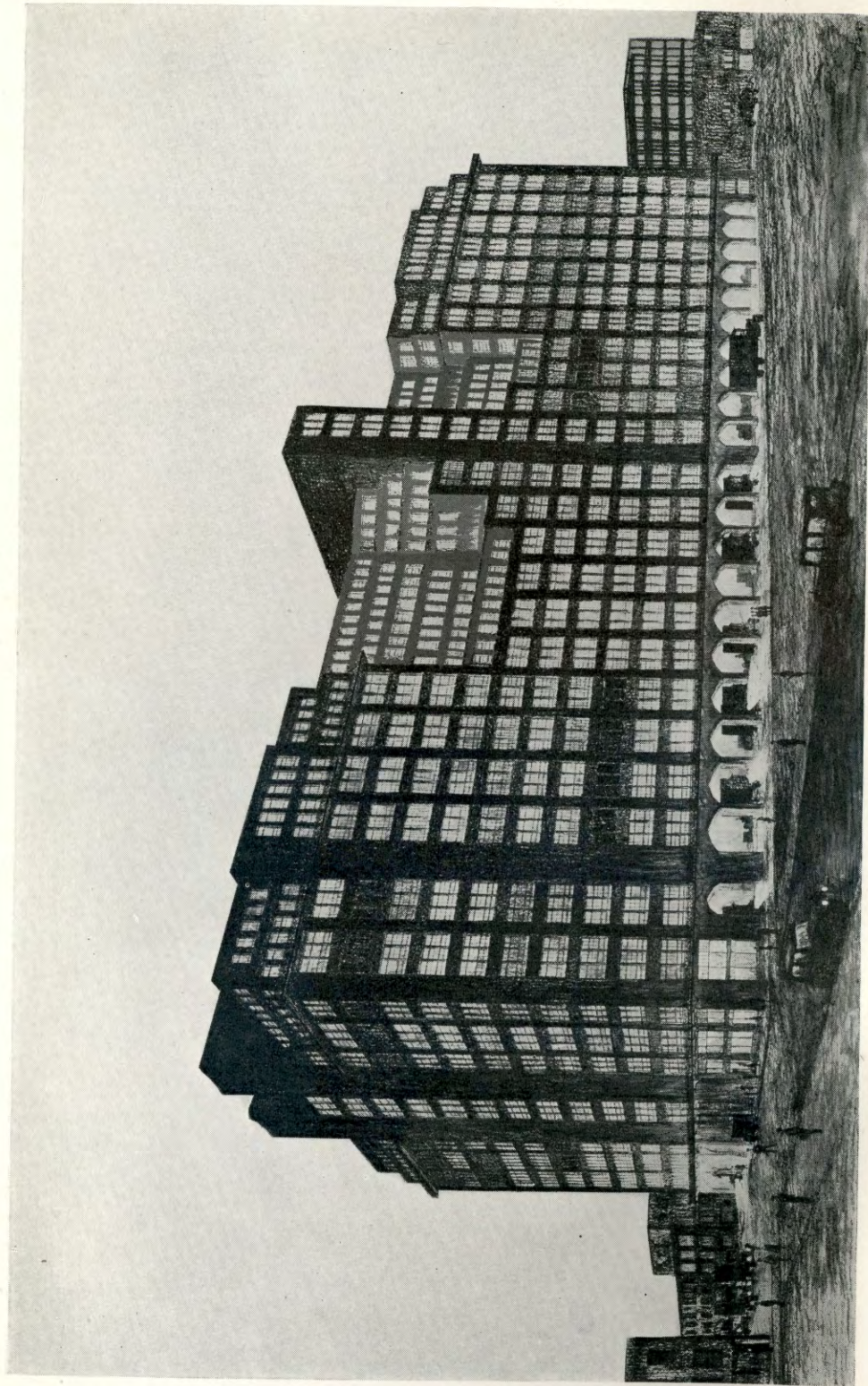
JANUARY TWENTIETH, NINETEEN TWENTY-EIGHT

ALBANY  
J. B. LYON COMPANY, PRINTERS  
1928

974.901  
P72  
1927

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Revised design of Union Inland freight station.



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## THE PORT OF NEW YORK AUTHORITY

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### COMMISSIONERS

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Chairman  
FRANK C. FERGUSON  
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JOHN F. GALVIN  
Vice-Chairman  
HOWARD S. CULLMAN  
HERBERT K. TWITCHELL

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JOHN E. RAMSEY  
Chief Executive Officer

JULIUS HENRY COHEN  
Counsel

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WILSON J. VANCE, Secretary  
WILLIAM LEARY, Treasurer  
DAVIS L. WATERS, Asst. Treasurer  
MARION RODGERS, Auditor  
L. J. KEEFE, Director of Public Information

### TECHNICAL STAFF

BILLINGS WILSON, Deputy Manager  
W. W. DRINKER, Chief Consulting Engineer  
OTHMAR H. AMMANN, Chief Engineer of Bridges  
GEORGE W. GOETHALS, Consulting Engineer  
WILLIAM H. BURR, Consulting Engineer on Bridges  
GLENN S. REEVES, Transit Engineer

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E. J. TSCHIMBKE, Chief Clerk

NEW YORK, January 20, 1928.

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

The Port of New York Authority, herewith submits its annual report for the calendar year 1927, and respectfully directs your attention to the work done the last twelve months.

It presents a record of gratifying progress made upon the interstate bridges, two of which are now so far advanced we are assured they will be opened to traffic ahead of schedule time and well within estimated cost.

Plans have been completed for the handling of freight on Manhattan, and the laying out of Belt Line No. 1 in New Jersey has gone forward. Studies have been completed for the coordination of railroad marine operations within the Port District.

The Port has been protected against the attacks of rival ports. Facilities for handling live poultry for the Port District will soon be established. Progress has been made toward the solution of the problem of transporting commuter passengers between New York City and the suburbs. Municipalities have been aided in undertaking development of their own local advantages or to secure deeper channels and other improvements.

Probably the most important achievement of the year has been the establishment of a sound credit rating which makes possible the sale of Port Authority securities to the public on favorable terms.

These matters are summarized in this letter of transmittal and the details concerning them are found in the sections of the report itself.

***Arthur Kill Bridges***

There are in course of construction two vehicular bridges over the Arthur Kill which will connect Staten Island, City of New York, with the mainland at two points—Perth Amboy, New Jersey, and Elizabeth, New Jersey.

The estimated cost of these two projects is eighteen million dollars (\$18,000,000).

Financing of these bridges was completed in March, 1926, with the sale of fourteen million dollars (\$14,000,000) Port of New York Authority four and one-half per cent (4½%) bonds.

The first of the contracts for construction of any portion of the bridges was awarded late in 1926.

Progress of the work during the past year has been most satisfactory. All of the substructure work, embracing 147,800 cubic yards of concrete masonry was completed. The superstructure work, involving the fabrication and erection of 27,764 tons of steel, was practically completed. Contracts for the concrete abutments and earth fills of the plazas were awarded and the work partly completed. Contracts for the concrete decks were also awarded. There remain a few minor contracts yet to be let, such as the electrical work, field operation buildings, toll booths, and paving of the plaza areas. Acquisition of property needed for plazas and approaches was completed.

There has been expended to December 31, 1927, for construction work, cost of land, interest and discount on indebtedness, engineering and other costs, the sum of \$12,091,328.87. All costs are well within the engineers' estimates.

It is expected that both these bridges will be completed and opened to traffic early in the Summer of 1928, instead of early in the year 1929 as originally scheduled.

#### **Hudson River Bridge**

Initial financing of the Hudson River Bridge was completed in December, 1926, by the sale of twenty million dollars (\$20,000,000) of a total authorized issue of sixty million dollars (\$60,000,000) Port of New York Authority four per cent (4%) bonds. It is expected that this bridge will be completed and opened to traffic early in 1932 at a cost of approximately sixty million dollars (\$60,000,000).

A separate report of the project is being issued in which design features and progress made with construction are set forth in some detail.

During the past year, final boring studies were completed, as were also final design studies to determine the type of the main bridge structure. Five contracts for construction work, aggregating approximately \$24,357,000

were awarded. This amount represents sixty-four per cent (64%) of the cost of all construction work which will be required to open the bridge to traffic. Contracts let embrace the fabrication and erection of all steel work, including cables. The type of the cables was determined by competitive bidding. Bids were asked on both eyebar cable and wire cable designs. The bids submitted for the wire cable design were lower by more than a million dollars.

There have been expended, to December 31, 1927, for construction, cost of land, interest and discount on indebtedness, engineering and other construction costs, \$4,638,969.85. Approximately sixty-five per cent (65%) of all real estate required for plazas and approaches has been acquired.

#### **Kill van Kull Bridge**

This structure is designed for both vehicular traffic and rapid transit by rail. The bridge will span the Kill van Kull between Bayonne, New Jersey, and Port Richmond, Staten Island, New York.

The estimated cost of the bridge is sixteen million dollars (\$16,000,000), which will be met by proceeds of Port Authority bonds and advances by the States of New York and New Jersey aggregating four millions of dollars.

During the past year, preliminary studies and surveys progressed to a point where definite conclusions could be drawn regarding financial feasibility of the project.

Financing was completed with the sale of twelve million dollars (\$12,000,000) Port of New York Authority four per cent (4%) bonds on January 5, 1928.

Construction work will be commenced early in the Summer of 1928.

During the past year, \$981,474.56 were expended on this project, practically all of which went for the acquisition of property required for the approaches and plazas. The purchase of property in advance of permanent financing was made possible by negotiation of a temporary bank loan.

#### **Manhattan's Freight Problem**

The comprehensive plan adopted by the two States includes definite recommendations relating to the effectuation of a plan for the more efficient and economical handling

of Manhattan's freight traffic. The plan provides for a series of union inland freight stations.

Considerable progress has been made in the past year in this direction. The staff's studies relating to the engineering and economic phases of the matter have been carefully checked by a firm of independent industrial engineers. Conferences were held with several groups of bankers and assurance was received that the project can be financed by the Port Authority independent of State aid and upon a basis sound and altogether satisfactory.

At the close of the year, such progress had been made that prospective operators for the first unit of the series of nine terminals were invited to submit proposals. As a result, various propositions are now under advisement.

Congestion on the streets of Manhattan will be materially lessened and handling of freight more or less completely reformed. Waterfront property in both New York and New Jersey will be released for its proper use—that of shipping.

#### ***Belt Line No. 1***

A feasible route has been developed in New Jersey for Belt Line No. 1. This belt line would permit direct rail freight service throughout the Port.

The establishment of Belt Line No. 1 would be expedited by the enactment of a law in New Jersey similar to the New York statute, whereby the Port Authority could summon witnesses and subpoena records, and thereby more quickly demonstrate the economic practicability of the facility.

#### ***Coordination and Consolidation of Marine Operation Within the Port***

The staff has practically completed its studies to prove the economic practicability of consolidating railroad carfloat and lighterage operations throughout the District. The results of these studies have from time to time been laid before the executives of the railroads.

We are especially gratified that the railroads have within the year voluntarily taken the first step towards the unified operation of these services by the installation of a special system of communication and dispatching, and interchange of surplus equipment. This has reduced very

largely the necessity for chartering equipment. We have every reason to believe that the plan has resulted in considerable economies to the carriers without any detriment to the service.

#### ***Protecting the Port***

Attacks of rival ports have as their purpose the obtaining of artificial advantages which would injure the continued supremacy of the Port of New York. It is necessary to appear and intervene in a series of proceedings before Federal and State regulatory bodies and elsewhere.

A staff of experts must be maintained to secure essential data and marshal facts for presentation to such regulatory bodies.

A few of the cases in which the Port Authority is now appearing before the Interstate Commerce Commission are:

Eastern Class Rate Investigation.

Port Charges Investigation.

South Atlantic and Gulf Port—4th Section Case.

Baltimore Differentials Case.

Differential Rates to Philadelphia on Iron and Steel.

#### ***Financing***

A sound credit is essential to the Port Authority's success. The Port Authority does not possess the power to levy taxes or assess for benefits. Any funds required for construction enterprises must be secured by the sale of Port Authority securities.

The Port Authority has issued and sold to the public Forty-six Million Dollars (\$46,000,000) of its bonds. To finance the Arthur Kill Bridges an issue of Fourteen Millions (\$14,000,000), 4½% bonds was sold to the public March 4, 1926, at a cost of 4.77%. An issue of Twenty Millions (\$20,000,000), 4% gold bonds, to finance the Hudson River Bridge, was sold to the public December 9, 1927, at 4.24%. Shortly after the close of 1927 a Twelve Million Dollar (\$12,000,000) issue of 4% bonds, to finance the Kill van Kull Bridge, was sold at a cost of 4.01%. This superb credit standing of the Port Authority is one which enables the two states to achieve great economies through this agency.

Further details of progress made in establishing a credit are contained in the appended report.

#### **Union Live Poultry Terminal**

The early establishment of a union live poultry terminal may be expected. Progress in this direction has been made largely as a result of a survey by the Port Authority at the request of the trade.

A plan has been worked out and agreed upon, whereby the terminal will be established without the aid of public financing. A saving of \$500,000 annually in the handling of live poultry, besides far-reaching improvements in other directions, would result from such a terminal.

#### **Suburban Transit**

Study and planning of suburban transit facilities to relieve present congestion and provide adequately for the commuter in the future have been undertaken. The study was inaugurated pursuant to authorization from the State of New Jersey under Chapter 277 of the Laws of 1927.

Through cooperation with the Board of Supervisors of Westchester County and the North Jersey Transit Commission, there was established, effective July 1, 1927, the Suburban Transit Engineering Board, with the following representation:

- North Jersey Transit Commission.
- Board of Supervisors of Westchester County.
- Board of Supervisors of Nassau County.
- Board of Supervisors of Suffolk County.
- Board of Transportation of the City of New York.
- Association of Railway Executives.
- The Port of New York Authority.

These associated agencies, through the Suburban Transit Engineering Board, have agreed to undertake the preparation of a comprehensive, engineering, legal and financial plan for supplying rapid transit facilities between all sections of the New York Metropolitan District, including the suburban districts in both the States of New York and New Jersey. The plan will provide for the requirements of intra-state traffic as well as the demands of interstate traf-

fic. Enlargement of our duties in this connection has necessitated creating a suburban transit division on our staff, headed by a competent transit engineer, and including the necessary technical assistants.

It is hoped that the ensuing year will be marked by the submission of a practical and financially feasible plan which may at least afford the basis for solution of this important phase of our transportation problem growing increasingly acute from day to day. It remains for the New York legislature to enact legislation concurring with the State of New Jersey in authorizing the Port Authority to proceed.

#### **Miscellaneous Studies**

The Port Authority has been of service to a number of municipalities in aiding with studies to determine the economic practicability of various proposed local improvements. It has also been given similar aid in the matter of improving channels and waterways in various sections of the Port.

#### **Public Relations**

The relations between the Port Authority and municipalities of the Port District are most cordial. Municipalities in which are located the many projects now being studied or in course of construction, are co-operating fully in carrying forward Port Authority activities. During the year, agreements were reached with the Cities of Perth Amboy, Elizabeth, and Fort Lee, New Jersey, relating to plans for the approaches and plazas of the interstate bridges which directly affect these communities. Most helpful cooperation is being received from the State Highway Department of New Jersey, and the Palisades Interstate Park Commission, in connection with the project which affects these agencies.

A most cordial relationship has been established with the City of Bayonne, and progress is being made in reaching an agreement on plans for the Bayonne-Port Richmond Bridge which will so vitally affect that community.

The Mayor, the President of the Board of Aldermen, the President of the Borough of Manhattan, and the Board of Estimate and Apportionment, of the City of New York,

have been cooperating most helpfully. In order that a working contact might be established and maintained between the City administration and the Port Authority, the Mayor appointed a committee of the Board of Estimate and Apportionment, consisting of the President, Board of Aldermen, as Chairman, the President of the Borough of Manhattan, and the Comptroller, to meet and confer with the Commissioners of the Port Authority as frequently as might be required on matters of mutual concern. Some of the matters considered during the year and on some of which agreements have been reached, are:

- Manhattan West Side Improvement Plan;
- Location and approach plans for the two Arthur Kill Bridges;
- Inland terminal unit No. 1, for Manhattan;
- Matter of approach to the Hudson River Bridge and use of parts of Fort Washington Park for the Manhattan tower and anchorage of the structure.

We are glad to call attention at this time to the aid extended the Port Authority from time to time by the commercial and trade bodies of the district.

Cooperation is the guiding policy of the Port Authority. The Port Authority has carried the policy of co-operation into its conferences with the railroads, and believes that as a result better understandings will be brought about. Co-ordination of the rail and terminal facilities to provide properly for the requirements of this Port cannot be accomplished except by gradual stages and through the processes of education and mutual helpfulness.

Respectfully submitted,

THE PORT OF  
NEW YORK AUTHORITY

GEORGE S. SILZER,  
JOHN F. GALVIN,  
FRANK C. FERGUSON,  
HOWARD S. CULLMAN,  
SCHUYLER N. RICE,  
HERBERT K. TWITCHELL,  
*Commissioners.*

## Annual Report of the Port of New York Authority for the Calendar Year 1927

### PART I

#### DEVELOPMENT OF THE PORT

The development of projects outlined in the Comprehensive Plan and other measures looking to the improvement of the port, has been actively prosecuted during the year. Progress has been made in important particulars.

Field surveys have established the fact that a feasible route exists for the New Jersey section of Belt Line No. 1, without prohibitive grades and without grade crossings of the existing rail and passenger lines.

A detailed study of the Raritan River Railroad in connection with the project known as Belt Line No. 10 has determined a normal purchase value for that property.

Studies to indicate desirable locations for airports within the Port District have been made, and a report published. The investigation continues in cooperation with Federal, State, and municipal authorities, and other agencies.

An exhaustive investigation of the possibilities of a marine terminal at Perth Amboy was made at the request of the municipal authorities of that city. The staff has cooperated with representatives of Newark, Jersey City, Yonkers, Elizabeth and Long Island City, with respect to local marine terminal or channel improvement projects.

Information based upon studies by the staff has been furnished to the United States Army Engineers, with

respect to proposals for the deepening of channels and waterways in the interest of navigation.

Considerable advance has been made toward the establishment of the first unit in the system of Universal Inland Freight terminals, which are expected to minimize street traffic congestion and largely reduce costs in the handling of freight in Manhattan. Food terminal projects were also progressed, including studies for a union live poultry terminal.

#### *Universal Inland Freight Stations for Manhattan*

In the latter part of the year the Port Authority gave formal notice of its intention to establish "a public freight terminal facility on the Island of Manhattan, City of New York," and invited competent individuals and concerns to submit proposals for the lease and operation of this facility.

In this manner announcement was made of the early establishment of the first unit of a series of Universal Freight Stations to be constructed and operated in Manhattan. The Comprehensive Plan contemplates nine or more such stations, to be so located as best to serve the interests of the shippers and receivers of freight and to facilitate the economic and speedy handling of their goods. Eventually Manhattan will be zoned for freight purposes, and in each zone a Universal Freight Station will permit the manufacturer or merchant to receive all his inbound shipments and to make all his outbound shipments at the same place. The transfer between inland stations and rail terminals in New Jersey or elsewhere will be made by motor equipment and eventually the congested pier stations on the waterfront of Manhattan can be done away with.

Many of the advantages of the Universal Stations are apparent at a glance. Staff calculations indicate a direct saving of \$12,000,000 annually to the shippers and \$2,000,000 to the carriers through their operation, while the indirect savings, though more difficult of calculation, will be enormous.



An Off-line Railroad Freight Station in Manhattan.

The site for the first of the Universal Inland Freight Stations was selected on the lower west side of Manhattan, with the assistance of a special "City Sub-Committee On Inland Terminals" appointed at the request of the Port Authority by President McKee of the Board of Aldermen of New York city. The property constituting the site involved was appraised, a suitable structure designed and the construction cost carefully estimated. Abbott Merkt & Company, Industrial Engineers, were retained as consultants in this matter and after a detailed investigation reported favorably upon the design, cost and economical practicability of the terminal. Consultations with representatives of responsible banking houses brought the assurance that the matter of financing the project would encounter no difficulty.

The entire cost of the first unit is estimated at approximately \$9,000,000, and the demand from individuals and concerns desiring to lease the upper floors of the building for manufacturing, wholesale or kindred purposes, is far in advance of the space available.

In the Spring of 1927 President White of the Central Railroad of New Jersey, speaking for the railroad executives at a conference with the Port Authority Commissioners, submitted a memorandum in which, he stated that the carriers "were convinced that the estimates of these Inland Stations would not produce the benefits claimed, either for the public or for the railroads." The staff of the Port Authority prepared a complete analysis of this memorandum, meeting each criticism in detail and this was submitted to President White, with the offer to meet him and the other rail executives in further conferences. The offer has not yet been acted upon, the Executives merely replying, through Mr. White, that they did not feel any change in their position justified.

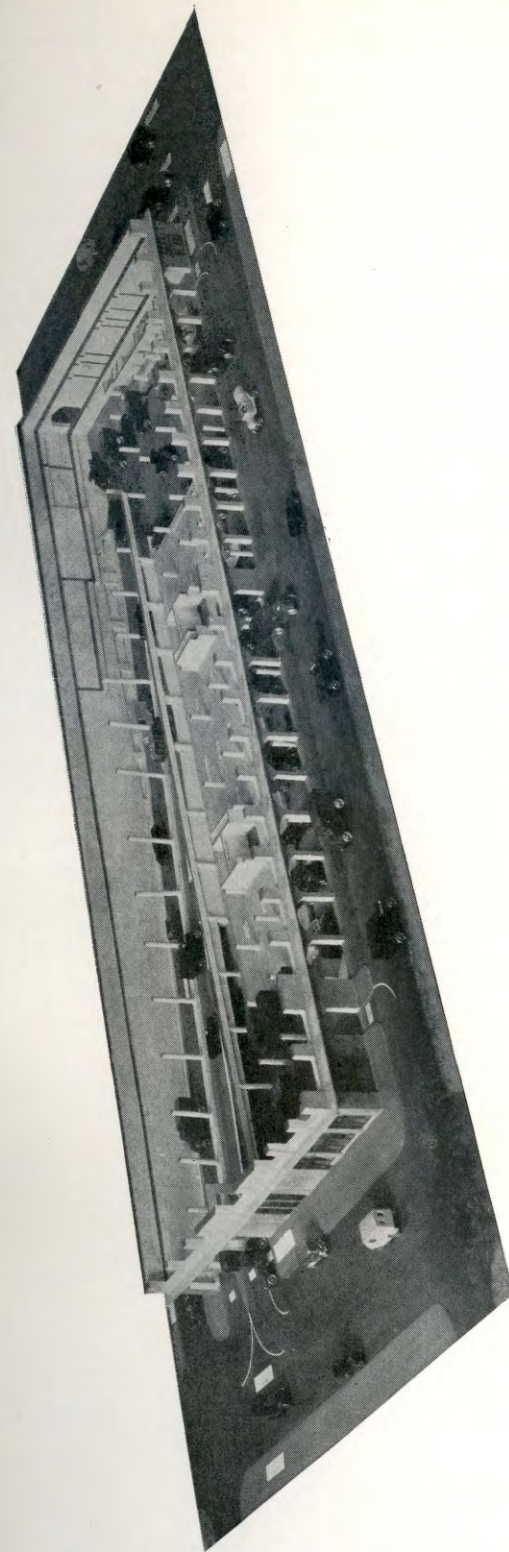
During the year, however, the Pennsylvania Railroad opened two new inland freight stations of its own on Manhattan, and the Lehigh Valley opened a third such station. At present, there are three New Jersey carriers serving

Manhattan by motor truck and eight individual inland stations are in actual operation. These stations of the carriers cannot, of course, be compared in point of advantage to the shipping public with those planned by the Port Authority. They handle only the freight transported by a single railroad in each case. They are located in buildings which were designed for other purposes and they are served by narrow streets so that the city sidewalks must be occupied by trucks, creating during certain hours severe traffic congestion. The Port Authority's Inland Station will be provided with ramp driveways, platforms and other features of special design intended to facilitate in every way a speedy and safe handling of freight and the easy movement of vehicles.

The Interstate Commerce Commission has pending an inquiry into the motor trucking practices and off-track station facilities of the New York harbor carriers. The investigation promises to be most comprehensive and may prove to be the basis for orders materially affecting freight handling methods at the port. It will, in our opinion, certainly serve to emphasize the need for union inland freight stations on Manhattan but until the case has been settled there will probably be an indisposition on the part of the carriers to make any further commitments.

#### **Live Poultry**

As noted in the 1926 Annual Report, the Live Poultry Commission Merchants' Association requested the Port Authority to advise it in regard to economies of concentrating and relocating the facilities for receipt, sale and distribution of live poultry in the Metropolitan area. The live poultry industry has been in a state of considerable agitation on account of difficulties, not only of physical handling, but with the methods of determining prices and the maintenance of health standards. Both the Attorney-General of the State of New York and the United States Department of Agriculture have become interested in matters relating to the industry. In making studies of physical handling and terminal facilities, the Port Authority main-



Ground floor and basement of Initial Union freight terminal.

tained close co-operation with these other governmental agencies, and with committees of the trade. As a result of an exhaustive study of the entire terminal situation, the Staff issued a report on May 5, 1927, which contains the following conclusions:

1. A union terminal for the receipt and delivery of live poultry is needed in New York Harbor.
2. Such terminal should be accessible by all trunk lines, at the flat New York rate, and should be their only live poultry terminal (exclusive of private slaughter house sidings.)
3. Such terminal should be so located that all trunk lines can give approximately the same service to it (and assure at least fourth morning delivery from Chicago).
4. Such terminal will require about 10.5 acres to provide adequate capacity for following requirements:
  - (a) Spotting 60 cars at unloading platforms.
  - (b) Spotting 90 cars on storage and inspection tracks.
  - (c) Parking at least 140 five-ton motor trucks.
  - (d) Coop storage, cooperage, feed storage, driveways and miscellaneous.
5. Such terminal would result in a saving of at least \$50.00 per car, or \$500,000 per year, in the terminal distribution of live poultry.
6. The live poultry trade is willing to contribute something toward the expense of providing such terminal facilities.

Since the issuance of this report a committee of the trade, with the assistance of the governmental agencies mentioned, has been negotiating for the acquisition of a union terminal accessible to all carriers, and provided with adequate space for economical terminal operation. Negotiations have progressed to the point where a site satisfactory to all parties has been determined upon, and conditions in regard to financing, leasing railroad connections, etc., have been practically settled. Throughout these negotiations the Staff

has acted in an advisory capacity to the trade, on terminal matters.

On April 1, 1927, an Act of the New York State Legislature, chartering a poultry exchange for the better conduct of poultry trading, became effective. The charter provides for a membership including representation on the boards of directors of certain public bodies, and individual citizens not connected directly with the poultry industry. One of the bodies specifically mentioned in the law is the Port Authority, which at the invitation of the incorporators designated a representative to act in the administration of the Exchange.

The live poultry industry is an important factor in supplying food to a large number of New York consumers. It has become apparent that the improvements in both the physical and commercial handling of this commodity depend in a great measure upon acquisition of adequate terminal facilities. Both from the point of view of assisting in improving food distribution in the Port and of applying the principle of establishing union terminals, which is a cardinal principle of the Comprehensive Plan, the Port Authority is gratified in being able to assist in effectuating the improvements that are imminent.

In passing it should be noted that the success of Port Authority activities is not to be measured alone by facilities erected by the Port Authority. In cooperating with private enterprise, the Port Authority, we believe, is actually doing what is contemplated to be done by the agency.

#### ***Fruits and Vegetables***

In another branch of the food distributing industry some progress has been made this year towards securing an agreement on terminal improvements. For a long time the fruit and vegetable industry has been struggling with inadequate facilities. Most of this class of perishables is delivered at pier stations belonging to three trunk line carriers on the North River waterfront. Because of the extremely seasonal nature of the traffic and the individual control of terminals, together with the unsatisfactory design

of the existing pier stations for this purpose, high costs of operations and frequent congestion and delay in operations have resulted.

From time to time various projects for new terminals have been advanced by carriers, receivers and public officials. Thus far no comprehensive plan for such improvement has been agreed upon. A proposed transfer of delivery to a terminal in Jersey City on the part of the Erie Railroad has resulted in crystalizing among New York shippers and receivers the sentiment for a union waterfront facility on Manhattan Island.

As a result of negotiations between the trade interests and the Pennsylvania Railroad, the existing facilities of that carrier, both on the North River waterfront of Manhattan, and in the supporting yards in New Jersey, have been considerably enlarged and redesigned to accommodate more of this traffic. The division of the western fruit traffic between the two competing carriers, the Erie and the Pennsylvania, still remains a matter of controversy, to the extent that the only apparent solution is the unionization of waterfront facilities, so that they may be available to both and to all other trunk lines.

The staff has made extensive investigations into the feasibility of union fruit and vegetable terminal facilities, and the details of operation and design. In these investigations it has had the assistance of the United States Department of Agriculture. During this year a closer understanding in regard to this matter was established with officials of the City of New York by the appointment of a sub-committee representing numerous departments of the City and the Port Authority Staff to report on the feasibility of union facilities. This committee has reached an agreement on the essential features of such an improvement, and has submitted a report recommending:

1. That the kind of terminal most immediately practical and most needed at the present moment is a single primary terminal rather than a number of decentralized borough terminals.

2. That this terminal should be a union terminal open to all common carriers, and capable of being operated as a unit rather than simply a group of separate piers controlled by individual carriers.

3. That this terminal should be located on the Manhattan North River water front, occupying approximately 1,000 feet on the waterfront somewhere between Piers No. 20 and No. 30.

The Mayor of New York city has been requested to appoint an enlarged committee, consisting of the public authorities, the carriers, shippers and members of the local trade, for the purpose of working out a practical solution which will satisfy the desire for a fruit and vegetable terminal open to all carriers, and designed for economical operation.

#### **Food Handling Research**

To foster improvements in some of the wider aspects of food distribution the Port Authority has continued its cooperation with the United States Department of Agriculture and six other public and educational institutions in maintaining headquarters and staff for the New York Food Marketing Research Council. The principal aim of this Council is to promote and co-ordinate intensive studies of the various phases of the marketing problem in the Port of New York District, and to disseminate this information through periodic conferences with shippers, carriers, dealers and public officials.

A number of studies were carried forward last year by various members of the Council, some being printed for public distribution and others advanced to the stage of preliminary manuscripts. In addition to the report on a union terminal for the live poultry trade, hitherto mentioned as a Port Authority report, there has been released by the United States Department of Agriculture a preliminary survey of the prices, costs and commercial practices of the live poultry trade. The other studies which have progressed to manuscript form have to do with dairy terminal requirements and market analyses of apples, peaches and eggs.

As a means of carrying to the trade and public officials the results of the research work now in progress, three public conferences or meetings were held, at which the following subjects were discussed:

Wholesale and Retail Costs of Handling Fresh Fruits and Vegetables in Metropolitan New York.

Trademark Standardization in the Marketing of Perishable Food products.

Apple Market.

These meetings were well attended, and served as a very effective medium for stressing the practical application of the information developed through the various studies. By circulating a record of the discussion of these meetings an even wider influence was exercised.

The Executive Secretary of the Marketing Council also served as coordinator for the joint activities of the live poultry commission merchants, shippers and buyers, and the public agencies in negotiations over terminals, methods of trading, and grades. Approximately 15 special conferences were arranged and summaries of the proceedings cleared through the Council headquarters.

#### **Belt Lines**

The system of belt lines embraced within the Comprehensive Plan was designed to coordinate the terminals of all the railroads serving the Port District. Its effectuation will make the lines of all carriers more readily accessible to shippers and receivers throughout the Port District. The system of belt lines forms a base upon which all port improvements must be predicated.

#### **Belt Line No. 1**

In order to ascertain whether this belt line could be constructed in the New Jersey territory indicated on the Comprehensive Plan, without involving grades too heavy to be feasible, or other serious obstacles, a field survey was made of the proposed middle section lying between County Road (Croxtan), and Newark Avenue (Marion), Jersey City. This study developed the fact that a line with "non-prohibi-

tive" grades could be constructed which also would not have grade crossings with any of the intersecting railroads.

A map of the territory was prepared and the proposed center line of Belt Line No. 1 was shown. A profile of this section was also prepared, and the proposed gradients shown.

The section north of the County Road (Croxtan), offers no physical difficulties. A general plan was prepared from maps furnished by contiguous carriers. A map of the southern section, along the Bayonne peninsula, was prepared from data furnished by carriers.

The municipal authorities of Jersey City, the Pennsylvania Railroad, and New Jersey State Highway Department, undertook studies for an undercrossing of the P. R. R. tracks in the vicinity of Wallis street and Charlotte street, Jersey City. This will be used in connection with the New Jersey State Express Highway (Extension of Route No. 1) which will pass over the tracks of the Pennsylvania Railroad in this vicinity. The proposed center line of Belt Line No. 1 is adjacent to the Express Highway, and is so located that it does not conflict with it, or with the proposed undercrossing.

That portion of Belt Line No. 1 along the north shore of Staten Island, comprehending the existing Staten Island Rapid Transit route, as indicated on the Comprehensive Plan, has received particular study, owing to the fact that the Transit Commission of New York (Metropolitan Division) has been conducting hearings on the elimination of all grade crossings from West New Brighton to Arlington.

Recommendations were made to the Transit Commission proposing a plan for the elimination of dangerous grade crossings, and at the same time the preservation of the industrial interests of the neighborhood.

#### ***Belt Line No. 13***

During the year the Port Authority staff continuously followed rail operations on this belt line, which is located adjacent to the New Jersey waterfront of the Hudson River, maintaining contacts with the industrial plant

managers and others, to the end that good service might be afforded. The railroad executives in consummation of an undertaking previously agreed upon appointed Mr. J. E. Davenport, Division Superintendent of the West Shore Railroad, as Director of Operations, Belt Line No. 13, effective March 1, 1927, thereby providing a medium through which coordinated service could be secured by shippers. "Belt Line 13" is now listed in the local telephone directory, so that the Director of Operations may be quickly reached by the shipping public in the territory served.

#### ***Hoboken Shore Road***

In the summer of 1927 the War Department concluded an agreement for the sale of stock of the Hoboken Manufacturers' Railroad, operating what is known as the Hoboken Shore Road, and the waterfront property attached thereto for a total of \$937,657.00. The purchasers were private interests. The operation of the properties was given over to the new interests on July 1st and title was transferred October 1, 1927. A bond issue of \$1,250,000 was floated by the new company in order to effect the purchase and also to provide capital for operation purposes.

The Port Authority had sought for a long time to have the Hoboken Shore Road and the waterfront property retained in public hands and itself undertook to effect purchase under a law passed by Congress to permit of this. It also stood ready to cooperate in the purchase by the City of Hoboken or some other public body. Its offer of \$1,000,000 in Port Authority bonds for railroad and waterfront property was thought to be acceptable to the War Department. At the last moment, however, the negotiations fell through because of the imposition of conditions by the War Department which the Commissioners felt were not in the public interest. Representatives of the new owners have advised the Port Authority that the Hoboken Shore Road will be operated in close co-ordination with the services given by the other carriers of Belt Line No. 13 of which it is made an integral part under the Comprehensive Plan. Thus assurance is given that the main object

of the Comprehensive Plan in this particular will be achieved.

During the year the Hoboken Shore Road petitioned the Interstate Commerce Commission for an increase of its allowance for the handling of raw silk, which furnishes a large amount of the tonnage of this line. In the preparation of the case, the Port Authority staff gave assistance. The ruling of the Commerce Commission increased the allowance to such an extent that it is estimated the company will probably gain approximately \$50,000 a year in its revenues.

The allowances to this line for handling general merchandise have also been increased as a result of negotiations with its trunk line connections.

#### ***Belt Line No. 10***

An inner belt line from New Brunswick to South Amboy approximating the general direction of the Raritan River Railroad, is designated on the Comprehensive Plan as Belt Line No. 10.

The staff has made an office study and detailed compilation of the operating characteristics of the Raritan River Railroad, for the purpose of determining what would be a normal purchase value in case the property were placed upon the market.

#### ***Brooklyn-New Jersey Ferry***

The proposed Brooklyn-New Jersey ferry has not yet been brought into being. Ferry slips are available on the New Jersey side, but on the Brooklyn shore the leasing of available slips is vested in the City of New York. On January 8, 1927, application was made to the Commissioner of Plant and Structures for a franchise to use a ferry slip at the foot of Atlantic Avenue, Brooklyn, belonging to the City of New York. Applications have been presented by a number of interested concerns, but so far no award has been made. The proposed service is a necessary one and will materially relieve street congestion in lower Manhattan.

#### ***Perth Amboy Marine Terminal Facilities***

The staff, during the year, at the request of the Commissioners of the City of Perth Amboy, conducted an investigation and study of possible locations for a marine terminal within the corporate limits of Perth Amboy. An engineering report was prepared and submitted, in which were enumerated possible locations for such a terminal, together with approximate estimates of cost of construction.

The report was prepared as a basis for a traffic survey which the municipal authorities purpose to make in order to ascertain the financial feasibility of the project, either in part or in its entirety.

#### ***Local Marine Terminals***

The engineering staff during the year has had conferences with representatives of Newark, Jersey City, Yonkers, Elizabeth and Long Island City regarding their local marine terminal or channel improvement projects.

#### ***Channel Improvements***

The opinion of the Port Authority was invited by the United States Army Engineers in connection with the various "channel improvements" and "pierhead line modifications" projects. Accordingly the Staff of the Port Authority investigated and rendered reports upon the following:

"The Raritan and South River Channel Improvement."

"Establishment of 20-foot deep Channel, 200 feet Channelward from the Brooklyn Shore, between English Place and Pierce Avenue, Long Island City."

"Modification of Pierhead Line between C. R. R. of N. J. Ferry and Essex Street, Jersey City."

"Modification of Pierhead Line between West 30th Street and West 72nd Street, Manhattan."

"Hudson River 'shore to shore' 40-foot deep Channel, Battery to West 20th Street."

"Passaic River 30-foot deep Channel from Port Newark Terminal to Jackson Street Bridge, Newark."

On each of the above projects the Staff made investigations as to the economic merits, and communicated its conclusions to the United States District Engineers. In a majority of cases the proposed improvements were favored. In the other cases the recommendations looked to deferring work until the development of commerce justified the necessary expenditures.

#### *Carfloat and Lighterage Service*

It is gratifying to report that the staff studies of the economies to be obtained through coordinated effort of the marine departments of the various railroads are beginning to bear fruit. During the year the carriers have taken a step towards central dispatching by installing special telephone facilities directly connecting the tug dispatchers of the several railroads so that they can exchange information and perform towing service for each other when opportunity arises. Since this arrangement was put into effect a substantial amount of the towing formerly contracted for by the carriers has been performed by railroads themselves, thus serving to reduce to that extent the aggregate railroad terminal expense at the port. Meanwhile the staff is pursuing its economic analyses of this entire matter with the object of perfecting a plan for even greater coordinated effort which will be acceptable to the carriers. The savings thus far effected constitute only a minor portion of the potential economies possible to the carriers through unified effort.

#### *Airports*

The matter of a suitable airport for the Port of New York District has received considerable attention during the past year. An airport is primarily a terminal facility for aircraft, and as such the Port Authority is interested in having provided the best facilities possible.

In the early part of 1927 a preliminary report was prepared by the staff setting forth the general and primary equipment required, the accessibility of the location in

respect to highways, railroad, etc., the manner in which it could be established, the general characteristics, the traffic, the importance of commercial aviation and responsibility for an air port, list of existing air ports in the United States, existing landing fields in the Metropolitan District, and notes in regard to the construction of an air port.

Later, Secretary of Commerce Hoover appointed a Fact Finding Committee to investigate and report on a New York Metropolitan Airport, Asst. Secretary William P. MacCracken, Jr., was selected as chairman and sub-committees were appointed on location, engineering, ways and means, and valuation. The Port Authority was represented on the sub-committee on engineering.

The Fact Finding Committee reported on Dec. 20, 1927, recommending a system or series of airports throughout the district to be developed as needed. Six sites were suggested as suitable for initial development, four in New York City and two in the New Jersey sector of the port. The committee also recommended development of local airport facilities by one or other of the two states, or by one of the political subdivisions thereof rather than a bi-state development. Various local committees are now actively advancing the committee's recommendations.

#### *West Side Improvement*

A report from the so-called "West Side Improvement Engineering Committee" appointed by Mayor Walker of New York, to consider the New York Central's plan for the improvement of the west side of Manhattan Island was presented in the early summer. The committee consisted of William C. Lancaster, Chief Engineer, Transit Commission; Arthur S. Tuttle, Chief Engineer, Board of Estimate and Apportionment; G. W. Kittredge, Chief Engineer, New York Central Railroad; C. M. Pinckney, Chief Engineer, Borough of Manhattan; Robert Ridgway, Chief Engineer, Board of Transportation; Billings Wilson, Deputy Manager, Port of New York Authority.

This body functioned continuously from the date of its

appointment until a physical plan was decided upon which would eliminate all grade crossings on Manhattan Island, relocate and reconstruct the yards at Manhattanville, 60th Street and 30th Street, and also erect a multi-story building which would constitute a southern terminal and be known as "Spring Street Terminal."

The Port Authority's plan for handling freight by means of "off track" Universal Inland Freight Terminals, operated as both receiving and delivery stations for all carriers, was presented to the Committee and in consequence the ground floor of the "Spring Street Terminal" has been so arranged that it can be operated as a universal freight station when necessary.

In all of the deliberations of the Engineering Committee discussion was narrowed down to the physical aspects of the plan. Recommendations upon economic features, or the features of Manhattan freight distribution in general were barred from consideration.

The report was transmitted by the Mayor to the Board of Estimate and Apportionment which gave a public hearing on the subject on June 16, 1927 and appointed a committee consisting of President Joseph V. McKee, of the Board of Aldermen and President Julius Miller, of the Borough of Manhattan to give consideration to the matter. Shortly thereafter the Port Authority transmitted a letter to this committee calling attention to the fact that the report dealt with physical questions alone and that the economic aspects of the situation should be considered before final decision. The committee of the Board of Estimate has not as yet presented its findings to that Board, nor has it as yet conferred with the Port Authority on the economic or other features of the plan.

#### **Joint Bridge Over Newark Bay**

The Lehigh Valley and the New York Bay Railroad (P. R. R., lessee) made application to the War Department and the New Jersey Board of Commerce and Navigation for permission to replace their swing bridge and its approaches over Newark Bay, which has outlived its useful-

ness, with a modern type vertical lift span and girder approaches.

The railroads modified their original petition by the insertion of stipulations calling for the complete removal of the existing structure and amending the time for construction and placing in service of the new structure.

The application as amended received the approval of the Port Authority. The report of the District Engineer was favorable. Work on approaches has started.

#### **Hackensack River Crossings**

The New Jersey State Highway Commission and the Pennsylvania Railroad made application to the New Jersey Board of Commerce and Navigation for a permit to construct modern type lift spans with girder approaches, over the Hackensack River, in the vicinity of Newark Avenue, Jersey City. This application was made so as to carry out the requirements of the War Department in this matter. The Port Authority forwarded its favorable recommendations to the New Jersey Board of Commerce and Navigation.

### **PROTECTION OF THE PORT**

The recent revival of competitive rivalry between ports, for foreign trade, has emphasized the necessity for taking stock of New York's position as a port. Important statistical information regarding export, import and intercoastal traffic is periodically collected and released by such government agencies as the United States Shipping Board, United States Department of Commerce and the United States Army Engineers, as well as numerous commercial organizations. The staff of the Port Authority has given considerable time to the analysis of these records to determine which types of trade are increasing, and which may be decreasing through the Port of New York. As time permits, these studies are being extended to discover the degree to which distance, steamship service, commercial practices and Port facilities may be responsible for the trend of growth or decline. Not only in developing physi-

cal facilities, but also in defending the Port against unwise and harmful attacks before the Interstate Commerce Commission and the United States Shipping Board, the value of the work has been recognized.

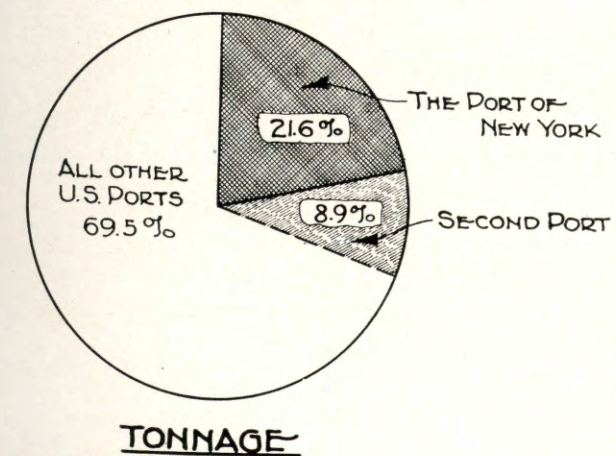
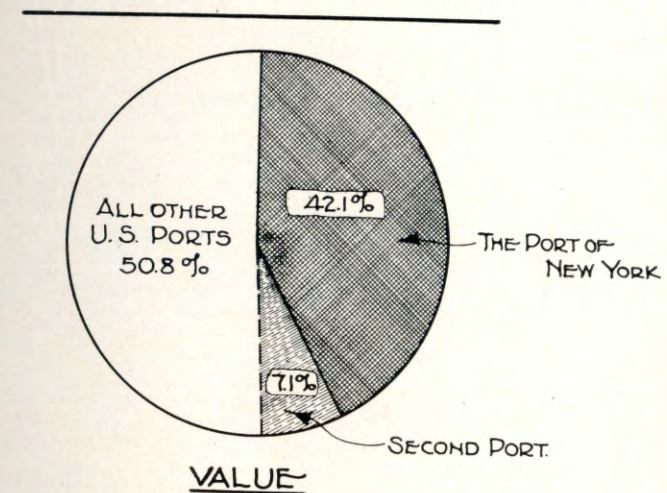
There is an erroneous impression prevalent among interests located at other ports that New York is handling too much business for its own good, and the good of the country, and that steps should be taken to draw some of this traffic away by establishing railroad freight differentials in favor of other ports, or operating steamship lines on a subsidy basis to stimulate traffic. One of the witnesses for the Port of Baltimore in the recent hearing in I. C. C. Docket 18715 stated: "We believe also, in Baltimore that there is a great national question involved in this proceeding, in that the centralization of export business at New York is bound to result in the driving out of all of the other ports." Accurate information on these subjects will perhaps minimize much fruitless controversy and prevent arbitrary diversions of traffic which may disrupt well established channels of trade and impede foreign commerce.

New York's present position as the premier port of the United States, handling approximately one-half of the total foreign trade, is due in large part to the steamship service which has grown up as a result of the excellent harbor, large passenger traffic, immense local industrial and commercial development, and splendid banking and brokerage facilities. Comparison of the steamship sailings in overseas trade indicates clearly the supremacy of New York in this regard. Fast and frequent sailings encourage the movement of commodities of high value, for which minimum interest charges and prompt deliveries are essential. Comparison of the relative growth of selected high and low value commodity groups indicates that it is the former class that is swelling the export and import trade through the Port of New York.

For such commodities as grain, around which some of the most intense competition revolves, New York has peculiar geographical advantages in its relation to the Great Lakes, and its connection with Buffalo via the Barge

## THE PORT OF NEW YORK'S SHARE OF FOREIGN TRADE CALENDAR YEAR 1926.

Authority - Statistics of U.S. Shipping Board and  
United States Department of Commerce.

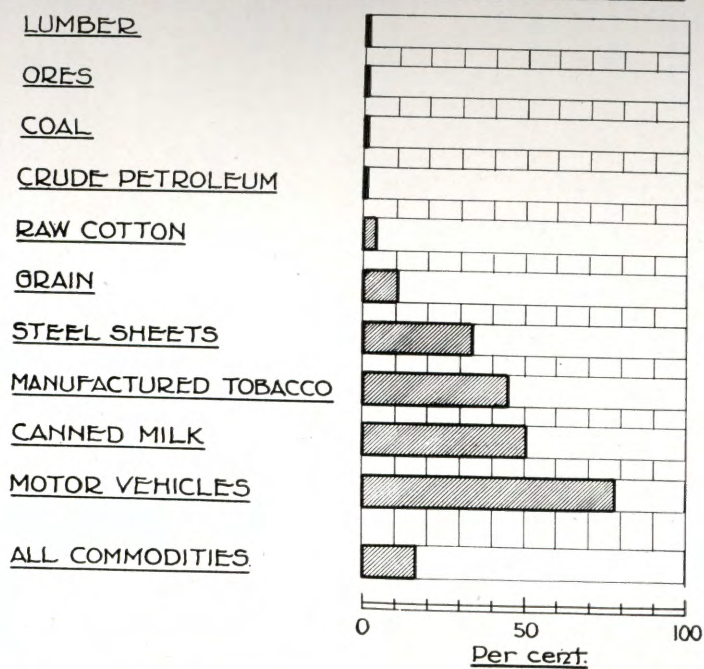


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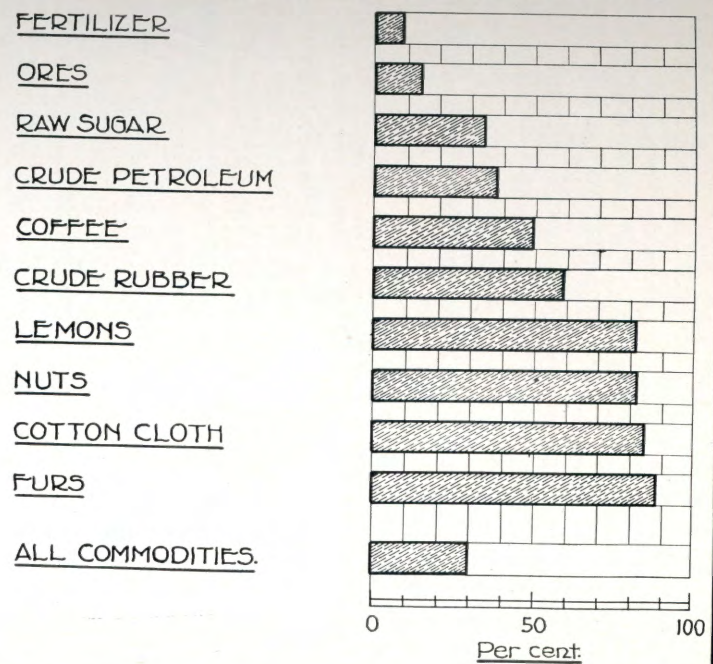
Despite the development of outports and attempts to divert foreign trade by differential rates in their favor, the Port of New York maintains its supremacy in the United States largely because of frequent and regular steamship sailings to all ports, and the highly developed industrial and commercial community contained within its boundaries.

**NEW YORK'S PORTION OF THE NATION'S FOREIGN TRADE  
BY MAJOR ITEMS.  
CALENDAR YEAR 1926**

**NEW YORK'S PER CENT OF U.S. EXPORTS**



**NEW YORK'S PER CENT OF U.S. IMPORTS**



Raw materials, such as lumber, ore, coal, crude petroleum and raw cotton, are produced in outlying areas and often exported through outports more accessible than New York.

On the other hand, the location of important industries within the Metropolitan Area stimulates heavy imports of raw materials, such as fertilizer, ore, raw sugar, petroleum, coffee and rubber, through this port.

Fast, frequent steamship service and established commercial, industrial and consuming centers attract both in and outbound food-stuffs and high grade manufactures to New York.

Canal. New York is a peculiarly attractive port for export Canadian grain, and study of the figures for the last two decades reveals that it is Canadian grain "in bond" which has increased the export total at New York, while the domestic grain raised in the United States has been flowing through the outports, including Montreal, in increasing degree.

The compilation, analysis and interpretation of statistical records has not been confined to foreign trade and shipping. On domestic traffic for local consumption, manufacture and trade, similar analyses of the growth and distribution over a period of years have been made and correlated with studies of population and industrial migration within the Port District. Valuable facts upon which to base conclusions as to the economic practicability and the most satisfactory location of various terminal projects in the port district are being and must be developed in this way. This type of continuous planning and research is carried on by the statistical division in addition to the investigations of specific engineering projects embodied in the staff program.

#### *Actions Before Rate Tribunals*

The necessity for combatting unfriendly proceedings, generally in the nature of proposals for increased freight differentials against the Port of New York, continues as a vital part of the Port Authority work. It has been necessary to intervene in many proceedings brought before the Interstate Commerce Commission, or other rate regulating tribunals, which would have the effect, if carried to a successful conclusion, of dealing severe blows to the commerce of this port. Sometimes these proceedings have taken the form of direct requests for increased differentials in the railroad rates. Sometimes they have been disguised, intentionally or otherwise, but on the surface, at least present an innocent appearance. Nevertheless, upon analysis, they prove to be adverse in their ultimate effects and must be resisted vigorously.

Certain of the Atlantic ports to the south of New York have been active in recent years in the endeavor to secure more favorable railroad freight rates. A new turn was given to the situation in the last year by a demand made upon the United States Shipping Board for ocean differentials based upon the distances between American Atlantic ports and ports in foreign countries. The effect of this latter action, if successful, cannot be accurately estimated at the present time, but it requires as it does in all other proceedings, the presentation of the case of the Port of New York in such manner that its interests shall not be jeopardized.

Succeeding sections of this report will give the status of proceedings which have been brought from time to time before the Interstate Commerce Commission and other tribunals.

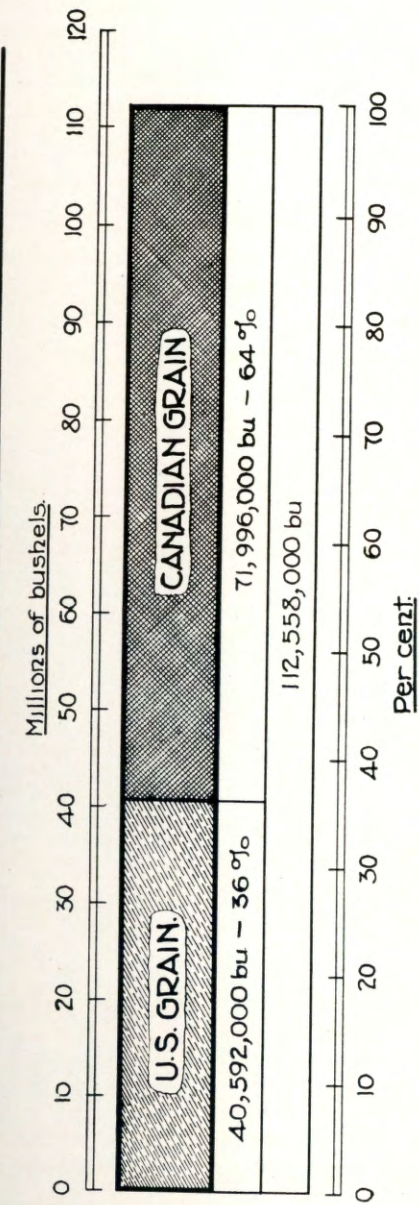
#### *Attempted Diversion of Traffic to Gulf and South Atlantic Ports*

A new instance of the continued pressure upon the Interstate Commerce Commission to permit radical cutting of rail rates for the purpose of diverting foreign commerce from the Port of New York is evinced by a proceeding, now in progress, known as *Fourth Section Application 2040, et al.*

At the first hearing, held in Chicago, December 6, 1927, the railroad lines serving Gulf and South Atlantic ports applied for permission to depart from the provision of the Interstate Commerce Commission act which prohibits lower charges for longer than for shorter hauls. The Gulf carriers have proposed rates on import and export traffic to the territory north of the Ohio River and west of Chicago and Indianapolis which are in some instances only half as high as the rates to intermediate points south of the Ohio River. They justify these exceptionally low rates into this territory on the ground of competition by the carriers serving the North Atlantic ports.

### FIVE YEAR AVERAGE OF GRAIN EXPORTS THROUGH THE PORT OF NEW YORK

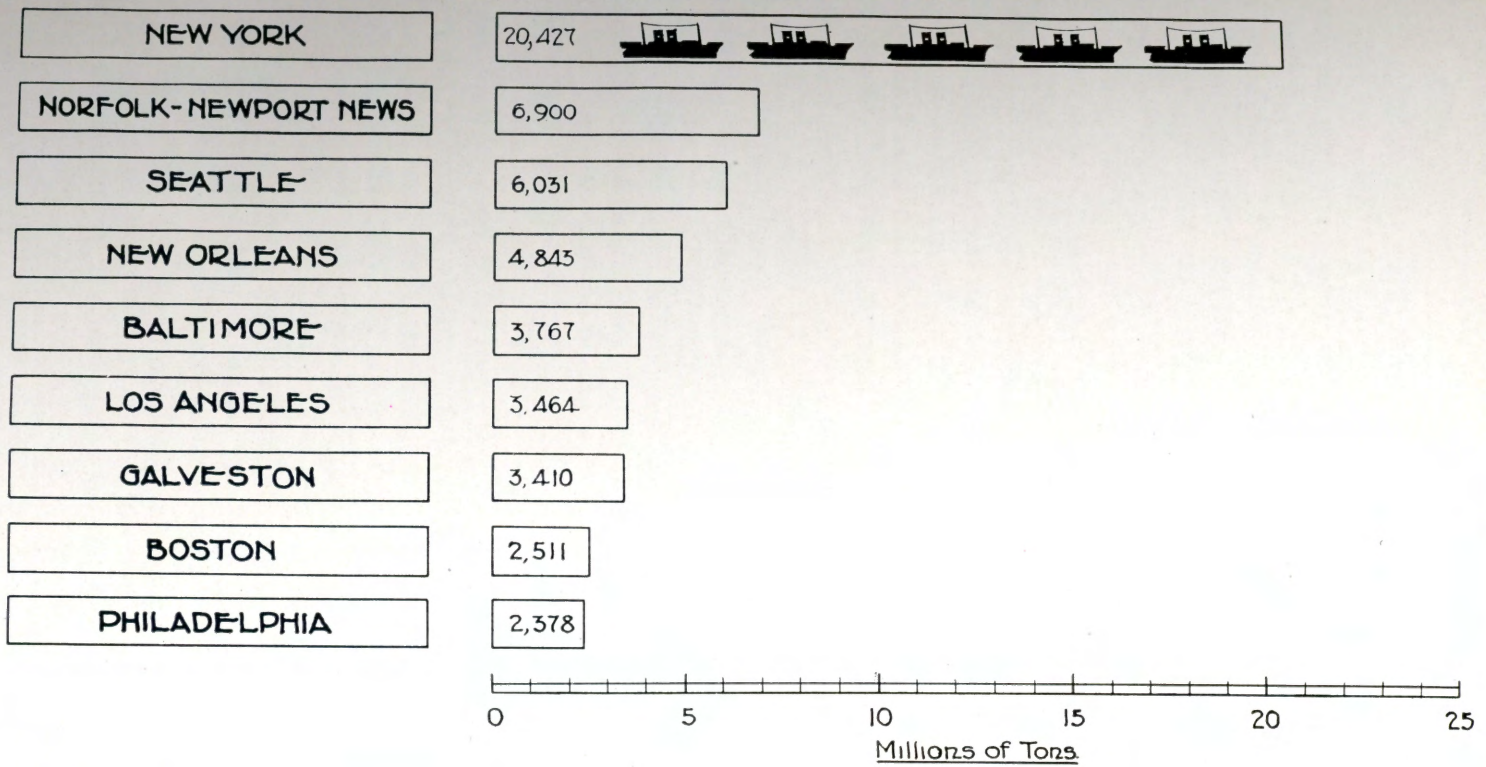
YEARS - 1922 TO 1926 INCLUSIVE:



Grain is one of the few heavy raw products exported in large volume through the Port of New York. In recent years most of our grain exports have been of Canadian origin, moving from the Great Lakes to New York for shipments in parcel lots to many foreign ports.

# TONNAGE OF VESSELS CLEARED FROM THE PRINCIPAL U.S. PORTS.

CALENDAR YEAR 1926



At the Chicago hearing voluminous exhibits and testimony were introduced to show that the North Atlantic ports enjoyed superior steamship service, shorter distances to European ports and the advantages of highly developed local industrial and commercial communities. As usual the principal attack was upon the position of New York as the leading port for the export and import of commodities originating in competitive territory.

The relationship of rates on import and export traffic between Central Freight Association territory and New York, on the one hand, and Central Freight Association territory and New Orleans, on the other, has been the subject of a long-standing controversy. As far back as 1907 two arbitrators, appointed by the opposing carrier groups, recommended the establishment of a differential, New Orleans under New York, on import rates from Europe and Africa only, ranging from 18 cents first class down to 6 cents sixth class. For some years this recommendation, known as the Todd-Knott Award, was the principal basis of rate adjustment. During the wartime percentage rate increases, however, the differentials in favor of the Gulf were considerably widened and extended to export commodities and to more territory than first contemplated.

At the time of the award, ocean rates were considerably higher to the Gulf than to North Atlantic ports. This condition has been changed so that on the more important commodities the ocean rates today are the same. Nevertheless, the railroads operating to the Gulf are now asking the Commission to permit them still further to increase the differentials under New York up to a maximum differential of  $44\frac{1}{2}c$  per 100 pounds on imports to Louisville, Kentucky, and  $65\frac{1}{2}c$  per 100 pounds on exports from Cairo, Illinois. The carriers serving the South Atlantic ports have asked permission for a similar cut in their rates to and from differential territory running to a maximum differential to Louisville on import traffic the same as the Gulf, but not quite so high a maximum differential on exports; the Cairo differential on exports amounting to  $46\frac{1}{2}c$  first class.

The staff and counsel of the Port Authority have intervened in these proceedings and, working in cooperation with representatives of the other North Atlantic ports and with the trunk line carriers, will oppose the granting of the lower rates requested by the Gulf lines on account of their manifest unfairness to the North Atlantic ports.

Further hearings will be held in 1928 at Savannah, at New Orleans and at Washington, D. C., the latter on February 14th. At the Washington hearing the North Atlantic ports will put in their case in opposition to the increased differentials.

#### **Baltimore Port Case**

Directly connected with the attempts made by competitive ports to secure a segregation of terminal charges, insofar as they relate to floatage and lighterage delivery, is a case before the Interstate Commerce Commission (*Baltimore Chamber of Commerce vs. Ann Arbor Railroad Company, et al.*). In this Baltimore commercial interests complain that the carriers are giving undue preference to the Port of New York by absorbing excessive terminal costs.

The complaint alleges that the present differential of 3 cents per 100 pounds on import and export traffic (1½ cents on grain) which is enjoyed by Baltimore under New York, does not reflect the true difference in moving freight from points west of Buffalo and Pittsburgh to and from shipside. A doubling of this differential (quadrupling for grain) is requested, together with separate publication of terminal charges for lighterage movement which shall reflect alleged differences in cost of harbor service. This is another phase in the longstanding controversy between the various North Atlantic ports in regard to the adjustment of rates moving foreign commerce.

Hearings before the Commission in this complaint were held from September 20 to September 29, at Washington. The evidence presented by our staff and others was decidedly unfavorable to Baltimore's contention, showing, among other things that at Baltimore almost as much

tonnage must be lightered or switched to and from shipside as is handled directly between railroad piers and ship's tackle. The contention that terminal costs in handling grain are excessive in New York was also exploded by evidence that due to the heavy investment in elevators, the average cost per ton at Baltimore was \$1.83 as against \$1.26 at New York. The claim that the existing differential adjustment had injured Baltimore commercial interests by depriving them of traffic, received little support from the figures introduced which showed substantial relative gains in Baltimore's foreign trade, particularly imported commodities, during recent years.

The Port Authority, together with other New York interests, took an active part in opposing the Baltimore proposals to widen the existing differentials and separate the terminal charges. Such action would revolutionize rate making, and might result in widespread and disastrous changes in the organization of facilities and physical and commercial handling of foreign trade.

The case is closed, and report of the Commission is awaited.

#### **Opposition to Restrictions on Free Lighterage Service**

From time to time various attempts are being made to restrict the terminal service performed by the railroads and coastwise steamship companies in connection with harbor delivery under through rates at the Port of New York. On lumber, for example, there has been a persistent effort to impose a charge for terminal handling. The most recent proposal is the imposition of a 50 cents per ton charge for handling lumber at the North Atlantic ports. This matter has been the subject of several conferences between the lumber interests and commercial trade associations and railroad representatives, and further conferences are scheduled before the carriers take final action in this matter. The Port Authority is participating in these conferences and discouraging the imposition of separate terminal charges.

Another increase in the charges for harbor lighterage

service was proposed in connection with the handling of heavy freight in New York Harbor by floating derricks. Although the railroads have a number of craft equipped with these derricks, it has been the practice of the carriers to employ outside lighterage companies in many instances, making an allowance of from 60 cents per ton for pieces weighing not more than 3 tons up to \$2.36 per ton for pieces weighing 35 tons. In all cases the railroads have absorbed 60 cents of this allowance, making extra charges to the shipper for the excess above this amount. One of these outside lighterage companies proposed to increase the charge for performing this service on the ground that no readjustment had been made for 40 years, although the costs of operation had increased materially.

The Port Authority was represented at the hearings on the proposal, and in cooperation with the commercial associations, successfully opposed the attempt to pass this charge on to the shipper on the ground that the increases in freight rates should permit the absorption of any fair readjustment in the heavy lift service allowances. The proposal was removed from the carrier's docket and the matter temporarily closed.

***Port Charges Investigation, I. C. C. Docket No. 12681***

More sweeping than any of these individual items is the attempt on the part of representatives of various outports, competing with New York, to have the Interstate Commerce Commission segregate all cost items relating to terminal delivery by carfloat and lighter into a separate charge, to be based upon the cost of such service. This issue has emerged into proceedings before the Interstate Commerce Commission, in the Baltimore Port Differential Case, *supra*, and in *Port Charges Investigation, Docket 12681*.

This latter proceeding, which grew out of specific complaints by The American Warehousemen's Association and various private warehouses and municipalities, particularly in southern ports, against the practice of the railroads of

absorbing in whole or in part the cost of accessorial services, such as warehousing, wharfage and steamship dockage, has taken on a particular significance to the exporters, steamship companies and other interests using the Port of New York. In the extension of this investigation to the North Atlantic ports, the United States Shipping Board expressed a special interest in the proceedings, and was responsible for a questionnaire being submitted to the carriers asking for detailed statement of the costs of operating rail-water terminals at the various North Atlantic ports, excluding switching, but including lighterage costs. The replies to these questionnaires, as filed by the carriers, and the testimony thereon, were extensively considered at hearings held in Washington, Boston, New York and Philadelphia during the year.

It became evident that the Counsel for the United States Shipping Board, and representatives of the Ports of Baltimore and Philadelphia, in particular, were advocating the separation of terminal charges from the line haul portion of the freight rate, not only for the accessorial services of dockage, storage, etc., but also for harbor lighterage. It is apparent that the attempt to segregate the charge for lighterage service is aimed at increasing the aggregate transportation rates through the Port of New York, where, due to the geographical situation, the bulk of the import and export traffic must be moved across the waters of the Hudson river or Lower bay. In the hearings an attempt was made to distinguish marine lighterage service from ordinary delivery service, although the Commission has held in *Lighterage and Storage Regulations at New York, 35 I. C. C. 47*, that "terminal floating service at New York, having been adopted by the railroad companies many years ago as the natural and necessary recognition of the physical conditions, is now to be considered as much a part of the transportation service of the carriers as the service rendered on their rails."

At the various hearings to date the Port Authority has been represented by staff and counsel, and has opposed the

attempt to divorce lighterage from the line haul service obligations of the carriers under the existing system of through rates, although taking no position in the matter of segregation of true accessorial services, such as dockage, storage, etc.

The proceedings so far have not considered the expensive terminal switching costs at other ports but have included lighterage costs at New York despite the general admission that lighterage is only a substitute or alternative for switching. We have taken exception to this feature of the inquiry as it creates an erroneous picture of what purports to be comparative port costs.

Further hearings in this case will be held at the South Atlantic and Gulf ports.

#### **Maybrook Route Case**

The Maybrook route case (noted in the Annual Reports for the years 1925 and 1926), which was brought by the Central Railroad of New Jersey against the New York, New Haven & Hartford Railroad, to remove discrimination in the interchange of freight through the New York gateway, was decided February 8, 1927, by the Interstate Commerce Commission. The decision sustains the Port Authority's contention that additional traffic, alien to the Port District, should not be moved through New York Harbor terminals, where the available capacity is required for local needs. Therefore, in ordering the New Haven to remove discrimination against the Central Railroad of New Jersey in making joint rates, the Commission ordered that territorial rate lines be drawn so as to maintain the relative use of the New York Harbor route as contrasted with the Maybrook route, the same in the future as it is now.

No specific order was entered against the New Haven Railroad, but instead, 90 days was allowed for working out a suitable agreement. Nothing resulted, and the New Haven Railroad, in the meantime, petitioned for a re-argument of the case, which was held on October 14. The Port Authority reaffirmed its position at this hearing. Formal decision is awaited.

#### **Iron and Steel Rate Differentials**

The 1926 Annual Report referred to the intervention of the Port Authority in a case pending before the Interstate Commerce Commission (*American Motor Body Corporation vs. B. & O. R. R.*, Docket No. 18031), involving a rate reduction on iron and steel articles from the Western Pennsylvania and Ohio producing districts to Philadelphia. The report of the Examiner in this case was issued recommending a 10 per cent reduction in the Philadelphia rates without changing the New York rates.

Although the report stated that all parties to the proceedings desired no change in the existing relation of Philadelphia rates to New York rates, and that there was no evidence in the record upon which to base such a change in relationship, the examiner recommended new rates which would result in a preference of 3 to 4½ cents per 100 pounds more in favor of Philadelphia than at present.

To preserve the competitive status of manufacturers in this port district, the Port Authority filed an exception to the Examiner's report, asking the Commission to maintain existing port relationships. Final decision is awaited.

#### **Great Lakes Grain Differential**

The 1926 Annual Report noted a recommendation by Examiner Hosmer in the Boston Grain Differential Case (*I. C. C. Docket No. 13548*) that differentials on ex-lake grain be abolished and rates on such grain from Buffalo to New York be reduced to the same level as to Philadelphia and Baltimore. This reduction of ½ cent per 100 pounds would have meant a saving of \$236,000 per annum in freight cost on grain moving from the Lakes to New York.

We regret to report that the final decision of the Commission, issued May 9, 1927, reversed the examiner's recommendation, leaving the rates at their present levels. Up to the present time there has been no indication that local grain interests contemplate further action.

**Hell Gate Bridge Route**

The Annual Report for 1926 reviewed the activity of the Port Authority in regard to the use of the New York Connecting Railroad and the Hell Gate Bridge for western and northern traffic to and from Long Island. The matter was laid before the Interstate Commerce Commission and the Public Service Commission of New York in a series of joint hearings during February, March and April, 1926.

In preliminary reports dated February 10, 1927, Examiner E. L. Beach, for the Interstate Commerce Commission, and Hearing Deputy W. E. Griggs, for the New York Public Service Commission, proposed findings that would require establishment of joint rates and through routes on inbound traffic to Long Island, but would not require similar routes and rates on outbound traffic from Long Island. The conclusion that outbound through rates should not be required was based on the contention that such routes would short-haul the Long Island and Pennsylvania Railroads. The choice between using the Hell Gate Bridge or the carfloat route was left optional with the carriers, depending on their own judgment as to the most satisfactory operation.

The Port Authority took vigorous exception to the recommendations, both in a brief of exceptions and an oral argument before the Interstate Commission on May 16, 1927. The argument of counsel combated the contention that the establishment of outbound through rates and routing would short-haul the Pennsylvania Railroad, and that the joint use of facilities would retard terminal development, and emphasized the contention that the Hell Gate Route was entirely adequate to handle the New York Central traffic. The paramount issue of the case may be summed up in the words concluding the brief of exceptions:

If the Hell Gate Bridge is not to be regarded as a facility for serving the needs of the public, but is to be regarded as a private facility to be given only such restricted use as the selfish requirements of the Pennsylvania and the New Haven may dictate, then these com-

plaints should be dismissed. If, on the contrary, shippers and receivers of freight on Long Island are entitled to adequate transportation service regardless of the ownership of the facility, and if consideration is to be given to the declared policies of the two States and of Congress, then the relief sought in the complaints must be granted. The determination of the issues must necessarily hinge upon the determination of this question of public policy.

Final decision by the Interstate Commerce Commission is expected at an early date.

During the past year the New York, New Haven & Hartford Railroad (New York Connecting Railroad) and Long Island Railroad have completed the electrification of their main freight lines from Oak Point to Bay Ridge, thereby enabling the operation of through electric freight trains from Cedar Hill to Bay Ridge and vice versa, by-passing the Oak Point (Bronx) classification yards of the New Haven. Formerly engines were interchanged at Oak Point, steam to electric, compelling the yarding of trains enroute. The avoidance of this has had the effect of relieving pressure on the Oak Point Yard facilities of the Hell Gate Route, to the advantage of traffic movement such as the Port Authority purposes. It has also made possible doubling of the train load over the New York Connecting Railroad, thus achieving increased economy of operation, with, ultimately, fewer train movements.

**Constructive and Off-track Freight Station Investigation**

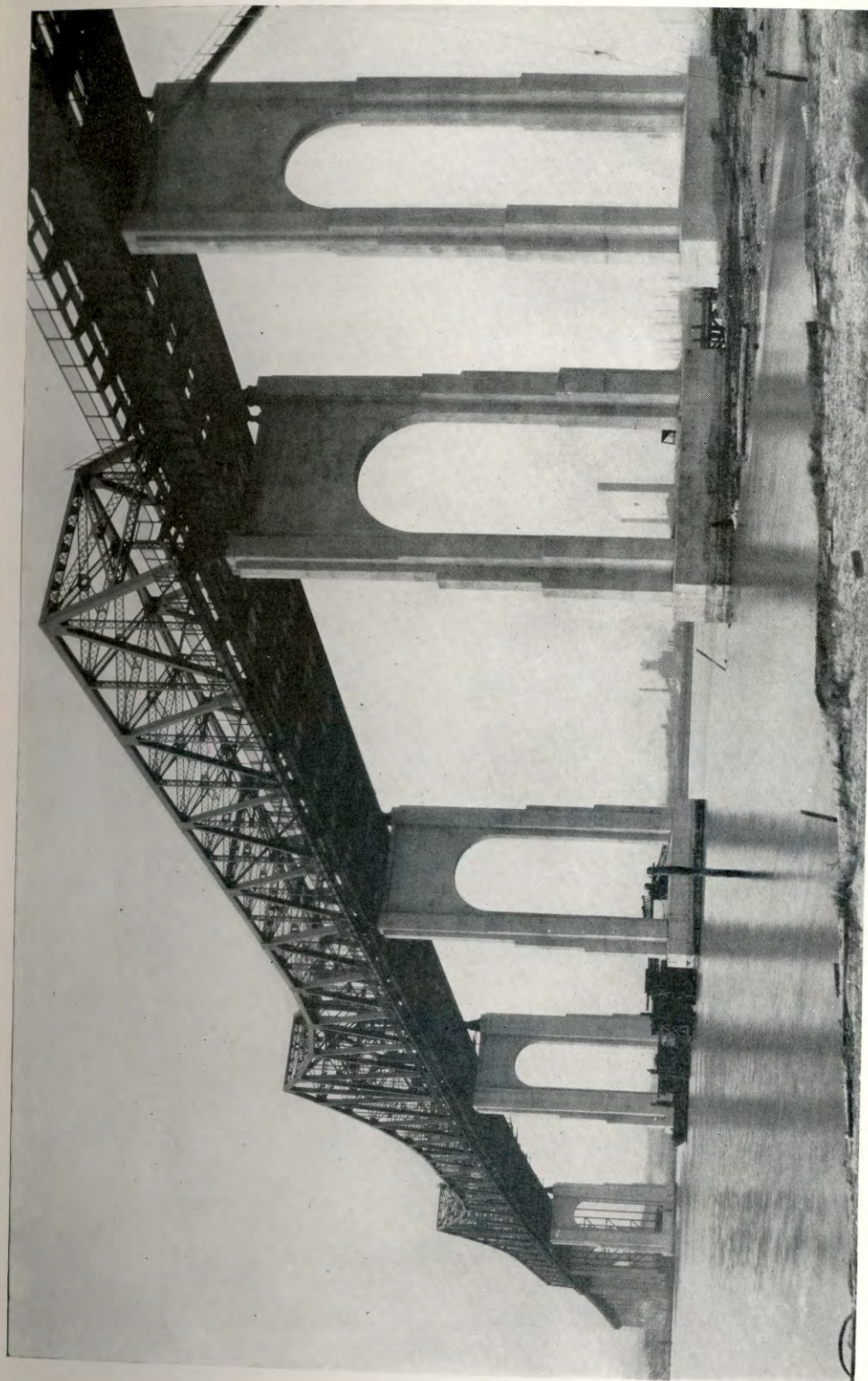
A matter directly affecting the comprehensive plan and the terminal services of the carriers in the Port District is involved in an investigation, which the Interstate Commerce Commission has started on its own motion, of the trucking services of the carriers at New York, including the services and facilities embraced in their constructive freight stations, off-track stations and trucking in lieu of lighterage.

At the present time three of the carriers whose lines terminate in New Jersey have established off-track freight stations on Manhattan Island similar in principle to the proposed union inland freight stations of the Port Authority except that they are individual stations instead of being universal.

Seven carriers are handling carlot freight through so-called constructive stations on Manhattan which are really not stations at all but simply a service whereby freight is trucked direct from the door of a car on a New Jersey team track to the store door in New York. The railroad pays the cost of getting the truck across the river and the merchant pays for the balance of the haul to his store. This service is at the option of the shipper or consignee.

Almost all the carriers have provisions in their tariffs whereby, at their own option they may truck freight to waterfront points in lieu of performing lighterage service. Such consignments are often forwarded to establishments located back of the waterfront, the consignee or shipper in such cases paying for the extra trucking cost between his nearest waterfront point and his place of business.

All of these circumstances and conditions, including rates, charges, rules and regulations, surrounding these arrangements, are under investigation by the commission in this proceeding, (*I. C. C. Docket 19750*). As any order issued in this matter is likely to have an important bearing upon the terminal service of the port district, the staff is preparing to participate in the proceedings. The date of the first hearing has not yet been announced.



Outerbridge Crossing.  
Perth Amboy, N. J.-Tottenville, S. I.



Elizabeth-Howland Hook Bridge.

**Annual Report of the Port of New York Authority  
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**PART II**

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**INTERSTATE BRIDGES**

Very substantial progress was made in 1927 in building the interstate bridges included within the program with which the Port Authority has been charged by the Legislatures of the two States.

This program embraces four projects, namely, a bridge across the Arthur Kill between Perth Amboy, New Jersey, and Tottenville, Staten Island; another over the Arthur Kill between Elizabeth, New Jersey, and Howland Hook, Staten Island; the Hudson River Bridge between Fort Washington in Manhattan, City of New York, and Fort Lee, New Jersey and, finally the bridge to span the Kill van Kull between Bayonne, New Jersey, and Port Richmond, Staten Island.

The four bridges, when completed, will represent an investment of approximately one hundred million dollars of which nearly fifty per cent has been spent or contracted for.

The Bayonne-Port Richmond Bridge has just been financed. The preliminary studies have been brought to a conclusion and the War Department has given its approval of the plans.

***Arthur Kill Bridges***

Progress of construction on these two bridges during the past year has been eminently gratifying. The first of the construction contracts were let as late as the Autumn of 1926, yet the work remaining to be done should be

completed and the structures opened to traffic during the summer of 1928, instead of early in 1929, as scheduled. Both bridges involve an estimated cost of \$18,000,000.

Work on the two bridges has been proceeding simultaneously, and both will on completion be opened to traffic at about the same time. All principal portions of the structures have been contracted for.

All of the substructure contracts, embracing approximately 147,800 cubic yards of concrete masonry, were completed in the Summer and Fall, or about four months ahead of schedule, and their actual cost is well within the estimated amount.

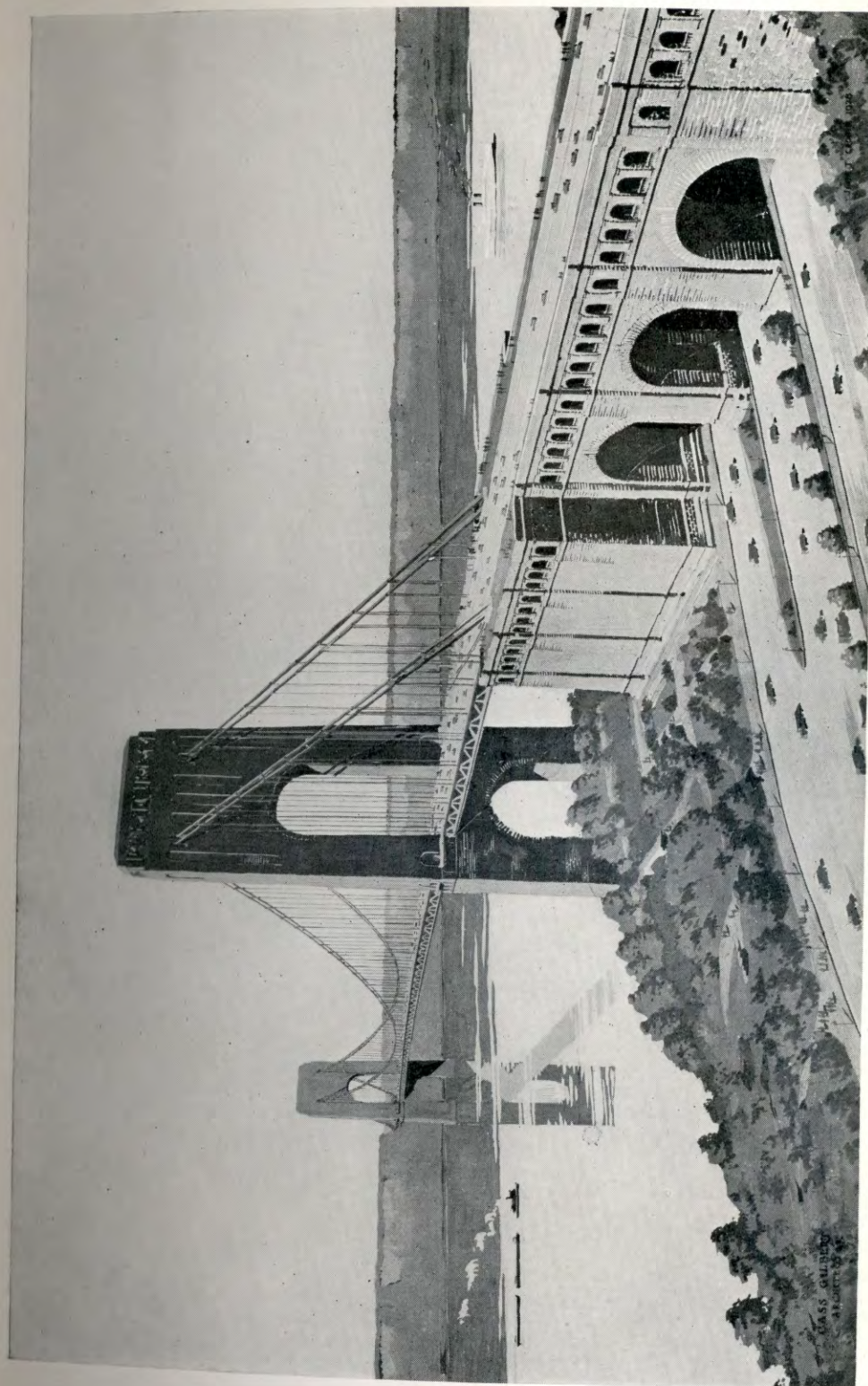
The superstructure work, involving the fabrication and erection of 27,764 tons of steel, both because it was possible to begin operations earlier than anticipated and because of the rapid progress made by the contractors, is also well ahead of schedule. Practically all of the steel has been fabricated and all but a very small portion erected and riveted.

The two halves of the river span of the Elizabeth-Howland Hook Bridge were joined on December 6, 1927. All steel members of that bridge are now erected and fully riveted, about five months ahead of schedule.

The erection of the steel work on the "Outerbridge Crossing," the Perth Amboy-Tottenville bridge, is also nearing completion, being only about one month behind that of the Elizabeth-Howland Hook Bridge in spite of the much larger tonnage involved.

The contracts for the concrete abutments and earth fills at the plazas were awarded at an early date so that the fills would be given ample time to settle and become solidified before the placing of the pavements. This filling work is practically all completed, but a considerable portion of the concrete work for the abutments will have to be deferred until Spring on account of weather conditions.

The contracts for the concrete decks were let in the early Autumn, so that the contractors could complete as much of the work as possible before setting in of winter weather. It was not expected that placing of concrete would



View from Manhattan of Hudson River Bridge and Approach.



Fort Lee Approach Plaza, Hudson River Bridge.

be done before the opening of the construction season in the Spring of 1928, but with ample time for preparation it is expected that rapid progress will be made then and the work will be complete early in the Summer of 1928.

There remain a few minor contracts yet to be let, such as the electrical work, field operation buildings, toll booths and paving of the plaza areas, but these can all proceed simultaneously and can be completed by the time the major operations of the concrete deck are completed. These contracts will involve approximately \$750,000.

#### ***Hudson River Bridge***

The money from the sale of the first installment of bonds for the Hudson River Bridge became available about January 1, 1927. Immediately thereupon active construction work was started by the making of the final borings to determine more fully the nature of subsurface conditions. The building up of the necessary organization to prepare the contract plans and specifications and carry on the engineering functions in connection with the construction of the bridge was also started at once.

During the year 1927 five contracts for construction work, of an aggregate amount of approximately \$24,357,000 were awarded. This amount represents 64 per cent of the cost of all construction required to open the bridge to traffic. Contracts let embrace the fabrication and erection of all steel work including cables, etc.

Further intensive study has been given to all phases of the project, the analysis of the traffic, both present and anticipated; the provisions necessary for accommodating the anticipated volume of bridge traffic, at both ends, the rights and wishes of the respective communities, and the innumerable engineering problems in connection with the design and construction of a structure of this magnitude. Frequent conferences were held with representatives of the City of New York with a view to solving the complex problem of planning adequately the approach and street connections in Manhattan. It is evident that problems of such far reaching ramifications cannot be solved com-

pletely in so short a time, but it is gratifying to be able to report that their solution has progressed so that construction work at both ends of the bridge can proceed without delay.

In New Jersey the problems of right of way and suitable agreements with the public bodies have been relatively simple. Mutually satisfactory arrangements have been concluded with the Palisades Interstate Park Commission for the purchase, or lease for temporary purposes, of properties within their jurisdiction.

A satisfactory agreement has been concluded with the Borough of Fort Lee. A large portion of the necessary private property has been acquired for the approaches on both sides of the river.

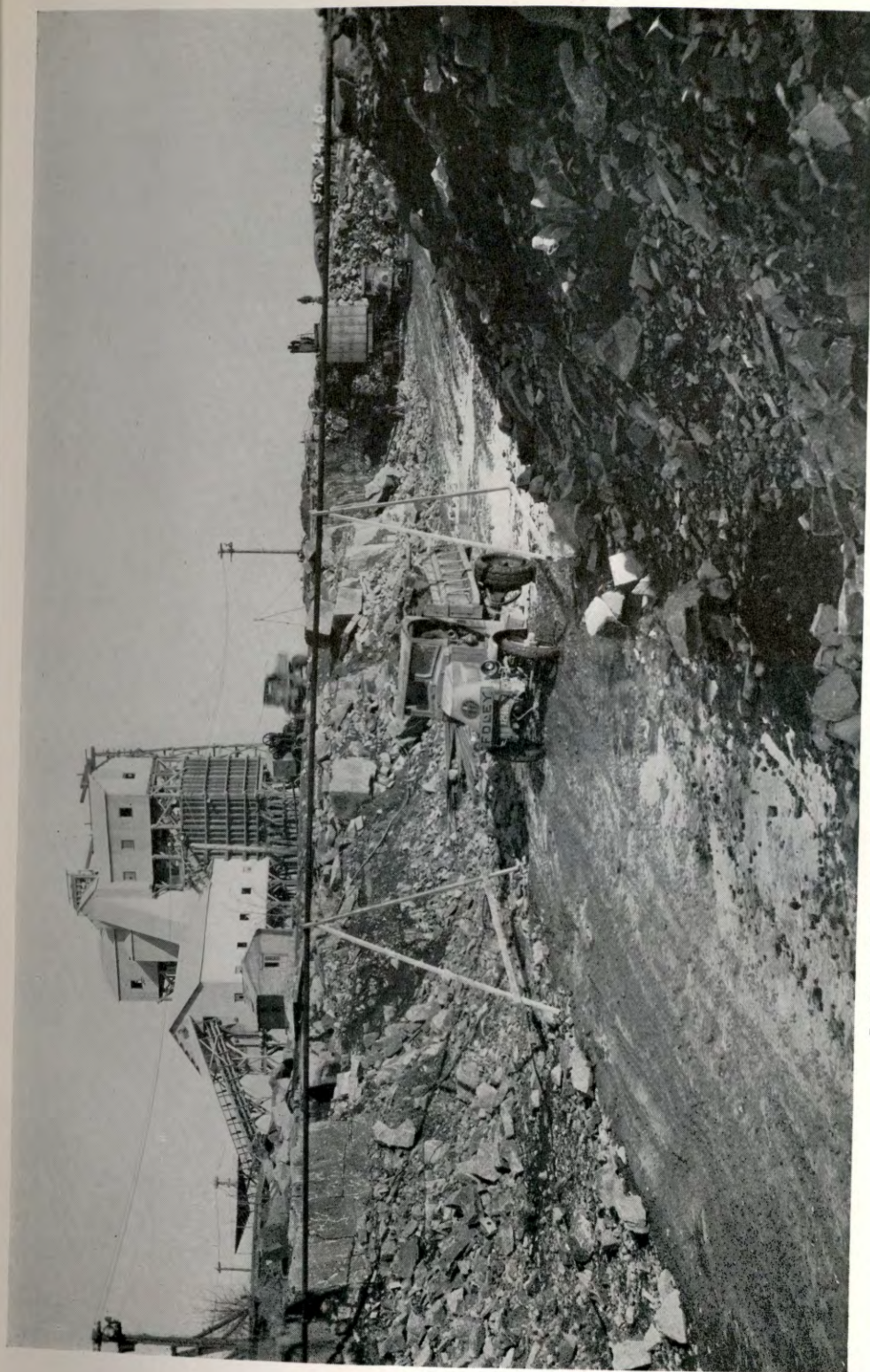
The construction work on the contracts so far let is progressing very satisfactorily and is well within the schedule set up for it.

The foundations for the New Jersey tower involved the construction of two open cofferdams, the largest and deepest open cofferdams in water ever undertaken in the history of bridge work. In view of the magnitude and the unavoidable risks involved in this work most careful study into all of the details has been given by both the contractor and our Staff.

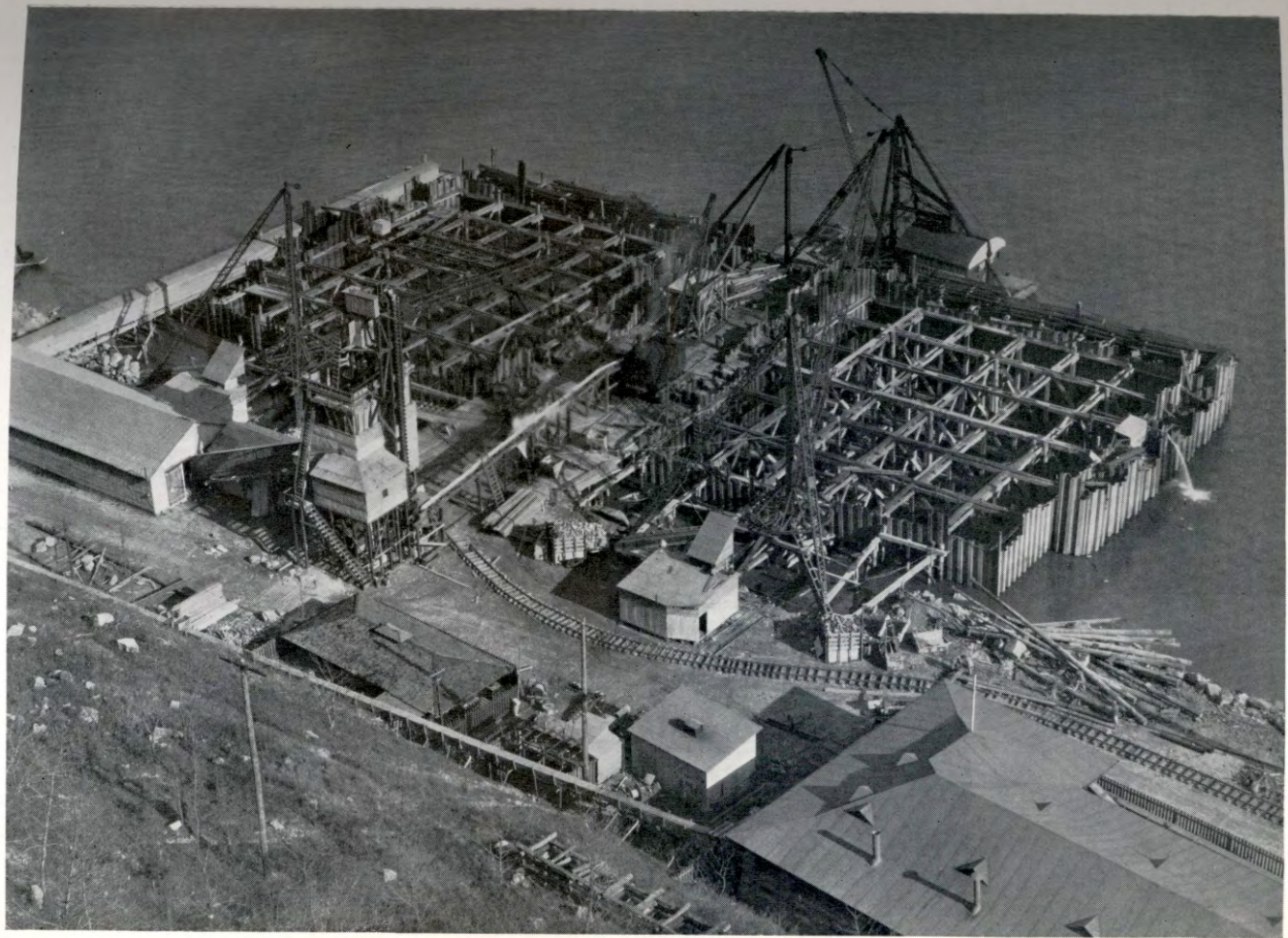
In their deepest portion the cofferdams will have a double wall of steel sheet piling divided, by transverse sheet piling walls, into pockets about 8 feet wide by 10 feet long. These pockets have been dredged and cleaned to the rock and filled with concrete. In the parts of the cofferdams involving less depth, only a single wall of the steel sheet piling is used. In both directions the walls of the cofferdams are thoroughly braced so as to withstand the great outside pressure.

After the cofferdams were completed and all of the silt and mud overlying the rock was removed, the rock itself was given close inspection and every part of it was removed which seemed insufficient for the great load which the bridge will ultimately impose upon it.

The work of placing the concrete base on the rock inside



Cut through top of Palisades, New Jersey approach, Hudson River Bridge.



Birdseye view, Coffe dam for foundation, Hudson River Bridge, Jersey side.

the cofferdam is now proceeding and is expected to be completed before the Spring of 1928, ready for the erection of the steel towers.

The approach to the bridge east of Hudson Terrace, Fort Lee, and the tunnels for the New Jersey Anchorage involve the excavation of approximately 200,000 cubic yards of the hard trap rock forming the Palisades. The rock, as it is removed from the cut, is crushed and disposed of by the contractor for use in road building and concrete work. This work also is proceeding satisfactorily.

The contracts for the steelwork, representing two of the largest single contracts for bridge work ever let and involving the fabrication and erection of approximately 100,000 tons of steel, were awarded on October 3, 1927. The contractors are now actively engaged in perfecting their working plans and installing the additional equipment required to take care of the unusual tonnage and proportions of the work. The rolling of steel for the towers has already started.

The present plans for this project contemplate providing a forty-foot roadway in the center of the bridge and a sidewalk on each side of the bridge to care for traffic initially. When the traffic develops to the extent that these provisions become insufficient to accommodate it, two additional twenty-four foot roadways will be constructed, one on each side of the central roadway. There will also be added later when needed a lower deck which will provide for two, four or six lines of rapid transit tracks or bus traffic as may be required. It is expected that, unless unforeseen difficulties shall arise, the bridge will be open for the initial traffic by 1932. The estimated cost of the structure completed for actual traffic is \$60,000,000.

#### *Towing Costs to Hudson River Bridge Reduced*

The Hudson River Bridge site is outside of free lighterage limits and construction materials delivered at the site by railroads are assessed an extra towing charge. This charge formerly was \$47.00 per tow.

Our Traffic Department undertook negotiations with the trunk line carriers and secured a reduction to \$35.00 resulting in the saving of \$12.00 per tow on an estimated volume of some 400,000 tons of material. This reduced rate went into effect June, 1927.

#### ***Kill van Kull Bridge***

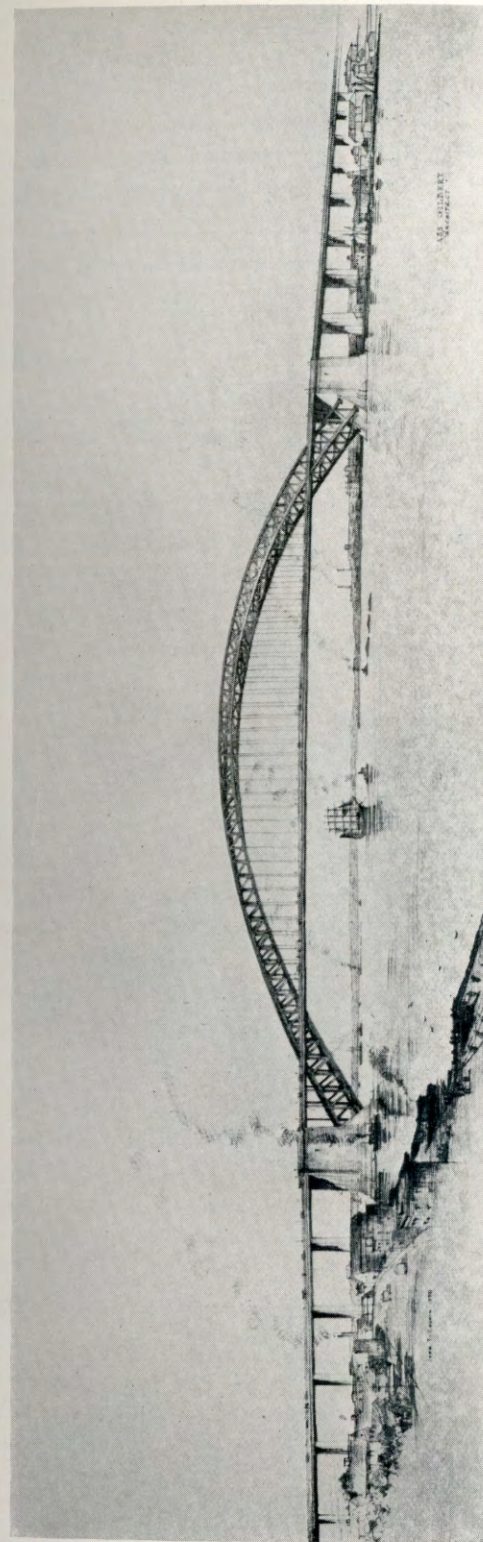
During the year 1927 the necessary preliminary studies and surveys for the Kill van Kull Bridge were continued and towards the end of the year had progressed to a point where definite conclusions could be drawn regarding the feasibility of the project and the steps to be taken toward its definite financing.

The work done comprised additional traffic studies and revision of the traffic estimates, more complete topographical surveys, borings and sinking of test pits to determine depth and character of rock, complete revision of the design work and cost estimates, and additional architectural studies. Informal conferences have been held with representatives of the respective municipalities with a view to securing their cooperation and eventual approval of the approach plans. The properties required for right of way were reappraised by the Real Estate Department and the preparation of property maps is well under way.

Application to the Secretary of War for permit to construct the bridge was made, and after a public hearing the plans were approved.

The conclusions arrived at in the tentative report are substantially corroborated by the additional studies. As a result of discussions with the Transit Authorities in the two States, more particularly the North Jersey Transit Commission and the Board of Suburban Transit Engineers, it has been decided to recommend that the bridge be designed so that it may be opened for a four-lane vehicular roadway, but that it be made wide enough and strong enough so that later at least three additional roadway lanes may be added, or in their place, two rapid transit tracks.

This enlargement of the traffic capacity, which was orig-



Proposed Arch Bridge, Bayonne-Port Richmond.

inally assumed for six lane vehicular traffic, has added approximately one and a half million dollars to the estimated initial cost of the bridge.

The following is a brief description of the plans as now developed subject to such modifications as in the course of further studies may be found necessary or desirable.

#### ***Location of Bridge***

The legislative acts of the States of New York and New Jersey leave to the Port Authority the selection of the location of this bridge.

A careful study of the geographical conditions on both sides of the Kill indicates that location near the westerly side of Bayonne opposite to Port Richmond on the Staten Island side is most suitable.

The location is well chosen with respect to both topographical and geographical conditions.

The bridge will connect with numerous highway arteries on both sides of the Kill van Kull. Extensive traffic studies conducted over a period of approximately two years show conclusively an urgent demand for an interstate highway crossing in this location.

On the New Jersey side the bridge will connect with the Hudson Boulevard, permitting its use by vehicular traffic from all points in Northern New Jersey and also will be a direct connecting link between Manhattan and Staten Island via the Holland Tunnel and the Hudson Boulevard. The Port Richmond terminus will connect with all the main highways on Staten Island through which highways traffic will reach points east, west and south on Staten Island, and on the mainland via the bridges across the Arthur Kill at Elizabeth and Perth Amboy.

#### ***Size and Type of Bridge***

The present plan of the bridge provides for an arch type as it combines economy with best appearance and greatest rigidity. Both this type and a suspension type structure, however, will be studied in more detail before a definite decision is reached.

The present physical specifications of the proposed bridge are:

Length of river span .....	1,685 feet
Total length of main bridge over abutments.....	1,940 feet
Total length of bridge and approaches between plazas.....	6,380 feet
Maximum clear height above water of center of bridge.....	150 feet
Maximum clear height above water over a thousand foot channel	135 feet
Height of main arch above water.....	317 feet
Width of floor (over all).....	95 feet

### **Traffic Capacity**

The bridge has been designed with one deck.

It has been designed to accommodate eventually six or seven lanes of vehicular roadway. The bridge and approaches will also carry footwalks for pedestrians.

The initial capacity, however, will be for four lanes of vehicular traffic, the traffic study indicating that the initial capacity will be ample for many years after the opening of the bridge.

The bridge will be constructed strong enough, however, so that it will carry, in addition to the initial four lane roadway, two rapid transit tracks, it being assumed that the excess capacity would be so utilized in case the carrying of rapid transit across should become desirable before additional vehicular capacity is needed.

### **Estimated Cost**

Estimates indicate that the bridge, including approaches, can be built and opened with capacity of four lanes of vehicular roadway at a cost not to exceed \$15,500,000.

This sum includes cost of construction, engineering, administration, real estate, and interest during construction. Estimates are based on prevailing prices of labor and material with a fair marginal allowance for contingencies.

No provision has been made for the transit facilities or additional roadways, but, if and when needed, sufficient funds will be available from surplus tolls and charges to provide for this improvement.

### **Construction Program**

Funds from the sale of bonds being now available construction work can commence in the Summer of 1928. It is estimated that the bridge can be opened for traffic in 1932.

### **Estimated Bridge Traffic**

Based on comprehensive and carefully conducted traffic studies it is believed that the volume of yearly traffic accommodations of the bridge will be approximately as follows:

Year	Number of Vehicles	Number of Passengers in Vehicles	Number of Buses	Number of Passengers in Buses
1932.....	948,400	1,422,600	78,700	1,573,400
1933.....	1,090,300	1,635,500	90,400	1,808,900
1934.....	1,250,400	1,875,600	103,700	2,074,000
1935.....	1,398,100	2,097,100	116,000	2,319,500
1938.....	1,906,500	2,859,700	158,100	3,162,900
1943.....	2,868,300	4,302,500	237,900	4,758,700
1950.....	3,943,500	5,915,200	327,100	6,542,500
1960.....	4,682,000	7,023,000	388,400	7,767,700

The two counties on each side of the bridge, from which it can expect most of its local and regular traffic, have a combined area more than five times as great as Manhattan, but contain at present a population which is only one-third of that of the most intensely developed sub-division of the Port District. This simply indicates that the Borough of Manhattan, Hudson County and Richmond Borough will be effectively connected so that the pressure in the first will tend to be relieved by finding outlet in the others. These because of their proximity, their great area, their economic, social and political importance, are certain to develop with a rapidity that will tend to equalize the distribution of population within the Metropolitan District.



the broadest lines of planning. It is the lack of interstate consideration that has been in no small measure responsible for the unbalanced development of residential areas in the different sectors of the port. It is the cause of congested terminals and crowded trains of the New York carriers. General relief can be obtained only through regional planning of a comprehensive suburban transit system.

The Port Authority took an active part in the contemplation of passenger problems immediately following directions from the State of New Jersey under chapter 277 of the Laws of 1927. This was supplemented by requests from the supervisors of Westchester County, N. Y., that the problem be considered by the Port Authority in its larger aspects.

The Port of New York Authority was directed by the New Jersey statute to consider the plans, studies, reports and data prepared by other agencies, such as the New York State Suburban Passenger Transit Commission, the Westchester County Transit Commission, the Transit Commission, State of New York, the North Jersey Transit Commission, the Regional Plan of New York and Its Environs, and any other agencies which have dealt with and studied this problem, "and shall, after such study, make a report to the Legislatures of the two States, in which shall be submitted such amendments to the existing comprehensive plan for the development of the transportation facilities of the district or such additional or supplementary legislation as may be necessary to effectuate a comprehensive interstate and suburban passenger transportation system for the Port of New York District." The Port of New York Authority is required also to submit, as a part of its report, a legal plan for the financing of the said improvements "through the Port of New York Authority as the corporate municipal instrumentality of the two States or otherwise."

Meetings were held in the late spring with the North Jersey Transit Commission and later with the Westchester officials. The best approach to a regional solution of the

suburban transit problem was seen to be through a centralized group or board consisting of engineering representatives from the railroads and each of the sectors of the port district. To effectuate the organization of such an engineering board, it was agreed that the Port of New York Authority, being a bi-state agency interested in improvements on both sides of the Hudson River, would be the proper party to extend invitations to the public bodies to join in setting up the Suburban Transit Engineering Board. Accordingly the following were invited:

North Jersey Transit Commission	New Jersey Sector
Board of Supervisors, Westchester County	Westchester Sector
Boards of Supervisors, Nassau & Suffolk counties	Long Island Sector
Board of Transportation	New York City
Association of Railroad Executives	Railroads
The Port of New York Authority	Port of New York

The response was wholehearted and immediate, the following engineers being designated to represent their respective interests upon the Board:

***New Jersey Sector***

Daniel L. Turner, Consulting Engineer, North Jersey Transit Commission.

***Westchester Sector***

Chas. MacDonald, County Engineer, Westchester County.

***Long Island Sector***

W. Fred Stark, County Engineer, Nassau County.

Albert O. Smith, County Superintendent of Highways, Suffolk County.

***City of New York***

Robert Ridgway, Chief Engineer, Board of Transportation.

***The Port of New York Authority***

Billings Wilson, Deputy Manager.

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**PART III**

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**SUBURBAN TRANSIT**

The problem of providing adequate passenger transportation for the thousands of daily riders from and within the suburban districts centering about the City of New York is becoming acute. The situation is intensified by the fact that nearly half of these commuters travel within limited rush hour periods, morning and evening, and these daily, periodic surges of humanity must flow through channels that have other intensive transportation demands.

Inbound, long distance passenger trains generally arrive at terminals during the morning commutation hours. In the evening the vanguard of a fleet of fast freight trains closely pursues the commuter to and through his suburban community. In New York City he is carried back and forth in a local subway system already operating to capacity and whose load is even now increasing at the rate of 200,000 riders a day.

Local transit agencies have been coping with this problem for several years in their respective districts. In New York City there has been much new construction ever underway. In Northern New Jersey and Westchester County transit commissions have studied and reported on their respective problems. There has existed, until this time, however, no concerted attempt to coordinate the interstate and regional phases of a problem whose solution can only be attained by the most comprehensive study and

**Railroads**

R. E. Dougherty, Engineering Assistant to President,  
New York Central Railroad.

## Representing:

New York Central Railroad,  
New York, New Haven & Hartford Railroad,  
New York, Ontario & Western Railroad.

R. C. Falconer, Engineering Assistant—Vice-President,  
Erie Railroad.

## Representing:

Erie Railroad,  
Delaware, Lackawanna & Western Railroad,  
Lehigh Valley Railroad.

R. K. Rochester, General Manager, Long Island Rail-  
road.

## Representing:

Pennsylvania Railroad,  
Central Railroad of New Jersey,  
Long Island Railroad,  
Baltimore & Ohio Railroad.

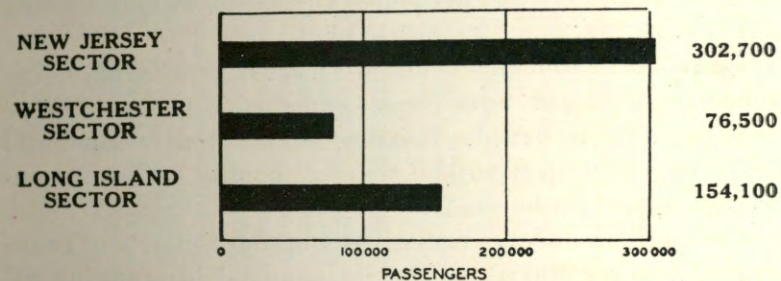
It is our opinion that, in the long run, the greatest progress will be attained by having this Engineering Board undertake the responsibility for the preparation of the engineering section of a comprehensive suburban transit plan for the entire port district. The Board is now functioning. It has designated subcommittees for each sector of the port district composed of representatives of local agencies and local carriers, which will submit sector plans for coordination by the Board into a regional engineering plan. The Board's report will be used as a basis for the legal and financial portions of the comprehensive plan to be later submitted to the Legislatures of the two States by the Port Authority.

This enlargement of our duties has necessitated creating a Suburban Transit Division on our staff headed by a competent transit engineer and including the necessary technical assistants. As part of its contribution to the work of the Suburban Transit Engineering Board the Port Au-

thority has agreed to make its Suburban Transit Division available for conducting such investigations and studies and preparing such plans and reports as the Board may require. Mr. Glenn S. Reeves, Assistant Chief Engineer of the North Jersey Transit Commission, was selected to become Transit Engineer, heading our Suburban Transit Division. He is also acting in the capacity of Secretary for the Suburban Transit Engineering Board.

The work of this Division, since its organization July 1, 1927, has been divided into two parts; i. e., the collection and analysis of passenger statistics for the entire port district, and the planning and investigation of the routes for the comprehensive suburban transit plan. The studies and data of the North Jersey Transit Commission and the former Westchester County Transit Commission have been availed of. The railroads have generously contributed all available pertinent passenger traffic statistics.

Early analyses indicated that the suburban passenger transit problem is not merely a North Jersey problem, a Westchester problem or a Long Island problem, it is decidedly a regional, and largely interstate, problem as the accompanying plate shows:



Volume of Railroad Passengers Moving Daily Toward New York City.

It was apparent at the outset that the boundaries of the Port of New York District as now defined by law for purposes of freight terminal development were too limited for suburban transit planning. A study of the sources of commutation traffic and the reasonable limits of commuting activity decided the Engineering Board to consider a much

larger area. The district finally adopted for study has been divided into three sectors as follows:

	Land Area Sq. Miles	Population 1920 U.S. Census	Population 1926—Estimated
New Jersey Sector.....	2,460	2,394,769	2,730,700
Westchester Sector.....	592	442,448	554,000
Long Island Sector.....	416.6	151,328	263,300
New York City.....	299	5,620,048	5,924,500
	3,767.6	8,608,593	9,472,500

To meet certain planning needs the Suburban Transit Engineering Board recommended that a railroad passenger traffic count based on origin and destination be made in the Westchester and Long Island sectors similar to the one made in New Jersey by the North Jersey Transit Commission in September, 1924. With the spirited cooperation of the New York suburban railroads this was done on Wednesday, October 26, 1927, and covered all Manhattan-bound railroad passengers for 24 hours from the two sectors. Passengers on all ferries leaving Staten Island were also clocked. More than a quarter of a million, specially printed, tabulating machine cards, as reproduced elsewhere in this report, were distributed to the riders on some 900 trains through the splendid cooperation of railroad train crews and special personnel furnished by cooperating agencies.

The returns from this count were most gratifying, being higher than might have been expected. Over 40% of the cards were returned. Because of the great volume and variety of the data it will be several months before a complete analysis can be made.

Meanwhile the sector committees of the Suburban Transit Engineering Board are busily engaged in studying all plans of the local agencies within their respective districts. The innumerable technical ramifications are receiving expert attention. The entire Board is meeting at regular intervals to insure coordination of all committee activities, step by step. Our own transit staff is progressing in its analytical work with all possible dispatch and in addition has a staff of expert engineers engaged on analyses of types of equipment and designs and estimates of typical

THE PORT OF NEW YORK AUTHORITY REPRESENTING THE STATE OF NEW YORK THE STATE OF NEW JERSEY		ASKS YOUR CO-OPERATION
<b>1</b> WRITE IN THE BLANK BELOW <b>I START THIS TRIP FROM</b> TOWN OR CITY TOWN OR CITY		IN PLANNING TO IMPROVE YOUR SUBURBAN TRANSIT FACILITIES PLEASE ASSIST BY ANSWERING THE QUESTIONS IN THE BLOCKS ON THIS CARD RETURN CARD TO ANY MEMBER OF THE TRAIN CREW PLEASE DO NOT FOLD OR MUTILATE THIS CARD THE PORT OF NEW YORK AUTHORITY AND SUBURBAN TRANSIT ENGINEERING BOARD 75 WEST STREET, NEW YORK CITY
<b>2</b> WRITE IN THE BLANK BELOW <b>MY ULTIMATE DESTINATION FOR THIS TRIP IS</b> TOWN OR CITY TOWN OR CITY		
<b>3</b> CHECK (✓) ONE SQUARE BELOW <b>I, TO REACH THE RAILROAD STATION</b> 1. <input type="checkbox"/> WALK OR USE ONE OF THE FOLLOWING 2. <input type="checkbox"/> BUS 3. <input type="checkbox"/> SURFACE STREET CAR 4. <input type="checkbox"/> PRIVATE AUTO 5. <input type="checkbox"/> TAXI		<b>11</b> CHECK (✓) ONE SQUARE BELOW <b>PASSENGERS DESTINED ELSEWHERE</b> INDICATE DESTINATION IN THIS COLUMN <b>BROOKLYN</b> 1. <input type="checkbox"/> WILLIAMSBURG—E. N. Y. SECTION 2. <input type="checkbox"/> ATLANTIC AVE.—BORO HALL SEC. 3. <input type="checkbox"/> SOUTH BROOKLYN SECTION <b>QUEENS</b> 4. <input type="checkbox"/> FLUSHING SECTION 5. <input type="checkbox"/> JAMAICA SECTION 6. <input type="checkbox"/> LONG ISLAND CITY SECTION 7. <input type="checkbox"/> BRONX 8. <input type="checkbox"/> STATEN ISLAND 9. <input type="checkbox"/> NEW JERSEY 0. <input type="checkbox"/> ELSEWHERE IF ELSEWHERE WRITE BELOW
<b>4</b> CHECK (✓) ONE SQUARE BELOW <b>THE KIND OF TICKET I RIDE ON IS A</b> 1. <input type="checkbox"/> MONTHLY 2. <input type="checkbox"/> ONE WAY 3. <input type="checkbox"/> ROUND TRIP 4. <input type="checkbox"/> 25-TRIP 5. <input type="checkbox"/> 50-TRIP 6. <input type="checkbox"/> 64-TRIP 7. <input type="checkbox"/> SCHOOL 8. <input type="checkbox"/> EMP. 1/2 RATE 9. <input type="checkbox"/> PASS		
<b>5</b> WRITE IN THE BLANK BELOW <b>I BOARD THE TRAIN AT</b> STATION STATION <b>6</b> WRITE IN THE BLANK BELOW <b>I CHANGE TRAINS ON THIS RAILROAD AT</b> STATION STATION <b>7</b> WRITE IN THE BLANK BELOW <b>I LEAVE THE RAILROAD AT</b> STATION STATION		<b>10</b> CHECK (✓) ONE SQUARE BELOW <b>PASSENGERS DESTINED TO MANHATTAN</b> INDICATE DESTINATION IN THIS COLUMN (EAST AND WEST DESTINATION) 1. <input type="checkbox"/> ABOVE 17TH ST. & E. OF 5TH AVE. 2. <input type="checkbox"/> WEST OF 5TH AVE. 3. <input type="checkbox"/> BELOW 17TH ST. & E. OF BROADWAY 4. <input type="checkbox"/> W. OF BROADWAY <b>10</b> CHECK (✓) ONE SQUARE BELOW (NORTH AND SOUTH DESTINATION) 1. <input type="checkbox"/> BELOW VESEY-BEEKMAN STS. 2. <input type="checkbox"/> BET. BEEKMAN AND ROOSEVELT STS. 3. <input type="checkbox"/> BET. DUANE AND CHARLTON STS. 4. <input type="checkbox"/> BET. ROOSEVELT AND STATION STS. 5. <input type="checkbox"/> BET. 11 ST. AND 17 ST. 6. <input type="checkbox"/> BET. 17 & 29 7. <input type="checkbox"/> BET. 29 & 39 8. <input type="checkbox"/> BET. 39 & 46 9. <input type="checkbox"/> BET. 46 & 62 0. <input type="checkbox"/> ABOVE 62 ST.
<b>8</b> CHECK (✓) ONE SQUARE BELOW <b>AFTER LEAVING THE RAILROAD, TO REACH MY DESTINATION, I USE</b> 01. <input type="checkbox"/> W. SIDE I. R. T. SUB. 02. <input type="checkbox"/> E. SIDE I. R. T. SUB. 03. <input type="checkbox"/> B. M. T. SUBWAY 04. <input type="checkbox"/> SHUTTLE QUEENSBORO SUBWAY 05. <input type="checkbox"/> WALK 06. <input type="checkbox"/> H. AND M. TUBES 07. <input type="checkbox"/> SURFACE ST. CAR 08. <input type="checkbox"/> BUS 09. <input type="checkbox"/> TAXI 10. <input type="checkbox"/> WALK		
<b>9</b> CHECK (✓) ONE SQUARE BELOW <b>PASSENGERS DESTINED TO MANHATTAN</b> INDICATE DESTINATION IN THIS COLUMN (EAST AND WEST DESTINATION)		<b>11</b> CHECK (✓) ONE SQUARE BELOW <b>PASSENGERS DESTINED TO MANHATTAN</b> INDICATE DESTINATION IN THIS COLUMN (EAST AND WEST DESTINATION)
<b>POWERS-5116 USE ONLY ONE CARD TO DESCRIBE THIS TRIP BETWEEN ORIGIN AND DESTINATION</b> 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45		

Card On Which Commuter Census Was Taken.

subway and tunnel structures in anticipation of reports from the sector committees on amount and location of new facilities necessary. The results of these various studies have not progressed to a point where they can be included in this report.

#### *Conclusions*

The studies and planning work now under way by the Suburban Transit Engineering Board, resulting already in the wholehearted cooperation of the various transit agencies in the Port District, should be continued with the same vigor that has marked its progress to date. The helpful spirit of cooperation prevailing among the associated interests should be fostered as it is bound to result in definite and tangible accomplishments.

The conclusions contained in the sub-committee reports embodied in the preliminary report of the Suburban Transit Engineering Board of January 11, 1928, and, annexed hereto, are sound. They point out the need for further study of the following matters:

- (a) A distribution system in New York City for the daily riders from the suburban districts outside of the city limits.
- (b) The extension of this distribution system across the Hudson River to connect with the sources of traffic in New Jersey.
- (c) Transfer stations where necessary for the interchange of passengers between the existing suburban railroads and this distributing system.

It is recommended that the Port Authority continue its support of the Suburban Transit Engineering Board for the purpose of assuring the continuance of the studies which that Board has underway.

Concurrent legislation by New York State in support of this program would be helpful.

**Annual Report of the Port of New York Authority  
for the Calendar Year 1927**

**PART IV**

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**FINANCIAL OPERATIONS**

The Port of New York Authority is required to bring about the improvements which it undertakes under the mandate of the States of New York and New Jersey without increasing the burden of the taxpayer.

It must, necessarily, expend large sums of money to create the facilities which are on its program, but it must raise its funds on its own credit. It is not limited as to the amounts of the securities it issues as are municipalities and other political subdivisions, but must meet debt charges and administration and maintenance out of the earnings of its facilities. In other words it must be governed by the law of economic practicability.

Port Authority bonds are free of tax in New York and New Jersey and exempt from Federal taxation. The securities already issued are declared by statute to be legal for investment by savings banks, insurance companies and fiduciaries in the two States. But they are not supported by taxation. The compact between the two States expressly withholds from the Port Authority power to levy taxes or assess for benefits. It is also forbidden to pledge the credit of the States which created it.

In directing The Port Authority to construct the four bridges now on its program New York and New Jersey provided funds in equal amounts for study purposes. They also agreed to advance equal sums of money in aid of construction in each instance.

Toward the construction cost of the bridges over the Arthur Kill from Perth Amboy, N. J., to Tottenville, S. I.,

and from Elizabeth, N. J., to Howland Hook, S. I., estimated to cost \$18,000,000 the States are advancing \$2,000,000 each, a total of \$4,000,000.

Toward the construction cost of the Hudson River Bridge from Manhattan Borough, City of New York to Fort Lee, N. J., estimated to cost for opening to initial traffic \$60,000,000 the states are advancing \$5,000,000 each, a total of \$10,000,000.

Toward the construction cost of the bridge from Bayonne, N. J., to Port Richmond, S. I., estimated to cost \$16,000,000 the states are advancing \$2,000,000 each, a total of \$4,000,000.

The advances in every instance are payable in equal annual installments over a period of five years.

Both study funds and advances in aid of construction constitute a debt which must be repaid with interest to the two states, out of the earnings of the bridges from tolls or otherwise. The bonds, however, have the first lien on the bridge revenues and the claim of the states is secondary.

#### **Market for Port Authority Bonds**

A growing demand by investors and a broadening market for Port Authority bonds accompanied by a gradual but constant improvement in prices therefor mark the history of these securities since the first issue. Ease in the money market has, of course, been one factor but it is reasonable to assume that growing confidence in the Port Authority's method of financing and the soundness of its projects have had due weight in the situation.

The first issue of \$14,000,000 Port Authority Bridge bonds (Series A), bearing 4½ per cent interest was sold on March 4, 1926, at 97.25 per cent of par to a syndicate headed by the National City Company of New York.

The price paid by the syndicate showed an interest cost to the Port Authority for the proceeds of the bonds of 4.76 per cent.

These bonds were disposed of to obtain funds for the construction of the bridge from Perth Amboy, N. J., to Tottenville, S. I., and for the bridge from Elizabeth,

N. J., to Howland Hook, Staten Island, both structures being over the Arthur Kill and now approaching completion. These are serial bonds, first retirement date being March 1, 1932 and the last March 1, 1946, callable on or after March 1, 1936, at 105 per cent of par.

The next issue of Port Authority Bridge bonds (Series B), in amount \$20,000,000 and bearing 4 per cent interest provided funds for the first stages of construction of the Hudson River Bridge. They were sold to a syndicate headed by the National City Company at 95.637 per cent of par representing an interest cost on the proceeds to the Port Authority of 4.242 per cent. These are serial bonds, the first retirement date being December 1, 1936, the last December 1, 1950, and are callable on or after December 1, 1936, at par. The bonds of Series A were placed on sale to the public by the syndicate on March 8, 1926, and immediately disposed of at par. The bonds of Series B were sold by the syndicate to the public on a 4.20 per cent yield basis.

The following table exhibits the appreciation in value in the bonds as shown by sales during the year 1927.

	4½% Series A	4% Series B
January .....	4.30% Yield Basis	4.20% Yield Basis
February .....	4.30% Yield Basis	4.20% Yield Basis
March .....	4.30% Yield Basis	4.15% Yield Basis
April .....	4.25% Yield Basis	4.15% Yield Basis
May .....	4.25% Yield Basis	4.15% Yield Basis
June .....	4.25% Yield Basis	4.20% Yield Basis
July .....	4.25% Yield Basis	4.15% Yield Basis
August .....	4.25% Yield Basis	4.15% Yield Basis
September .....	4.15% Yield Basis	4.10% Yield Basis
October .....	4.15% Yield Basis	4.10% Yield Basis
November .....	4.10% Yield Basis	4.10% Yield Basis
December .....	4.05% Yield Basis	4.00% Yield Basis

On January 5th of the present year The Port Authority disposed of \$12,000,000 Bridge bonds (Series C), bearing 4 per cent interest to obtain funds for the building of the Bayonne-Port Richmond Bridge to a syndicate headed by the Guaranty Company of New York. There was spirited competition for the securities as was indicated by the following bids:

Guaranty Company syndicate.....	99.777
National City Group.....	99.6419
Lehman Brothers syndicate.....	99.10
Dillon, Read & Co.....	98.27

The highest bid represented a net interest cost to the Port Authority of 4.0109.

The bonds will fall due in increasing serial maturities from 1938 through 1953. They will be callable in whole or in part at 103, beginning January 3, 1938.

These bonds were put upon the market on January 9, 1928, and immediately disposed of to the public at 101 per cent of par. They represent an interest return to the investors of 3.82 per cent to 3.93 per cent, depending upon maturity.

### ACQUISITIONS OF REAL ESTATE

In the acquisition of real property for large public works inflated prices are almost always encountered. The Port Authority, with this in mind adopted the policy of having careful appraisals made by competent persons in the several localities where real estate was to be acquired, of dealing directly with owners and of making purchase as early as feasible. In this way almost all of the real estate needed for the bridges has been secured at reasonable figures, the speculator has been forestalled and in only a few instances has the Port Authority been compelled to resort to the tedious and costly process of condemnation in the courts.

The first real estate which it was necessary to acquire was for the rights of way for the two Arthur Kill bridges. The Staten Island parcels were all obtained by private negotiation, and within the estimates, except that one plot at Howland Hook had to be condemned.

The unsatisfactory condition of one title at Perth Amboy, made necessary the condemnation of the property involved. Otherwise all the property needed at the Perth Amboy end of the Outerbridge Crossing was obtained through private negotiation and at figures within estimates and appraisals.

In Elizabeth all property required was obtained through negotiation. The costs were within the estimates and appraisals. Subsequently it was found necessary to acquire an additional area not contemplated in the original plan,

the purchase of which is pending. Nevertheless the expenditures for real estate at this point promise to be within the estimates.

The purchases at Perth Amboy comprised eighty-nine parcels involving thirty-nine titles. Fifty-five parcels involving twenty titles made up the Elizabeth purchases. The purchases in Staten Island were mostly of acreage.

The acquirement of property for the Hudson River Bridge presented a more complicated problem as, on the Manhattan side, the land values were high and the improvements were extensive and costly.

However, by the close of 1927 64% of the area needed had been acquired by negotiation, and negotiations were in progress for practically all of the additional property required. The purchase prices in the aggregate were below the estimates. Most of the property purchased was improved by apartment buildings, as is that still to be acquired.

The Port of New York Authority has continued the operation of these buildings. This operation has been advantageous because it has supplied information with respect to rental values and other particulars found to be helpful in negotiations with owners of property still to be acquired. Furthermore it has not caused any sudden disturbance to the large number of tenants in the buildings, who will, at their convenience, secure quarters elsewhere.

On the New Jersey side of the river at Fort Lee more than 70% of the property required was purchased during the year comprising forty-eight parcels and involving twenty-five titles. Such of the improved properties as were not immediately needed for bridge purposes are being operated.

At the close of the year options had been obtained on approximately one hundred twenty-five parcels of property required for the Bayonne-Port Richmond Bridge. Because the plaza lay-out on the Port Richmond side had not yet been determined, greater progress was made on the

Bayonne side where agreements with owners have been reached on approximately 95% of property needed, exclusive of that occupied by industrial plants. The price agreed upon for this property is well within the appraised value. Title has already been taken to practically all of the property for which options were secured, the funds being obtained by the sale of notes aggregating \$1,000,000 in advance of the bond issue. On the Port Richmond side agreements had been reached with owners of approximately 75% of property required, exclusive of the plaza area.

The following illustrates the expenditures on account of real estate acquisitions for the four bridges:

Elizabeth-Howland Hook Bridge.....	\$369,009.90
Outerbridge Crossing (Perth Amboy-Tottenville).....	549,203.95
Hudson River Bridge.....	2,870,327.80
Bayonne-Port Richmond Bridge.....	878,654.60
Total .....	\$4,667,196.25

It has been the practice of the Port Authority in acquiring real estate to have all titles searched and insured.

EXPENDITURES ON APPROPRIATIONS MADE BY THE STATES OF NEW JERSEY AND NEW YORK FOR EFFECTUATION OF THE COMPREHENSIVE PLAN AND FOR PRELIMINARY SURVEYS FOR BRIDGES OVER THE HUDSON RIVER AND THE KILL VAN KULL.

*Fiscal Year Ended June 30, 1927*

	Compre- hensive plan	Preliminary bridge surveys	Total
<b>ADMINISTRATIVE DEPARTMENT:</b>			
Services and expenses.....	\$37,134 36	\$24,956 36	\$62,090 72
Office rental.....	10,578 48	9,451 60	20,030 08
Office expenses, supplies and equipment.....	9,116 83	4,919 45	14,036 28
Stationery and printing.....	6,507 71	4,425 05	10,932 76
	\$63,337 38	\$43,752 46	\$107,089 84
<b>LEGAL DEPARTMENT:</b>			
Services and expenses — special coun- sel.....	\$12,335 18		\$12,335 18
Services and expenses — legal staff.....	11,153 32	\$8,732 29	19,885 61
	\$23,488 50	\$8,732 29	\$32,220 79
<b>ENGINEERING, DEPARTMENT:</b>			
Services and expenses — engineering staff.....	\$44,978 17	\$110,295 80	\$155,273 97
Services and expenses — statistical staff.....	44,884 28	18,319 67	63,203 95
	\$89,862 45	\$128,615 47	\$218,477 92
Total expenditures.....	\$176,688 33	\$181,100 22	\$357,788 55

FINANCIAL STATEMENT — INTERSTATE BRIDGES — AS OF DECEMBER 31, 1927

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RESOURCES	Arthur Kill bridges	Hudson River bridge	Bayonne Port Richmond bridge	Total
1. EXPENDED FOR CONSTRUCTION OF BRIDGES Representing expenditures for construction work, cost of land, interest and discount on indebtedness, engineering and other costs of construction.....	\$12,091,328 87	\$4,638,969 85	\$981,474 56	\$17,711,773 28
2. OTHER INVESTMENTS Being investment in all of the stock of an affiliated company, and purchase of mortgages on property required for bridge sites....		33,375 00		33,375 00
3. CASH — AVAILABLE FOR CONSTRUCTION Representing unexpended balances of proceeds from the sales of Port Authority Interstate Bridge Bonds — Series "A" and "B", from advances made by the States of New Jersey and New York in aid of construction of bridges, and from short term bank loans.....	4,545,425 42	17,136,498 67	88,216 50	21,770,140 59
4. ACCOUNTS RECEIVABLE Being current accounts receivable, uncollected on December 31, 1927.....		11,981 36	50,000 00	61,981 36
5. UNMATURED ADVANCES IN AID OF CONSTRUCTION Being deferred and contingent amounts which the States of New Jersey and New York have agreed to advance in aid of con- struction of interstate bridges.....	2,000,000 00	8,000,000 00		10,000,000 00
6. UNAMORTIZED DISCOUNT ON FUNDED DEBT Representing balance of discount on Port Authority Interstate Bridge Bonds — Series "A" and "B" — which will be extin- guished by charges to construction and to operation over the life of bonds.....	342,214 26	777,034 38		1,119,248 64
Totals.....	<u>\$18,978,968 55</u>	<u>\$30,597,859 26</u>	<u>\$1,119,691 06</u>	<u>\$50,696,518 87</u>

PORT OF NEW YORK AUTHORITY

FINANCIAL STATEMENT — INTERSTATE BRIDGES — AS OF DECEMBER 31, 1927 — (Continued)

LIABILITIES	Arthur Kill bridges	Hudson River bridge	Bayonne Port Richmond bridge	Total
1. LONG TERM DEBT Being Port Authority Interstate Bridge Bonds — Series "A" — \$14,000,000.00 dated March 1, 1926, and Series "B" — \$20,000,- 000.00 dated December 1, 1926, which were issued to obtain funds for construction of bridges.....	\$14,000,000 00	\$20,000,000 00		\$34,000,000 00
2. MORTGAGES AND LOANS PAYABLE Being principal of mortgages assumed in the purchase of land for bridge sites, and principal of short term bank loans.....		108,500 00	\$1,000,000 00	\$1,108,500 00
3. AUDITED VOUCHERS PAYABLE Being current accounts which have been vouchered but not paid by banks to December 31, 1927.....	568,886 47	117,052 26	17,211 92	703,150 65
4. ACCRUED INTEREST ON DEBT Being accrual of interest on Port Authority Interstate Bridge Bonds, Series "A" and "B", on mortgages assumed on prop- erty purchased, and on short term bank loans.....	210,000 00	67,718 78	2,479 14	280,197 92
5. ADVANCES FOR PRELIMINARY SURVEYS Representing amounts repayable to the States of New Jersey and New York when the costs of construction of interstate bridges shall have been fully paid for and the debts created for such purpose amortized.....	199,918 20	299,921 97	100,000 00	599,840 17
6. ADVANCES IN AID OF CONSTRUCTION Representing amounts repayable to the States of New Jersey and New York from revenues and tolls from the operation of inter- state bridges. Such repayments are due to be made at the rate of two per centum per annum of principal amounts after the payment of all expenses, interest, amortization and sinking fund charges on obligations issued by the Port Authority.....	4,000,000 00	10,000,000 00		14,000,000 00
7. UNADJUSTED CREDITS Representing items held in suspense pending disposition.....	163 88	4,666 25		4,830 13
Totals.....	<u>\$18,978,968 55</u>	<u>\$30,597,859 26</u>	<u>\$1,119,691 06</u>	<u>\$50,696,518 87</u>

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**APPENDIX**

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**IN MEMORIAM GEORGE W. GOETHALS**

Resolved, that the Commissioners of The Port of New York Authority, hereby record their profound sorrow at the death of Major-General George W. Goethals.

The supreme achievement of the age and one of the greatest of history—the building of the Panama Canal—belongs to him. But he was not content to rest under the laurels which this great accomplishment brought to his name. He was to the end of his days, as throughout his life, devoted to the service of the public. For this he put aside many opportunities for individual profit. Broad patriotism was his governing motive, integrity of thought and purpose his guiding principle.

To the solution of the many and complicated problems of The Port of New York Authority, General Goethals brought a keen intelligence, a vast fund of knowledge and an unexcelled experience. In all his relations with his associates he was distinguished by modesty, fairness and consideration. He lived and died a true American, and his life will be an outstanding example to succeeding generations; and be it further

Resolved, that the Secretary be authorized and directed to cause a copy of these resolutions to be suitably engrossed and certified; and presented to the family of General Goethals.

Adopted January 26, 1928.

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