

974.901
P72

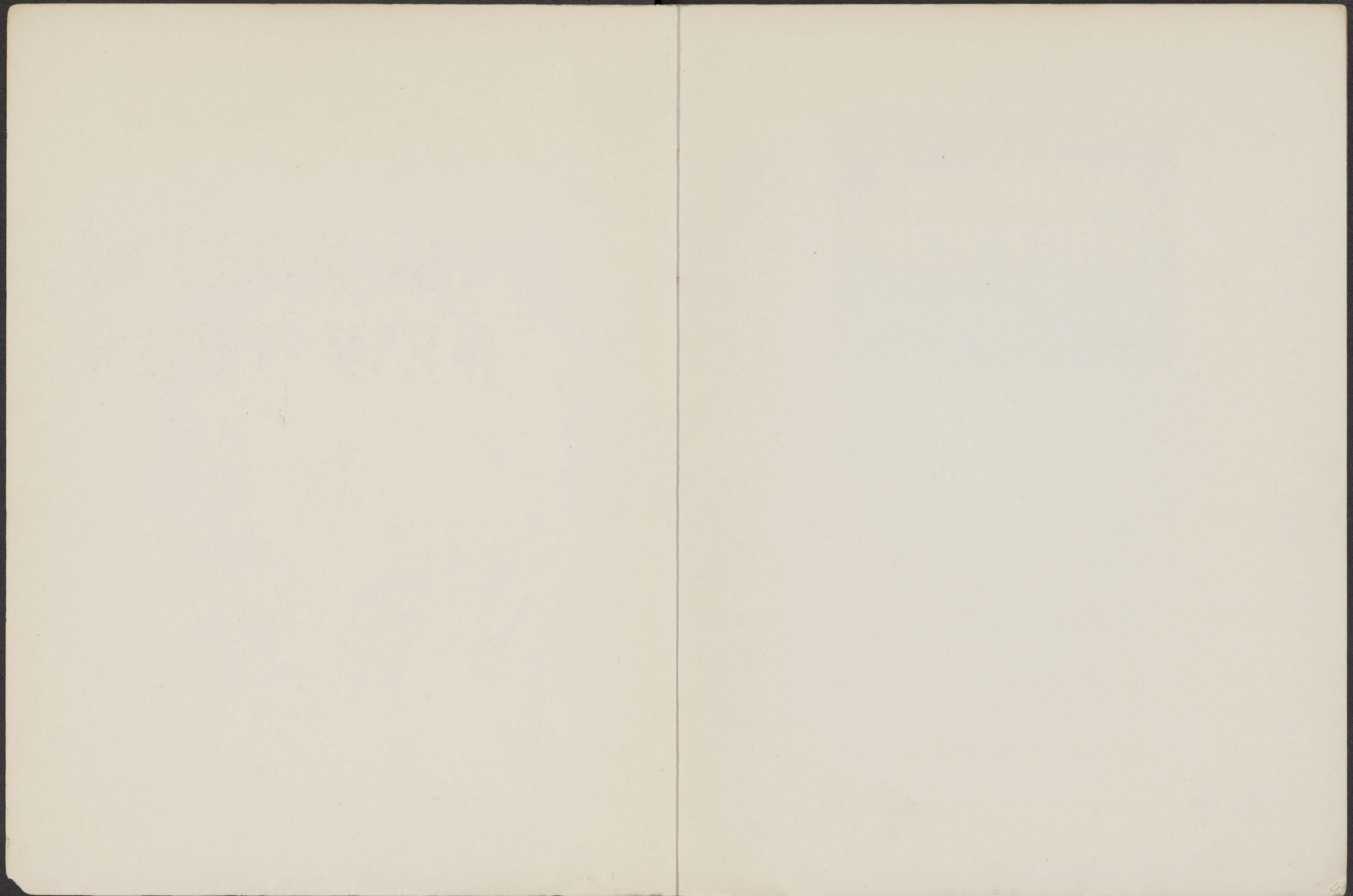
The PORT of NEW YORK

PROPERTY OF
NEW JERSEY STATE LIBRARY

APR 23 1969

185 W. State Street
Trenton, N. J.

KRESSY.



The PORT of NEW YORK

PUBLISHED BY THE PORT OF NEW YORK AUTHORITY

« THIS REPORT WAS DESIGNED, COMPILED AND WRITTEN
WITHIN THE STAFF OF THE PORT OF NEW YORK AUTHORITY »

COPYRIGHT, 1941, BY THE PORT OF NEW YORK AUTHORITY

New Jersey State Library



Contents

	Page
FOREWORD	6
SAGA OF THE PORT	7
PORT OF MANY PORTS	9
Manhattan	10
Port Newark	12
Kearny	13
Jersey City	14
Bayonne	15
Port Raritan	16
Elizabethport	17
Weehawken-Edgewater	18
Hoboken	19
Staten Island	20
Bronx	21
Brooklyn	22
Barge Ports	26
PORT OF NEW YORK—ITS ADVANTAGES	27
Direct S/S Sailings	28
S/S Lines Serving the Port	30
Cargo Handling Equipment	32
Railroads Span the Nation	36
Coordination Prevents Delays	38
Every Railroad Reaches Every Ship	39
World Air Transport	41
For Defense or Commerce	42
Fast Flexible Truck Service	44
Five Thousand Long Haul Trucks	46
Sinews of a Great Port	47
Public Agencies	50
World Finance Center	52
SINCE 1917	53
New Jersey and New York Join	54
Islands Tied to Mainland	56
New Vistas	58
A Transportation Revolution	60
Toward Coordinated Operation	63
Channels Deepened	64
New Berthage	66
Warehouses Expanded	67
First Foreign Trade Zone	68
Life Line to the West	69
THE PORT OF NEW YORK AUTHORITY	71
To Serve New Jersey and New York	72
Wheels Must Turn	74
Traffic 1940—1939 Compared	76
The Debt Must Be Repaid	78
Net Revenues 1940—1939 Compared	80
Development of the Port	82
Port Commerce Protected	84
Toward New Horizons	86
Auditors' Report	89
Balance Sheet—December 31, 1940	90
Table of Funded Debt	94

Foreword

THE Port of New York, America's largest seaport, plays a vital role in the nation's commerce. During the past two decades, extensive improvements in the port's facilities have fortified its preeminent position, achieved new standards of efficiency.

At intervals, during the past twenty years, individual projects have been described and reported. But the two decades of progress, as an integrated whole, have not yet been reviewed.

We feel that, because the port embraces parts of two states, New York and New Jersey, such a review is a task for this bi-state agency which is charged with the duty of promoting and protecting the commerce of the port. We have, accordingly, decided to dedicate this twentieth annual report to that purpose, in place of the more limited annual report customarily issued.

To make this survey representative, its scope has been broadened to include many projects and improvements outside the Port Authority's sphere. In here presenting such developments, the Port Authority in no sense seeks credit for all the progress of the port. Many agencies—federal, state and local—are efficiently performing essential governmental functions in the Port of New York. There are the administrations of the two states themselves and of the several hundred municipalities within the Port of New York District. Transportation companies, industries, countless anonymous workers on the waterfront carry on the day-to-day work of the port and contribute to its development. The progress reported here is the cumulative result of all these efforts.

Finally, although the scope of this report is broad, we do not pretend that every single phase of port progress has been included. The magnitude of the port, the ramifications of its extensive systems of transport—by rail, water, air and highway—make it impossible to compress a detailed enumeration of all developments within the space available. The purpose of this report is merely to highlight, in non-technical terms, two decades of progress and, in so doing, to point the way toward ever-broadening horizons for the Port of New York and the nation it stands ready to serve.

THE PORT OF NEW YORK AUTHORITY

Frank C. Ferguson
Chairman
Howard S. Cullman
Vice-Chairman
A. J. Shamberg
John J. Pulleyn
George deB. Keim
Rudolph Reimer
Joseph M. Byrne, Jr.
Charles S. Whitman
John Borg
Frank J. Taylor
Raymond M. Greer
Frank Dorsey
Commissioners.



Saga OF THE PORT

IN THE LONG HISTORY of civilization the seaport has been the threshold of progress. Inland through the harbor have flowed the goods and ideas of alien worlds; outward from the port, ships have sailed to widening horizons. At the seaport has been mirrored the life, the culture, and the material prosperity of the nation it served.

The Port of New York has a heritage lavishly enriched by the role it has played in the development of the nation. Hence, although this is a survey of the modern Port of New York, it would be incomplete if it failed to sketch even though briefly a few highlights out of the heroic past.

When the men of destiny—Columbus, Vasco da Gama, Verrezano, Gomez, Henry Hudson—seeking spices, gold, and precious gems, came upon the new world, New York was but one of many small Indian trading posts.

For many years, even after the Indians moved north and left Manhattan to the Dutch, it remained a small

trading post. Its magnificent natural harbor was no more than a refuge for vessels from the high seas. There were no lines of communication with the interior beyond Albany other than by pack horse or wagon.

A magnet for the adventurers and craftsmen of salt water—seamen, shipwrights, chandlers, sailmakers—the harbor remained separate, apart and disconnected from the hinterland. New York like the other harbors along the seaboard had nothing in common with the interior. The interior had no bond with the seaboard.

After the Union had been formed, Washington, who knew as did no one else the importance of establishing lines of communication between the Atlantic states and the western territory, wrote in 1784, “*** open all the communications which nature has afforded between the Atlantic states and the Western Territory and encourage the use of them to the utmost *** and sure I am that there is no other tie by which they will long form a link in the chain of Federal Union”.

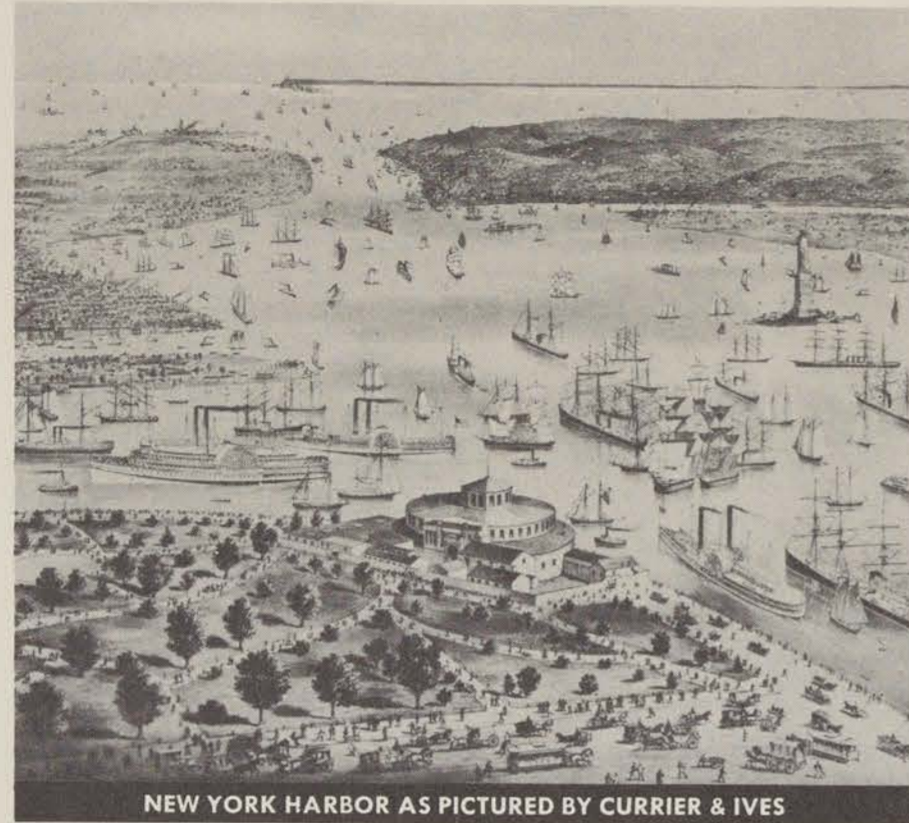
Thirty-three years later the Cumberland Road from

Washington to Wheeling, West Virginia, was opened. Pioneers moved westward. Many communities were settled along the Ohio River, but goods still had to be hauled over stump-cluttered wagon tracks.

Then in 1825 came New York's first major contribution to the westward march of civilization—the Erie Canal, a main artery to the heart of the interior. The cost of transportation was virtually cut in half. By joining the inland seas, the Great Lakes, with the Atlantic, New York gave dynamic impetus to the development of the nation.

Almost overnight the Port of New York became the trans-shipment center for the commerce flowing from east to west, and west to east. The Erie Canal stirred America to a new day, carrying industry through the Appalachians. It became a mighty chain linking the vast interior to the seacoast, unifying the east and the hitherto remote western territory.

In the meantime, the story of American railroading was being written at the Port of New York. At Hoboken, Colonel John Stevens built the first steam railroad which he operated on an experimental circular track. Stevens' efforts resulted in the first United States railroad charter in 1817, and the incorporation of a "Pennsylvania Railroad" in 1823. In 1830 his family built the Camden and Amboy Railroad, original unit of the present Pennsylvania Railroad. The empire builders who followed created a network of a quarter of a million miles of track that made neighbors of north, south, east and west; developed Stevens' pioneering project into



NEW YORK HARBOR AS PICTURED BY CURRIER & IVES

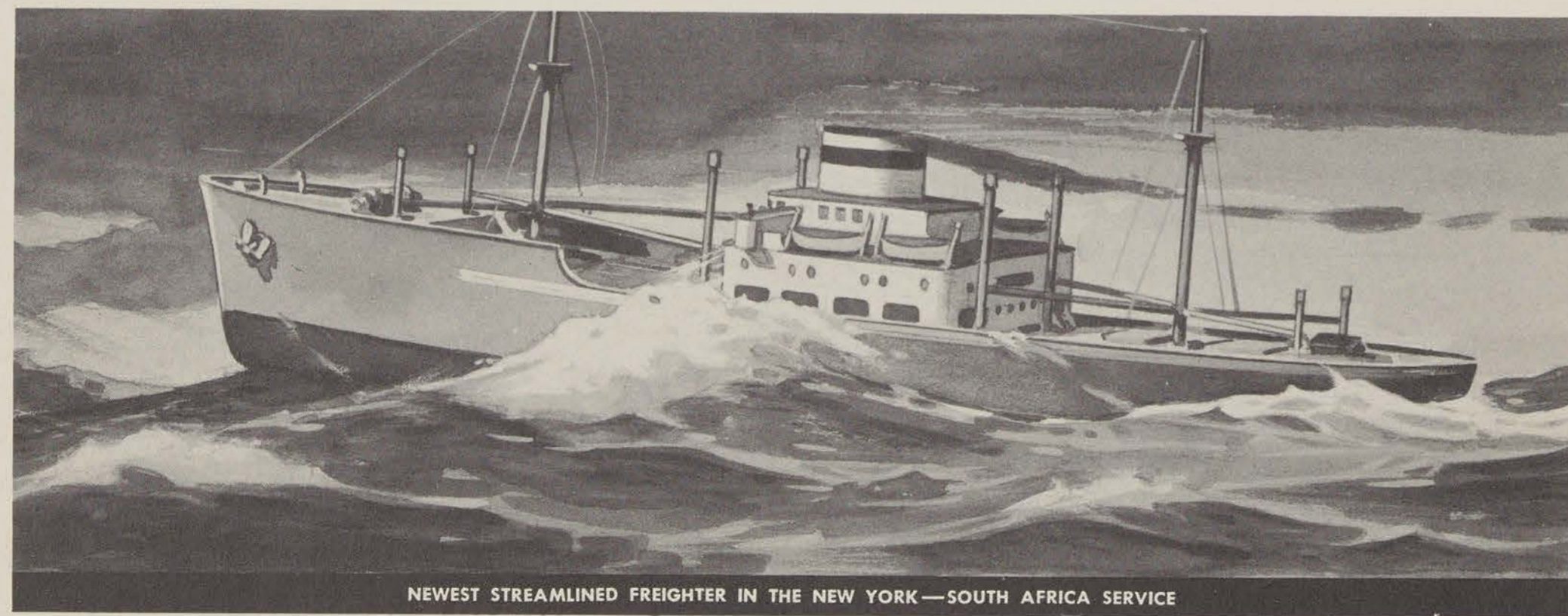
an investment of twenty-five billion dollars.

By the time the railroads were pushing westward, New York—by reason of the Erie Canal—had already become the nation's major seaport. Established as the trans-shipment point for both inland and overseas commerce, it was the natural seaboard terminus for the railroads. Instead of a mere harbor for vessels, instead of a local trading community, New York became the center for the vital lines of transport, by land and sea. The harbor had

become a port—chief gateway of the continent.

At New York have been written countless other chapters in the story of American transportation, communication and culture. Here in the shadow of the ageless Palisades the steamboat was transformed from the dream of visionaries to the willing servant of man. Here the world saw the first electric generator in successful use. Here, too, were developed the first transatlantic cable, the first telegraph. And here at New York millions of refugees from the hardships and persecution of the old world—first trod the soil of America. It was here that they brought the contributions which, fused with the life and customs of their predecessors, forged the American way of life.

The story of New York is the story of all these—seaman, merchant, banker, inventor, longshoreman, statesman, shipwright, engineer—these and countless other men whose labor, genius, industry and energy transformed a harbor into a mighty seaport destined to serve all America.



NEWEST STREAMLINED FREIGHTER IN THE NEW YORK—SOUTH AFRICA SERVICE

PORT OF *Many Ports*





Fairchild Aerial Surveys, Inc.

MANHATTAN

To the homecoming traveler, to the visitor from overseas, it is the fabulous Manhattan skyline that spells New York. Manhattan is, in fact, the chief passenger terminus of the port—the point of departure of thousands of cruise-bound Americans; in time of peace the focal point of transatlantic travel, the historic gateway of millions.

Manhattan is more than a passenger terminus. It is the hub from which radiate the spokes of port commerce—the central driving force of that commerce. Manhattan's banks and insurance companies finance world trade, insure cargoes and vessels that sail the seven seas. Concentrated in Manhattan are the country's leading experts in transportation and trade: freight forwarders and customhouse brokers, consular representatives and steamship agents and other experts.

One of the finest vantage points for a close-up picture of Manhattan's waterfront is the West Side Highway, paralleling the Hudson River shore. Along this elevated roadway is a virtually unbroken panorama of piers and terminals with names of steamship lines which read like a directory of world shipping. Most impressive of these piers is the group at midtown known as the

transatlantic steamship terminal. These piers serve the largest liners.

Stretching south from the Chelsea area to the Battery are the berths of the major vessels in the intercoastal, coastwise, Caribbean and South American trade. Formerly used by the transatlantic greyhounds of yesteryear, these piers are now the terminals of modern combination passengers and cargo ships, the newest queens of the United States merchant fleet—including the *America*, *Washington*, *Manhattan*, *Panama*, *Argentina*, *Brazil*, *Uruguay*, *Santa Paula* and *Santa Lucia*.

Interspersed between these steamship docks on the Hudson River are railroad pier stations which receive by carfloat miscellaneous merchandise running into millions of tons. Fruits, vegetables, butter and eggs are distributed from these piers through wholesale markets, to the entire metropolitan area and trans-shipped to points beyond.

Rounding the Battery and up to the Brooklyn Bridge on the East River, is the center of Caribbean shipping as well as the famous Fulton Fish Market and the piers especially equipped to handle imports of bananas.

Although the teeming Manhattan waterfront alone would be the envy of any port, actually the bulk of the harbor's water-borne commerce flows through piers and terminals located in other sections of the port. For

the Port of New York is not a single waterfront nor a single waterway but a coalition of many harbors, a combination of channels—a Port of Many Ports.

The Port of Many Ports is vast. Almost any one of its eight large bays (Jamaica, Upper, Lower, Raritan, Gravesend, Newark, Flushing and Eastchester) has as large an area as most European harbors. In addition there are the Raritan, Passaic, Hackensack and Hudson Rivers and four straits (Harlem River, East River, Arthur Kill and Kill van Kull). Within these waterways the ports of Hamburg and Antwerp could be fitted in without crowding. Wharves, piers and quays along the port's six hundred fifty miles of waterfront are normally utilized by more than a hundred steamship lines.

The Port of Many Ports is a district of fifteen hundred square miles embracing parts of two states, and several hundred municipalities and other civil subdivisions. On the New York side are Brooklyn, Bronx, Queens, Richmond, and Manhattan. On the west banks of the Hudson are numerous New Jersey deep water ports which include Newark, Kearny, Elizabeth, Bayonne, Perth Amboy, Hoboken, Jersey City, Edgewater and Weehawken.

Plying in and out of these ports, any day, may be found a veritable cross section of the world's merchant fleet. On the Hudson River, superliners and stream-

lined express passenger-cargo ships ride proudly in their berths. On the Brooklyn waterfront, freighters from Capetown and Bombay, from Alexandria and the River Plate discharge cargoes of coffee and hemp, manganese, chrome ore, and mahogany, Egyptian cotton and Brazil nuts. Coastwise colliers steam up the East River with fuel for huge power plants. Cargoes of lumber from the West Coast move up Newark Bay. Steam up, ready to sail, from Stapleton are British freighters, their holds filled with vital loads of airplane parts, tractors and machine tools. Into the tanks of a soap factory, on the Kill van Kull, a whaler from the Antarctic discharges the whale oil processed by the ship's own machinery. At Gowanus Bay wheat pours from the state grain elevator into the holds of waiting ships.

Through the Port of New York each year moves the titanic total of a hundred and twenty million tons of commerce, valued at ten billions of dollars. This stupendous traffic is moved with efficiency and dispatch.

The Port of Many Ports has been welded into a vigorous confederation for the joint solution of mutual problems. Geographic and historic political barriers have been overcome to further the development and progress of all sections. In the final analysis it is the initiative, enterprise and vision of individual communities which make New York America's greatest port.

Port of Many Ports...

KEARNY

The Federal Shipbuilding and Drydock Company which dominates the waterfront at Kearny, is one of the most active shipbuilding centers in the Port of New York. With tremendous orders on hand for naval and merchant vessels, the Federal yards are now employing ten thousand men in three shifts to complete their work on schedule. In 1940 fifteen vessels were completed, and the plant augmented by new storage structures and additional acreage along the Hackensack River. Although the yard is already equipped to perform every operation incident to the building of ships, the expansion will furnish additional shipways, an outfitting basin, crane equipment and service buildings.

To meet the housing needs of shipyard employees, plans were recently announced for a new thousand-unit housing development, to be built out of emergency housing appropriation funds.

Served by coastwise colliers from Norfolk, the coke plants on the banks of the Hackensack are another of Kearny's major waterfront industries. A large part of the coke produced here is shipped by barge to one of the port's principal gas plants on Jamaica Bay.

PORT NEWARK

With a monthly traffic of forty-five million board feet, Port Newark handles the greatest concentration of lumber on the Atlantic seaboard. At this, New Jersey's most thriving municipal port, the federal government and the municipality have dredged a thirty foot channel, 7,000 feet long and 700 feet wide. Former wastelands have been reclaimed to afford space for elaborate marine terminals and a huge bulkhead—nearly a mile in length on each side, with quay space ample to berth twenty freighters at one time. The Army Supply Base, constructed by the federal government in 1917, was purchased by Newark in 1936 and is today operated under lease to a private company as the Newark Tide-

water Terminal. Warehouses have a capacity sufficient to store the contents of 10,000 fully loaded freight cars. One of the port's chief advantages is the direct rail-to-keel service furnished by the Lehigh Valley, the Pennsylvania, the Baltimore & Ohio Railroads and the Central Railroad of New Jersey.

The port is served by the Bull Line, the American Hawaiian Line and other coastwise and intercoastal carriers. More than forty vessels each month furnish regular service to the Pacific Coast, to Florida, the Gulf Ports and New England. Port Newark annually handles more than a million tons of waterborne commerce. The most active year in Newark's port history was 1940.



JERSEY CITY

Home port of the round-the-world fleet of the American President Line and of the American Export Line, Jersey City is an important center of the fast-growing United States merchant marine. Until World War II the leading American line to the Mediterranean, American Export today furnishes twice monthly service to and from India, transporting cargoes essential for national defense: chrome, tung oil, graphite, rubber, tungsten, jute and burlap. With United States vessels barred from belligerent waters, the American Export's service to Lisbon is now the only contact with Europe by American flag ships. Recently approved by the federal government, American Export Airlines transatlantic air service is scheduled to commence operation soon.

Matching Jersey City's steamship services are the facilities of six trunkline railroads, whose tracks fan out at the waterfront to grain elevators, coal yards, thawing sheds and lighterage piers equipped to handle the extensive lighterage traffic centered here. Jersey City's waterfront borders on the Hudson River and thirty foot channels on the Hackensack River. Noteworthy are Jersey City's modern terminal facilities—Harborside, Lackawanna, Seaboard and Claremont; the rapid vehicular connection with Manhattan via the Holland Tunnel.

Port of Many Ports...

BAYONNE

The Port of New York will soon have, at Bayonne, a new drydock capable of berthing the largest naval vessel now on the ways. Originally contemplated for construction by The Port of New York Authority in cooperation with the United States Navy, the drydock, because of defense requirements, will be constructed as a naval dock. In normal times it may also be available for merchant ships.

Jutting out into the mouth of New York Harbor between Robins Reef Lighthouse and the Statue of Liberty is the Bayonne Municipal Terminal. Man-made, out of fill sucked up by dredges which at the same time created the thirty-five foot channel, this is the largest quay in the port with dockage space for sixteen large liners. Constructed for commercial usage, the terminal will probably be converted by the federal government into a naval supply depot—storage base for fuel oil, food, equipment and repair parts for the United States fleet.

The refineries and storage plants on Constable Hook, Bayonne, which receive crude oil by tanker and pipe line, constitute the largest concentration of oil refineries in the east. After processing here, the oil is shipped by barge to distributing terminals in various sections of the port. Linking Bayonne with Staten Island is the Bayonne Bridge spanning the Kill van Kull.



Fairchild Aerial Surveys, Inc.



Fairchild Aerial Surveys, Inc.

Port of Many Ports...

PORT RARITAN

The Port Raritan District is annually served by more than a thousand ocean-going and coastwise vessels. The large preponderance are carriers of petroleum products serving the storage plants and refineries on the shores of the Arthur Kill. In addition, freighters with copper ore from Chile and Peru move up the Raritan River to a Perth Amboy refinery. At Sayreville are unloaded cargoes of titanium ore to be ground into pigments. At the Pennsylvania Railroad's South Amboy docks and at the Reading Railroad's Port Reading, barges are filled with coal brought by rail to tidewater.

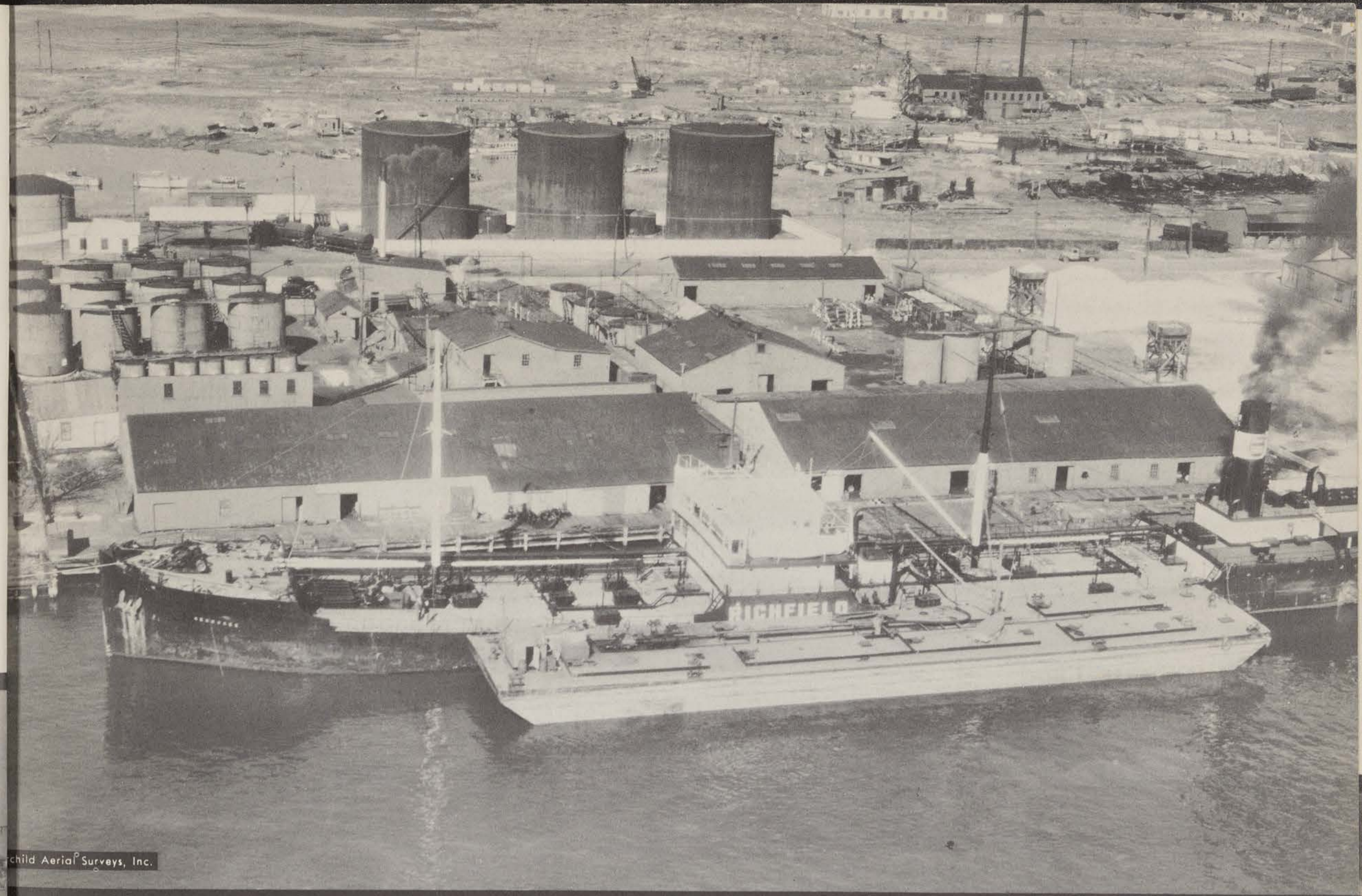
The Port Raritan District embraces a territory begin-

ning at New Brunswick, continuing down the Raritan River to Raritan Bay and up through the Arthur Kill and Kill van Kull to Upper New York Bay. Supplementing the thirty-five foot channels of the Arthur Kill are Raritan Bay and Raritan River with twenty-five foot channels.

The district's noteworthy developments include tile and terra cotta works, exploiting the rich local deposits of sand and clay. The Port Raritan District Commission, an agency of the State of New Jersey, devotes itself to the development of trade, and improvement of navigation facilities, in this sector.



Fairchild Aerial Surveys, Inc.



ELIZABETHPORT

Long the scene of extensive industrial activity, Elizabeth's history as a transportation center dates back to 1886 when it became the eastern terminus of the Somerville-Elizabeth Line, one of the earliest United States railroads, predecessor of the Central Railroad of New Jersey. Today the city is served by the Central Railroad of New Jersey, the Baltimore and Ohio, and the Reading and Pennsylvania Railroads. Among the major waterfront industries of the area is one of the nation's largest manufacturers of sewing machines whose products are shipped to the four corners of the earth. Elizabeth has direct vehicular connection with Staten Island via the Goethals Bridge.

The Bayway Terminal at Elizabethport is one of the harbor's outstanding terminal facilities. With more than a half-million square feet of floor space, over two thousand feet of dock frontage and a mile of private railroad trackage, this terminal is well equipped with efficient handling devices. The terminal has facilities for the storage, compression and fumigation of cotton and is licensed by commodity exchanges which trade in sugar, cotton and pepper. At wharves served by thirty-five foot channels, deep-sea freighters directly unload raw materials to serve the varied industries located in the terminal. These include the processing and storage of cotton, chicle, sugar, flour, cocoa beans and a variety of light manufacturing.



Ewing Galloway



HOBOKEN

Among the most active of the shipping services out of Hoboken is Moore-McCormack's American Republics Line, some of whose new motor vessels clear from this point for the South American trade. Also docking at Hoboken are the coastwise ships of the Pan-Atlantic Line, with regular service to Tampa, Panama City, Mobile and New Orleans. At Hoboken are the Tietjen & Lang Drydocks, active ship repair yards.

Docking also at Hoboken are Seatrain Lines' oceangoing car ferries. These unique ships carry fully loaded freight cars to Havana, New Orleans or Texas City, where the cars are lifted from the hold and placed on railroad tracks to travel the rest of the journey as a railroad operation. Offering regular service for carloads sealed from shipper's door to consignee delivery, the Seatrain ships on their outward journey carry a great variety of manufactured articles including shoes, woolens, carpets, chemicals, machinery and hardware. Inbound they bring cargoes of wood-pulp from the mills of the southwest and hides, sugar, tobacco, coffee, pineapple, tomatoes and bones for fertilizer from Havana.

The Hoboken Manufacturers Railroad near the waterfront serves all piers. Ready access to mid-Manhattan is afforded by the Lincoln Tunnel, newest Hudson River crossing.



Fairchild Aerial Surveys, Inc.

WEEHAWKEN-EDGEWATER

Dredged by the Federal Government to a uniform depth of thirty feet, the Weehawken-Edgewater Channel serves the communities of Weehawken, West New York, Guttenberg, North Bergen and Edgewater. Major industries along this shore depend upon waterborne transport to bring raw materials directly to factory door and for the export of finished products overseas.

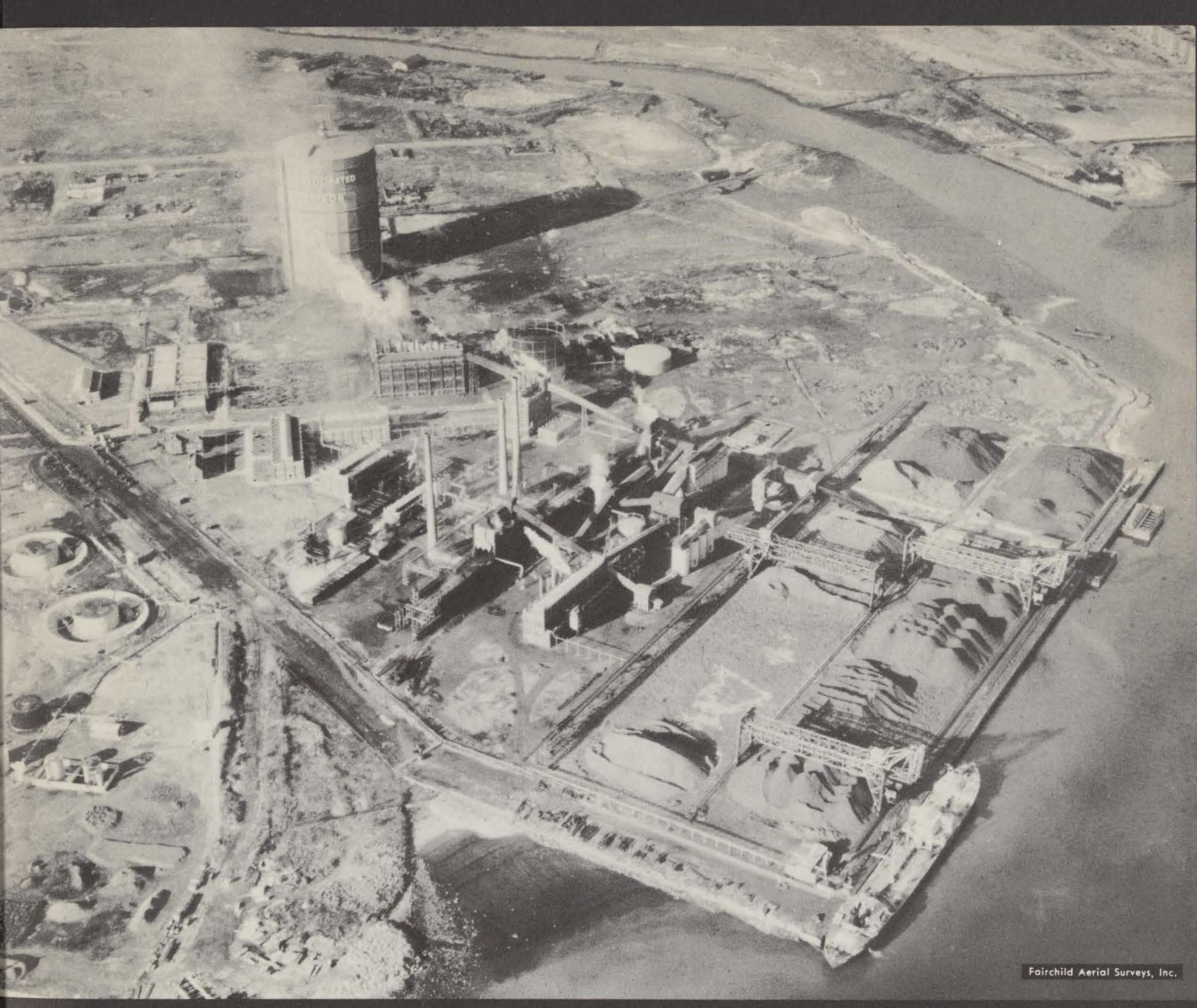
In this area are located some of the port's chief waterfront industries, including vegetable oil storage, coffee roasting and aluminum manufacture, the latter expanding rapidly to provide material for airplane defense production. At Edgewater is one of New York's large sugar refineries. At its docks crudely refined tropical sugar is received from Cuba, Puerto Rico and the Philippines to be refined, cut and packaged.

To an assembly plant at Edgewater, motors and parts are shipped from Detroit, on fast self-propelled motorships. The finished automobiles, assembled here, are shipped either by lighter for local distribution to other sections of the port district or loaded directly on sea-going freighters for export.

Port of Many Ports..



Fairchild Aerial Surveys, Inc.



Fairchild Aerial Surveys, Inc.

STATEN ISLAND

Vital cargoes today are moving through America's only Foreign Trade Zone at Stapleton, as well as through the other busy piers and warehouses on Staten Island. Flanking New York City's piers are the terminals of the American Dock Company and Pouch Terminal Company which receive and store varied cargoes, including spices, rubber and other products of the Far East. Scene of an unusual harbor operation is Port Ivory where whaling ships discharge their cargoes of whale oil for a large soap factory.

Shipbuilding yards on the shore of the Kill van Kull, including the large yards of the Bethlehem Steel Com-

pany, are actively engaged in construction of naval and merchant ships to meet the nation's defense needs.

Fronting the Narrows on the Staten Island shore is the Quarantine Station of the United States Public Health Service. To the south is Fort Wadsworth and Miller Field, an Army flying field.

Larger in area than Manhattan, Staten Island has extensive regions still available for future development. Modern vehicular links with the New Jersey mainland are afforded by the Outerbridge Crossing, Goethals and Bayonne Bridges. The island is served directly by the B. & O.; and by lighters to all other railroads.

BRONX

Borough of homes and universities, the Bronx, with shores fronting on the East River, the Harlem and Long Island Sound, is also a port of some magnitude. Power plants, coal depots, asphalt and gypsum plants and other waterfront industries are characteristic landmarks of the Bronx shores. The full potentialities of the Bronx waterfront for industrial development are still to be realized.

The easterly section of the Bronx is the terminus for the railroads handling freight to and from New England. Daily at the Oak Point yards of the New York, New Haven & Hartford Railroad, hundreds of freight

cars are switched on or off carfloats, towed by some of the most powerful railroad tugs in the harbor to and from the floatbridges of the Central Railroad of New Jersey and the Lehigh Valley Railroad at Jersey City.

Through the east Bronx the New Haven routes its cars over the Hell Gate Bridge, either for local destinations on Long Island or by carfloat from Brooklyn to Jersey City.

Fine vehicular connections include the Triborough Bridge to Manhattan and Long Island; the Whitestone Bridge to Long Island.

BROOKLYN

The colorful panorama of the Brooklyn waterfront reflects the varied life of a large seaport. Cranes, conveyors, cargo masts, manned by sweating longshoremen, move an endless array of commodities to and from the holds of a hundred ships. Sprawling along the shore are railroad tracks and terminals, lighters, carfloats and tugs—the machinery of a gigantic interchange from ship to shore going on day after day.

Stretching out into the Upper Bay is a virtually unbroken vista of deep-water piers and waterfront warehouses, ranging from century-old structures to the most modern wharf developments. Here are the Fulton, Baltic and Atlantic Terminals of the New York Dock Company, one of the largest privately owned pier and warehouse systems in the western hemisphere. Among the busiest centers of export and import traffic in the port, its thirty-four steamship piers handle nearly a fourth of the entire ocean freight tonnage of the harbor. Warehouses and industrial buildings furnish 8,000,000 square feet of floor space and the entire area is served by its own railway, with carfloat connections to the trunk line terminals. The factories which are part of the New York Dock Company's properties produce a varied list of goods.

Just south of Red Hook is Beard's Erie Basin marked by a century-old breakwater built of the

ballast of clipper ships. The major portion of this basin is occupied by the floating and graving docks of the Robins Drydock & Repair Company—the largest ship repair center in the port.

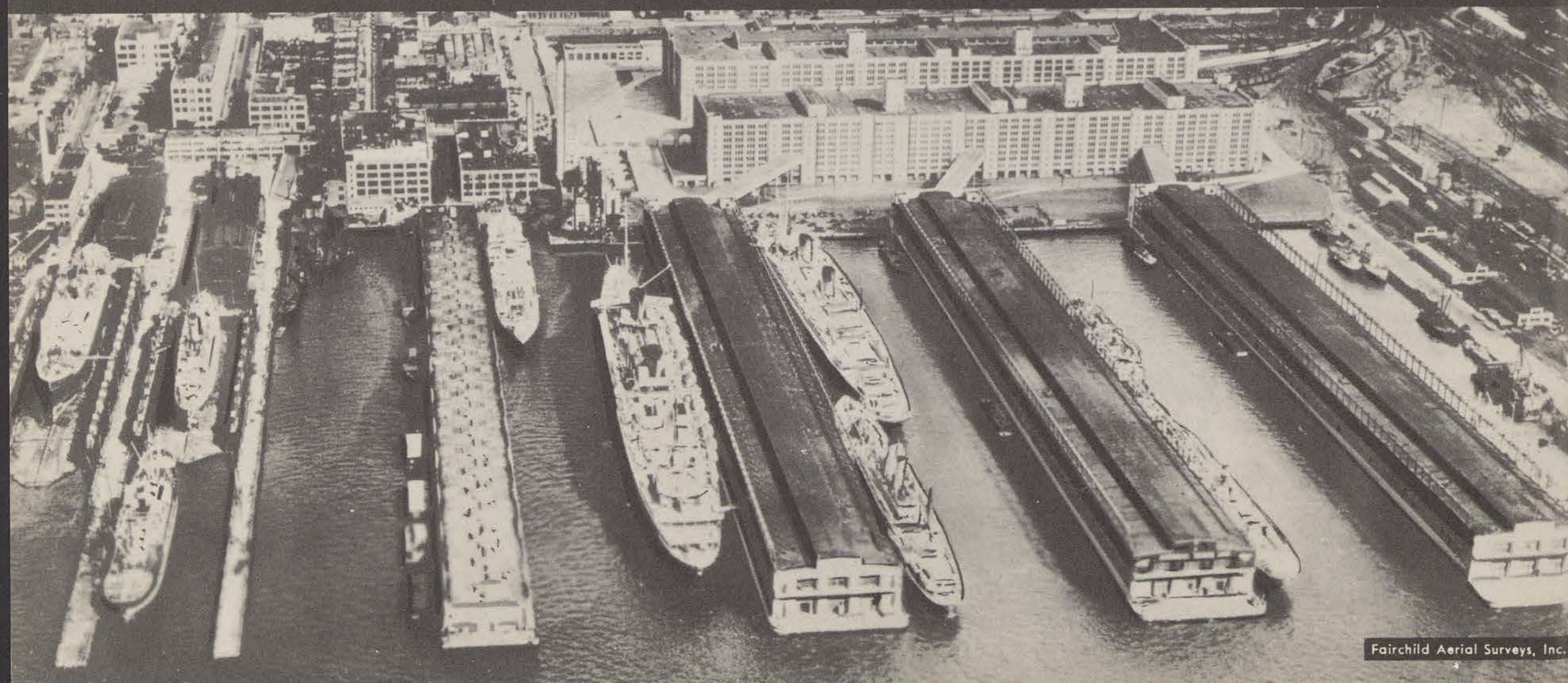
The New York State Canal Terminal's grain elevator, at Gowanus Bay, receives and stores the wheat and corn which move for export to the Port of New York each year on the New York State Canal system.

At the Bush Terminal Company's piers in South Brooklyn may be found ships from China, India, Australia and the Dutch East Indies with cargoes of bamboo, tin, rubber, kapok and countless other commodities. Back of the waterfront are over a hundred buildings housing not only warehousing operations but also industrial plants of all kinds, including tea packers, spice grinders, candy manufacturers, coffee roasters, dried fruit packers and box manufacturers. The Bush Terminal has its own railroad system with its own tugs and carfloats to ferry freight cars to the terminals of the trunk line railroads in New Jersey, Manhattan or the Bronx.

Important centers of national defense activity at Brooklyn are the New York Navy Yard and the new Army Base completed just after World War I, and now once again actively operated as a military supply depot. At other times the Army Base is used for commercial shipping.



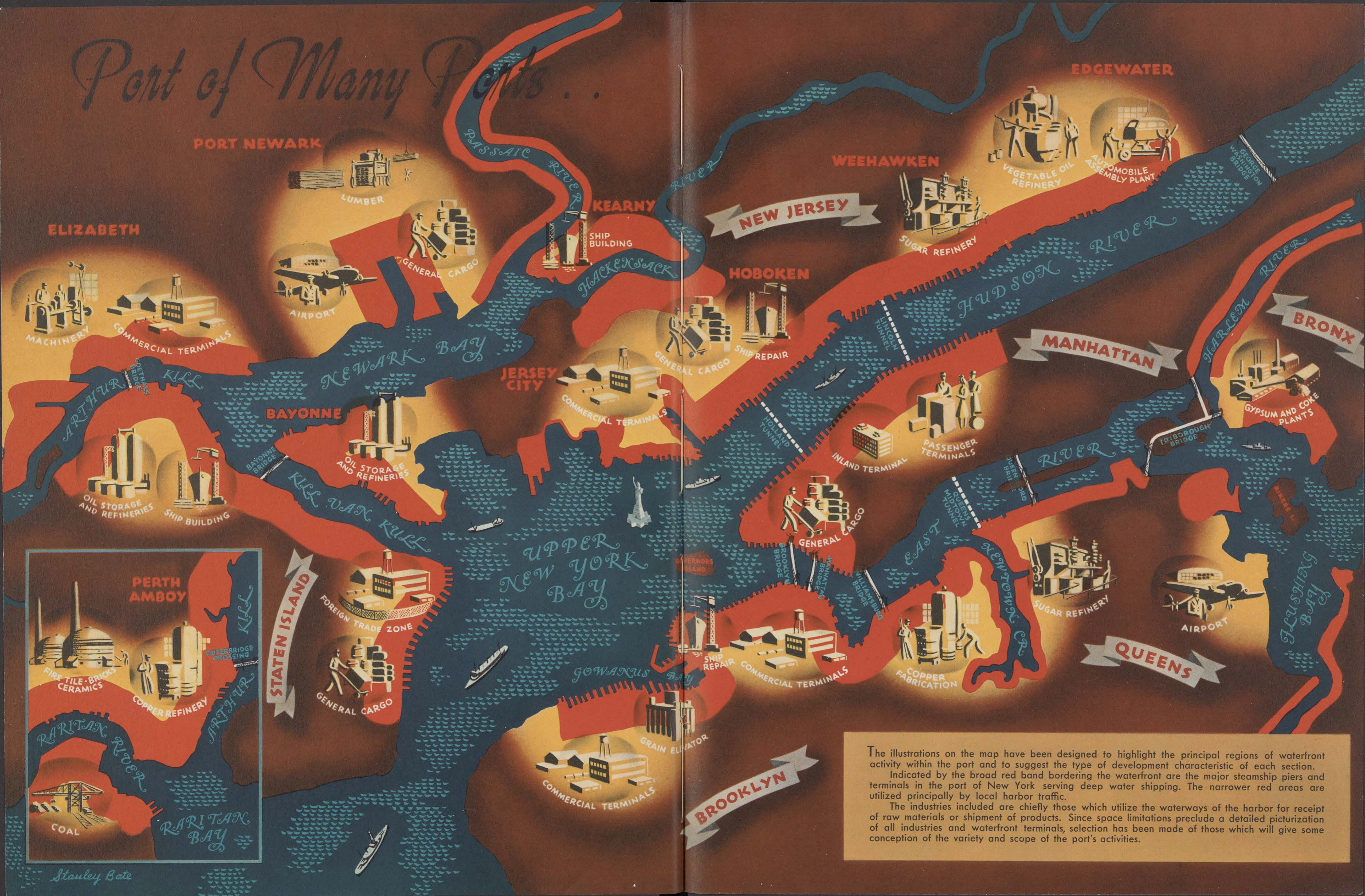
Fairchild Aerial Surveys, Inc.



Fairchild Aerial Surveys, Inc.

Port of Many Ports...

Port of Many Ports...



The illustrations on the map have been designed to highlight the principal regions of waterfront activity within the port and to suggest the type of development characteristic of each section. Indicated by the broad red band bordering the waterfront are the major steamship piers and terminals in the port of New York serving deep water shipping. The narrower red areas are utilized principally by local harbor traffic. The industries included are chiefly those which utilize the waterways of the harbor for receipt of raw materials or shipment of products. Since space limitations preclude a detailed picturization of all industries and waterfront terminals, selection has been made of those which will give some conception of the variety and scope of the port's activities.

PERTH AMBOY

FIRE TILE-BRICKS CERAMICS

COPPER REFINERY

OUTERBRIDGE CROSSING

STATEN ISLAND

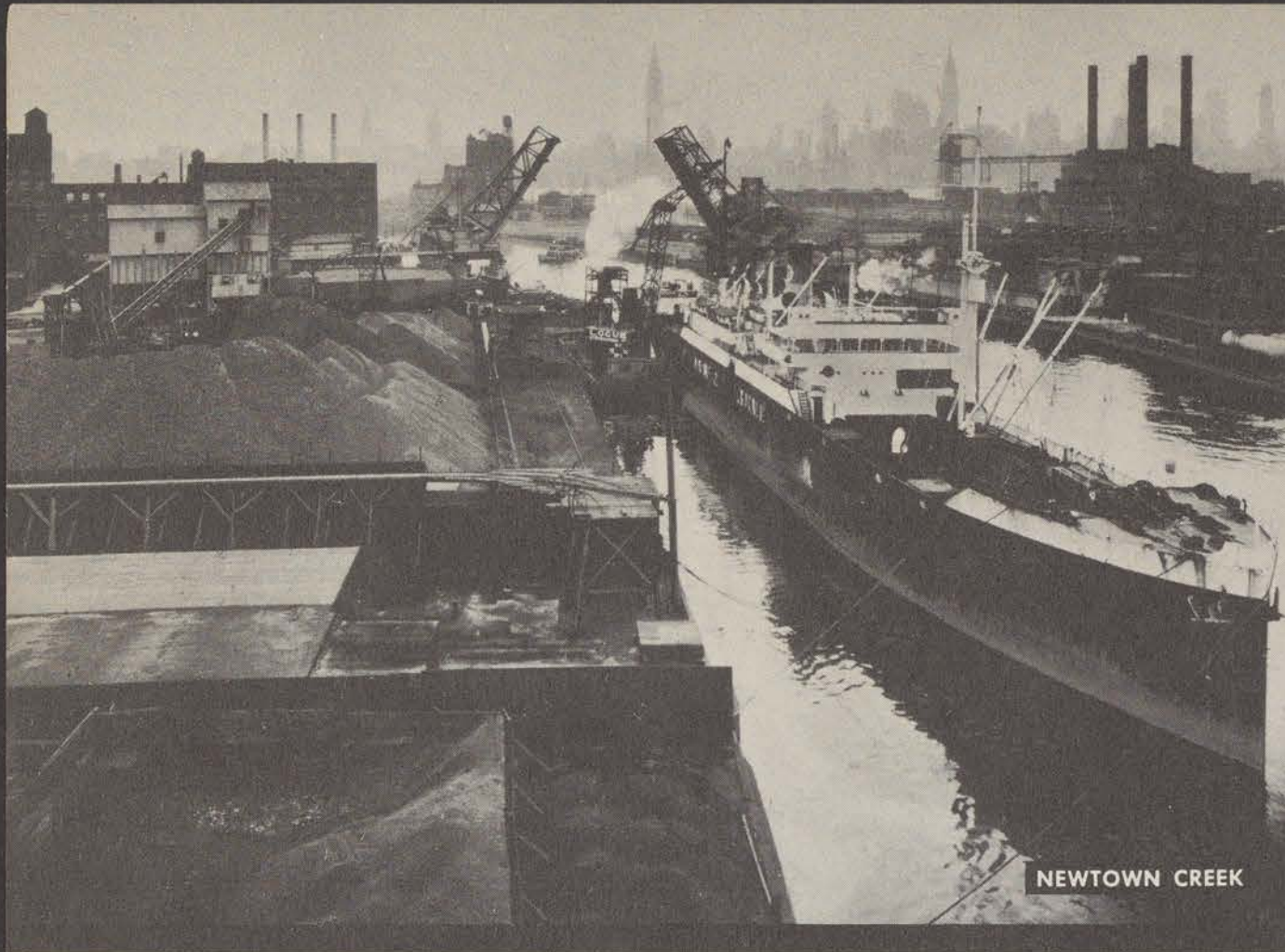
FOREIGN TRADE ZONE

GENERAL CARGO

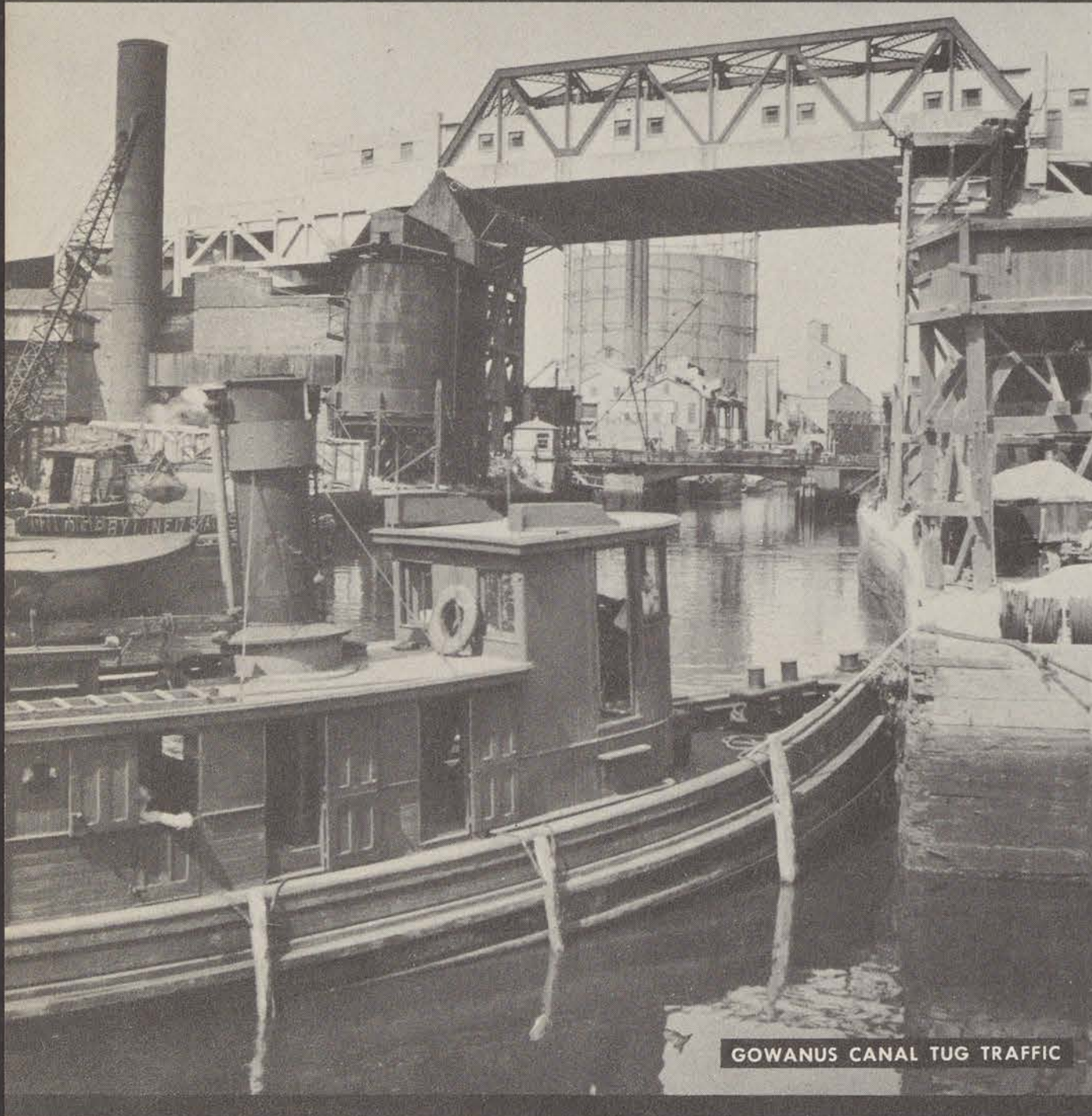
RARITAN RIVER

COAL

RARITAN BAY



NEWTOWN CREEK



GOWANUS CANAL TUG TRAFFIC



BARGES ON THE HUDSON

BARGE PORTS

New York is not only a deep water port engaged in the movement of export and import commerce to and from the seven seas. It is also a port of many small ports, for along its 650 miles of waterfront are barge ports closely related to the daily lives of the people of the Port District.

To reduce the delivery cost of gasoline, fuel, and building materials, New York's elaborate distributing machinery takes advantage of the secondary channels into the byways of the Port District. Depots or unloading points dot the shores of the Raritan, South, Elizabeth, Hackensack and Passaic Rivers, in New Jersey, where coal and fuel oil are discharged to storage yards and tanks serving local industries and homeowners. Some of the delivery points on the New York side are the piers and quays on Jamaica Bay, Flushing Creek, and Gowanus Canal. On these streams, and on the Harlem River, the Bronx River, Eastchester Creek and Byram River moves a continuous procession of barges—work battalions of the harbor. Nondescript in appearance, untouched by the glamour of the sea, these barges handle many of the necessities of modern life.

Newtown Creek, a tidal arm of the East River which separates the Boroughs of Queens and Brooklyn, serves the many busy waterfront industries of those two boroughs. On the five mile channel of this tiny waterway is carried more tonnage annually than moves by way of the mighty Mississippi from the mouth of the Ohio to Baton Rouge.

Port of Many Ports...

PORT OF NEW YORK

Its Advantages



Direct Sailings FROM THE

PORT OF NEW YORK...

THE PORT OF NEW YORK—crossroads of world shipping lanes—sends more ships of all varieties to more world ports than any other harbor in the world. In contrast to many other ports, ninety-five per cent of the sailings from New York to foreign countries are *direct* with no intervening ports of call. As a result, actual sailing time from New York to Europe, Africa and South America is the shortest available to the United States shipper anywhere.

Services range from super-liners carrying thousands of passengers on a single voyage to combination passenger and cargo ships, general cargo freighters, oil tankers, specialized industrial carriers, coastwise vessels and motorships for inland waterway navigation. In 1939, a total of 6,011 vessels of 26,808,651 net registered tons entered, and 6,083 vessels of 26,939,542 net registered tons cleared the port in foreign trade alone. In the intercoastal and coastal services 3,080 vessels of 9,523,369 net registered tons entered, and 3,373 vessels of 10,190,288 net registered tons cleared.

Although world wide shipping schedules have been realigned due to outbreak of hostilities, the actual number of sailings from the port on direct services to foreign ports has been substantially maintained.

The most obvious change resulting from war abroad is the temporary withdrawal of the superliners from transatlantic service. From the shipper's standpoint, however, this has little significance since these floating hotels are not of major importance as cargo carriers.

The chart at the right depicts world trade routes and world ports served by regularly scheduled sailings from New York, and the monthly frequency of direct sailings. In order to approximate as closely as possible normal conditions, clearances to Europe, now largely unscheduled, have been based on existing schedules prior to the outbreak of hostilities abroad. Sailings to South America, Africa and the Far East are current.

Rapidly rivalling in importance the normal peace time services to European ports, are the express schedules of United States flag ships from New York to the South American trade. Whereas two years ago, only five out of twenty-one vessels clearing monthly from New York to the Argentine sailed under the Stars and Stripes, today ten out of twenty-two are of United States registry. The fast growing fleet in this service includes many modern liners. Newly launched are the *Rio Hudson* and *Rio Parana* (17,500 ton combination liner and cargo motorships) soon to be followed by two sister ships, all slated for the New York-East Coast of South America service.

WORLD PORTS SERVED DIRECTLY FROM N. Y.

Ports in Cuba, Puerto Rico, West Indies, Mexico, Honduras, Guatemala, Canal Zone, Colombia, Venezuela, Guiana, Trinidad, Bermuda

Yokohama, Kobe, Osaka, Hong Kong, Shanghai, Manila, Cebu, Iloilo, Macassar, Soerabaja, Batavia, Samarang, Singapore, Honolulu

London, Liverpool, Hull, Southampton, Bristol, Manchester, Cardiff, Newcastle, Glasgow, Aberdeen, Belfast, Dublin

Rotterdam, Antwerp

Rio de Janeiro, Santos, Natal, Pernambuco, Paranagua, Para, Bahia, Montevideo, Rosario, Buenos Aires

Gothenburg, Malmo, Stockholm, Norrkoping, Copenhagen, Gdynia, Helsingfors, Bergen, Oslo

Halifax, Yarmouth, St. John's

Port Said, Alexandria, Jaffa, Tel Aviv, Beirut, Haifa, Malta, Piraeus, Thessalonika, Istanbul, Constanza, Naples, Genoa, Leghorn, Fiume, Venice, Trieste, Marseilles, Casablanca, Tangiers, Ceuta, Melilla, Oran, Algiers, Tunis

Hamburg, Bremen

Capetown, Port Elizabeth, East London, Port Natal, Beira, Lourenco Marques, Mombassa

Havre, Bordeaux, Dunkirk, Cherbourg, Boulogne

Buenaventura, Guayaquil, Callao, Mollendo, Iquique, Valparaiso

Karachi, Bombay, Calcutta, Madras, Rangoon, Colombo, Jeddah, Aden, Port Sudan, Bahrein, Bushire, Basrah

Dakar, Freetown, Takoradi, Accra, Lome, Lagos, Burutu, Sapele, Port Harcourt, Calabar, Duala, Opobo

Auckland, Wellington, Lyttleton, Dunedin, Brisbane, Sydney, Melbourne, Adelaide, Fremantle

Bilbao, Barcelona, Gibraltar, Lisbon

TRADE ROUTE NUMBER OF DIRECT MONTHLY S/S SAILINGS FROM N.Y.

CENTRAL AMERICAN-CARIBBEAN		
TOTAL 120		
FAR EAST		
TOTAL 32		
BRITISH ISLES		
TOTAL 31		
ROTTERDAM-ANTWERP		
TOTAL 29		
SOUTH AMERICA EAST COAST		
TOTAL 28		
BALTIC		
TOTAL 21		
CANADIAN ATLANTIC		
TOTAL 20		
MEDITERRANEAN		
TOTAL 18		
HAMBURG-BREMEN		
TOTAL 14		
SOUTH AND EAST AFRICA		
TOTAL 12		
FRENCH ATLANTIC		
TOTAL 9		
SOUTH AMERICA WEST COAST		
TOTAL 8		
INDIA-RED SEA		
TOTAL 5		
WEST AFRICA		
TOTAL 4		
AUSTRALASIA		
TOTAL 4		
SPAIN-PORTUGAL		
TOTAL 4		

COASTAL AND INTERCOASTAL SERVICE

INTERCOASTAL

25
SAILINGS
MONTHLY

Los Angeles, Oakland, San Francisco, Portland (Oregon), Seattle, Tacoma, San Diego

COASTAL

150
SAILINGS
MONTHLY

Boston, Providence, Portland (Maine), Savannah, Norfolk, Charleston, Jacksonville, Miami, Key West, Tampa, Mobile, New Orleans, Houston, Galveston, Corpus Christi, Texas City

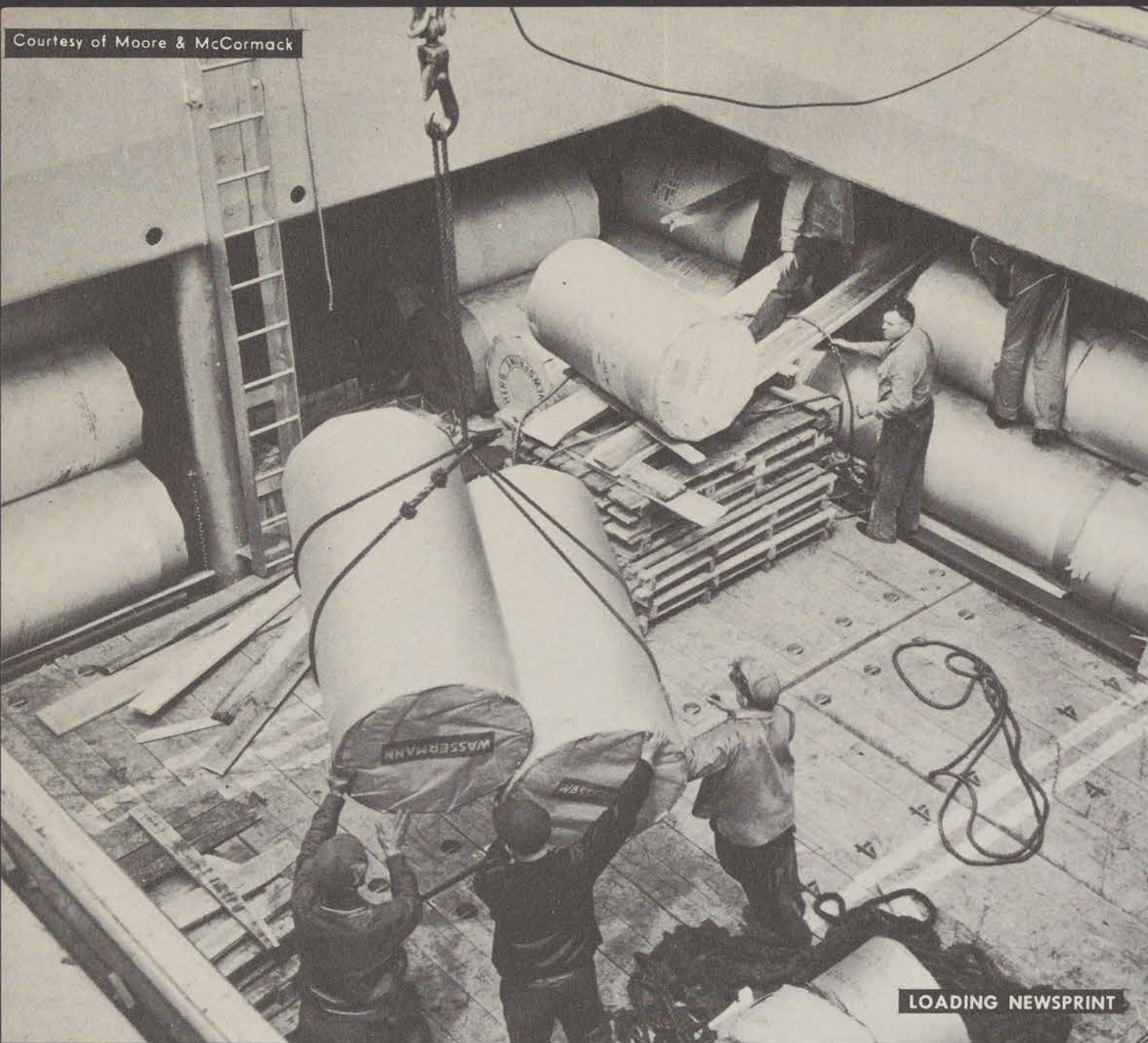
FOR THE *S/S Lines* WHOSE SAILINGS ARE SHOWN HERE TURN PAGE >

S/S Lines SERVING THE PORT OF

NEW YORK...



The funnels shown here represent steamship lines regularly serving the Port of New York during normal times. Because of hostilities abroad service of some lines has been temporarily suspended



LOADING NEWSPRINT



Courtesy of Moore & McCormack

CRATE CONVEYOR



FORK TRUCK

Cargo Handling

EFFICIENT EQUIPMENT SPEEDS ALL TYPES OF

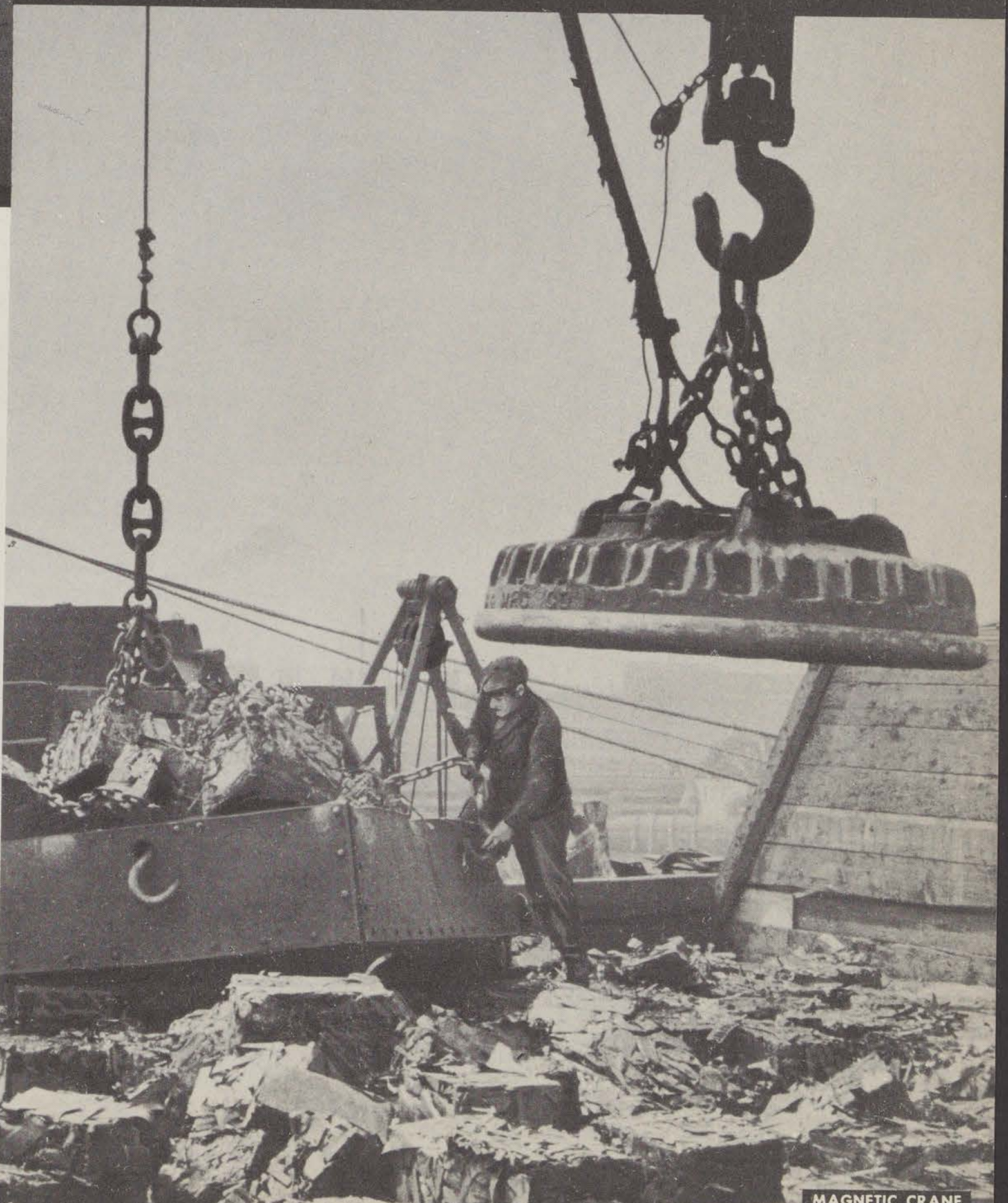
TRACTORS and harvesters from Illinois for the Argentine, airplane motors from Paterson for the Royal Air Force, machine tools for India and autos for Australia, paper from Canada, mahogany logs from West Africa—all these and thousands of other commodities must be moved with dispatch. For in the efficient handling of a ship's cargo, speed and economy are paramount. To maintain its pre-eminent position, the Port of New York has in the aggregate more modern freight handling machinery than can be found in any other three salt water ports in the United States.

Flexibility is the keynote to cargo handling at New York. The harbor's heavy lift equip-

FLOATING AND FIXED-COMMERCE AND TRAFFIC

ment includes not only fixed cranes but also a fleet of derrick lighters and giant floating cranes. Most spectacular of these is the *Monarch*. Floated direct to shipside this derrick has lifted and transported such monster items as a sixteen-inch coast defense gun—one hundred sixty-five tons shackled in perfect balance; a sixty-ton steel bridge girder, and a complete oil storage tank without dismantling. The derricks *Monarch*, *Colossus*, *Capitol* and *Century*, lashed together have handled a bank of thirty-six conduit pipes, almost the length of a city block.

Pier loading equipment includes tractors, power-driven lift trucks and lumber carriers



MAGNETIC CRANE

Cargo Handling CONTINUED

which operate on the piers and shuttle back and forth between shipside and transit sheds and warehouse. Many of these units are equipped with prongs, forks, cradles and small crane hoists, designed to lift special types of cargo.

Performing a service similar to that of the motor truck on land is a flotilla of local harbor craft which speeds shipments between the various sections of the district. Operated by private lighterage companies, as well as railroads and steamship lines, these barges, scows and lighters are, in effect, heavy duty water trucks extensively used for local deliveries of fuel, building supplies and coal, as well as general merchandise.

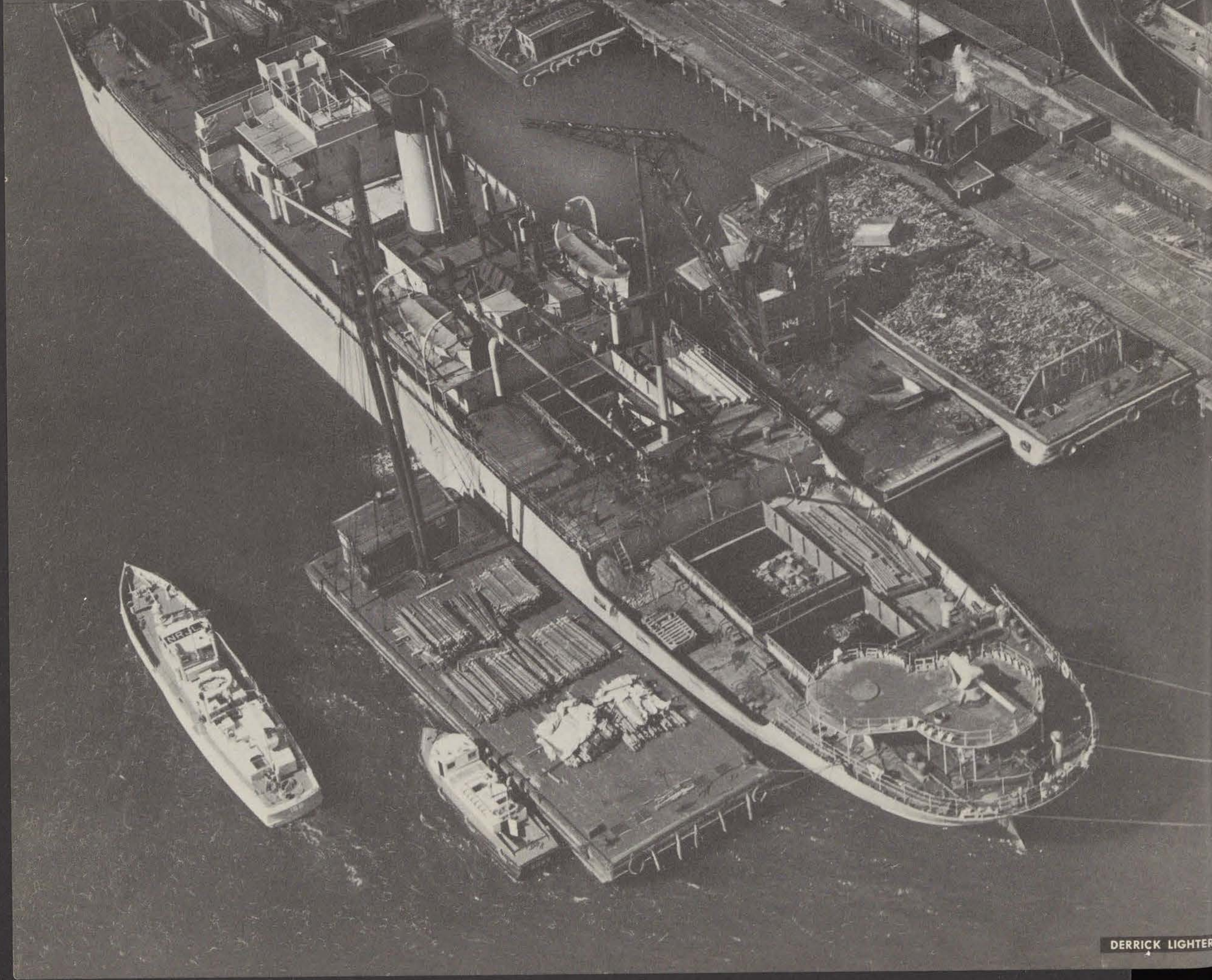
Bulldogs of the port's varied carriers are six hundred sturdy tugboats which tow lighters, barges, carfloats and

other floating equipment which is not self powered. Among these are some seventy-five tugs which move from pier to pier, nosing liners in and out of steamship berths. Many of New York's shaggy bowed, wave-battered tugs are equipped with two-way ship-to-shore radio. The tug fleet also includes a number of diesel electric-operated, streamlined, modern vessels.

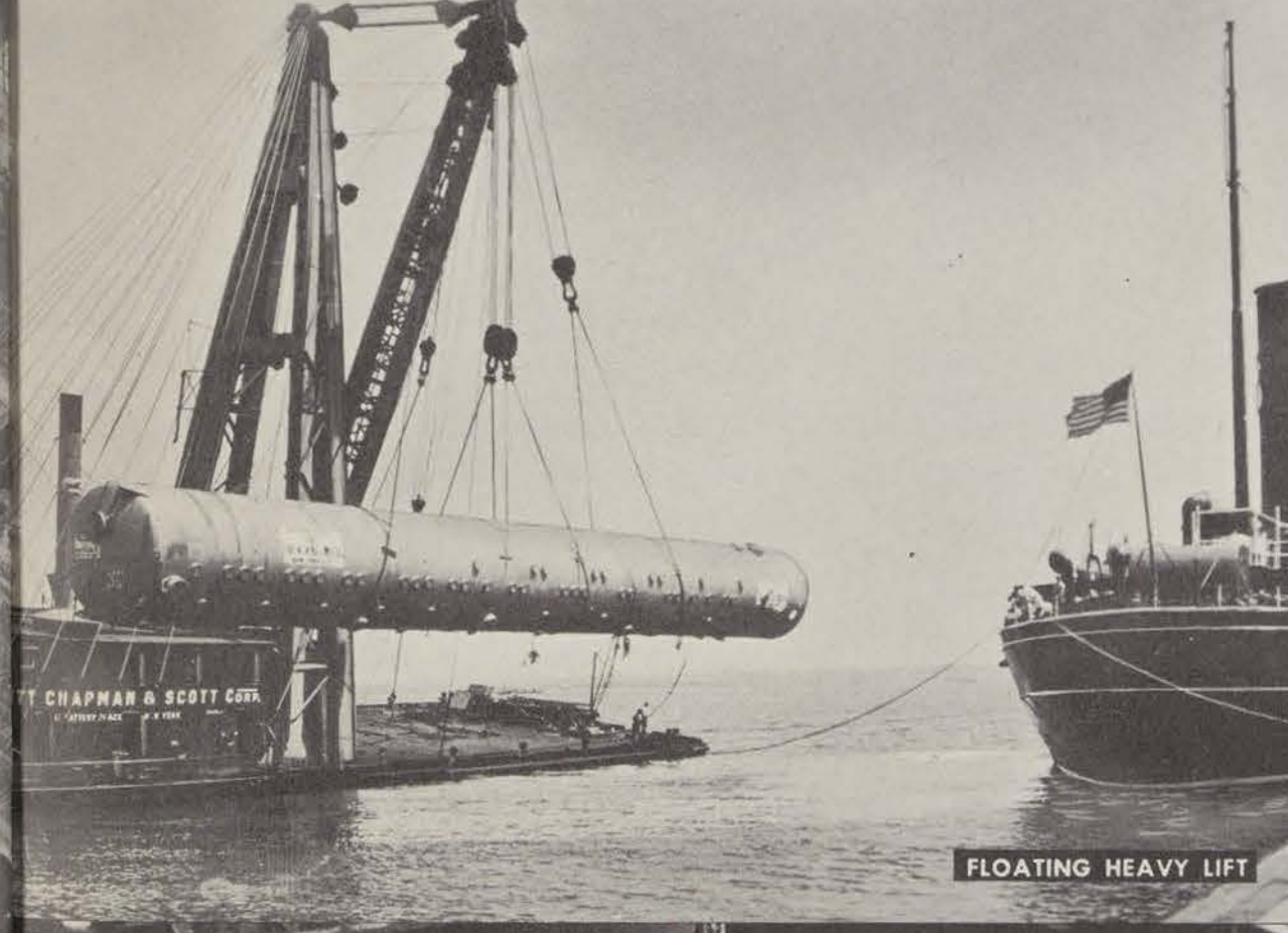
Specializing in the handling of high grade, valuable cargo and other non-bulky commodities are fast self-propelled lighters, which do not require tugs for motive power. Equipped with derricks these lighters load or unload at shipside and transport cargoes to any point in the harbor for quick rail connections, assuring a rapid interchange of goods between land and water transport.



GANTRY CRANE



DERRICK LIGHTERS



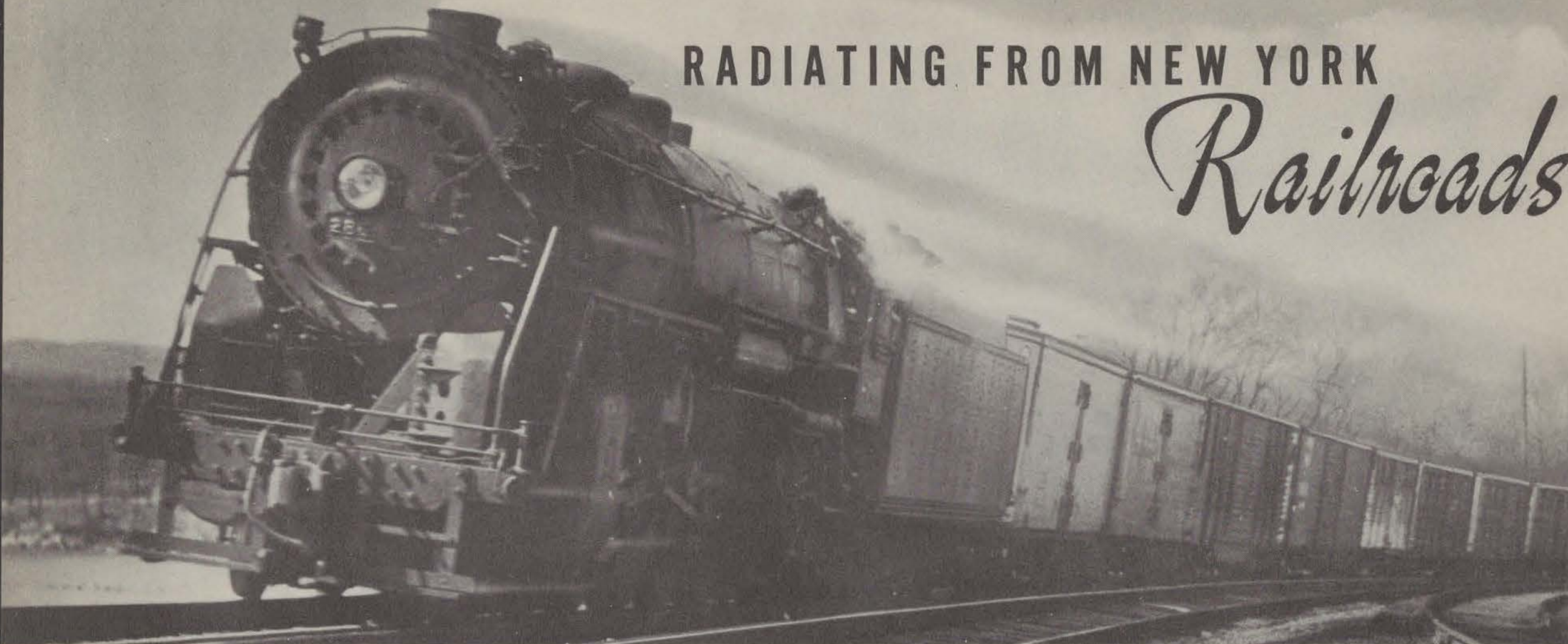
FLOATING HEAVY LIFT



BANANA CONVEYOR



LOADING DIESEL TUG



RADIATING FROM NEW YORK

Railroads

SPAN THE NATION



DAILY FAST PACKAGE CAR SERVICE TO AND FROM NEW YORK . . .

PARALLELING the service of crack passenger trains like the Twentieth Century and the Broadway Limited, are fast merchandise trains. Their names—Speed Witch, Cannon Ball, Round Up, Maine Bullet, Merchandiser—tell the story of “hot shot” freight, as merchandise freight is termed in railroad parlance. No longer do these trains pull onto a siding to make way for the crack passenger trains known as “lace curtains”.

Freight service has literally been rebuilt from the ground up. Better roadbed, track and signals, modern machinery for maintenance gangs, diesel electric locomotives for freight service—all these improvements combine to move merchandise freight at impressive speeds. Other improvements which have resulted in time savings for the shipper include the electrification of the Pennsylvania Railroad’s main line between New York, Washington and Harrisburg; and the West Side improvement of the New York Central Railroad on Manhattan Island. The latter project has not only eliminated grade crossings but has also brought freight cars to many customers’ sidings at second story levels.

Store-door delivery has brought merchandise freight to the loading platform of all consignors and consignees, whether located on or off the rails. In the interest of speed, the old “order-notify” plan of permitting bills of lading to pass through banks has been abandoned by the Pennsylvania Railroad, for example, in favor of a comprehensive C.O.D. service by which the railroad now collects invoice charges on shipments for a nominal fee. In short, freight is not held up until the bill of lading clears through the bank. The shipment gets under way promptly and the railroad itself undertakes to collect the freight charges.

Other railroad improvements include the portable freight container which provides a unit of through transportation smaller than a box car and speeds deliv-

ery by reducing transfers and switching. Later closing hours at freight stations, together with earlier and definitely scheduled arrivals, help shippers to maintain quick turnovers. Rapid deliveries from the source of supply enable the manufacturer, jobber and retailer to keep inventories of stock at a minimum.

In the Port of New York are expert freight forwarders, many with branch offices in all major United States cities, who perform a role for the small shipper equivalent to that of the traffic manager of a large industrial organization. They consolidate small shipments in carload or container lots, thus making substantial savings to shippers in transit time, transportation charges and elimination of breakage resulting from unnecessary re-handling. No other port has as many freight forwarders especially qualified to offer these important services to shippers.

Railroad service bureaus enable shippers to receive complete, reliable, up-to-the-minute information about their shipments while in transit. Special problems of shipping are frequently cleared by The Port of New York Authority, which maintains contact with all rail and shipping lines.

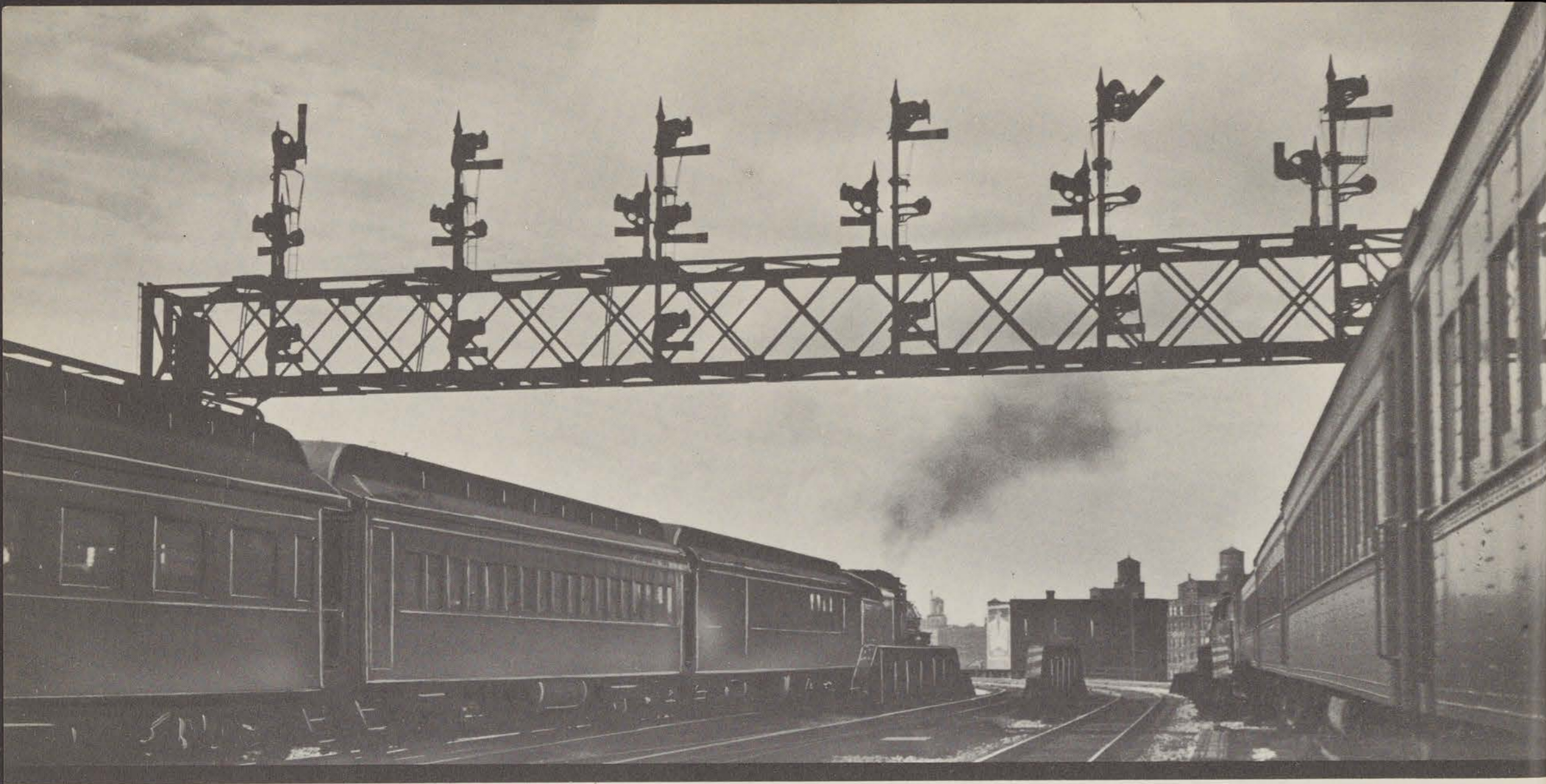
The chart at the right shows the speed with which package car services move to and from New York and the territory tapped by overnight, second, third and fourth morning deliveries to and from New York.

Also shown are the trademarks of the railroads which



annually move seventy million tons of freight into, out of and through the Port of New York.





Coordination PREVENTS DELAYS

DURING WORLD WAR I railroad congestion at yards was common because of shortage of ship bottoms. Stories are told of anchors arriving at shipyards before the keels were laid—building material before a site was selected. Perhaps these tales are apocryphal. Nevertheless, it is known that the railroad terminals in 1917-1918 became involuntary storage warehouses and long lines of cars clogged the yards.

Today the transportation world, and the railroads especially, are aware of the fact that national defense is not only a battle of production, but a battle of transportation. Already the railroads which serve the Port of New York District have moved at times as high as ninety per cent of the peak volume of the World War I rail traffic without the slightest semblance of any delay.

To avoid the repetition of incidents which occurred during the last war, the American Association of Railroads has undertaken a comprehensive program to keep railroad cars moving, to prevent an accumulation in the yards. The Manager of Port Traffic has been designated to coordinate the individual activities and efforts of the railroads at the nation's seaports. Located at New York he receives a daily report of car movements from the railroads, keeps his finger on the railroad pulse and makes certain that

ample car service is available at all times. Cars and tons handled, the grain situation at tidewater elevators, freight in storage and storage facilities available, are some of the indices under constant observation. At the end of 1940 the Manager of Port Traffic reported only thirty-one per cent of the railroads' storage space as being utilized—that there was room for some additional thirteen thousand railroad freight cars at New York, despite the fact that eastbound freight had substantially increased.

Maximum efficiency of freight movement at New York is assured by the cooperation of ship operators in promptly unloading lighters at shipside. Since the start of a special cooperative program the number of lighters held at shipside in excess of forty-eight hours has been cut in half, notwithstanding the greatly augmented volume of lighterage freight. The tonnage per individual lighter has increased thirty-five per cent.

It is noteworthy that during 1917-1918 such coordination was achieved only by the federal government as an incident to nationalization of transportation. Today the transportation companies themselves, aided by such public agencies as The Port of New York Authority and such trade organizations as the Maritime Exchange, have undertaken the streamlining of the port to meet emergency conditions.

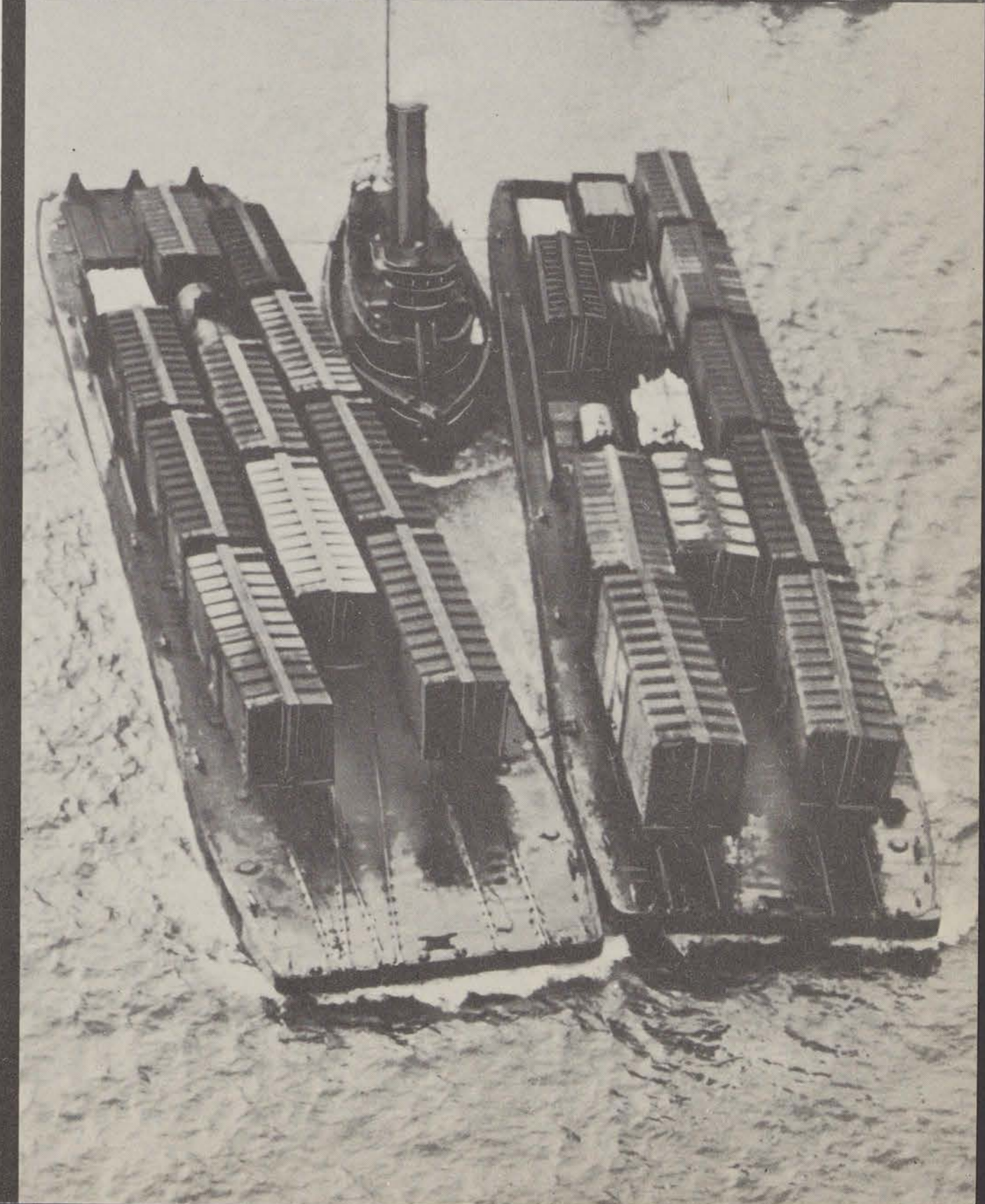
EVERY *Railroad* REACHES EVERY *Ship* AT NEW YORK

THE PORT OF NEW YORK is the focal point at which the transport lines of water meet the railroads which span the nation. A rapid, flexible system of interchange of cargoes between ships' holds and freight cars employing to best advantage the unique geographic features of the port, makes every railroad accessible to every steamship line.

The railroads serving New York have equipped themselves with elaborate terminals, classification yards, lighterage transfer piers, coal car dumpers, grain transfer and storage elevators, storage yards for steel, ore unloaders and magnetic cranes. The accumulated freight of their thirty-eight thousand miles of rail is handled by a fleet of lighters, ferries, tugs, oil barges, grain barges, coal barges, scows, floating elevators and carfloats.

In the handling of such perishables as meat, bananas, apples, pears, oranges and other fresh produce which must be refrigerated during transport, the floating of fully loaded refrigerated railroad cars alongside the ship's hold is of especial importance. At shipside, for the first time, refrigerated cars are unsealed and the perishable cargo transferred quickly into the ship's refrigerated hatch. The grouping of lighters around a steamship according to a carefully worked out plan, permits the swift and efficient stowing in the ship's hold of a miscellany of items which comprise the usual less-than-carload freight.

Through the efficient use of carfloats and lighters, the very waterways of the harbor have been converted into an uncongested water belt line whereby every railroad can reach every ship. In addition, bulk goods are moved directly from railroad cars to ships at numerous rail-to-keel terminals.





WORLD Air Transport...

FROM LISBON, last outpost of free contact with Europe, the transatlantic clipper wings its way to New York with a passenger list of diplomats and foreign correspondents, headline names and anonymous fugitives from terror. Its arrival is front-page news.

More important, however, from the standpoint of industry and commerce are the daily inland air services which link New York with every state in the union. Twenty-four hours a day, regularly scheduled commercial transport planes land and take off at New York on an average of once every six minutes. Included in the total number of two hundred thirty-four daily arrivals and departures are seventy-nine flights to and from Washington, D. C., eighty to or from Chicago, forty-seven to or from Philadelphia, and forty-five to or from Boston.

Air service has eradicated barriers of time and distance. Today New York is but two hours air mail transit time from Washington, twelve hours from Denver, eighteen hours from Los Angeles and San Francisco, eleven hours from Houston and Oklahoma City, ten hours from Fort Worth, Tulsa and Tampa, six hours from Atlanta, Jacksonville and St. Louis, and twenty-five hours normal air mail transit time from Lisbon, Portugal.

The Chicago exporter who suddenly finds it necessary to confer in New York on a foreign trade problem can breakfast in Chicago, lunch in New York and be back in Chicago that same night. Within twenty-four hours a letter, or an essential machine tool, shipped by air from Los Angeles, can be on board an express liner sailing from New York.

The unparalleled growth of air transportation during the past decade is illustrated by the fact that in 1940 more than 800,000 passengers traveled in and out of New York by air as contrasted with only 20,000 in 1930. Some 6,000,000 pounds of air mail were flown in and out of New York in 1940 as contrasted with 900,000 pounds in 1930.

Air express has grown to more than 2,700,000 pounds in 1940 as contrasted with 47,000 pounds in 1930. This service provides ultra rapid pick up and delivery, direct to plane side without post office clearing. News photographs, films, bank papers, drawings, printed matter, machinery parts, radio parts, records and manuscripts are only a few of the numerous commodities currently moving across the country by air express.

Newest of the port's air transport facilities is the Airlines Terminal. Jointly utilized by American Airlines, Eastern Airlines, Pan-American Airways System, Transcontinental and Western Air, and United Air Lines, the building is equipped with the latest devices for efficient handling of passengers and baggage, and will be used by a million passengers annually.

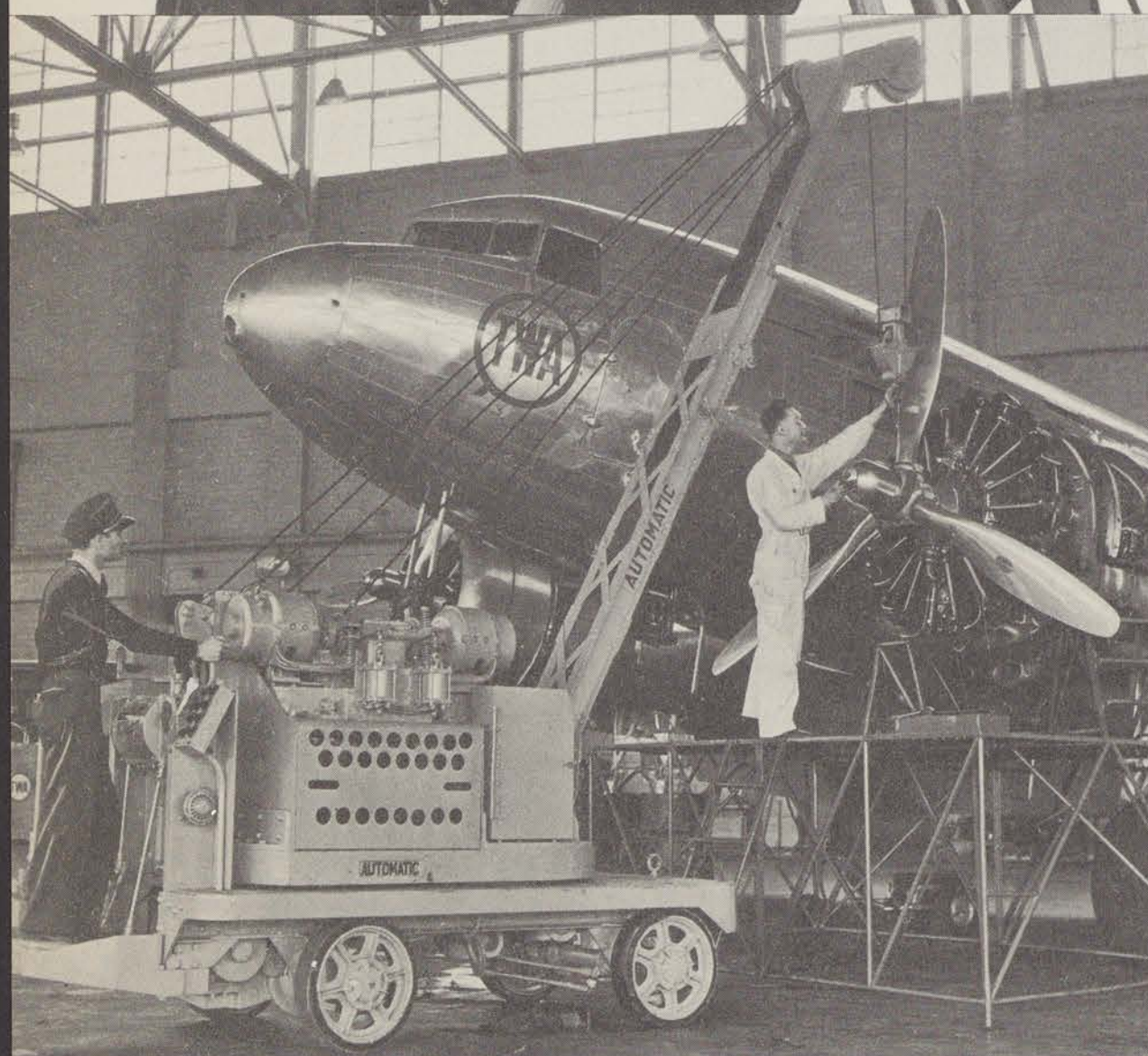


The map above pictures the directional flow of the 234 daily flights linking New York with the entire United States by direct service. The thickness of the lines represents the relative frequency of service. The small map at the left indicates existing world wide air service, and connections, out of New York

FOR *Defense*

PROOF that American aviation has come of age is the New York Municipal Airport, LaGuardia Field, some of whose facilities are pictured here. The largest project of its kind in the world, it is a highly developed and thoroughly integrated terminal to serve all phases of air transport. More than half of its five hundred fifty acre site was created by filling in a portion of Bowery Bay, Rikers Island Channel and Flushing Bay.

The airport serves as a terminal for both domestic and transoceanic planes, having two separate bases. In the land plane section are four runways, the longest of which extends six thousand feet northwest and southeast and is two hundred feet wide. All runways were designed to conform with the most frequently prevailing winds. Nerve center of the airport is the control tower. On top of this tower is the most powerful rotating beacon in the nation. The land airport has six hangars, each larger in area than Madison Square Garden. Occupying the extreme western portion of the air-



Constant overhauling of engines and parts assures safety of operations—Mechanics are here shown replacing transport propeller after completing inspection and necessary repairs



The LaGuardia Field marine base was designed especially to serve the newest transport operation transatlantic flying. Here Clipper passengers from Europe are disembarking

OR *Commerce . . .*

port is the marine terminal. The hangar here is a five-sided structure so large that two regulation size football fields could be laid out on its floor. The marine base is equipped with special facilities for hauling giant clipper ships from the water into the hangar for repair or maintenance.

While LaGuardia Field is close to the heart of the metropolis and therefore ideal for commercial purposes, military experience abroad has demonstrated the need for diversification and multiplicity of airports. Adequate defense of a large city requires a number of widely dispersed air fields. The risk of a defensive air fleet being grounded is great if only one metropolitan field is available—not as great if many alternate fields are in use. New York already has a good nucleus for increasing and diversifying landing fields. There are a number in the metropolitan district, including army fields capable of further expansion, and airports now either privately operated or unused which could be utilized for defense.

In New Jersey, for example, Newark's metropolitan airport was for ten years New York's principal commercial air center handling annually nearly a half million passengers, five million pounds of air mail and three million pounds of air express. Currently utilized in the nationwide pilot training program, and for assembling of airplanes, the large Newark Airport is available for far more extensive use.

Included in the group of air fields which may take on new significance in national defense are the Bendix Airport serving the Bendix plant, engaged in airplane parts manufacture, the Caldwell-Wright Airport, Westfield and Hadley fields in New Jersey; in New York, Floyd Bennett Field, Mitchel Field and Miller Field, now the scene of army and navy air activity; the Wall Street and midtown Skyports presently used by air commuters, Flushing Airport, Port Washington Seaplane Base, Edo Seaplane Anchorage, Roosevelt Field, Holmes Airport, and Donovan Hughes Airport.



The pilot of this stratoliner banking for a landing has no need for the beacon atop the control tower. At night, however, its 13,500,000 candlepower light can be seen for miles



At New York's busy LaGuardia Field the landings and take offs of 234 planes daily are carefully supervised from the control tower where directions are radio-phoned to pilots

FAST FLEXIBLE *Truck Service*



THE FIVE HUNDRED MILE HAUL FROM SOUTHERN MILLS TO NEW YORK FACTORIES

OBSOLETE as the iron horse of the nineties, or the jitney bus of the twenties, is yesterday's ramshackle, poorly run, unscheduled truck-jalopy.

In its place are modern stainless steel refrigerated trucks, dairy tank trucks, stream-lined oil tankers, huge trailers—diesel and gas powered—moving in swift, orderly procession on regularly scheduled services. These modern leviathans of the road speed commerce to and from the port. Day and night at loading terminals an army of freight hustlers tackles thousands of boxes, bundles, containers, pipes, rolls, and crates of foodstuffs, that now move over the road by truck to a thousand and one destinations.

Hand in hand with the phenomenal growth of the motor truck industry have been the developments in

highways spanning canyons and gorges, winding over mountains, over and under river barriers. Nowhere has highway development been more striking than in the network of highways, bridges and tunnels which serve the Port of New York District. Over these facilities five thousand long distance trucks move into New York every day. Operated by four hundred fifty long haul motor carriers, these are regularly scheduled commercial transport services. In addition there are thousands of short haul trucks, operated by manufacturers, retailers and truckers.

The importance of vehicular crossings to the port is emphasized by the fact that nearly fifty per cent of the freight picked up, and delivered, at shipside moves by truck.

SPEEDS PORT COMMERCE...



IS A ROUTINE OVERNIGHT RUN FOR THE MODERN MOTOR TRUCK

The recent increase in exports through New York has resulted in a constantly mounting volume of motor truck traffic moving to and from steamship piers. In order to keep this traffic flowing smoothly and to eliminate congestion and costly delays at ship-side, there has been organized, under the leadership of The Port of New York Authority, the Committee on Steamship Pier Trucking. Cooperating through this committee, representatives of trucking companies, steamship lines and shippers periodically check the waiting time of trucks at steamship piers, investigate cases of unusual delays, and take steps to eliminate them. Through this cooperative effort it has been possible to assure a speedy movement of cargoes from truck to ship even under emergency conditions.

(1) Rayon piece goods are loaded at a South Carolina mill and (2) started over the road to New York via a modern tractor trailer truck. The only stop en route is for a change of crew and to attach a new tractor with a full fuel tank (3). Rolling on through the night the truck enters New York, through the Holland Tunnel (4) the following morning. The goods are transferred (5) to local delivery trucks which unload (6) at the manufacturer's factory in New York's garment center a few hours later.

Starting a new cycle from manufacturer to consumer, the fabric is cut (7) and sewed (8). Finished garments are packed for shipment (9). A new truck movement from north to south gets under way as the goods are picked up (10) and speeded under the Hudson (11) on the first lap of the run to a retail store in the south. The following day the garments are available for sale (12).

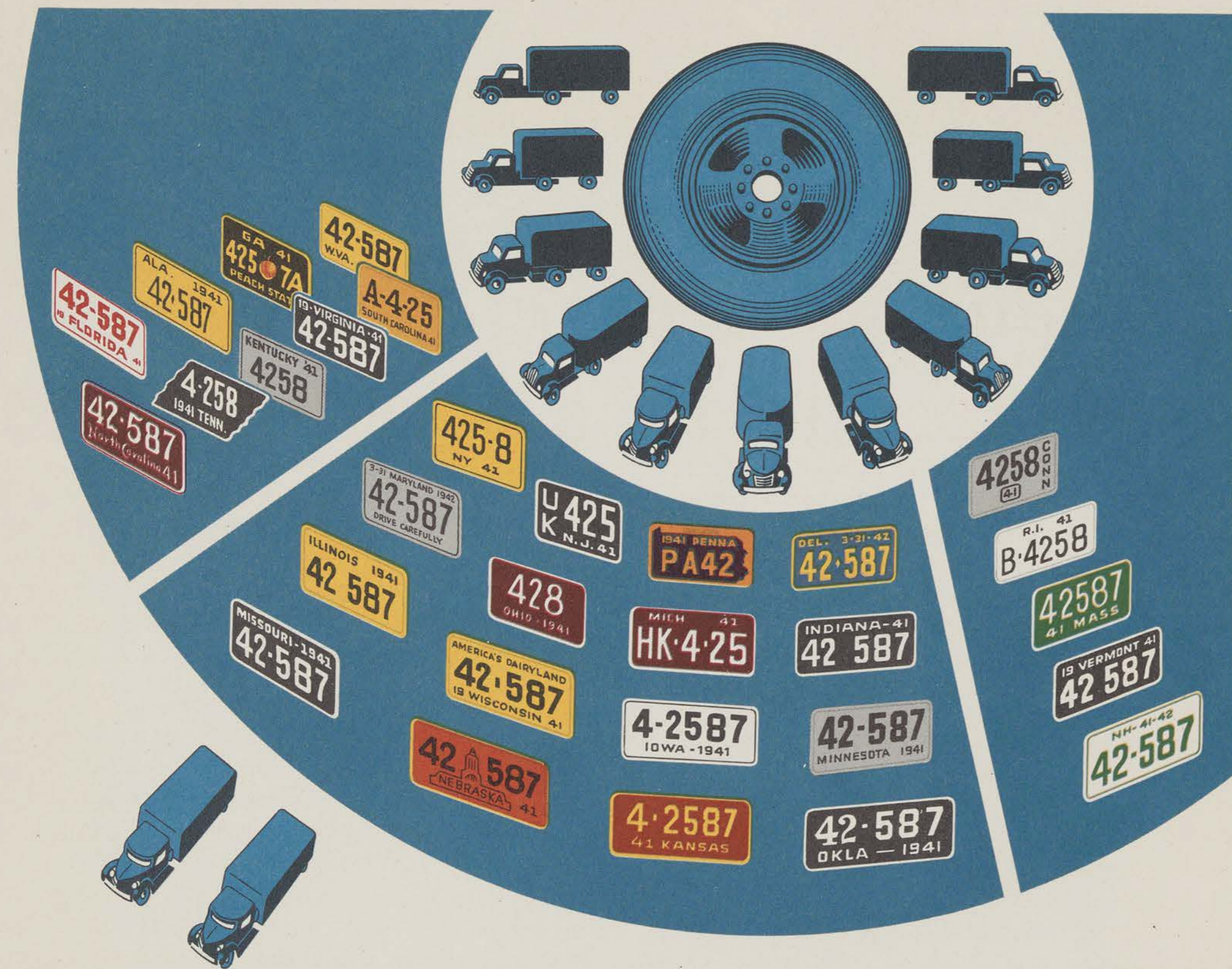
GOWNS CREATED IN THE WORLD'S FASHION CENTER BY NEW YORK'S SKILLED



GARMENT WORKERS REACH MAIN STREET SHOPS IN TWENTY-FOUR HOURS



5,000 LONG HAUL Trucks LEAVE NEW YORK DAILY



MOTOR TRUCKING, a billion dollar industry, has come of age. Regulated in interstate movements by the Interstate Commerce Commission, trucking services now maintain the highest standards of efficiency, regularity and speed.

The motor truck, like the automobile, the radio and motion picture, has helped to remove the last barriers of the hinterland. Today, some forty-eight thousand communities from coast to coast lacking rail connections, are served exclusively by the trucking industry. Formerly isolated, they are now in direct contact with the main channels of commerce.

From the busy garment center of New York, where fashions are miraculously created overnight, silks and satins are rushed to Main Street. From rural areas to the city come fresh fruit, produce, and millions of gallons of milk. From Maryland's eastern shore come seafood and poultry to grace countless New York tables—while to Baltimore's clothing factories lining fabrics are trucked from New York. Offering speed and flexibility, the modern truck has played a major role in the development of the nation's commerce. New York is linked by motor transport with every state in the Union, and by direct service to the thirty states shown.



TUGBOAT CAPTAIN

DECKHAND

SEAMAN

OILER

Sineus OF A GREAT PORT... WORKERS KEEP PACE WITH PROGRESS

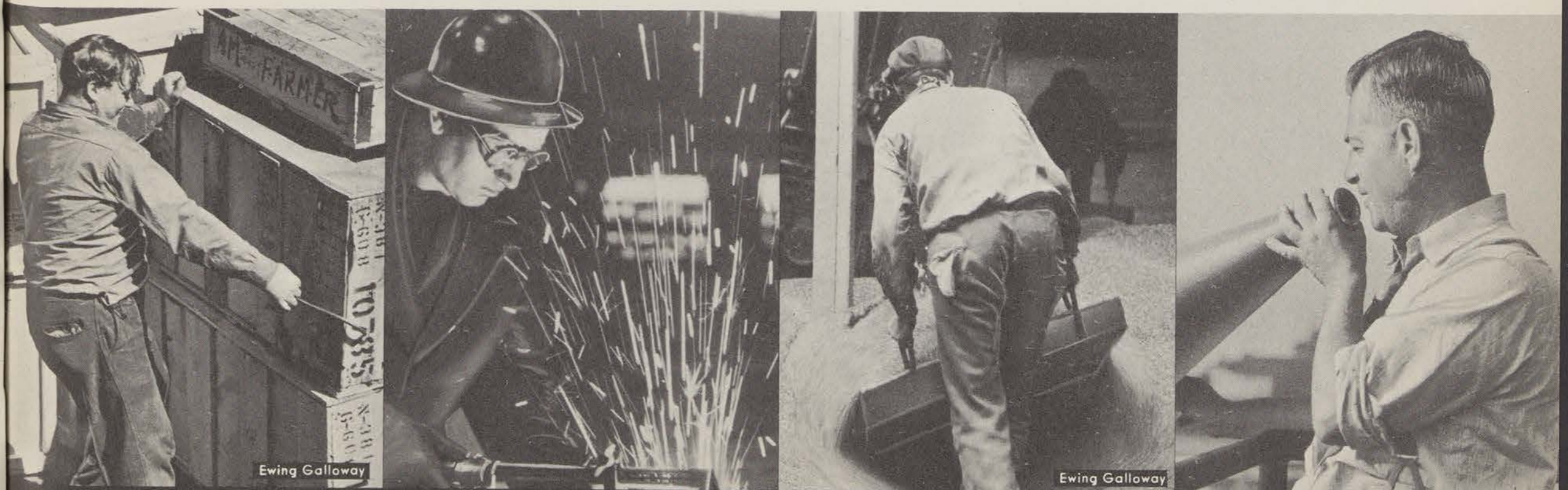
ALTHOUGH MODERN MACHINERY is essential—in the last analysis, manpower operates equipment; it is the muscle, sweat and skill of the man behind the machines that speed cargo from ship's hold to pier, from warehouse to truck.

Unsung hero of the waterfront is the longshoreman in rusty brown lumber jacket, with cargo hook hitched to the belt of his faded denim work pants. He is the man who works on draughty wind-blown docks and below decks in the ship's hold. Employed by stevedore companies who contract to stow and unload ships' cargoes, the longshoreman's job is not a matter of brawn alone. He must know, from experience, how to stow cargo so that turpentine is not placed next to foodstuffs and green hides do not contaminate cheese. He must see that the

light cargo is on top, heavy shipments on the bottom. He must fill the hold so that cargo will not shift or become damaged in a stormy sea.

The high efficiency rating generally accorded New York's port workers has been corroborated by a Department of Labor survey. New York longshoremen were rated first of four ports in the efficient handling of case oil, and in loading lumber, newsprint and cement the New York longshoremen demonstrated the highest productivity of any port checked. In handling linseed oil the output of New York longshoremen was nearly double that of the other port studied.

Such labor efficiency applies not only to bulk goods. It has also been a key factor in attracting to New York much of the nation's high valued import-export freight.



LONGSHOREMAN

SHIPYARD WORKER

GRAIN TRIMMER

TUG DISPATCHER

Advantages OF THE PORT OF NEW YORK...

DIRECT TO ALL PORTS 	FREQUENT SAILINGS 	12 MAJOR RAILROADS 	TRUCK CENTER 	EXTENSIVE AIRLINES 	650 MILE WATERFRONT 	SPLENDID CHANNELS 	MODERN S/S TERMINALS 	POWERFUL TUGBOATS 	FASTEST S/S TURN AROUND
WORLD-WIDE STEAMSHIP SERVICES AT NEW YORK	ADEQUATE CARGO SPACE ON REGULAR SCHEDULES	FAST PACKAGE FREIGHT SERVICES DAY & NIGHT	TRANSPORT IS SPEEDED VIA BRIDGES & TUNNELS	EXPRESS-MAIL-PASSENGER PLANES ABROAD & INLAND	MANY AREAS AVAILABLE FOR FUTURE EXPANSION	FACILITATE NAVIGATION OF ALL TYPES OF SHIPS	BERTHAGE AMPLE FOR VAST WATER TRAFFIC	MANEUVER ALL VESSELS WITH TOP EFFICIENCY	EXCELLENT REFUELING & ALL PORT SERVICES

CARGOES MOVE

SPEEDY HANDLING ON PIERS & AT SHIPSIDE

FREIGHT EXPERTS

EXPEDITE MOVEMENT OF LARGE OR SMALL UNITS

CUSTOMS BROKERS

HANDLE ALL PROBLEMS OF FOREIGN COMMERCE

BANKING SERVICE

FINANCING 75% OF ALL U S FOREIGN COMMERCE

LOW-COST WATER ROUTE FOR BULK COMMODITIES

EFFICIENT HANDLING

TIME SAVINGS

SAVINGS IN FINANCING

SAVINGS IN INSURANCE

Economy for Shipper

WATERFRONT WAREHOUSES

AMPLE STORAGE SPACE TO MEET EMERGENCIES

FOREIGN TRADE ZONE

STORAGE & RE-EXPORT WITHOUT DUTY PAYMENT

UNION LCL TERMINAL

CUTS HANDLING COSTS FOR PACKAGE FREIGHT

BALANCED CARGO

QUICK TURN AROUND

GREATER TONNAGE

NO IDLE TIME

Economy for Ship Operator

DEEP WATER FACTORIES

INDUSTRIES DIRECTLY SERVED BY LAND & SEA

GRAIN CARGO

MILLIONS OF BUSHELS YEARLY MOVE VIA N Y

HEAVY LIFTS

POWERFUL CRANES FLOATING & FIXED

TRAVEL CENTER

MAXIMUM VOLUME OF PASSENGER TRAFFIC

CLOSE TO OPEN SEA

SAFE SPEEDY PASSAGE FROM OCEAN TO PIER

BALANCED CARGOES

FULL TONNAGE LOAD INBOUND OR OUTBOUND

SKILLED WORKERS

ALL KINDS OF CARGO HANDLED WITH SPEED

SHIP REPAIR SERVICE

MOST DRYDOCKS IN U S FOR DEEP-SEA VESSELS

-KRESSY-

Public Agencies

THEIR FUNCTIONS AT THE PORT OF NEW YORK

Responsible to a great extent for the smooth operation of the world's largest port are numerous federal, state and local agencies. While to the casual reader, merely glancing at a directory of agencies, the picture may seem confusing, the Port of New York is actually a highly functional and efficient institution. The list,

which follows, although not a complete catalogue, includes the more important, and some of the less known agencies. The preponderance of federal agencies is due to the fact that operation of the port involves navigable waters, interstate and foreign commerce—over which the federal government has jurisdiction.

NAVIGATION AND SHIPPING



Inspection and Law Enforcement

FUNCTION	AGENCY
Enforcement of general navigation laws, safety regulations and anchorage rules	U. S. Coast Guard (U. S. Treasury Department)
Regulations relating to the shipment, discharge, and living conditions of seamen	Bureau of Marine Inspection and Navigation (U. S. Department of Commerce)
Inspection of hulls, boilers, lifeboats, safety equipment (vessels in port); regulations implementing safety at sea legislation	Bureau of Marine Inspection and Navigation (U. S. Department of Commerce)
Prevention of dumping, oil pollution, illegal deposits	Supervisor of Harbor (U. S. War Department)

General Administration and Aid

Improvement and maintenance of channels; removal of obstructions to navigation	Army Engineers (U. S. War Department)
Assistance to distressed vessels	U. S. Coast Guard (U. S. Treasury Department)
Surveys for pilotage and navigation charts	Branch Hydrographic Office (U. S. Navy)
Maintenance of lighthouses, buoys, beacons	Bureau of Lighthouses (U. S. Treasury Department)

Preparation of maps, charts and tide tables	Coast and Geodetic Survey (U. S. Department of Commerce)
Weather Reports	Weather Bureau (U. S. Department of Commerce)
Allocation of steamship services	U. S. Maritime Commission
Regulation of interstate carriers	Interstate Commerce Commission
Licensing of ships' officers and seamen	Bureau of Marine Inspection and Navigation (U. S. Department of Commerce)
Licensing of pilots (N. Y.)	Commissioners of Pilots of the Port of New York
Licensing of pilots (N. J.)	Board of Commissioners of Pilotage
Regulation of intra-state shipping on inland waterways (N. J.)	N. J. Board of Commerce and Navigation
Regulation of intra-state shipping on canals (N. Y.)	Canal and Waterways Division (N. Y. State Department of Public Works)

Collection of Fees

Navigation fines	Collector of the Port (U. S. Bureau of Customs, U. S. Treasury Department)
Customs tonnage taxes	
Entrance and clearance fees	

CARGOES AND PASSENGERS



Inspection and Law Enforcement

FUNCTION	AGENCY
Quarantine health regulations	U. S. Bureau of Public Health
Regulations governing transport of dangerous cargo	Bureau of Marine Inspection and Navigation (U. S. Department of Commerce)
Enforcement of immigration laws	Immigration and Naturalization Service (U. S. Department of Justice)
Administration of perishable agricultural commodities act, export apple and pear act and other related statutes	Fruit and Vegetable Division, Agricultural Marketing Service (U. S. Department of Agriculture)
Inspection and certification of domestic and imported meat and meat products; animal quarantine regulations	Bureau of Animal Industry (U. S. Department of Agriculture)
Approval, classification and fumigation of incoming cotton	Board of Cotton Examiners (U. S. Department of Agriculture)
Domestic and foreign plant quarantine, Japanese beetle quarantine	Bureau of Entomology and Plant Quarantine (U. S. Department of Agriculture)
Enforcement of food, drug and cosmetic act, tea, import milk, caustic poison, filled milk acts	Food and Drug Administration (U. S. Department of Agriculture)
Licensing of manufacturers for export and import of arms, ammunition and implements of war	Division of Controls (U. S. State Department)
Enforcement of regulations with respect to the manufacture, sale and transport of paris green, lead arsenate, insecticides, fungicides, spirits of turpentine and resin	Food and Drug Administration (U. S. Department of Agriculture)

Collection of Fees

Customs duties	Collector of the Port (U. S. Bureau of Customs)
Excise taxes on imported alcoholic beverages	Alcoholic Tax Unit, Internal Revenue Bureau (U. S. Treasury Department)

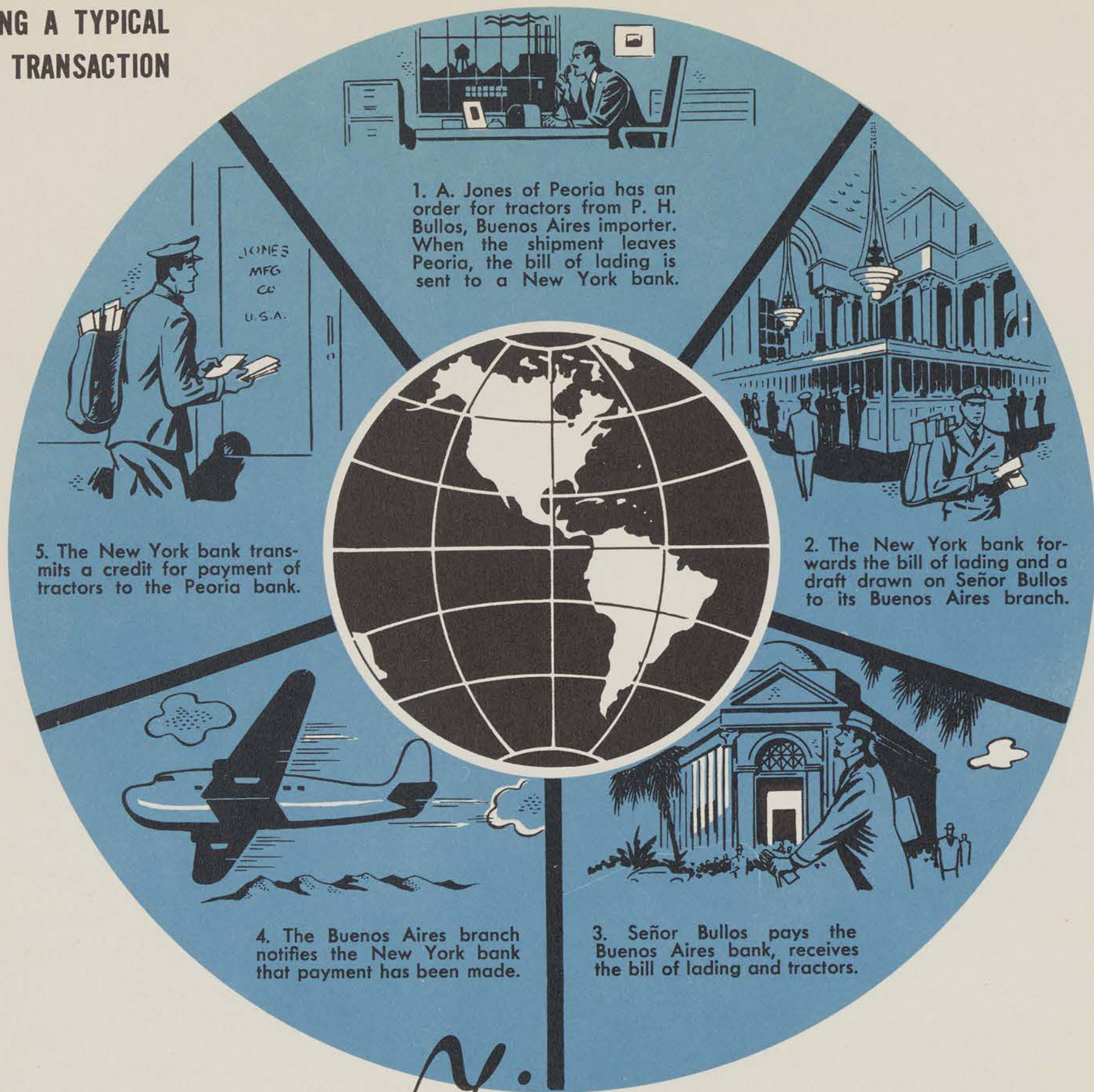
General Administration and Aid

Issuance of passports	U. S. Department of State
Marketing information for United States manufacturers and exporters	Bureau of Foreign and Domestic Commerce (U. S. Department of Commerce)
Aid to exporters of cotton and cotton products	Cotton Export Agent (U. S. Department of Agriculture)
Regulation of rates and services of railroads, motor trucks and coast-wise and inland water carriers	Interstate Commerce Commission
Regulation of ocean rates and services	U. S. Maritime Commission
Regulation of rates and services of commercial air transport	Civil Aeronautics Board (U. S. Department of Commerce)

Improvement and Maintenance of Port Facilities

Supervision of municipal docks, wharves and piers in N. Y. C.	N. Y. C. Department of Docks
Supervision of N. Y. C. Airports	Bureau of Aviation (N. Y. C. Department of Docks)
Supervision of municipal docks, wharves and piers in Newark and Newark Municipal Airport	Department of Public Affairs (Bureau of Docks, Newark)
Development of Port Raritan District	Port Raritan District Commission
Port development and protection; operation of interstate vehicular crossings: George Washington Bridge, Holland Tunnel, Lincoln Tunnel, Bayonne Bridge, Arthur Kill Bridges; and Commerce Building (Union Inland Terminal No. 1)	The Port of New York Authority
Operation of intra-state bridges: Triborough, Whitestone, Marine Parkway, Cross Bay Boulevard	Triborough Bridge Authority
Operation of Queens Midtown Tunnel; and Brooklyn - Battery Tunnel (under construction)	New York City Tunnel Authority

FINANCING A TYPICAL EXPORT TRANSACTION



WORLD *Finance* CENTER

A BULWARK of the port's commerce—New York's banks finance seventy-five per cent of the total waterborne foreign trade of the United States; now have deposits of seventeen billion dollars. Some measure of the activity of New York in world trade is the fact that its banks clear one hundred sixty billion dollars in checks from all over the world each year.

Paralleling the scope of the far flung consular services of the United States are the representatives and offices of New York banks, which are constantly in communication with these outposts of commerce throughout the world. These institutions are in an unexcelled position not only to finance world trade but also to serve the shipper.

One bank alone, for example, maintains forty-two branches in South America and the Caribbean, a total of sixty-nine branches throughout the world. Such

services help to surmount barriers of language and custom, keep shippers posted as to ever-shifting exchange rates and assure the smooth flow of foreign commerce.

To assist the importer in clearing inbound commodities through the customs there is at New York the largest group of customhouse brokers in the country. On export transactions these specialists not only advise on foreign customs regulations, but also arrange space on outgoing vessels, advise exporters when and how to route their shipments, prepare all necessary documents—export declarations, consular invoices, bills of lading—and perform numerous other valuable services.

New York security and commodity exchanges (grain, cotton, sugar, cocoa, metals, rubber, raw silk and hides) are familiar to traders the world over.

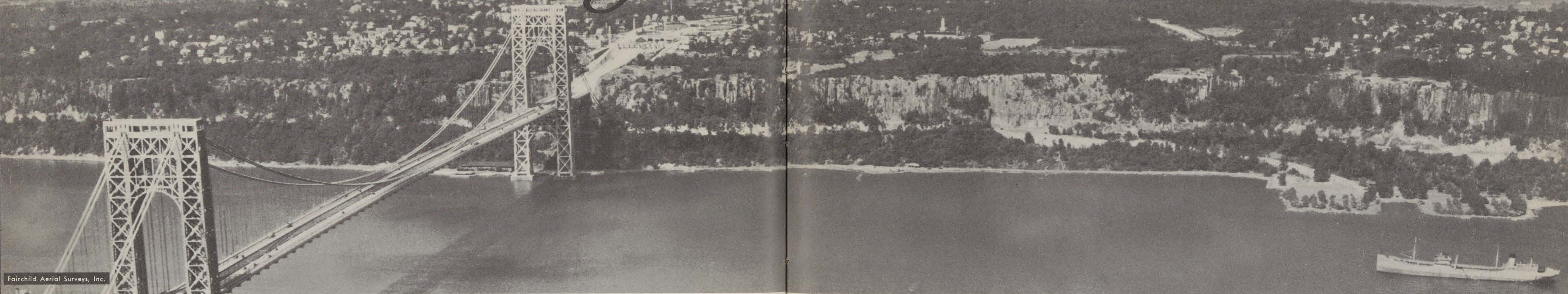


NEW JERSEY AND NEW YORK

Join to

Coordinate

PORT DEVELOPMENT



Fairchild Aerial Surveys, Inc.

WITH A MIGHTY SPLASH of paddle wheels, and puffing a defiant cloud of black smoke, a small white steamboat—the *Bellona*—chugged out of her wharf at Elizabethtown, New York bound. From her mast floated a flag, bearing the legend *New Jersey Must Be Free*. It was the year 1818 and her Dutch captain was Cornelius Van Derbilt.

After tying up his craft at the Battery, it was the skipper's custom to conceal himself behind a sliding panel in his small cabin until the return voyage. This singular behavior was recognized as no more than prudent by both passengers and crew, for they knew that the *Bellona* was operating in bold defiance of a New York monopoly. A monopoly by which the New York Legislature had granted Fulton and Livingston the exclusive privilege of navigating steamboats on the waters of the Hudson—whether on the New York side or the New Jersey side. For challenging New York State's monopolistic franchise, the captain was in constant peril of arrest. Waiting to seize him with a warrant upon his arrival in New York, the police were unable to find the wily captain. The *Bellona* continued to operate through waters which New York had declared sacred for all save two favored New Yorkers—Livingston and Fulton.

It is probable that neither Captain Van Derbilt nor his pugnacious employer Thomas Gibbons invested with historic significance the drama in which they played the leading roles. As practical men, however, they did know that even though an invisible state line

divided the Hudson, the waters of the river were not the exclusive property of either state, and Gibbons as owner of the *Bellona* was prepared to fight for his rights. His tenacity was to have historic consequences. For while Captain Van Derbilt carried on his game of hide-and-seek with the New York warrant officers, Thomas Gibbons took his plea to the courts. When New York jurists turned him down he carried the issue to the Supreme Court of the United States, retaining as counsel Daniel Webster, who, by his own statement, made his greatest argument in what is known to history as "the steamboat case". By the decision of the Court, written by Chief Justice Marshall, New York's law granting the exclusive monopoly was declared "repugnant to the Constitution and laws of the United States".

Thereafter the Hudson was free to all and, legend has it, "there was sun in the sky and the waters leaped and sparkled". On the free river there were soon to be hundreds of steamboats where, throttled by monopoly, there had only been eight. But great as was the impetus given to the harbor's development by this decision, the progress of the port was destined to be hampered by countless future controversies—all centering about the invisible political barrier, the state line. There were to be disputes over boundaries and channels, disputes as to jurisdiction and development—which were not to be resolved for more than a hundred years.

It was war in Europe which ultimately brought peace in New York and New Jersey. Although it had long

been known that a coordinated plan of harbor development was desirable, it took the terrific impact of war-time pressure upon the port's uncoordinated facilities to drive the lesson home.

New York's Governor Whitman and New Jersey's Governor Edge knew that the Port of New York—meaning the Port of Many Ports with its numerous local harbors in New Jersey and New York—was historically, geographically and commercially one port. The problem of how two states could treat and develop it as one port they determined to delegate to a bi-state commission. In 1917 they created the New York-New Jersey Port and Harbor Development Commission to represent both states.

Although they realized that it would take two years to study the problem, the members of the commission were willing to embark upon such a task without remuneration, as a public service. Not content to confer and pore over existing records and data, the commission gathered first hand information from the far corners of the port.

Clockings were made in railroad yards recording for twenty-four hour periods the movements of trains, cars, car-floats, trucks, commodities handled, their origins and destinations, and other pertinent information. The commission projected plans for food terminal markets, a foreign trade zone, a bridge across the Hudson, union inland freight terminals, store-door delivery, vehicular tunnels under the Hudson. Channel improvements, the

New York State Canal and other inland waterways, freight handling machinery, the movement of fuel, grain, ice, the manufacture and supply of electric power, water supply for New York, disposal of municipal waste—these and countless other subjects were included within the scope of the commission's complete report, published in 1920.

The report offered not only voluminous data but also a plan under which New Jersey and New York could cooperate in the joint development and improvement of the port. The commission recommended a treaty between the two states and the creation of a single joint agency to carry on. In 1921, after exhaustive conferences, public debate and discussion, on April 30th, the Treaty was signed and the agency—The Port of New York Authority—was created.

In the intervening years much progress has been made. However, the port's problems have not been entirely solved. Much remains to be done. Not all, in fact, not even most of the improvements which have been made, and which are shown in these pages, are the work of The Port of New York Authority alone. In rendering this report, as the joint port agency of New York and New Jersey, the Port Authority claims no credit for the vast improvements made by federal, state and local agencies and by private enterprise. The function of this report is to take inventory of the port's progress, and to point the way toward future port and harbor development and improvement.

Islands Tied TO MAINLAND...

TO THE PORT of New York, the Hudson River has been the mainspring of the harbor's greatness. Yet paradoxically, the river has been both a vital artery for water-borne commerce and, at the same time, an obstacle to the free movement of land commerce between the separate sections of the district. Similarly the minor rivers, bays, estuaries and tidal streams which provide admirable channels for ships, split the district into detached islands and peninsulas.

In fact, the very waters of the port made New York a Mesopotamia of the western hemisphere—land in the middle of the rivers. It has only been with the progress of modern engineering in spanning rivers with bridges and in boring tunnels beneath them that New York's unique transportation problem moved toward solution.

Today, as a modern air transport wings its way over New York, the traveler looks down upon bridges, and their approaches, plazas and ventilation shafts of vehicular tunnels, and a network of supporting highways. In short, he sees the effect of a geographical unification wrought largely in the past two decades.

In contrast, the same traveler in 1920 would have seen only a few small bridges across the lesser waterways and none whatever across the broad expanse of the Hudson. And he might well have wondered how tons of food, fuel and manufactured goods could be distributed to the district's millions of island inhabitants, how the people themselves traveled from one section of the district to another.

It was, in fact, the day when the motorist waited in line for hours to be ferried across the Hudson; when he struggled over horse and buggy roads. No bridges and tunnels, no broad continuous parkways were available. Instead of smooth white ribbons of concrete scientifically designed for safe and speedy travel, the roads of that day were high-crowned, badly broken and winding. The era of the clover leaf, the multi-lane highway and the by-pass, in which the New Jersey State Highway Commission was soon to lead the way, had not yet arrived. Instead, the motorist had to thread his way through city streets designed for and taxed to the limit by local traffic. Railroad crossings at grade and drawbridges were traffic barriers.

Motorists traveling on the old Lincoln Highway to Trenton or returning on Route 4 from the New

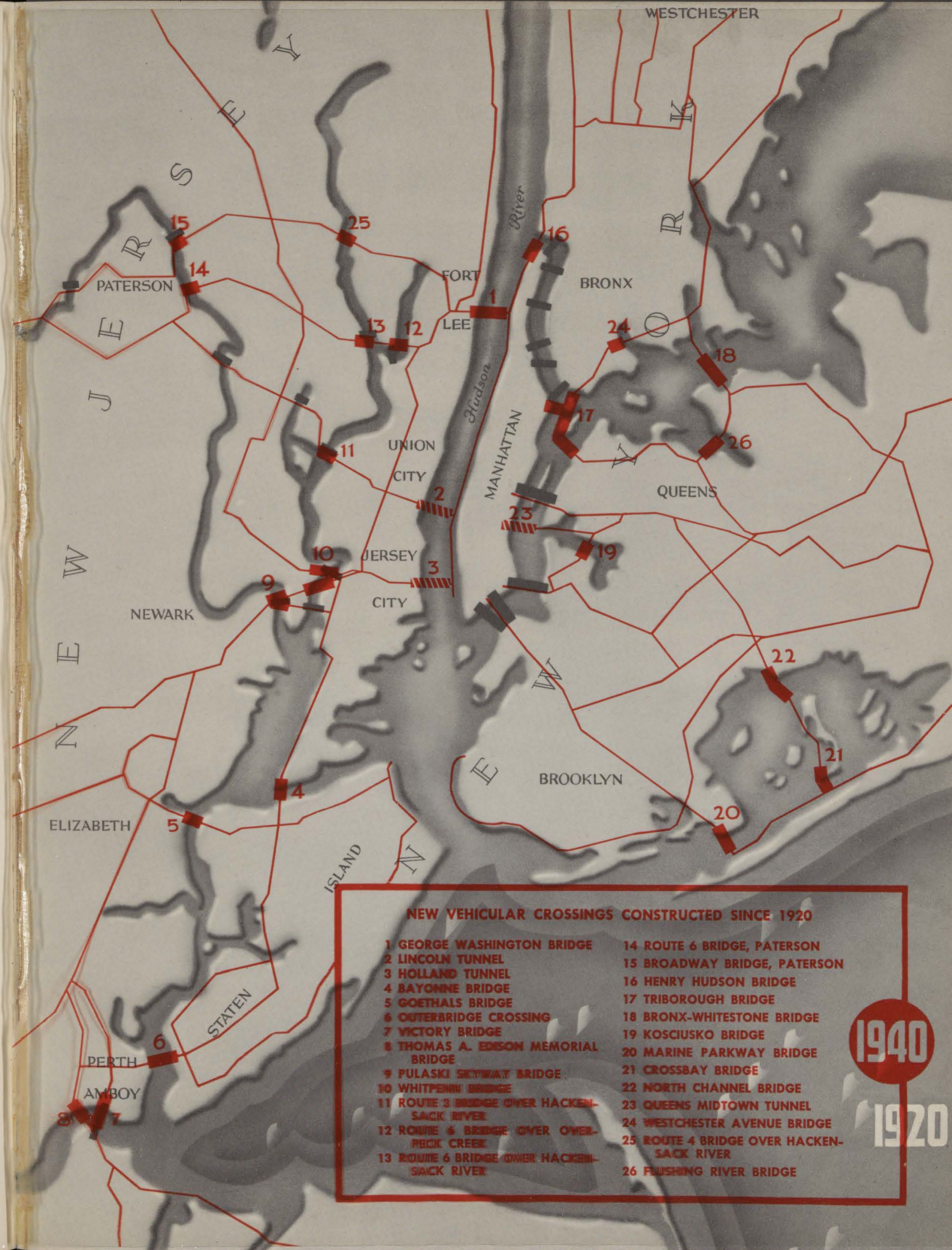
Jersey coast resorts, had to travel through the most congested thoroughfares of Newark and Elizabeth. Crossing the meadows, traffic was halted every time the low-level drawbridges over the Hackensack and Passaic Rivers were opened for shipping. It was the day of stop-start-stop-and-start.

Lack of adequate highways, however, was only one of the motorist's difficulties. When he finally reached the river's edge his sole means of crossing were the very ferries which antedated the horse car. Carrying only a limited number of vehicles, they were wholly inadequate for the needs of the metropolitan motorist.

First major step in the solution of the problem came in 1919 when the New York State Bridge and Tunnel Commission and the New Jersey Interstate Bridge and Tunnel Commission jointly undertook the construction of a two-tube vehicular tunnel under the Hudson. Far longer than any under-river crossing for motor traffic ever before built, its construction presented many seemingly insuperable obstacles. A titanic engineering feat, lasting eight years, the building of the tunnel cost the life of its first chief engineer, Clifford M. Holland, who did not live to see the completion of the facility, named in his memory.

The opening of the Holland Tunnel in 1927 forged the first link in the chain of interstate vehicular crossings, and paved the way for geographical unification. Other interstate links have been added within a relatively short period of time: the three New Jersey-Staten Island Bridges, the George Washington Bridge and the Lincoln Tunnel. New intrastate crossings include the Triborough Bridge, the Bronx-Whitestone Bridge, the Queens Midtown Tunnel and new high level bridges over the Raritan, Hackensack and Passaic Rivers in New Jersey.

The superb highways and river crossings built by the States of New Jersey and New York, by New York City and by such agencies as the Triborough Bridge Authority, the New York City Tunnel Authority, and The Port of New York Authority, have radically changed metropolitan motor travel in the past two decades. While some new points of congestion have since developed, and additional highways are needed, the impressive fact is the tremendous progress that has been made in linking together islands and mainland.



NEW VEHICULAR CROSSINGS CONSTRUCTED SINCE 1920

- | | |
|---|---|
| 1 GEORGE WASHINGTON BRIDGE | 14 ROUTE 6 BRIDGE, PATERSON |
| 2 LINCOLN TUNNEL | 15 BROADWAY BRIDGE, PATERSON |
| 3 HOLLAND TUNNEL | 16 HENRY HUDSON BRIDGE |
| 4 BAYONNE BRIDGE | 17 TRIBOROUGH BRIDGE |
| 5 GOETHALS BRIDGE | 18 BRONX-WHITESTONE BRIDGE |
| 6 OUTERBRIDGE CROSSING | 19 KOSCIUSKO BRIDGE |
| 7 VICTORY BRIDGE | 20 MARINE PARKWAY BRIDGE |
| 8 THOMAS A. EDISON MEMORIAL BRIDGE | 21 CROSSBAY BRIDGE |
| 9 PULASKI SKYWAY BRIDGE | 22 NORTH CHANNEL BRIDGE |
| 10 WHITPENNING BRIDGE | 23 QUEENS MIDTOWN TUNNEL |
| 11 ROUTE 3 BRIDGE OVER HACKENSACK RIVER | 24 WESTCHESTER AVENUE BRIDGE |
| 12 ROUTE 6 BRIDGE OVER OVERBROOK CREEK | 25 ROUTE 4 BRIDGE OVER HACKENSACK RIVER |
| 13 ROUTE 6 BRIDGE OVER HACKENSACK RIVER | 26 FLUSHING RIVER BRIDGE |

1940

1920

Islands Tied TO MAINLAND...

TO THE PORT of New York, the Hudson River has been the mainspring of the harbor's greatness. Yet paradoxically, the river has been both a vital artery for water-borne commerce and, at the same time, an obstacle to the free movement of land commerce between the separate sections of the district. Similarly the minor rivers, bays, estuaries and tidal streams which provide admirable channels for ships, split the district into detached islands and peninsulas.

In fact, the very waters of the port made New York a Mesopotamia of the western hemisphere—land in the middle of the rivers. It has only been with the progress of modern engineering in spanning rivers with bridges and in boring tunnels beneath them that New York's unique transportation problem moved toward solution.

Today, as a modern air transport wings its way over New York, the traveler looks down upon bridges, and their approaches, plazas and ventilation shafts of vehicular tunnels, and a network of supporting highways. In short, he sees the effect of a geographical unification wrought largely in the past two decades.

In contrast, the same traveler in 1920 would have seen only a few small bridges across the lesser waterways and none whatever across the broad expanse of the Hudson. And he might well have wondered how tons of food, fuel and manufactured goods could be distributed to the district's millions of island inhabitants, how the people themselves traveled from one section of the district to another.

It was, in fact, the day when the motorist waited in line for hours to be ferried across the Hudson, when he struggled over horse and buggy roads. No bridges and tunnels, no broad continuous parkways were available. Instead of smooth white ribbons of concrete

Jersey coast resorts, had to travel through the most congested thoroughfares of Newark and Elizabeth. Crossing the meadows, traffic was halted every time the low-level drawbridges over the Hackensack and Passaic Rivers were opened for shipping. It was the day of stop-start-stop-and-start.

Lack of adequate highways, however, was only one of the motorist's difficulties. When he finally reached the river's edge his sole means of crossing were the very ferries which antedated the horse car. Carrying only a limited number of vehicles, they were wholly inadequate for the needs of the metropolitan motorist.

First major step in the solution of the problem came in 1919 when the New York State Bridge and Tunnel Commission and the New Jersey Interstate Bridge and Tunnel Commission jointly undertook the construction of a two-tube vehicular tunnel under the Hudson—longer than any under-river crossing for motor traffic ever before built, its construction presented many seemingly insuperable obstacles. A titanic engineering feat, lasting eight years, the building of the tunnel cost the life of its first chief engineer, Clifford M. Holland, who did not live to see the completion of the facility, named in his memory.

The opening of the Holland Tunnel in 1927 forged the first link in the chain of interstate vehicular crossings, and paved the way for geographical unification. Other interstate links have been added within a relatively short period of time—the three New Jersey-Staten Island Bridges, the George Washington Bridge and the Lincoln Tunnel. New intrastate crossings include the Triborough Bridge, the Bronx-Whitestone Bridge, the Queens Midtown Tunnel and new high level bridges over the Raritan, Hackensack and Passaic

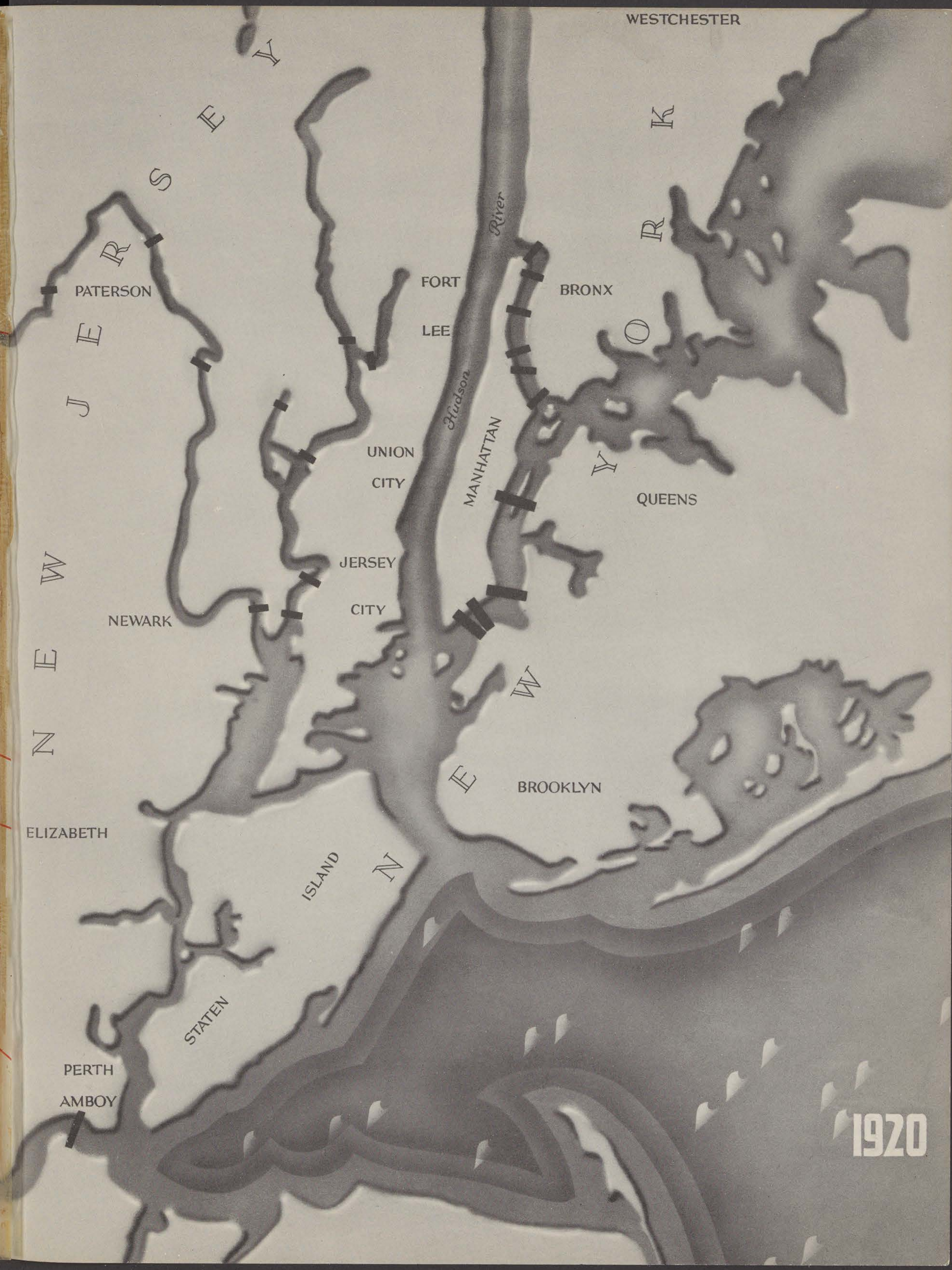
Rivers in New Jersey. The superb highways and river crossings built by the States of New Jersey and New York, by New York such agencies as the Triborough Bridge Authority, the New York City Tunnel Authority, and the Port of New York Authority, have radically improved metropolitan motor travel in the past two decades. While some new points of congestion have since developed, and additional highways are needed, the fact is the tremendous progress that has been made in linking together islands and mainland.

scientifically designed for safe and speedy travel, the roads of that day were high-crowned, badly broken and winding. The day of the dual-lane multi-lane highway and the multi-lane parkway which the New Jersey State Highway Commission had in mind, had not yet arrived. Instead of the smooth white ribbons of concrete and taxed to the limit by local traffic, the roads were traffic barriers.

Motorists traveling on the old Lincoln Highway to Trenton or returning on Route 4 from the New

NEW VEHICULAR CROSSINGS CONSTRUCTED SINCE 1920

- 1 PATERSON BRIDGE
- 2 LINCOLN TUNNEL
- 3 HOLLAND TUNNEL
- 4 BAYONNE BRIDGE
- 5 GOETTLER BRIDGE
- 6 BRONX-WHITESTONE BRIDGE
- 7 THOMAS A. EDISON MEMORIAL BRIDGE
- 8 MARINE PARKWAY BRIDGE
- 9 CROSBY BRIDGE
- 10 WHITESTONE BRIDGE
- 11 QUEENS MIDTOWN TUNNEL
- 12 WESTCHESTER AVENUE BRIDGE
- 13 ROUTE 4 BRIDGE OVER HACKENSACK RIVER
- 14 ROUTE 6 BRIDGE OVER HACKENSACK RIVER
- 15 ROUTE 9 BRIDGE OVER HACKENSACK RIVER
- 16 ROUTE 2 BRIDGE OVER HACKENSACK RIVER
- 17 FLUSHING RIVER BRIDGE

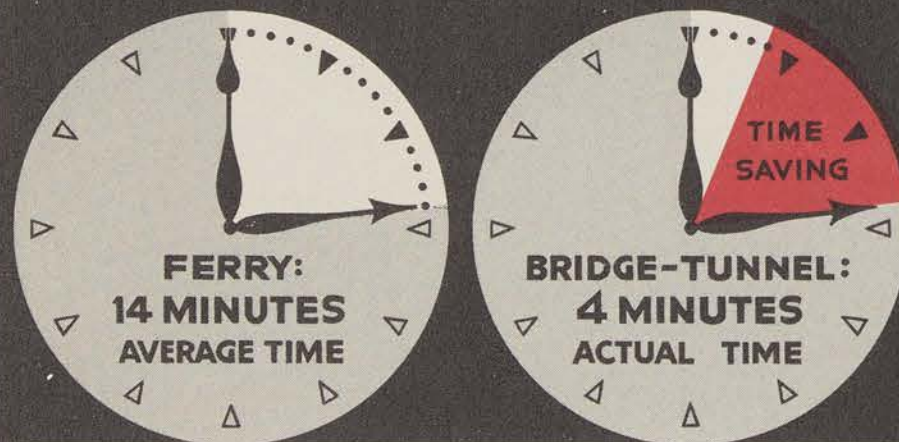


NEW *Vistas* OPENED



H. H. Costain

TIME SAVERS MODERN BRIDGES AND TUNNELS...



250,000,000 vehicles have used Port Authority crossings. Each has saved an average of 10 minutes on each trip, as shown above. The resulting cumulative time if saved by one person would equal a total of 47½ centuries, enough time at 30 miles per hour for that person to make 7 round trips to and from the sun.

TODAY the motorist who speeds his way across the George Washington Bridge in four minutes for fifty cents forgets that not so long ago he paid as much as a dollar for the privilege of ferrying his seven-passenger Peerless across the Hudson. Forgotten too are the interminable lines of cars piling up for miles back of the ferry slips on broiling hot summer Sundays. Bridges and tunnels, today taken for granted, have wrought a metamorphosis not only in motor travel but in the very way of life of millions of residents of the metropolitan area.

For New Yorkers, cramped in small apartments, harried and hurried by the tumultuous pace of the city, suburban life has always had a powerful lure. The problem of travel from suburbs just across the river to offices in Manhattan was the major stumbling block.

Bridging the Hudson was a vital factor in making possible the great decentralization of the past two decades, which is still continuing. This trend is well illus-



Shown here is a typical bus, one of hundreds which now play an important part in suburban life, particularly in New Jersey, by offering a fast convenient service to and from New York via bridges and tunnels. Also shown here is an interesting development in combining the rail service of the Susquehanna Railroad from Paterson to the Susquehanna transfer at North Bergen with bus and tunnel connections. The modern diesel streamliner of the Susquehanna Railroad makes the trip from Paterson to Susquehanna Transfer in 20-25 minutes. On its arrival underneath the viaduct approach to the Lincoln Tunnel, the railroad passengers are transferred to a modern bus waiting at trainside and are transported to Times Square via the Lincoln Tunnel in 10 minutes. The entire trip from Paterson to Times Square now takes but 30 minutes where formerly it took nearly an hour and required a transfer to ferry or tubes and at least one additional transfer to reach Times Square in Manhattan.

trated by the rapid development of such communities as Teaneck, New Jersey. Now a thriving suburb of twenty-five thousand, Teaneck before the opening of the George Washington Bridge had a population of only four thousand.

Radburn, Montclair, Glen Ridge, Short Hills, Maplewood, Metuchen, Westwood in New Jersey; Scarsdale, Rye, Larchmont, Bronxville in Westchester; Manhasset, Great Neck, Garden City, Forest Hills in Long Island, are but a few of the many suburban areas now readily accessible to New York.

Residents of these and neighboring communities find in such facilities as the George Washington Bridge, the Holland Tunnel and Lincoln Tunnel, the Triborough Bridge, the Henry Hudson Bridge, the Queens Midtown Tunnel and the highways and parkways which serve them, tangible evidence of the physical unification which has taken place within recent years.

Despite the spectacular strides which have been made in facilitating travel between suburbs and city, the problem still presents a challenge for the future.

Further arterial highways must be constructed in New Jersey, Westchester and Queens to bring additional communities within the radius of easy motor travel to the metropolis and to increase the convenience and efficiency of existing routes. Another task for the immediate future is the solution of the terminal problem created by the introduction of large interstate and interurban buses into congested city streets.

Finally, neither the motor bus nor private automobile is the complete answer to a problem which still involves mass movements of passengers at certain peak hours of the morning and evening. Still needed is a coordinated system of suburban rail lines, urban subways and feeder bus lines, as well as the extension of existing rail facilities, to serve the constantly growing number of communities.

A TRANSPORTATION *Revolution*

IN TWO DECADES



DRAMATIZED with tragic clarity in the 1940 battle of France was the cataclysmic change in methods of transport in only twenty years. Strange and fearful as the phalanxes of Alexander was the inexorable progress of the motorized invader as contrasted with the laborious, massive maneuvers of 1914.

Here, for all to see, was the impact of a transportation revolution so recent and so far-reaching as to challenge contemporary appraisal. For, although motorized transport was used in the last world war, it was not until the post-war period that the automobile really began to revolutionize the way of life.

In the early nineteen hundreds the automobile was a luxury conveyance available to a limited few. Its dustered and begoggled driver had to be skilled in coping with the unpredictable vagaries of crank and carbureter; ready to brave the rigors of getting out and under—to wrestle with the wayward magneto; and brawny enough to pry from their rims the easily punctured tires he must laboriously inflate with an oversized bicycle pump. The motor age did not really begin until the model T's were rolling by the million from farm to Main Street, from desert to mountain, from suburb to city, with anyone and everyone from Judy O'Grady to the Colonel's lady at the wheel.

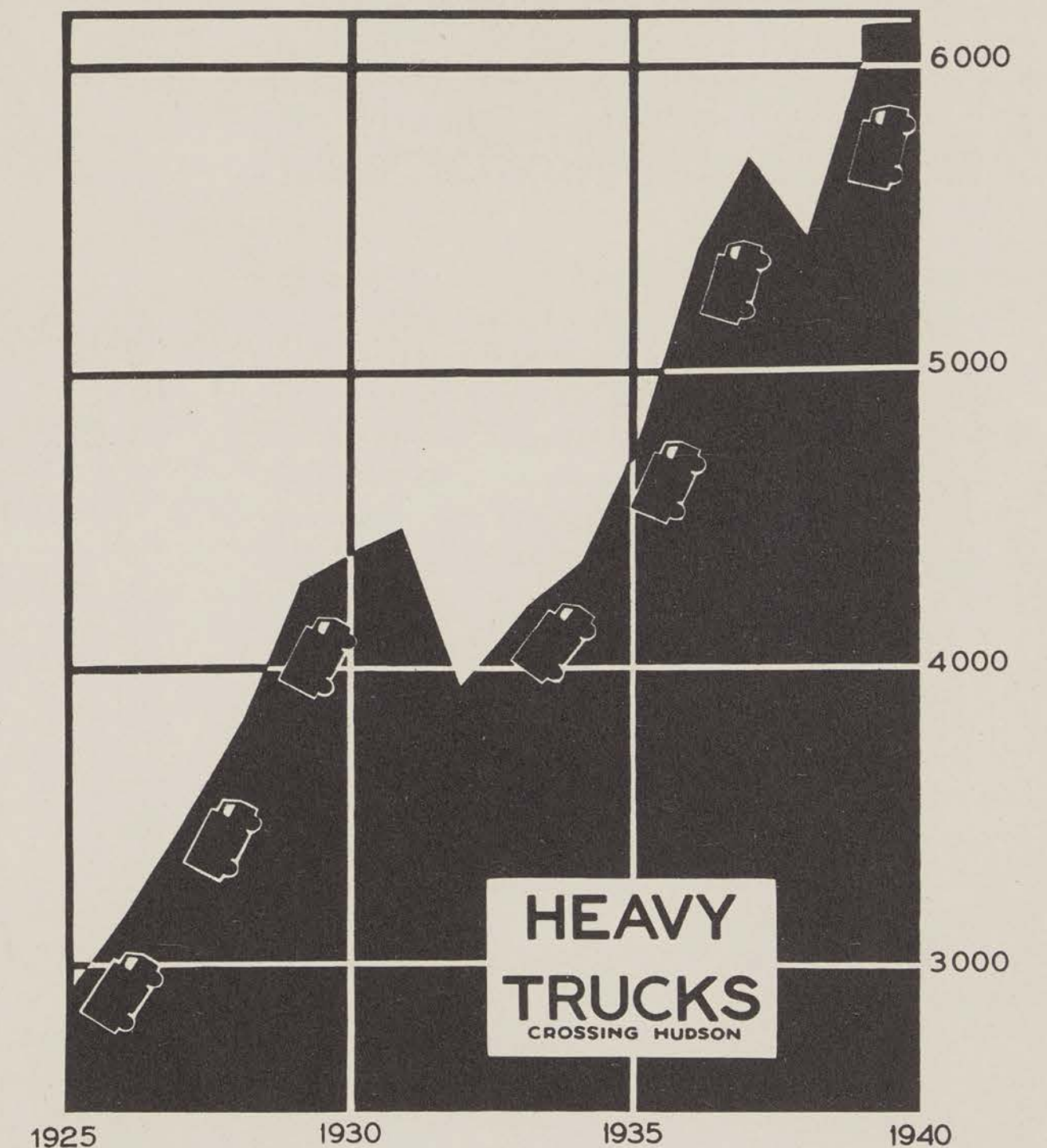
In the Port of New York District, embracing the teeming metropolis and suburbs, motor vehicle registrations jumped to

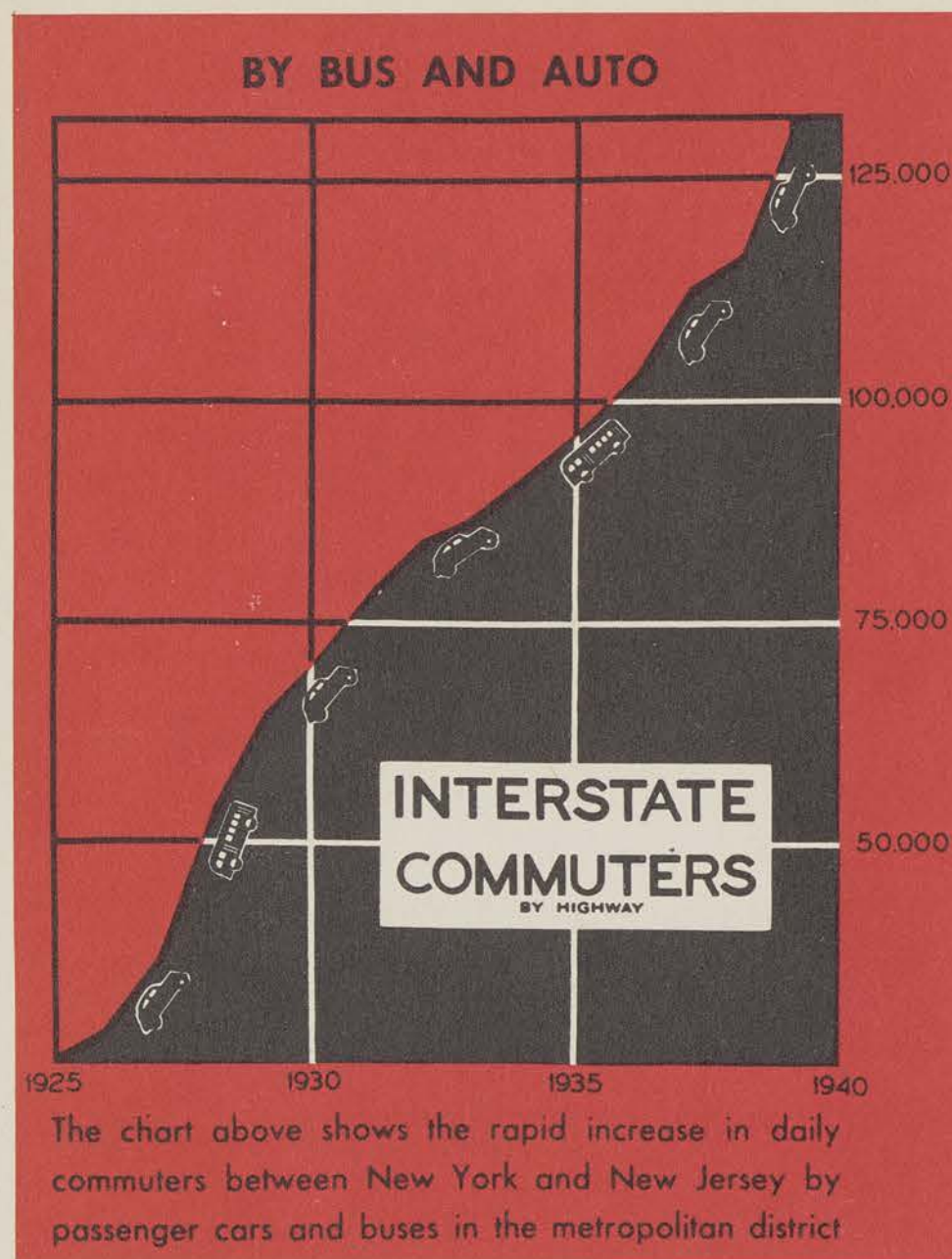
CONTINUED PAGE 62

*From wagon wheel to Model T—
from rumbling jalopy to modern
streamline truck—singing wheels
tell the story of the motor age*

The chart at right shows the daily average number of long haul trucks using Port Authority vehicular crossings (and ferries) in the area between the Battery and Tarrytown, N. Y.

THE UPSWING IN LONG HAUL TRUCKING—
DRAMATIZES THE TREND OF MODERN TRANSPORT



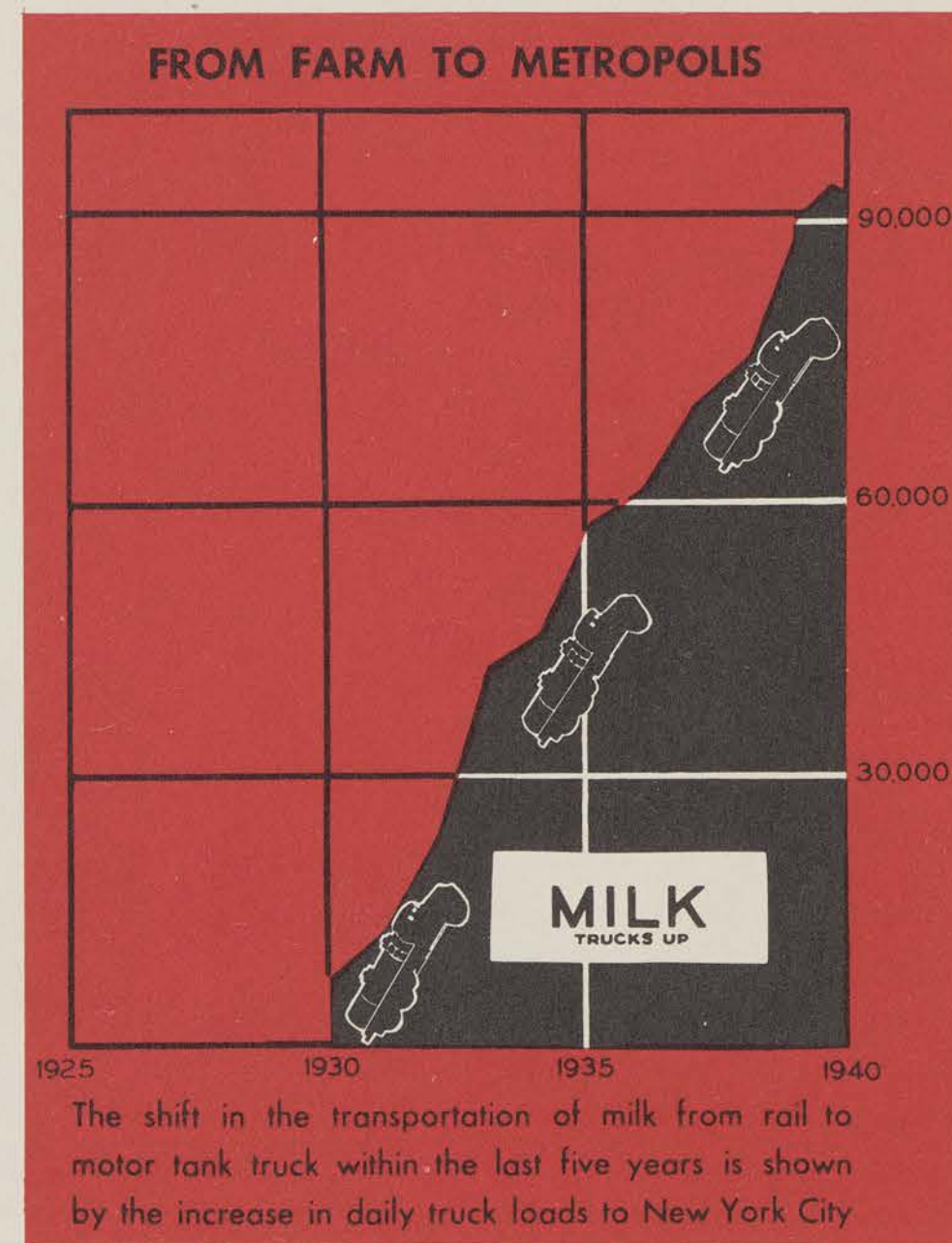
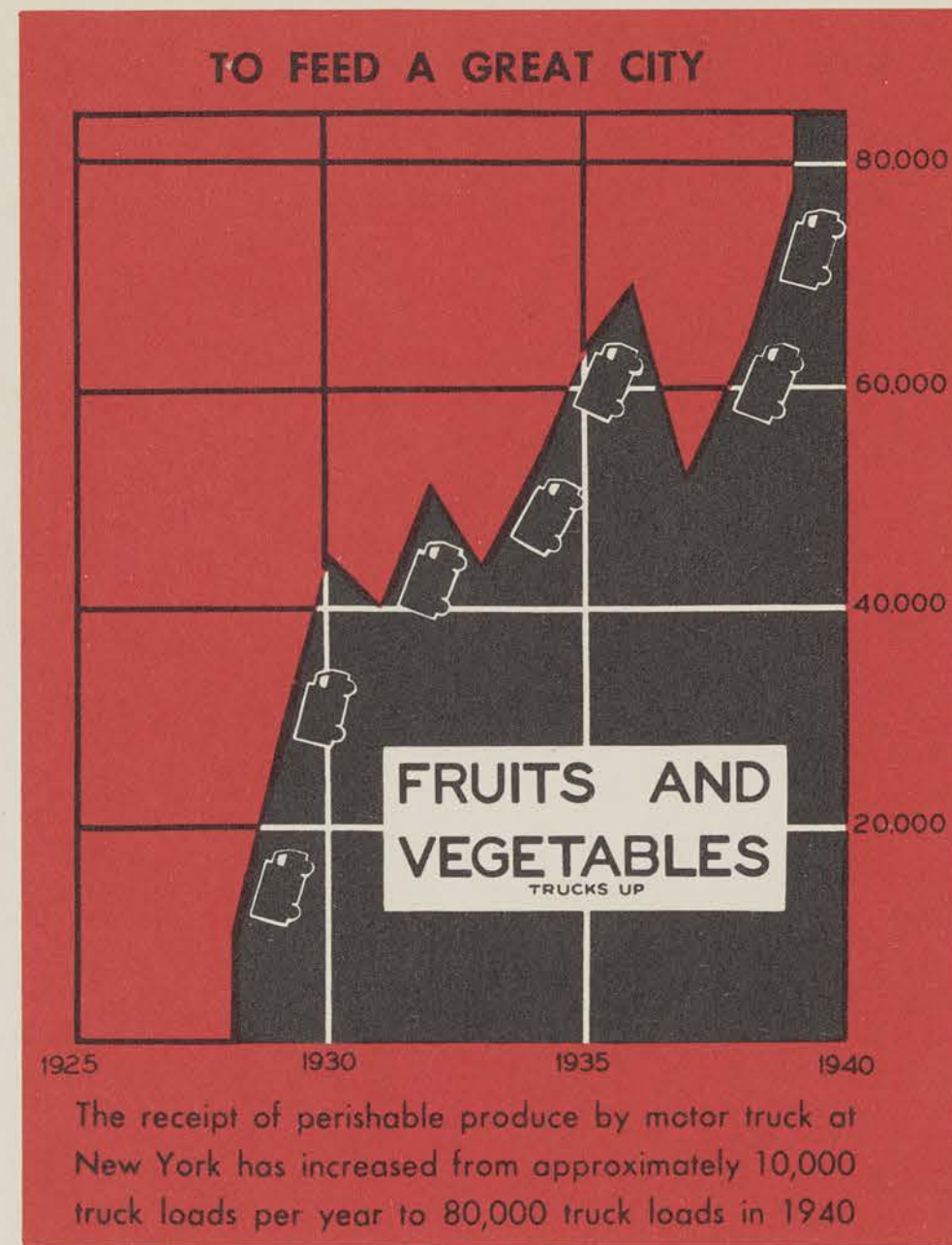


over two million in 1940, an increase of more than four hundred per cent over the 1920 figure.

In 1920, one-third of the trans-Hudson vehicular traffic (from the Battery to Tarrytown) was horse drawn. Two decades later only one-tenth of one per cent was horse drawn. Daily truck trips across the Hudson (long distance and local) which in 1920 totaled only seven thousand had jumped to twenty-three thousand by 1940.

A few hundred buses were all that could be counted crossing the Hudson on a typical day as recently as 1925. Today, nearly five thousand daily bus trips across the Hudson transport an entire army of persons—equivalent to a city the size of Hoboken or New Rochelle—in and out of Manhattan. Where only three million private passenger cars annually crossed the Hudson in 1920, some thirty million private passenger cars crossed the Hudson (Battery to Tarrytown) from January to December, 1940.

The effects of the transportation revolution have also been felt by the railroads. While as a group they are still the greatest freight carriers in the United States, the motor truck has become increasingly important. A significant development is the extensive utilization by the railroads themselves of motorized transport, especially terminal trucks, as a supplementary service.



TOWARD *Coordinated* OPERATION



AT INLAND TERMINAL, SHIPPERS' TRUCKS PICK UP AND DELIVER TO ANY OR ALL RAILROADS

THE dying eighteenth century bequeathed to the nineteenth the industrial revolution which gave birth to the machine age. But it also created a host of problems—some of which are still unsolved. A similar heritage is the transportation revolution which began with the invention of the automobile and has grown to avalanche proportions since the nineteen twenties. It too has created new problems: the construction of adequate facilities to absorb the mounting tide of motor traffic, and the coordination of existing facilities to meet changed conditions.

Progress in constructing new facilities—highways, bridges and tunnels—has been swift. Slower moving has been the program of integrating all transportation mechanisms into a coordinated plan to eliminate waste, overlapping and duplication.

In New York, the problem is further complicated by the fact that most of the trunk line railroads serving the port terminate their lines in New Jersey, and that freight must therefore be ferried across the river from lighterage terminals on the New Jersey shore to railroad pier stations throughout the district. The unification of

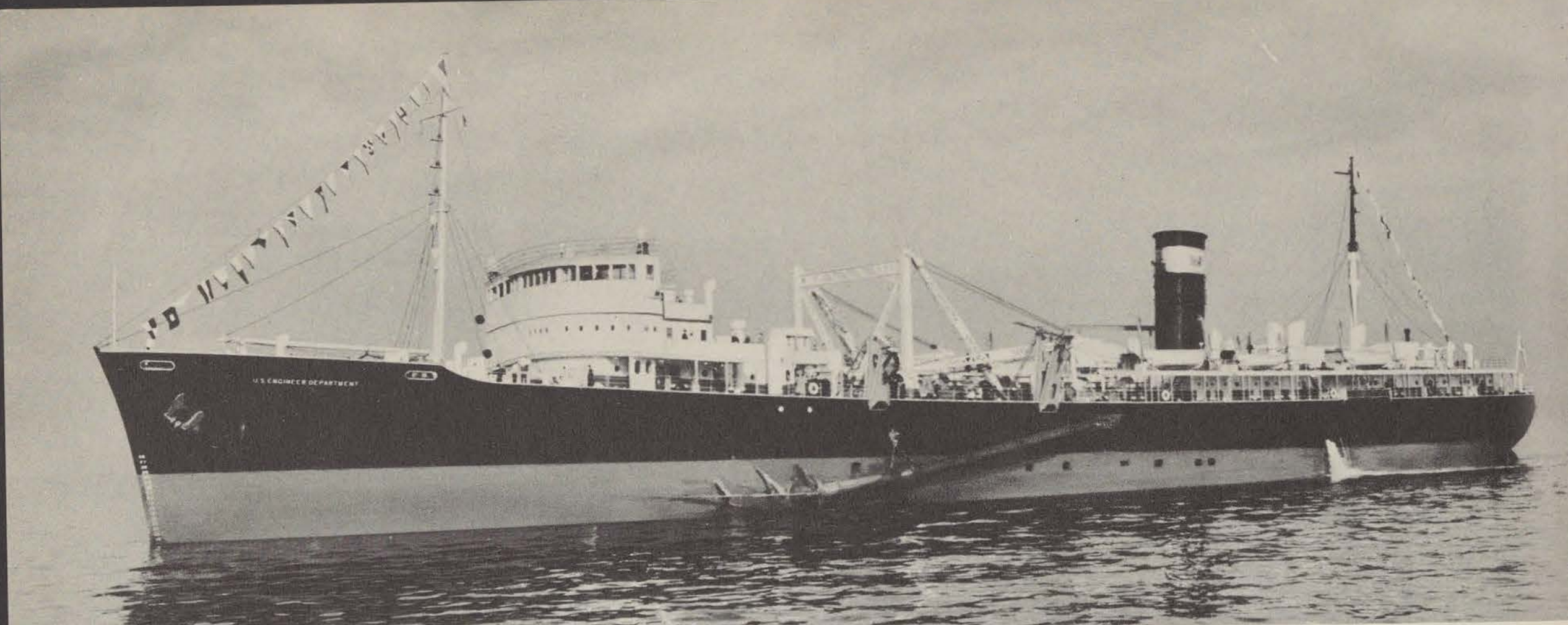
these operations, to reduce terminal costs, is the goal of a continuing effort which started twenty years ago.

One major step towards solution of this problem was the construction of Inland Terminal No. 1 by The Port of New York Authority. Jointly used by the railroads, the facility is designed to cope with only one phase of the freight handling problem, the movement of less-than-carload shipments to and from Manhattan Island.

At the time the terminal was constructed it was contemplated that two more would be built at other strategic points. However new trends in transportation have caused the railroads to proceed cautiously. Chief of these has been the marked shift in tonnage from rails to highway. For example, more than half of the milk and live poultry, which ten years ago were shipped to New York almost exclusively by rail, now move by motor truck. Less-than-carload freight handled at Manhattan rail stations south of Fifty-ninth Street has declined from 2,000,000 tons in 1929 to 700,000 tons in 1939. Trucks on the Boston Post Road are at present handling twice as much merchandise freight as the New York, New Haven and Hartford Railroad.



At Inland Terminal, trucks unload (1) without blocking street traffic. Packages are sorted and weighed (2) just as mail is handled in a post office. Tractor trains (3) run packages across platform to trucks of different railroads. (4) Fully loaded trucks carry shipments to freight cars at railheads



Channels Deepened

AND WATERWAYS SAFEGUARDED

THERE ARE TWELVE world cities with a population of two million or over. Of these only four are situated on deep water channels—New York, Buenos Aires, Shanghai and Leningrad—the last, icebound many months of the year. Among these great port cities, New York is unique. Its forty to forty-five foot channels permit even the largest super liners like the *Queen Mary*, which draws thirty-eight feet of water, as well as the largest naval vessels, to dock alongside piers. There is also an abundance of thirty foot channels capable of accommodating the freighters which carry the great bulk of the port's commerce. There are within the port some forty-two separate improved channels having a total length of two hundred sixty miles.

Deep channels, however, like other bounties of nature, require the collaboration and cooperation of man. Shifting sands, river silt, the accumulated wastes of the harbor tend to clog and otherwise destroy and obstruct channels unless dredging operations are maintained.

In 1920-1921 the City of Newark completed a thirty foot channel from Newark Bay to the new municipal port, and a limited amount of similar dredging has been done by other local interests. However, the federal government carries virtually the entire responsibility for channel improvement and annually spends millions of dollars for channel deepening projects throughout the United States, under its all-inclusive jurisdiction over navigable waters. This work is carried on impartially, and on a nation-wide scale by the United States Army Engineer Corps. However, appropriations are only allocated to specific projects after ample and convincing data have been submitted to justify the expenditure.

The Port of New York Authority plays an active part in assembling and presenting such data for the Port of New York. In so doing it acts as the joint representative of the States of New York and New Jersey and of the individual municipalities which comprise the Port District.

During the past two decades, some eighteen new channel projects within the Port District have been authorized by Congress and ten earlier projects have been adapted to fit modern needs. Among the more important projects are the forty-five foot channel in the Hudson River, the thirty foot channel in Newark Bay, the main ship channel in Staten Island Sound and the Weehawken-Edgewater channel.

Since 1921, more than eighty-five million dollars have been expended by the federal government in improving and maintaining channels in the Port of New York. In addition, some sixty-five anchorage grounds—about one hundred forty-five square miles in area—have been established under authority of the Secretary of War.

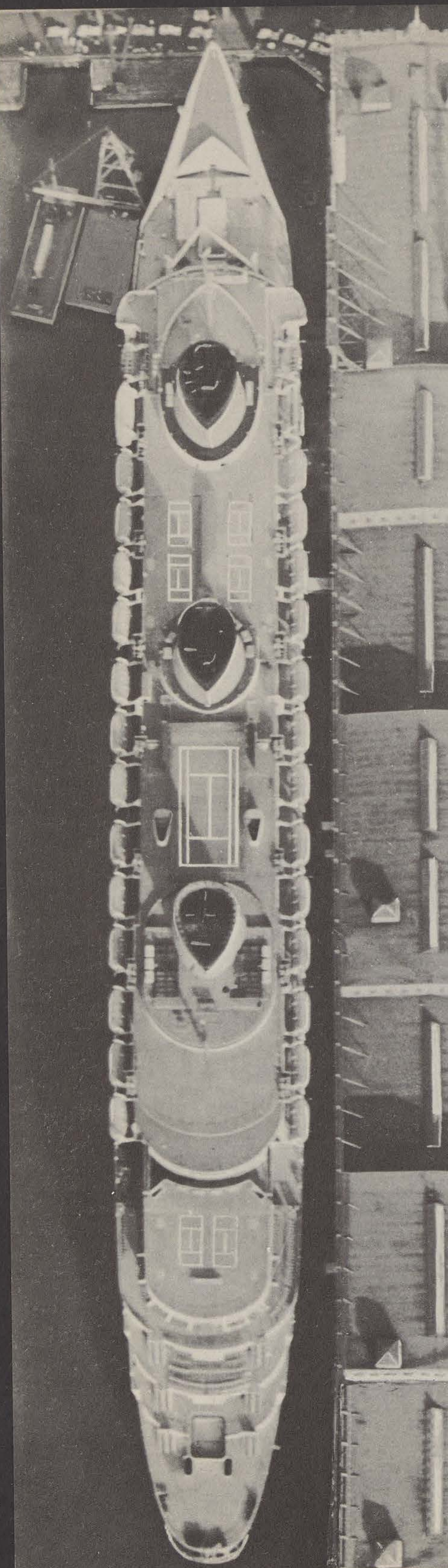
A bridge spanning a navigable stream at too low a clearance for harbor craft will create as much obstruction to commerce as an inadequate channel. The problem has assumed increasing importance with the growth of motor travel because the opening of low level bridges ties up motor traffic. To minimize such delays the Army Engineers Corps has suggested that on the Harlem River, where there are numerous low level bridges, the maximum height for vessels using this waterway should be twenty-four feet. In cooperating with the Army Engineers to solve the problem of delays to motor traffic, caused by such low level bridges, the Port Authority has advocated a standard thirty-five foot clearance for all new or reconstructed bridges over secondary waterways.

The United States Army hopper dredge *Goethals*, shown on the opposite page, is an ultra modern channel dredging vessel. Operated by powerful engines amidships, the iron-armed vacuum sweeper sucks up tons of sand and silt which are deposited in special bins and

The Problem of Bridge Clearance

later dumped far out at sea. In spite of the new major bridges and vehicular tunnels which have tied islands to mainland and improved motor traffic in the Port of New York immeasurably, one serious bridge problem remains: the low level movable bridge. When a commercial craft sounds the traditional three long blasts, warning bells sound and gates swing into place, damming the flow of automotive traffic. As the bridge slowly moves to provide a free passageway for boats, automobiles wait. When difficult conditions of wind and tide necessitate very careful maneuvering of vessels, the waiting time of the motorist grows. Two illustrations indicate the magnitude of the problem. In one year the Vernon Avenue Bridge over Newtown Creek (shown below) was opened more than 14,000 times, the old Lincoln Highway bridge over the Passaic River more than 12,000 times. To solve this problem, a standard thirty-five foot minimum clearance is advocated for bridges over secondary waterways.





NEW PIERS · WHARVES · QUAYS

MANHATTAN

26,437 LINEAL FEET



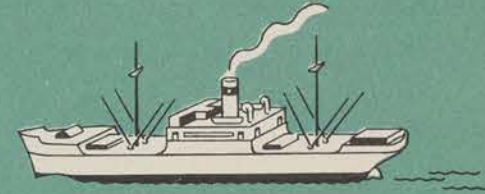
STATEN ISLAND

23,277 LINEAL FEET



BROOKLYN

4,904 LINEAL FEET



NEW JERSEY

25,294 LINEAL FEET



The chart above depicts berthage space built, remodeled or renovated in the past two decades.

MILES OF *New Berthage* ADDED

IN ALL, the Port of New York numbers nearly two thousand piers, wharves and quays along its six hundred fifty miles of waterfront. Since 1917 extensive new berthage has been constructed. The new trans-atlantic steamship terminal in Manhattan was built by the New York City Dock Department at a cost of over \$20,000,000. Eleven hundred feet long, with slips four hundred feet wide, these piers, during normal times have simultaneously berthed the liners *Normandie*, *Queen Mary*, *Rex* and *Bremen*.

New York City's newest pier, Number 64, is now the terminal of the Panama Line operating the modern steamships *Panama*, *Cristobal* and *Ancon* in the New York to Panama service.

Since 1917, twelve new steamship terminals, many of which provide multiple steamship berths such as Bayonne Municipal Terminal and Harborside in Jersey City, have been constructed. In addition, twenty-two new piers have been built at Jersey City, Weehawken, Brooklyn and elsewhere in the port.

In 1918, to accommodate war time shipping, the City of New York constructed twelve large piers at Stapleton in Staten Island at a cost of \$30,000,000. Four of these are covered, providing nearly a million square feet of well protected space for the unloading and temporary storage of freight. In 1937 the progressive New York City administration converted five of these piers, long idle, into the country's first foreign trade zone.

Warehouses

EXPANDED AND MODERNIZED

A MODERN PORT requires a bulwark of supporting warehouses to protect valuable goods from the elements, prevent loss and breakage; and act as a reservoir of raw material and manufactured goods awaiting market demands. Such warehouse space must be ample to provide storage whether for a few hours, days or weeks; accessible for the swift interchange of cargoes.

Nowhere is there more impressive evidence of the expansion of the port's facilities than in the waterfront warehouse space which has been expanded by more than 5,000,000 square feet since 1917, an increase of over twenty per cent. As a result, a recent survey shows that less than three-quarters of the available waterfront warehouse space is currently occupied despite a greatly augmented volume of traffic. This fact has proved of special importance at the present time when disruption of world trade has brought many ships with stranded cargoes to New York.

The development of scientific methods for the preservation of special types of commodities, and the numerous processes carried on during the period of storage have made modern warehousing a complex industry, equipped with a variety of highly specialized facilities.

At the Port of New York, for example, are warehouses bonded by the Bureau of Internal Revenue where imported wines and liquors may be stored for a period of three years without payment of duty until the goods

are withdrawn. Special temperature and humidity-control devices maintain proper atmospheric conditions to prevent the deterioration of fine wines.

Other warehouse facilities include modern freezing and cooling machinery; equipment for fumigation and sterilization of cotton; blending and grading of coffee; storage of sacked grain, sugar and wool. Also greatly expanded since 1917 are the port's facilities for the storage of bulk commodities, notably grain.

Well equipped merchandise warehouses are conveniently located in all sections of the port: Brooklyn, Newark, Manhattan, Hoboken, Jersey City and Staten Island. In Jersey City, for example, the Harborside Terminal is a modern rail-water terminal with extensive manufacturing areas, direct connection with the Pennsylvania Railroad and deep-water piers for import-export shipments and for lighterage operations. In recent months it has been utilized as the central storage point for Red Cross supplies to be shipped overseas.

Other important railroad operated warehouses are the St. John's Park Terminal of the New York Central on Manhattan, served by direct rails to second story levels; and in Jersey City, the Lackawanna terminal with a million and a half square feet of storage space, and the Lehigh Valley Claremont Terminal. The latter is equipped with the only modern high speed ore-unloading plant on the northern Atlantic seaboard.



FIRST UNITED STATES *Foreign Trade* ZONE

THE FOREIGN TRADE ZONE is physically an area within the port, fenced off from the port itself, at which ships may unload cargoes without payment of duty pending reshipment of goods abroad or entry into the United States. It is only when goods are shipped out of the foreign trade zone into domestic territory that they become subject to customs duties.

For centuries, European ports have recognized the need for foreign trade zones. Their history, in fact, goes back to the Hanseatic League of the Middle Ages. Hamburg and Danzig, on the northern coast of Europe and Hong Kong on the China coast have had foreign trade zones for many years.

The function of a foreign trade zone is primarily to facilitate the handling of shipments in transit and awaiting ultimate distribution. Much world commerce, shipped on speculation to possible buyers, must be remarked when sold. Processing, inspection, blending and grading of certain products may be necessary to meet domestic standards. These operations are facilitated at a foreign trade zone in the country of import.

To capture a larger share of this type of commerce the City of New York in 1937 created on Staten Island the first United States foreign trade zone.

Since its opening, the zone has received shipments from Madagascar and the Sudan, from French Indo-China and Uruguay, from the U.S.S.R., Turkey, Eire—in all, from fifty nations of the world. Shipments have included such diversified commodities as hides and silver-fox furs, brandy from South Africa, tungsten ore from China, corned beef from the Argentine, and rugs from Iran; cognacs and champagnes from France.

Now under construction at the foreign trade zone is a tobacco market, financed by merchants of the Netherlands East Indies to replace the lost markets of Amsterdam and Rotterdam. On Staten Island the East Indies merchants hope to regain some of the trade disrupted by the fall of the Netherlands. Thousands of bales of Sumatra and other high-grade tobaccos of the East Indies will be offered at an international sale at the foreign trade zone to buyers from all parts of the world.



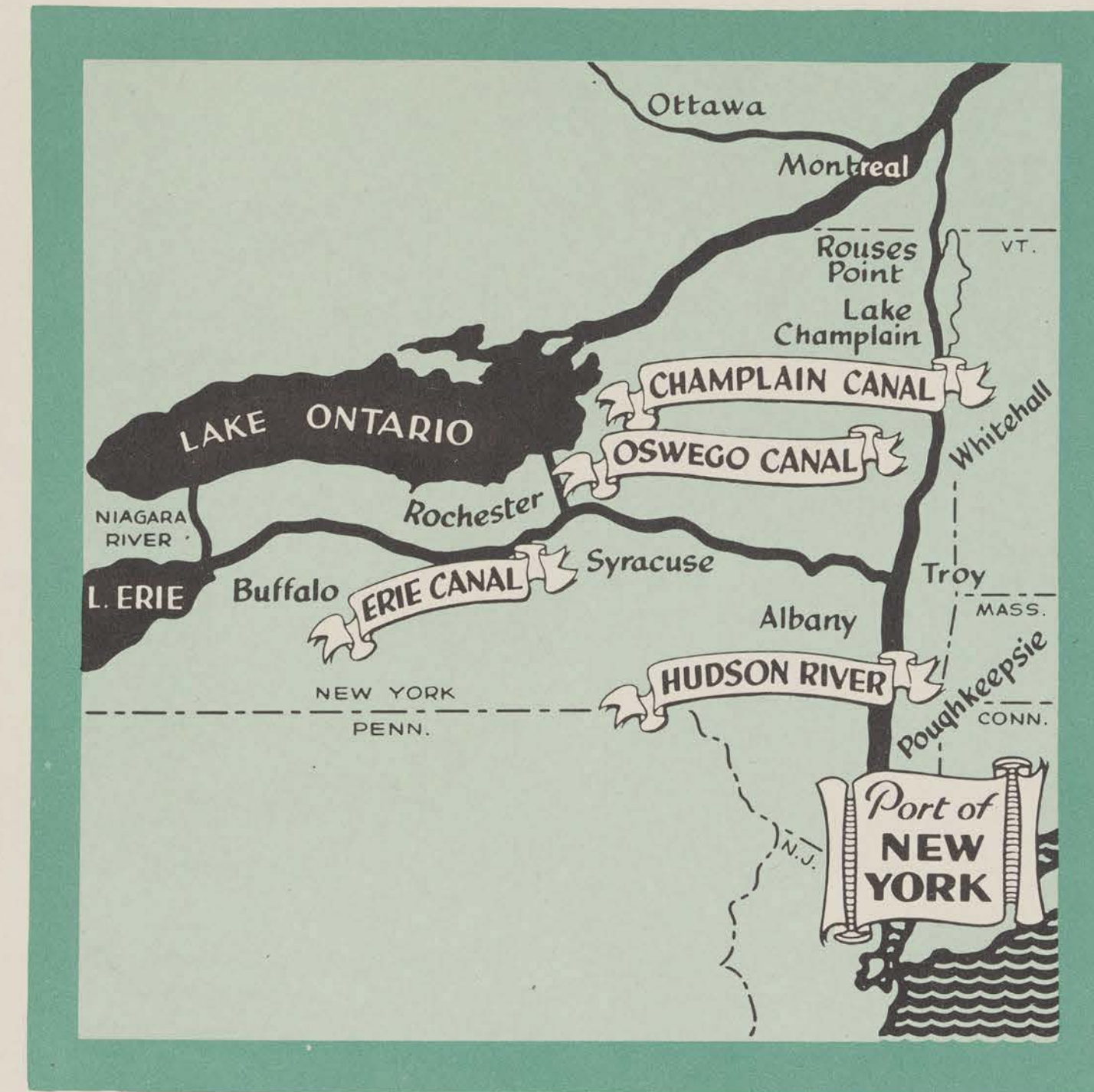
Beef shipped by Argentine exporters to the foreign trade zone is held there pending re-export, and labeled according to purchaser's requirements



Irish linen is inspected and graded by domestic buyers, who are afforded opportunity to examine merchandise in this country before purchase



Foreign-made accordion parts imported from Europe are assembled at the foreign trade zone and there tested before transshipment to Australia



Life Line TO THE WEST-REVITALIZED

IN 1904 the people of New York approved a bond issue of \$150,000,000—at that time the largest ever voted by any state in the Union—to convert the Erie Canal into a modern inland waterway. Fourteen years later the new barge canal, twelve feet deep, equipped with electrically operated locks, was opened. The modern New York State Canal System is a combination of rivers, lakes and canals linking the Hudson River, the Great Lakes and the St. Lawrence River. Nine times as long as the Panama Canal, with locks as high, the improved inland waterway carries 5,000,000 tons of commerce annually.

The modern canal vessel is a combination lake carrier, ocean vessel and river boat. Ships of this type, 300 feet long, diesel powered, sail from Boston, Providence, Philadelphia, up the Hudson River across New

York State, to industrial harbors of the Middle West, 1400 miles from the Atlantic. These ships sail from New York to Detroit in five days, to Chicago in eight days. With continuing channel improvements, even this speed will be increased.

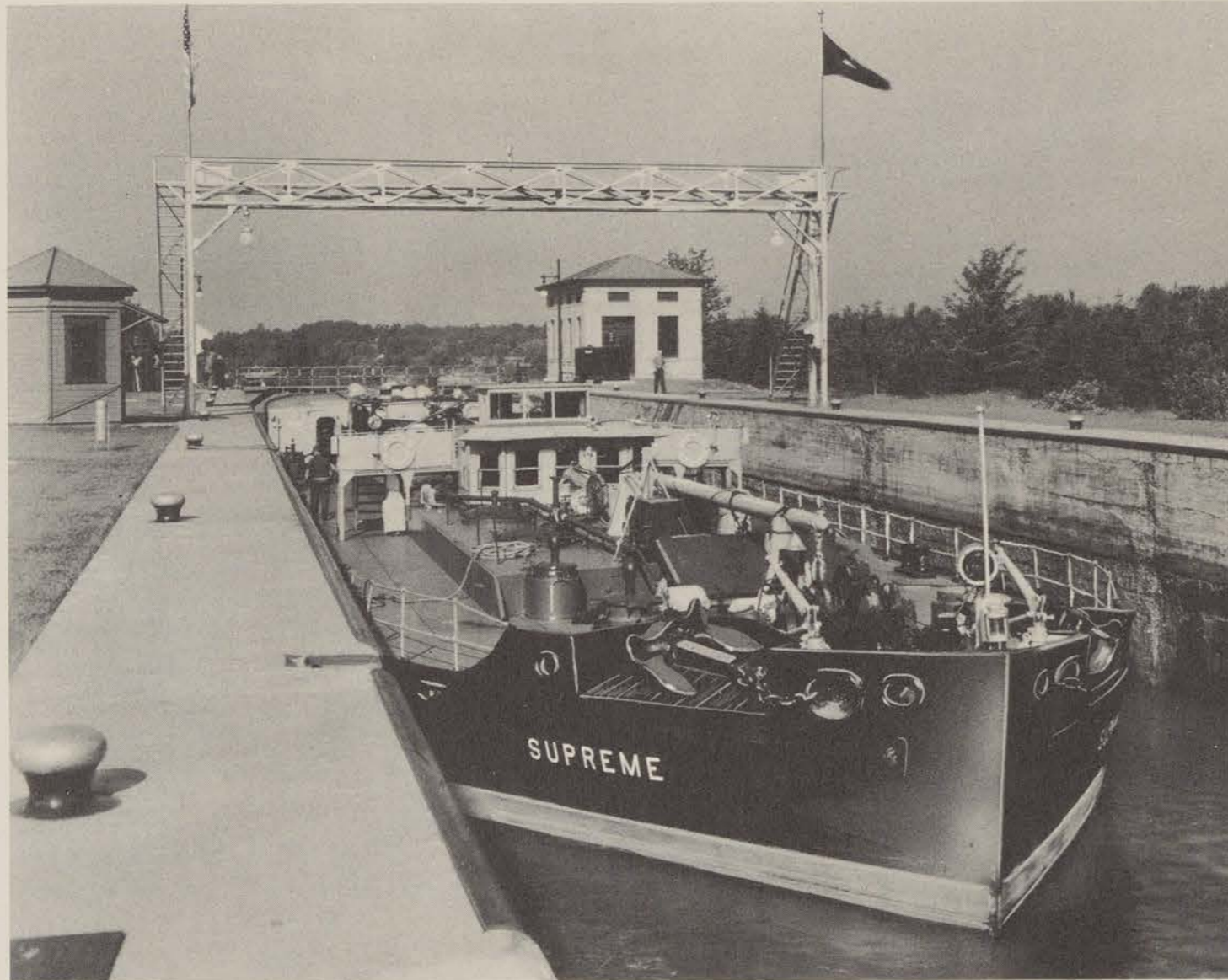
Frequently referred to by boatmen as the "Broadway canal" because of the hundreds of navigation lights that flicker on its waters—red on the right, going away from the sea, white on the left approaching it—the revitalized canal is an ultra-modern waterway.

At Little Falls, a lock with a lift of forty feet is one of the highest in America. At the eastern end, where the Erie Division joins the Hudson, the canal descends one hundred sixty-nine feet by means of five locks in a distance of two miles—one of the most remarkable flights of locks in the world. The old time canal lock was

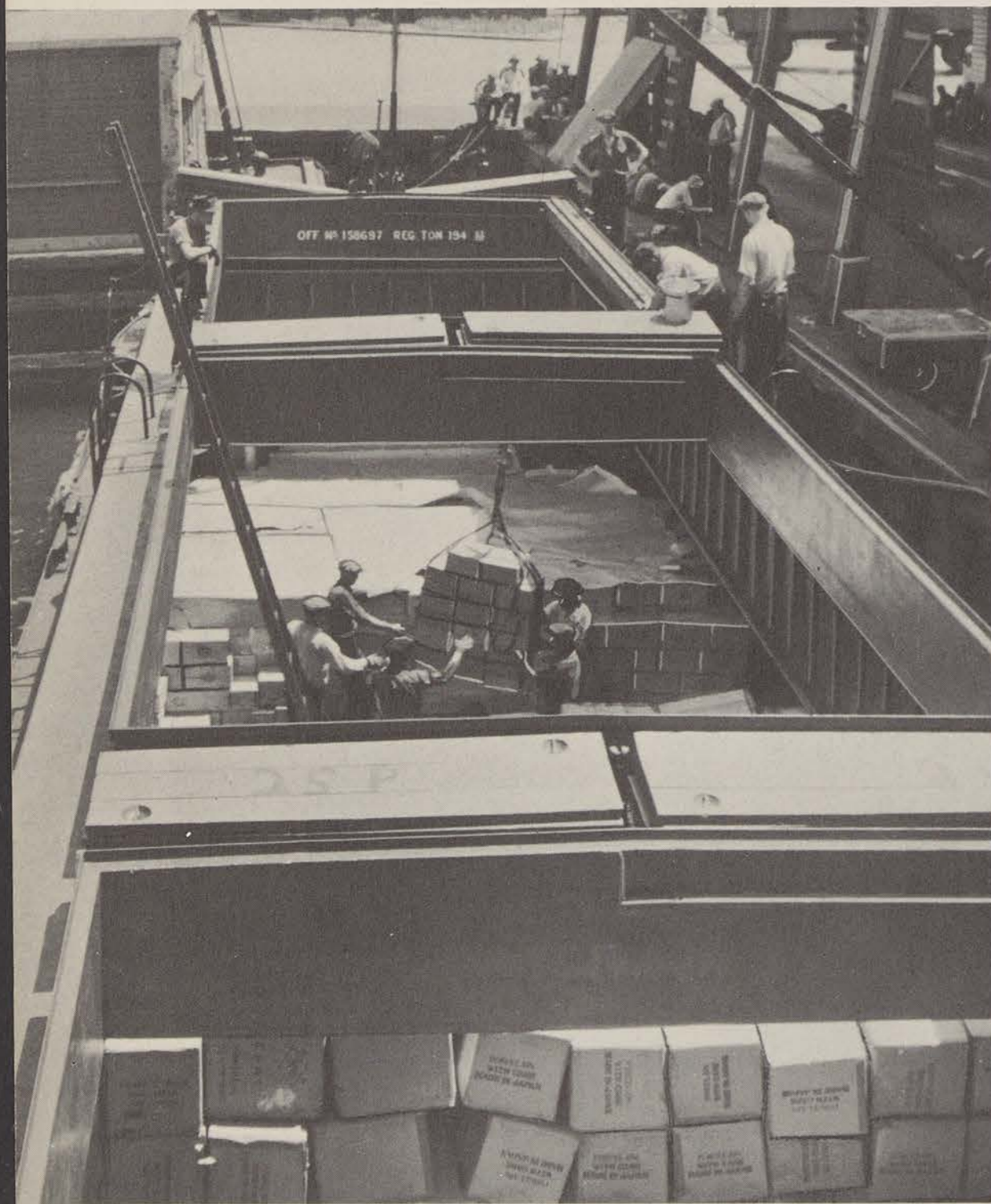
CONTINUED NEXT PAGE

... LIFE LINE TO THE WEST

Petroleum products and automobile parts are handled on motor ships (shown at the right). These are low enough to travel under canal bridges, yet high enough to breast the Great Lakes and even the coastal Atlantic waters



Grain, building materials, salt, fertilizer and molasses are some of the many commodities shipped via the canal on barges such as those shown below unloading at New York



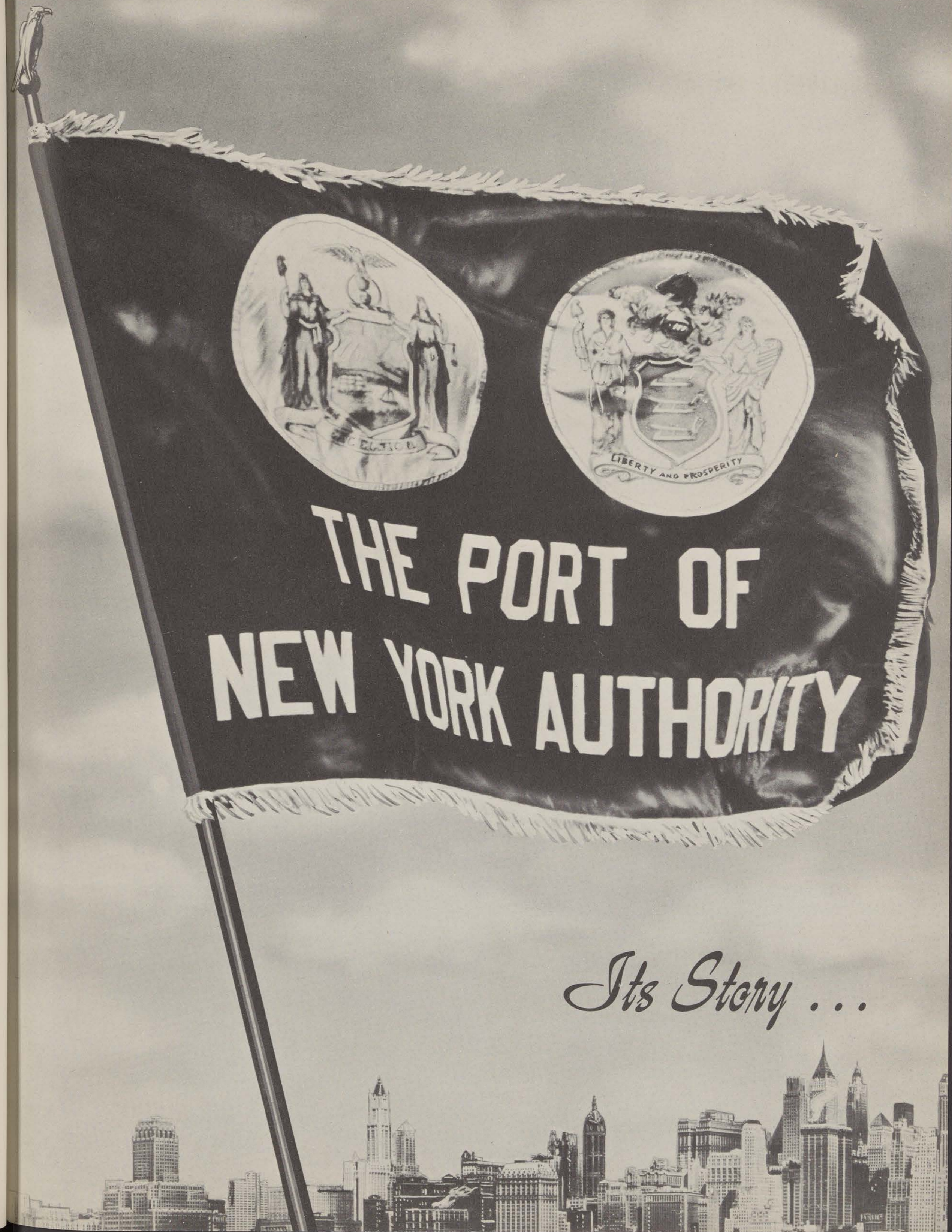
laboriously operated by hand. Today a modern tug with a barge fleet in tow gives three blasts of the whistle. The lock tender responds by showing colored signal lights. Gates open electrically and canal traffic moves smoothly and quickly.

Though an asset to the nation as a whole the canal was financed entirely by the State of New York. It was not until 1935 that the federal government recognized the national importance of the canal and, heeding the plea of the state and the Port Authority and other agencies, appropriated \$27,000,000 for improving the Great Lakes to Hudson section, by increasing depth and width of channels and overhead clearance under bridges.

The canal serves the Port of New York in the same way that the Mississippi River serves the Gulf ports, and the St. Lawrence River serves Canadian ports. Industry which is dependent on low cost water transportation might migrate elsewhere—and thus divert commerce from the port—were it not for the canal.

The Port of New York Authority and other agencies have been active not only in securing improvement of this route but also in resisting efforts to cripple its usefulness by the repeal of the state's constitutional guaranty of free access to all users. Despite considerable pressure in recent years, New York State has wisely refused to repeal this guaranty.

The record of the New York State Canal System, since its revitalization in 1918—the upward trend in tonnage carried—proves that it is, and will remain, a potent artery of traffic from Great Lakes to sea.



Its Story ...



To Serve NEW JERSEY AND NEW YORK

FIRST STEP in understanding any "Authority"—whether it be the Red River Dam Authority, the Tennessee Valley Authority, or The Port of New York Authority—is to disregard its authoritative name. For the authority wields no big stick. On the contrary, it is merely an agency created to serve the ends of government, to perform certain delegated tasks. The Port of New York Authority, for example, was created to serve New York and New Jersey in the development of the port. In performing these functions it is as integral a part of the states as the State Highway Department in New Jersey or the Department of Public Works in New York.

Because of its method of financing, the Port Authority has an apparent similarity to the modern business corporation. Resembling the familiar board of directors of a bank or industry are the twelve Port

Authority Commissioners, six appointed by the Governor of New Jersey and six by the Governor of New York, in each case with the consent of the respective state Senate.

Like the modern corporation, or any other governmental agency for that matter, the Port Authority also has a paid personnel. From office boy to general manager, from janitor to engineer, from file clerk to comptroller, their prototypes may be found in the Port Authority, if not in title, at least in duties of office. As in the case of the corporate enterprise, the paid personnel reports to and takes its directions from the Board. Together, the Commissioners and staff function as The Port of New York Authority.

Pictured above is a group of Port Authority Commissioners at one of the weekly meetings at which staff reports are heard and policies formulated. The Board of

Commissioners is subdivided into twelve standing committees which report to the full Board.

Below, are shown a few of the staff—draftsman, technician, maintenance man, toll collector, electrician and bridge painter—who carry on the daily work delegated by the two states to the Port Authority.

While apparently the Port Authority resembles a business corporation, there are many essential differences between the Authority and any commercial enterprise. Fundamentally, these differences arise from two facts. First, the Authority is entirely non-profit making; second, it performs only those tasks which the legislatures direct and authorize it to perform.

The directors of a business corporation may also be stockholders. The Commissioners of the Port Authority, however, own no stock in the Port Authority. For there is no stock. The ordinary business corporation is operated for profit. The Port Authority, on the other hand, is a non-profit enterprise. It was created by a treaty between New Jersey and New York, and not under ordinary corporation laws, to develop and improve the Port of New York District. Neither the Commissioners nor the staff are concerned with profits or dividends. Moreover, the Commissioners are the unpaid servants of both states. Their actions are not motivated by corporate salaries or bonuses.

The Port Authority has by no means the same latitude of action as the typical business corporation. Its Commissioners receive their powers from the States of New Jersey and New York. The Authority constructs a bridge, or a tunnel, not because its Commissioners desire to expand the scope of their business, but because the states have directed and authorized them to do so. Far from acting with the same freedom as the directors of a business corporation, the Commissioners have only so much authority to act as is given them by the states.

At least three Commissioners from each state must be present at Port Authority board meetings, and actions are binding only if approved by the majority of the members from each state present—but in any event at least three.

Finally, the proceedings of every board meeting are reported to the Governor of each state. And once each year the treaty requires the Commissioners to make an annual report to the Governors and Legislatures of New Jersey and New York.

The work of the Authority falls into four principal categories: planning port development and improvement; protection of port commerce; construction of authorized facilities; and their operation.

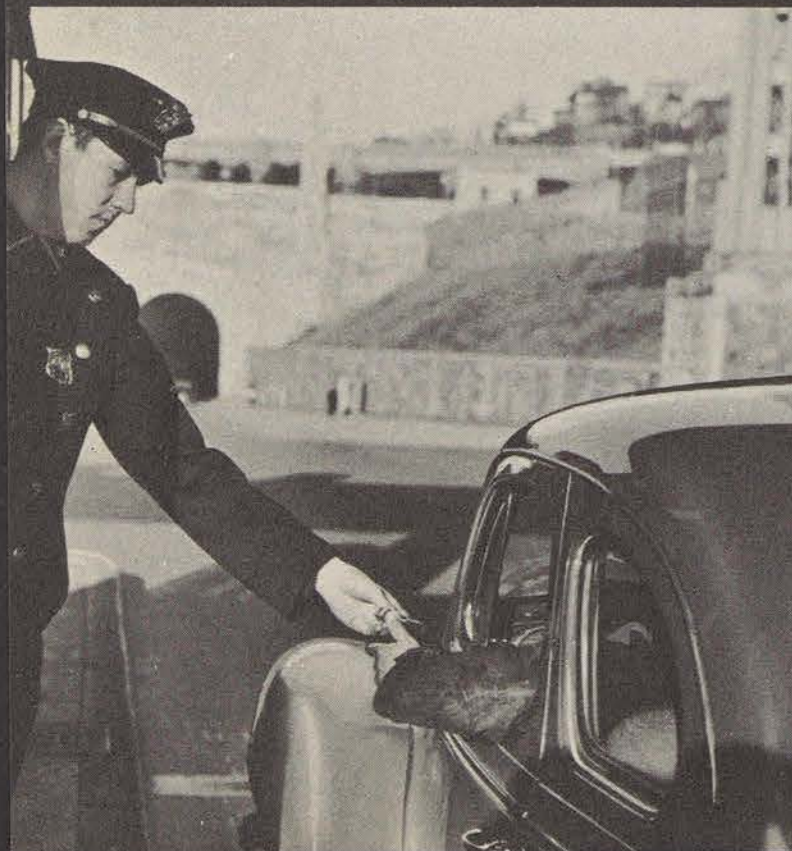
In addition to effectuating specific projects which have been authorized, the Commissioners and staff are charged with the duty of studying and recommending new or additional plans for port improvement; making recommendations to the states and to the Congress for the better conduct of commerce passing in and through the port; petitioning appropriate federal and state agencies for the adoption and execution of any physical improvements, changes in method, or rates of transportation, to the end that the commerce moving in and through the port may be improved; and to intervene in any proceeding affecting port commerce.

Of prime importance in shaping policies is the fact that the Port Authority is a self-supporting enterprise. When authorized to carry on activities, or to construct improvements, such as the George Washington Bridge or the Lincoln Tunnel, the Port Authority must do its own financing. The George Washington Bridge, for example, was built after funds had been borrowed from the public through the sale of bonds. The charges and costs involved must be collected entirely from the users of the bridge—there is no recourse to indirect collections through taxation. All Port Authority activities must be financed in the same manner.

An unusual creature in some respects because it is an arm of government and yet must carry on without tapping the usual sources of government funds, the Port Authority is neither complicated nor mysterious.

The reader is invited, in these pages, to discover just what the Port Authority's work is and what bearing its past, present and future projects and plans have upon the life, commerce and industry of the people it serves.

TOLL COLLECTOR



ELECTRICIAN



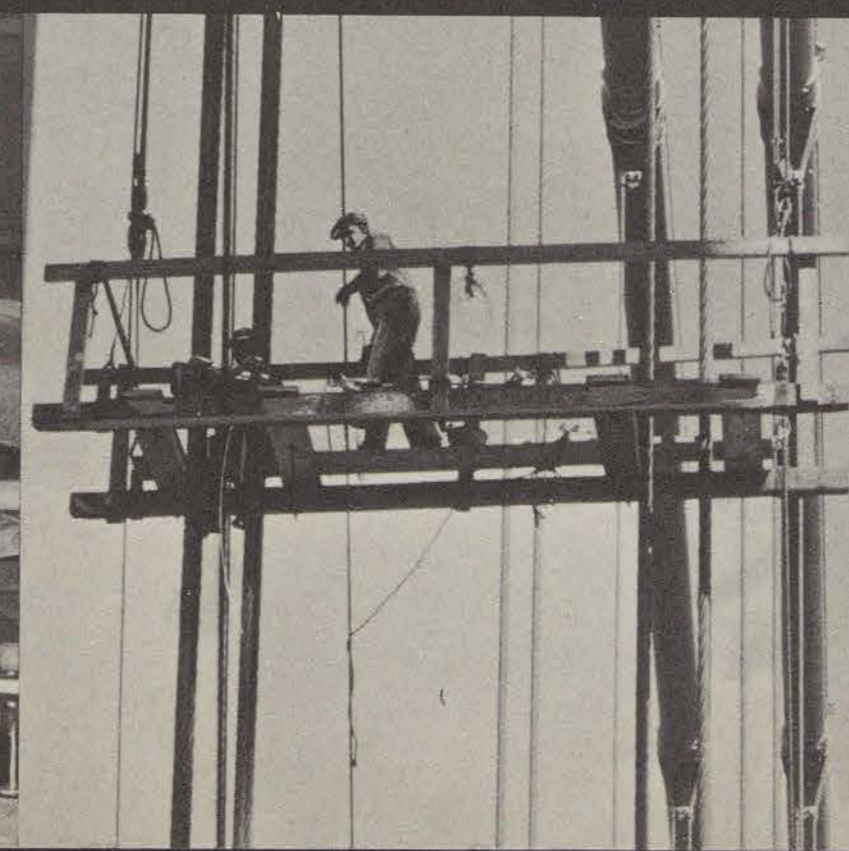
MAINTENANCE MAN



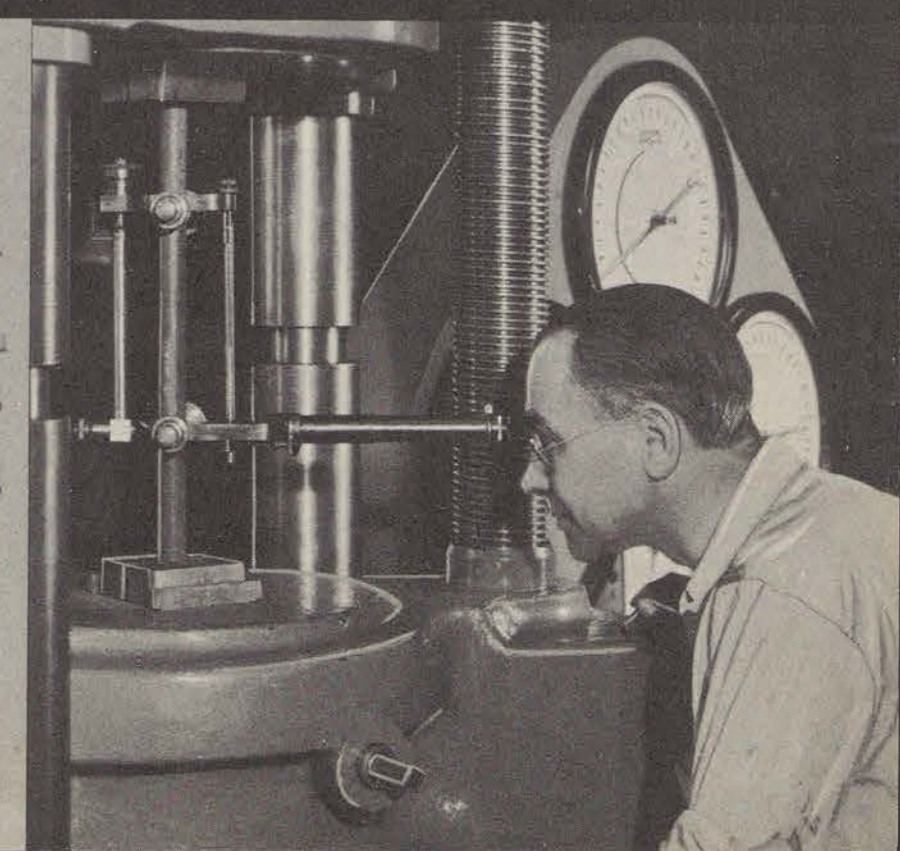
DRAFTSMAN



BRIDGE PAINTER



TECHNICIAN



THE *Wheels* MUST TURN

TO THE MOTORIST speeding his way across a Port Authority crossing in four minutes, aware only of the toll paid (forgetful of the interminable ferry delays of former years) the operation of such facilities as the George Washington Bridge, Holland Tunnel, Lincoln Tunnel, Bayonne Bridge, Goethals Bridge, and Outer-bridge Crossing appears automatic. Largely unseen by the motorist are the skilled workers and technicians who have made Port Authority crossings the safest highways in the world.

The pictures on the opposite page illustrate the manner in which two problems of tunnel operation—ventilation and vehicle stoppage—are handled. These, however, are only a few phases of Port Authority operations. Bridge cables must be inspected and painted to prevent corrosion; plazas kept clean and free of ice or snow; traffic regulated by the Authority's police force.

As a result of extensive research by Port Authority engineers, an effective toll collection and recording system has been developed. The system includes a push button register designed for speed and simplicity in operation and maintenance; a sidewalk indicator on which the patron can see the amount of toll paid; an overhead indicator on which the type of vehicle, shown by a classification number, is flashed in lights; a remote panel board indicator on which the classification numbers of vehicles in all lanes are again flashed; and vehicle counting treadles.

Research is constantly under way to devise other in-

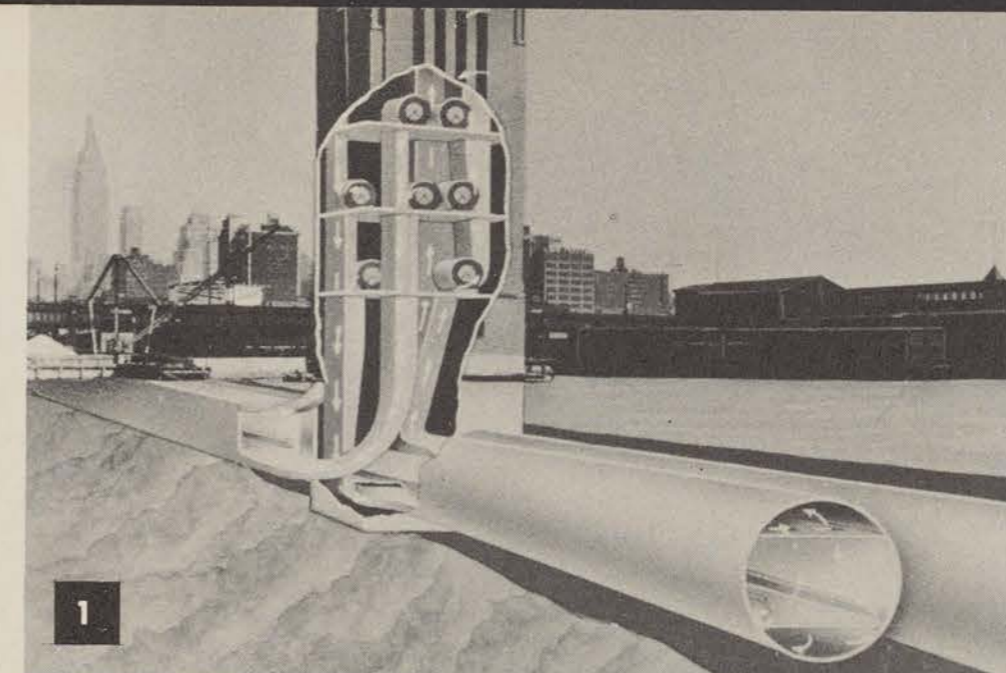


novations which will bring operations to a still higher level of efficiency and convenience for patrons. For example, the simple device of a ground wire at the toll booth has been developed to eliminate the unpleasant shock of static electricity which would otherwise be felt by the motorist as he paid his toll.

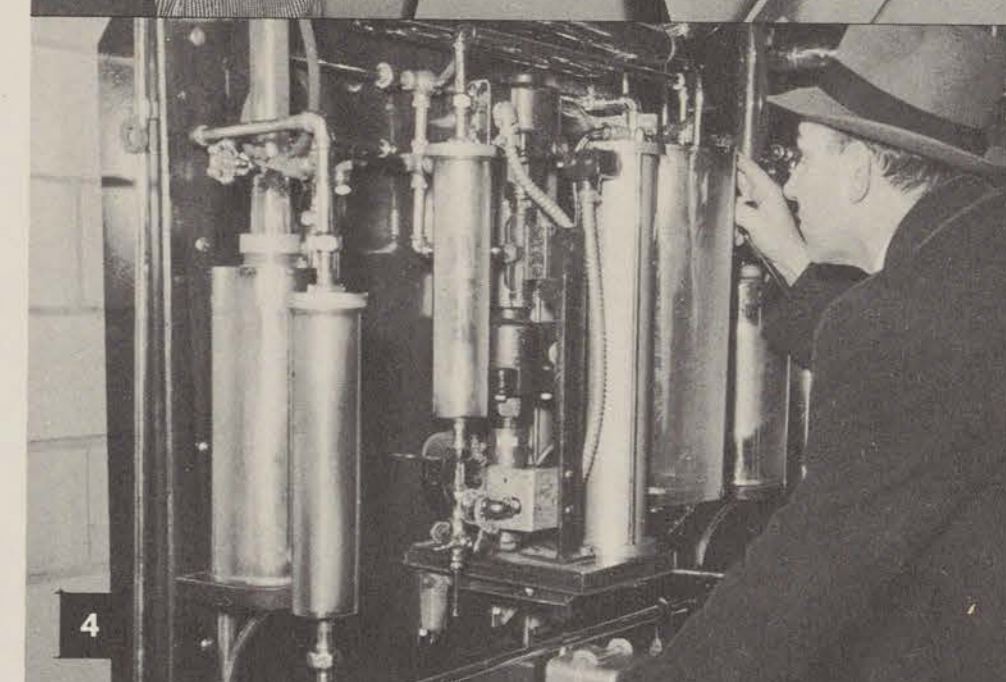
The Operations Committee of the Port Authority, two of whose members are pictured here, is constantly on guard to keep operating costs at the lowest point consistent with efficiency. To this committee all operating policies and expenditures are referred by the staff and under its careful supervision the cost of operating the bridges and tunnels has been kept down to such a low point that all operating, maintenance and administrative costs combined represent only a fraction over ten cents out of the fifty-cent toll. The ratio of operating costs to gross revenues has decreased since 1934 notwithstanding the fact that a new facility (the Lincoln Tunnel) has in the interim been placed in operation.



A scene at one of New Jersey's many seacoast playgrounds, which are now more readily accessible to motorists from New York through the use of modern vehicular crossings.



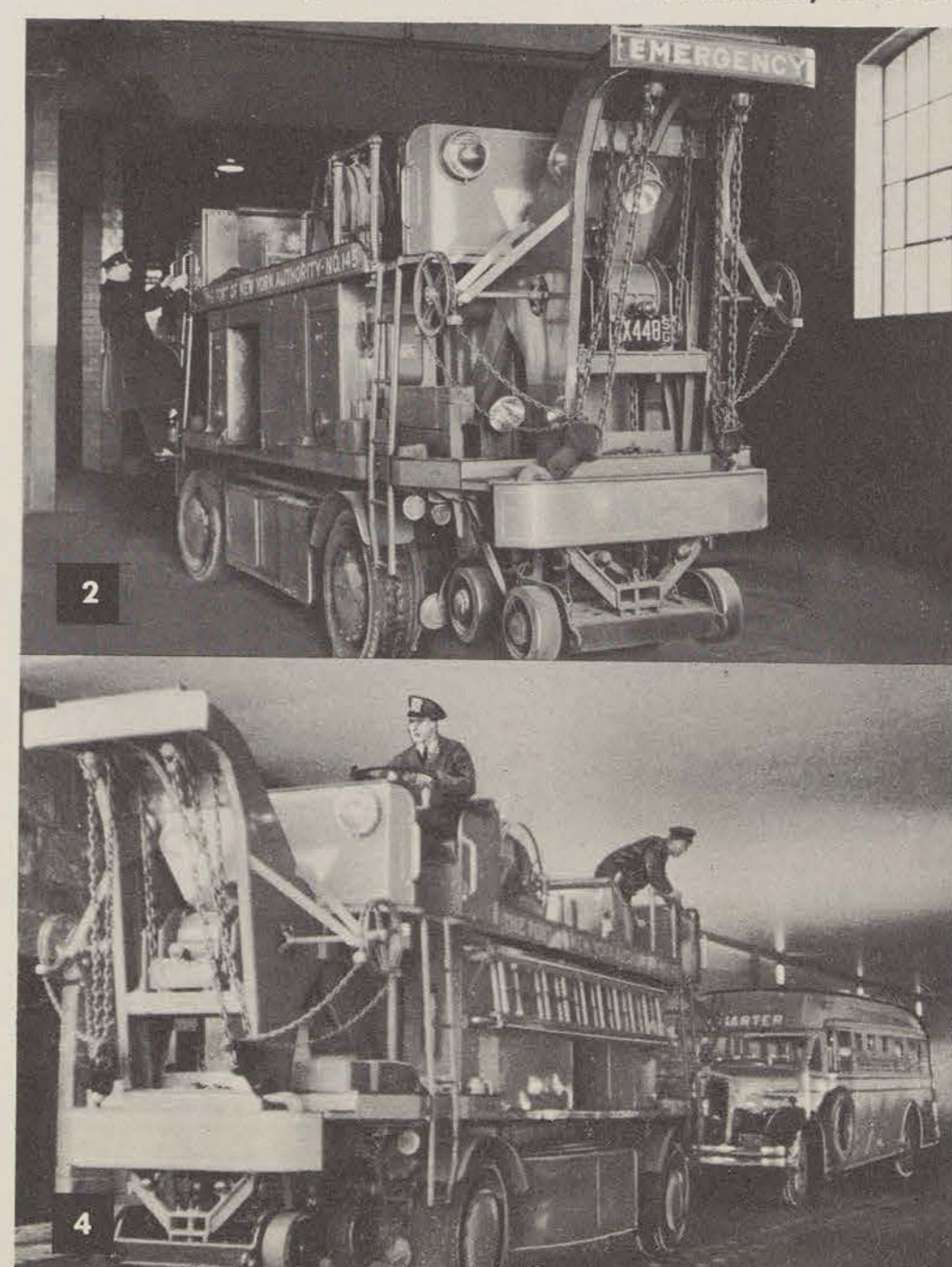
Exhaust gases from automobiles passing through the tunnels would menace health were it not for adequate ventilation. The cross section view (1) shows the ventilation building connected with the tunnel. Through openings in the building walls giant fans (2) force fresh air into a duct below the roadway and through curb slots into the road-



way where it dilutes the exhaust gases and rises gradually through openings in the ceiling into an upper duct and is drawn out. A ringing bell and a flashing light in the Ventilation Building warn the supervisor (3) to supply more fresh air. The carbon monoxide analyzer (4), one of the tunnel's "silent watchmen", constantly samples and tests tunnel air

More than 27 million cars every year use Port Authority tunnels and bridges. Yet the safety record of these facilities surpasses that of any comparable highways. This record reflects the work of Port Authority traffic officers and maintenance men trained to meet emergencies of all kinds quickly and efficiently. A 30 passenger bus with a flat tire has broken down inside the tunnel. The officer nearest the

scene presses a button changing green lights to amber, then telephones (1) for the emergency truck. From the garage just outside the entrance, the emergency truck (2) is quickly dispatched to the scene. A wedge (3) is placed under the flat tire. The bus can now be backed onto the "dolly" for towing (4). Towing and other emergency service is free of charge to all patrons of Port Authority facilities



1940 Traffic COMPARED WITH 1939...

HOLLAND TUNNEL

1940
1939
INCREASE } NUMBER
or } PERCENT
DECREASE }

10,520,299
10,597,360
77,061*
.7*

13,623
18,272
4,649*
25.4*

288,254
323,386
35,132*
10.9*

1,052,649
1,009,540
43,109
4.3

TRUCKS
UP TO 2 TONS
OR TRACTORS,
2 AXLES

2 TO 5
TONS

OVER
5 TONS

PASSENGER
CARS
WITH 1 AXLE
TRAILERS

TRACTORS
WITH 1 AXLE
TRAILERS OR 3
AXLE TRUCKS
OR TRACTORS

TRACTORS
OR TRUCKS
WITH TRAILERS
4 AXLES

SPECIAL
VEHICLES

504,050
530,238
26,188*
4.9*

188,525
209,740
21,215*
10.1*

6,555
8,058
1,503*
18.7*

745,657
622,636
123,021
19.8

11,509
11,406
103
.9

38
45
7*
15.6*

TOTAL
VEHICLES

13,331,159
13,330,681
478
0.0

1940
1939
NUMBER } INCREASE
or } PERCENT
DECREASE }

LINCOLN TUNNEL

1940
1939
INCREASE } NUMBER
or } PERCENT
DECREASE }

2,619,356
1,943,245
676,111
34.8

5,207
5,633
426*
7.6*

715,644
473,661
241,983
51.1

321,040
243,057
77,983
32.1

130,298
101,926
28,372
27.8

28,030
21,302
6,728
31.6

1,011
1,119
108*
9.7*

88,725
43,081
45,644
105.9

3,574
2,325
1,249
53.7

—
—
—
—

3,912,885
2,835,349
1,077,536
38.0

1940
1939
NUMBER } INCREASE
or } PERCENT
DECREASE }

GEORGE WASHINGTON BRIDGE

1940
1939
INCREASE } NUMBER
or } PERCENT
DECREASE }

7,068,883
6,760,583
308,300
4.6

6,089
7,262
1,173*
16.2*

681,047
661,358
19,689
3.0

257,054
247,183
9,871
4.0

123,128
119,914
3,214
2.7

75,196
69,409
5,787
8.3

7,766
8,046
280*
3.5*

225,737
182,485
43,252
23.7

10,732
7,116
3,616
50.8

—
—
—
—

8,455,632
8,063,356
392,276
4.9

1940
1939
NUMBER } INCREASE
or } PERCENT
DECREASE }

ARTHUR KILL BRIDGES

1940
1939
INCREASE } NUMBER
or } PERCENT
DECREASE }

859,071
782,137
76,934
9.8

1,331
1,021
310
30.4

10,942
1,195
9,747
815.6

86,108
79,014
7,094
9.0

34,089
33,694
395
1.2

38,571
32,729
5,842
17.8

762
723
39
5.4

26,837
19,801
7,036
35.5

668
600
68
11.3

—
—
—
—

1,058,379
950,914
107,465
11.3

1940
1939
NUMBER } INCREASE
or } PERCENT
DECREASE }

BAYONNE BRIDGE

1940
1939
INCREASE } NUMBER
or } PERCENT
DECREASE }

507,313
445,054
62,259
14.0

379
472
93*
19.7*

31,629
31,765
136*
.4*

51,140
46,168
4,972
10.8

19,561
15,722
3,839
24.4

10,452
8,202
2,250
27.4

351
228
123
53.9

17,232
12,636
4,596
36.4

289
268
21
7.8

—
—
—
—

638,346
560,515
77,831
13.9

1940
1939
NUMBER } INCREASE
or } PERCENT
DECREASE }

COMBINED TRAFFIC STATISTICS

1940
1939
INCREASE } NUMBER
or } PERCENT
DECREASE }

21,574,922
20,528,379
1,046,543
5.1

26,629
32,660
6,031*
18.5*

1,727,516
1,491,365
236,151
15.8

1,767,991
1,624,962
143,029
8.8

811,126
801,494
9,632
1.2

340,774
341,382
608*
.2*

16,445
18,174
1,729*
9.5*

1,104,188
880,639
223,549
25.4

26,772
21,715
5,057
23.3

38
45
7*
15.6*

27,396,401
25,740,815
1,655,586
6.4

1940
1939
NUMBER } INCREASE
or } PERCENT
DECREASE }

*Decrease.

THE *Debt* MUST BE REPAID



WITH the creation of The Port of New York Authority, first Authority in the United States, a wholly new concept of financing public improvements came into being. The agency was directed to finance its work entirely on its own credit, independently of the states' credit, and charge the cost to the users of the project rather than to the taxpayers in general. It was required to be self-supporting without any taxing power.

When the Port Authority undertook the task which the two states authorized, it was a new agency. Its projects were in the blueprint stage. It was difficult to finance bridges and tunnels merely upon the speculative security of estimated traffic. To complicate matters, the prospective investor feared that if tolls could become a political issue like the five-cent subway fare his loan might never be repaid. To eliminate this hazard the states delegated the power of fixing tolls to the Port Authority Commissioners.

The Port Authority entered the bond market offering the investor as security, its promise to repay the principal debt with interest within a definite period. The promise was backed up by a pledge that the revenues of the facility built with the investor's money would be used to repay the debt.

As the depression of the nineteen-thirties set in it became evident that vehicular traffic would not materialize at a rate sufficient to permit repayment of the debt on schedule. Something else had to be done.

The acquisition of the Holland Tunnel by the Port Authority upon the payment of \$50,000,000 to the States of New Jersey and New York was not intended to solve that problem. As far back as 1931 it was apparent to the state legislatures that congestion would ultimately develop at the Holland Tunnel and that another vehicular crossing was needed. To make possible the construction of such a crossing at mid-Manhattan (the Lincoln Tunnel) the two states turned over the operation of the Holland Tunnel to the Port Authority, on payment of \$50,000,000.

As an incident to this transfer the Authority was directed to operate all facilities as a group and to pool all revenues over and above operation, maintenance, and

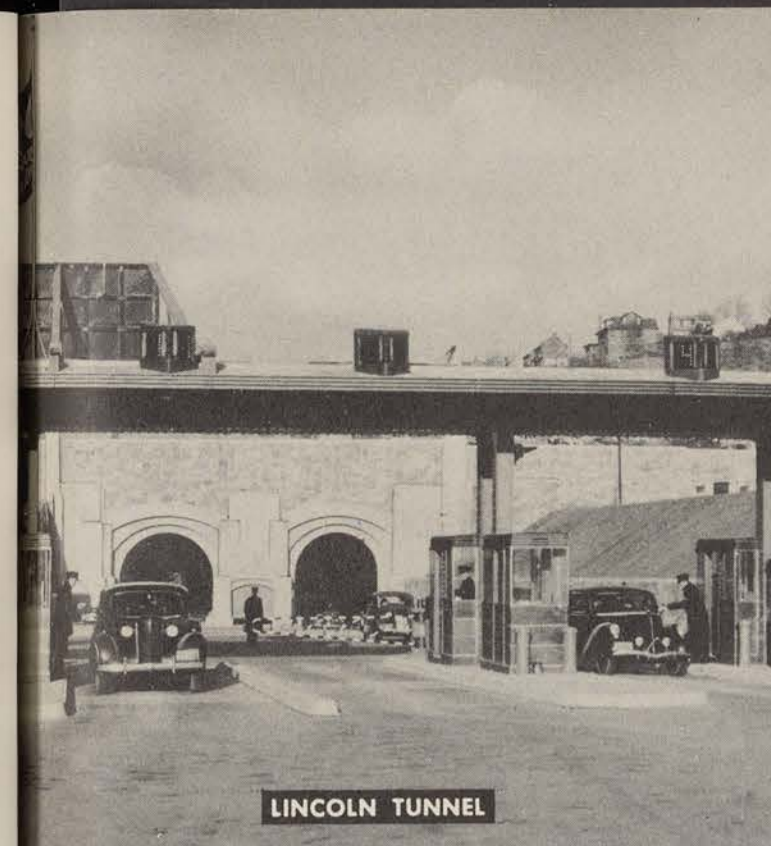
interest in a general reserve fund. The Authority was directed by the states to build this fund up to an amount equal to ten per cent of all outstanding bonds. The fund was intended to make the financing of the Lincoln Tunnel feasible and economical: Port Authority bonds would be more secure, more attractive and therefore saleable at lower interest rates.

That much accomplished, the Authority was still confronted with the problem of how to meet interest and principal requirements with traffic which fell short of the preliminary estimates.

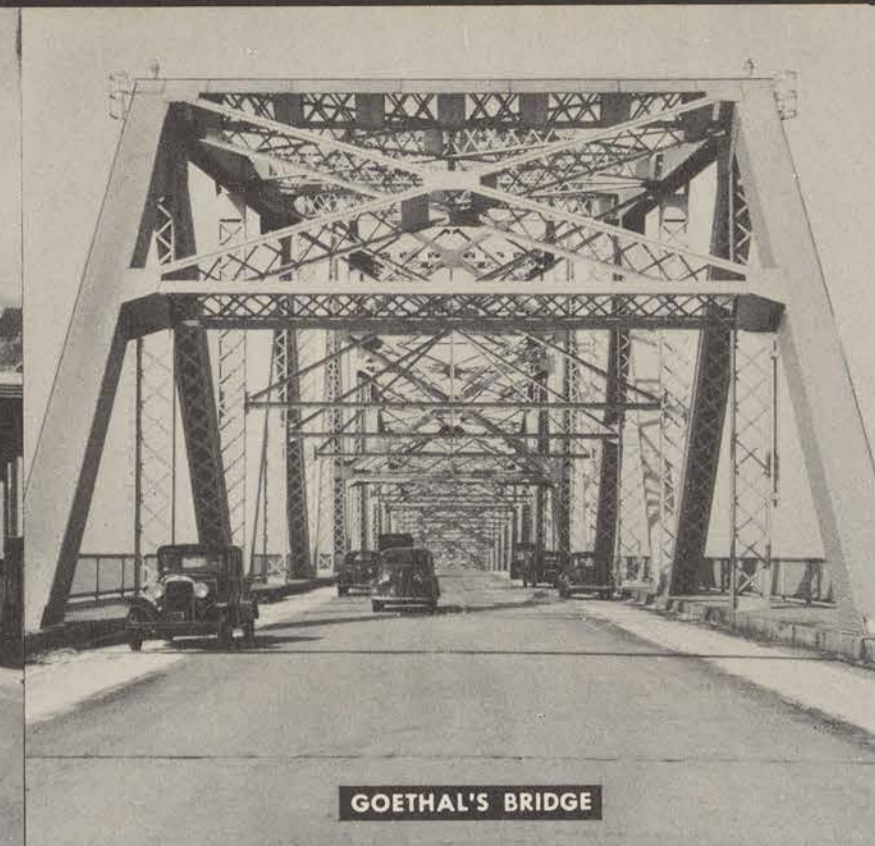
The Authority's Finance Committee, some of whose members are pictured on this page, evolved the plan whereby new bonds would be issued for the purpose of calling in, and refunding, more than \$152,000,000 of debt which was outstanding in 1935. The new bonds were to be retired at a rate consistent with the then demonstrated earning capacity of the facilities.

This plan, known as the refunding program, was launched in 1935 and completed in 1941. Its significance lies in the fact that the present Port Authority debt can be retired year by year out of current revenues so that eventually the facilities will be free of debt. It has also enabled the Authority to take advantage of its better credit position, and lower money rates, so that its interest rates have decreased substantially.

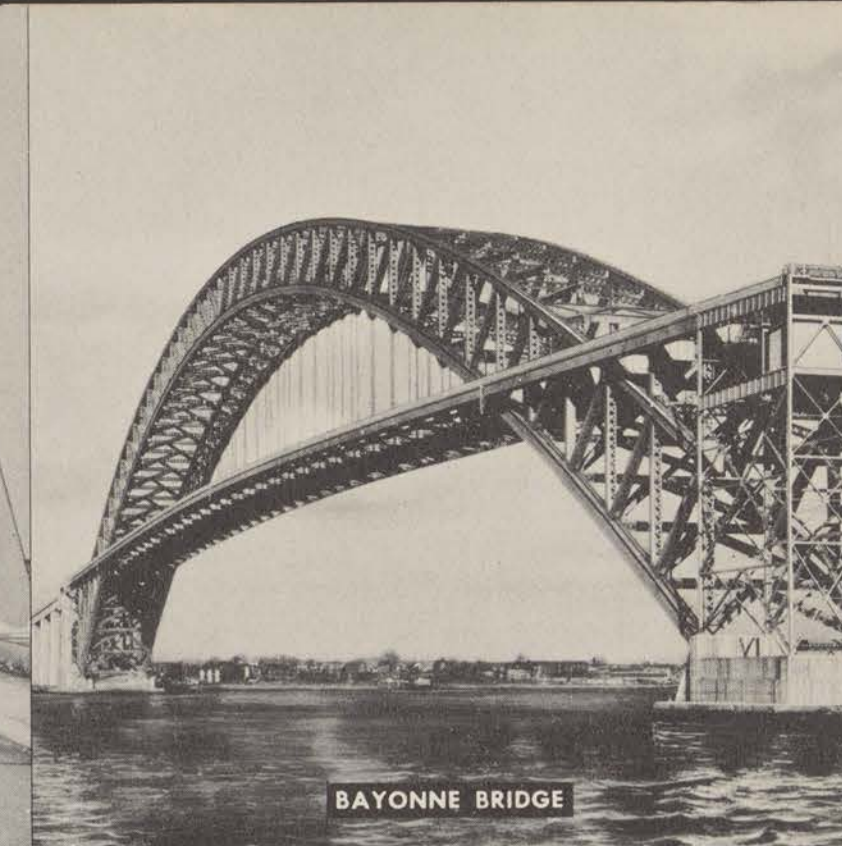
It must not be assumed, however, that toll reductions depend solely upon the ultimate retirement of debt. Toll reductions are deemed inadvisable at this time for several reasons. The completion of much needed highways in New Jersey is essential. These will produce sufficient traffic to permit the Lincoln Tunnel to be operated as a two-tube facility—enable traffic to be more evenly balanced between the Holland and Lincoln Tunnels—thus overcoming the present stumbling block to the effectuation of commuter rates at these facilities. In addition, fixed charges, interest and amortization of debt, must be reduced. This the Port Authority will accomplish by 1945 in substantial degree if current tolls and earnings are maintained. The attainment of these twin goals will afford the opportunity to reconsider the toll schedule in light of then current conditions.



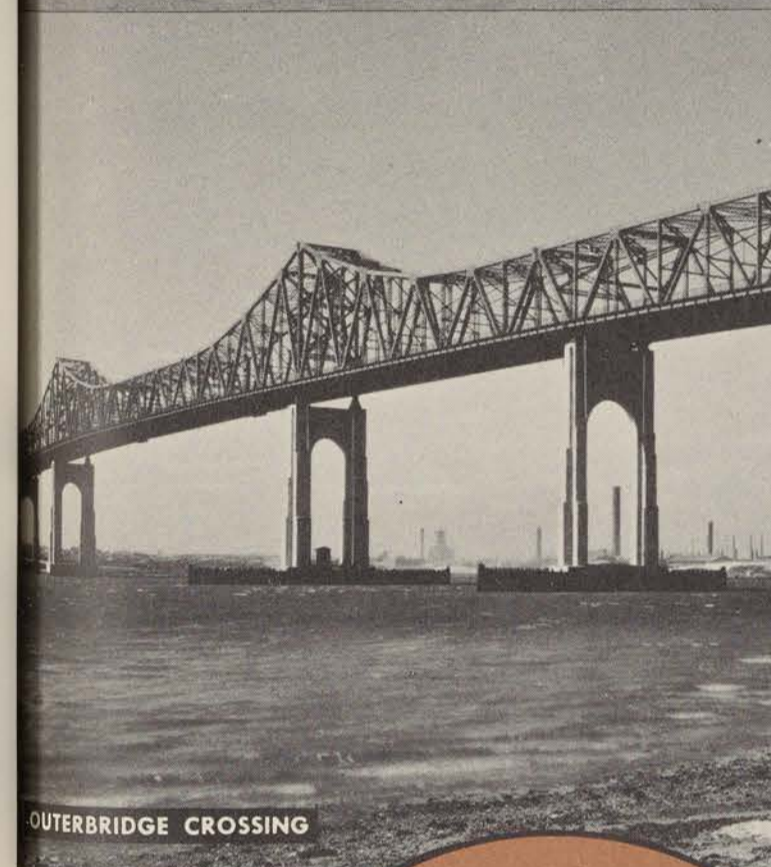
LINCOLN TUNNEL



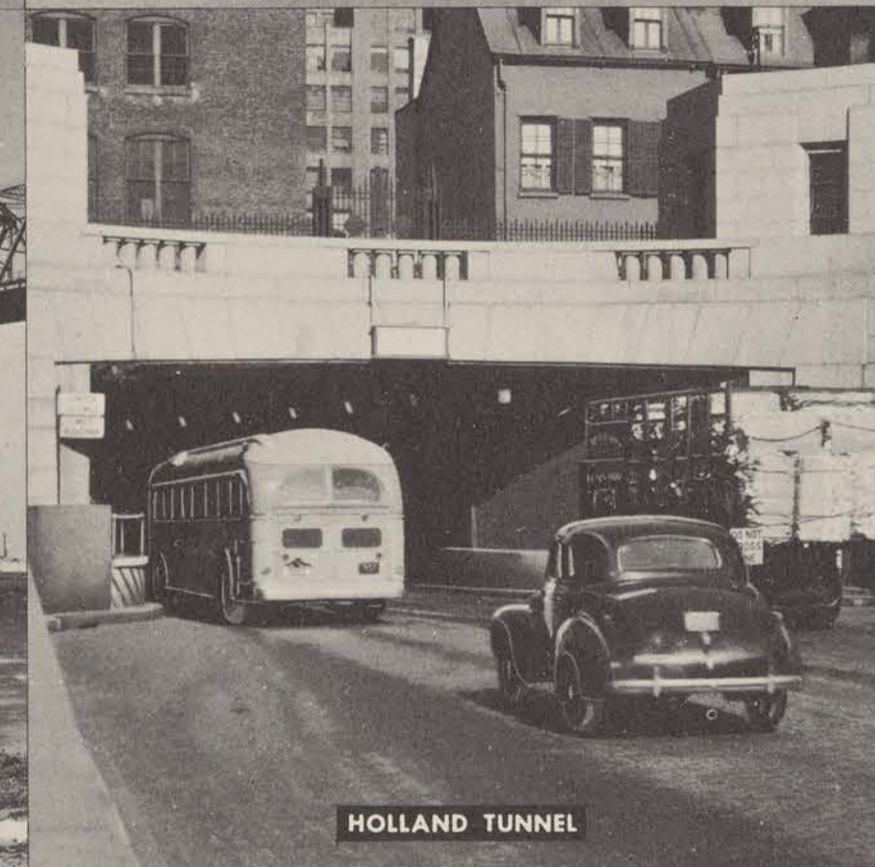
GOETHALS BRIDGE



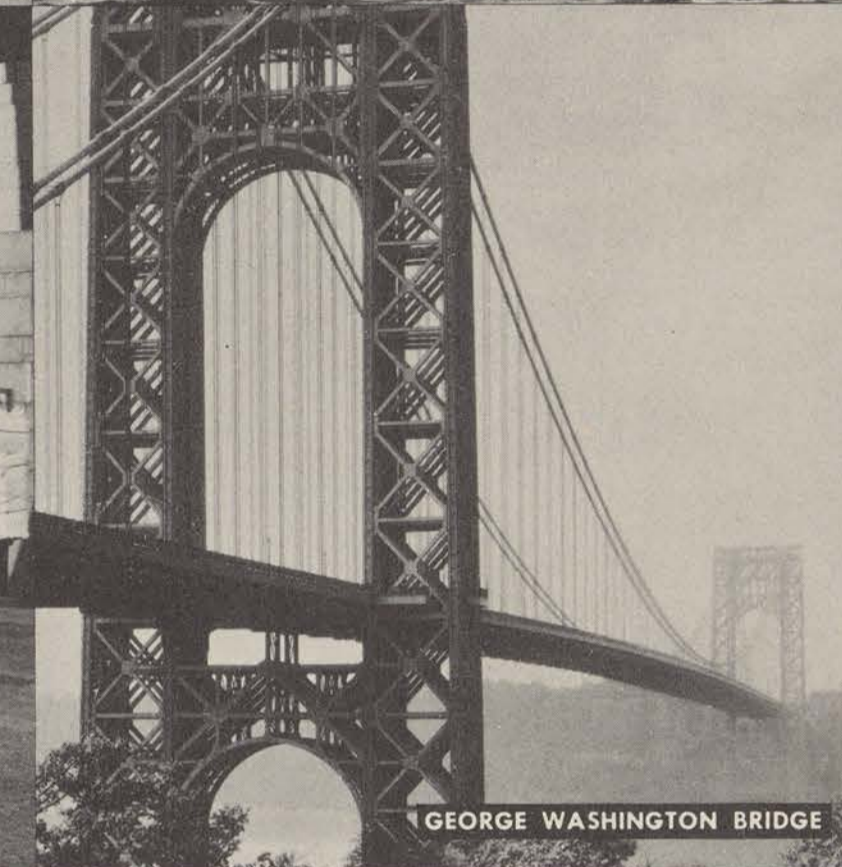
BAYONNE BRIDGE



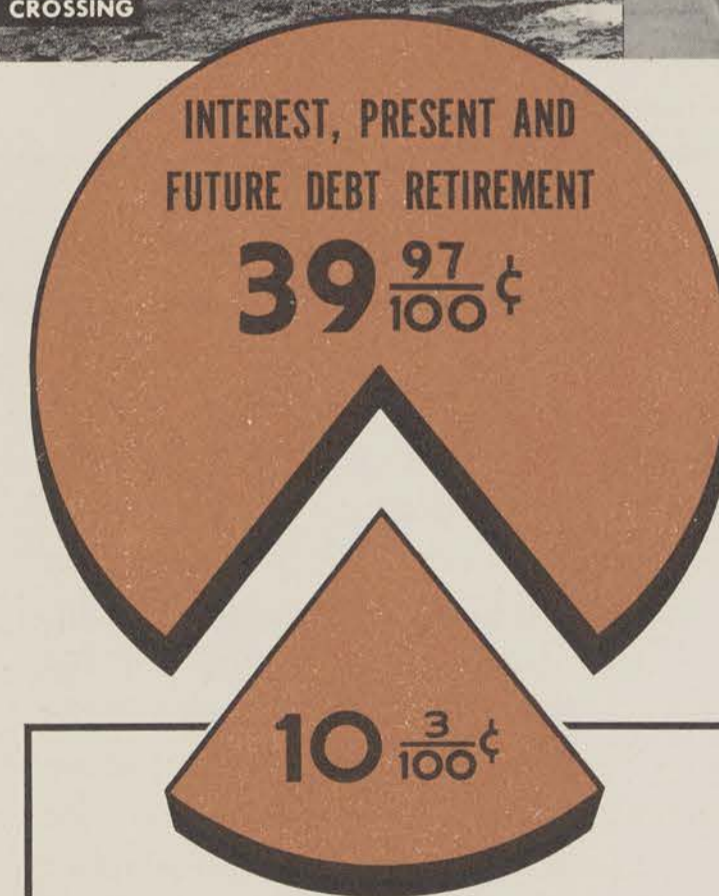
OUTERBRIDGE CROSSING



HOLLAND TUNNEL



GEORGE WASHINGTON BRIDGE



Policing, Cleaning, Insurance, Light and Power, Other Operating Expenses (Maintenance, Repairs, Etc.), Toll Collections, Port Protection and Development, Administration

...THE FIFTY CENT TOLL

Pictured above are the six Port Authority bridges and tunnels which represent an investment of approximately \$214,000,000. To finance these facilities in 1940 the 50¢ toll was applied, as the chart shows, 39⁹⁷/₁₀₀¢ for interest, and present and future retirement of debt; only 10³/₁₀₀¢ of the 50¢ toll was applied towards operations and maintenance of the bridges and tunnels, and administration of the Port Authority. The table below is tangible evidence that Port Authority financing is supervised with great care to the end that the greatest portion of the 50¢ toll is applied toward reducing the debt. As the table shows, since 1934, a small portion of the 50¢ toll has been required for interest, operation and maintenance, and a greater portion has been applied toward present and ultimate debt reduction:

	1934	1939	1940
Interest on Debt	26 ⁸⁰ / ₁₀₀ ¢	22 ⁶ / ₁₀₀ ¢	20 ⁷ / ₁₀₀ ¢
Present and Future Debt Retirement..	12 ⁵⁰ / ₁₀₀ ¢	17 ⁴⁸ / ₁₀₀ ¢	19 ⁹⁰ / ₁₀₀ ¢
Operation and Maintenance	10 ⁸⁰ / ₁₀₀ ¢	10 ⁴⁶ / ₁₀₀ ¢	10 ³ / ₁₀₀ ¢
	50 ¢	50 ¢	50 ¢

1940 Net Revenues COMPARED WITH 1939...

HOLLAND TUNNEL

	Calendar year, 1940	Calendar year, 1939	Increase or *Decrease	
			Amount	Per cent
I.				
Operating Revenues and Income:				
Tolls and other revenue..	\$7,399,027.66	\$7,373,041.42	\$25,986.24	.4
Other income.....	78,661.70	134,796.22	56,134.52*	41.6*
Total.....	<u>\$7,477,689.36</u>	<u>\$7,507,837.64</u>	<u>\$30,148.28*</u>	<u>.4*</u>
II.				
Deductions:				
Operating expenses....	\$1,620,508.37	\$1,602,559.58	\$17,948.79	1.1
Interest on funded debt..	1,792,083.32	1,834,583.34	42,500.02*	2.3*
Other income charges...	3,873.72	3,966.39	92.67*	2.3*
Total.....	<u>\$3,416,465.41</u>	<u>\$3,441,109.31</u>	<u>\$24,643.90*</u>	<u>.7*</u>
Net Revenues.....	<u>\$4,061,223.95</u>	<u>\$4,066,728.33</u>	<u>\$ 5,504.38*</u>	<u>.1*</u>

*Decrease.

LINCOLN TUNNEL

	Calendar year, 1940	Calendar year, 1939	Increase or *Decrease	
			Amount	Per cent
I.				
Operating Revenues and Income:				
Tolls and other revenue..	\$2,405,456.23	\$1,711,953.43	\$693,502.80	40.5
Other income.....	22,201.36	10,057.80	12,143.56	120.7
Total.....	<u>\$2,427,657.59</u>	<u>\$1,722,011.23</u>	<u>\$705,646.36</u>	<u>41.0</u>
II.				
Deductions:				
Operating expenses....	\$ 661,029.83	\$ 597,747.88	\$ 63,281.95	10.6
Interest on funded debt..	2,147,840.00	1,747,765.28	400,074.72	22.9
Other income charges...	1,875.00	1,916.26	41.26*	2.2*
Total.....	<u>\$2,810,744.83</u>	<u>\$2,347,429.42</u>	<u>\$463,315.41</u>	<u>19.7</u>
Net Revenues.....	<u>\$ 383,087.24†</u>	<u>\$ 625,418.19†</u>	<u>\$242,330.95</u>	<u>38.7</u>

*Decrease.
†Deficit.

GEORGE WASHINGTON BRIDGE

	Calendar year, 1940	Calendar year, 1939	Increase or *Decrease	
			Amount	Per cent
I.				
Operating Revenues and Income:				
Tolls and other revenue..	\$4,761,577.54	\$4,532,639.35	\$228,938.19	5.1
Other income.....	112,305.35	150,202.03	37,896.68*	25.2*
Total.....	<u>\$4,873,882.89</u>	<u>\$4,682,841.38</u>	<u>\$191,041.51</u>	<u>4.1</u>
II.				
Deductions:				
Operating expenses....	\$ 649,135.64	\$ 612,807.76	\$ 36,327.88	5.9
Interest on funded debt..	1,404,742.50	1,968,952.08	564,209.58*	28.7*
Other income charges...	2,423.61	4,622.68	2,199.07*	47.6*
Total.....	<u>\$2,056,301.75</u>	<u>\$2,586,382.52</u>	<u>\$530,080.77*</u>	<u>20.5*</u>
Net Revenues.....	<u>\$2,817,581.14</u>	<u>\$2,096,458.86</u>	<u>\$721,122.28</u>	<u>34.4</u>

*Decrease.

COMBINED NET REVENUES

	Calendar year, 1940	Calendar year, 1939	Increase or *Decrease	
			Amount	Per cent
I.				
Operating Revenues and Income:				
Operating and other revenue.....	\$16,659,639.15	\$15,633,994.11	\$1,025,645.04	6.6
Other income†.....	334,805.12	528,588.97	193,783.85*	36.7*
Total.....	<u>\$16,994,444.27</u>	<u>\$16,162,583.08</u>	<u>\$ 831,861.19</u>	<u>5.1</u>
II.				
Deductions:				
Operating expenses....	\$ 3,603,205.22	\$ 3,531,074.68	\$ 72,130.54	2.0
Interest on funded debt..	6,894,790.82	7,108,791.97	214,001.15*	3.0*
Other income charges...	71,602.03	72,806.03	1,204.00*	1.7*
Total.....	<u>\$10,569,598.07</u>	<u>\$10,712,672.68</u>	<u>\$143,074.61*</u>	<u>1.3*</u>
Net Revenues.....	<u>\$ 6,424,846.20</u>	<u>\$ 5,449,910.40</u>	<u>\$ 974,935.80</u>	<u>17.9</u>

*Decrease.
†Includes income earned from General Reserve Fund \$93,282.44 in 1940, and \$205,367.44 in 1939, and income earned from Insurance Fund, \$24,964.00 in 1940 and \$20,431.50 in 1939.

ARTHUR KILL BRIDGES

	Calendar year, 1940	Calendar year, 1939	Increase or *Decrease	
			Amount	Per cent
I.				
Operating Revenues and Income:				
Tolls and other revenue..	\$495,203.17	\$464,784.98	\$30,418.19	6.5
Other income.....	780.00	816.50	36.50*	4.5*
Total.....	<u>\$495,983.17</u>	<u>\$465,601.48</u>	<u>\$30,381.69</u>	<u>6.5</u>
II.				
Deductions:				
Operating expenses....	\$114,202.91	\$137,107.57	\$22,904.66*	16.7*
Interest on funded debt..	528,640.00	528,640.00	.....	.....
Other income charges...	700.63	609.38	91.25	15.0
Total.....	<u>\$643,543.54</u>	<u>\$666,356.95</u>	<u>\$22,813.41*</u>	<u>3.4*</u>
Net Revenues.....	<u>\$147,560.37†</u>	<u>\$200,755.47†</u>	<u>\$53,195.10</u>	<u>26.5</u>

*Decrease.
†Deficit.

BAYONNE BRIDGE

	Calendar year, 1940	Calendar year, 1939	Increase or *Decrease	
			Amount	Per cent
I.				
Operating Revenues and Income:				
Tolls and other revenue..	\$284,997.84	\$255,343.43	\$29,654.41	11.6
Other income.....	2,610.27	1,803.10	807.17	44.8
Total.....	<u>\$287,608.11</u>	<u>\$257,146.53</u>	<u>\$30,461.58</u>	<u>11.8</u>
II.				
Deductions:				
Operating expenses....	\$ 76,163.83	\$109,498.16	\$33,334.33*	30.4*
Interest on funded debt..	366,070.00	366,070.00	.....	.....
Other income charges...	437.50	500.00	62.50*	12.5*
Total.....	<u>\$442,671.33</u>	<u>\$476,068.16</u>	<u>\$33,396.83*</u>	<u>7.0*</u>
Net Revenues.....	<u>\$155,063.22†</u>	<u>\$218,921.63†</u>	<u>\$63,858.41</u>	<u>29.2</u>

*Decrease.
†Deficit.

INLAND TERMINAL NO. 1

	Calendar year, 1940	Calendar year, 1939	Increase or *Decrease	
			Amount	Per cent
I.				
Operating Revenues and Income:				
Rent and other revenue..	\$1,313,376.71	\$1,296,231.50	\$17,145.21	1.3
Other income.....	.....	5,114.38	5,114.38*	100.0*
Total.....	<u>\$1,313,376.71</u>	<u>\$1,301,345.88</u>	<u>\$12,030.83</u>	<u>.9</u>
II.				
Deductions:				
Operating expenses....	\$ 482,164.64	\$ 471,353.73	\$10,810.91	2.3
Interest on funded debt..	655,415.00	662,781.27	7,366.27*	1.1*
Other income charges...	62,291.57	61,191.32	1,100.25	1.8
Total.....	<u>\$1,199,871.21</u>	<u>\$1,195,326.32</u>	<u>\$ 4,544.89</u>	<u>.4</u>
Net Revenues.....	<u>\$ 113,505.50</u>	<u>\$ 106,019.56</u>	<u>\$ 7,485.94</u>	<u>7.1</u>

*Decrease.

DISPOSITION OF NET REVENUES

	Calendar year	
	1940	1939
HOLLAND TUNNEL		
Reserved for Sinking Fund.....	\$1,700,000.00	\$1,500,000.00
General Reserve Fund.....	2,361,223.95	2,524,448.24
Additions to Property Investment.....	.....	42,280.09
Total.....	<u>\$4,061,223.95</u>	<u>\$4,066,728.33</u>
LINCOLN TUNNEL		
Operating reserve.....	<u>\$383,087.24†</u>	<u>\$625,418.19†</u>
GEORGE WASHINGTON BRIDGE		
Reserved for Sinking Fund.....	<u>\$2,817,581.14</u>	<u>\$2,096,458.86</u>
ARTHUR KILL BRIDGES		
Operating reserve.....	<u>\$147,560.37†</u>	<u>\$200,755.47†</u>
BAYONNE BRIDGE		
Operating reserve.....	<u>\$155,063.22†</u>	<u>\$218,921.63†</u>
INLAND TERMINAL No. 1		
Reserved for Sinking Fund.....	\$81,226.15	\$106,019.56
Additions to Property Investment.....	32,279.35	.....
Total.....	<u>\$113,505.50</u>	<u>\$106,019.56</u>
COMBINED NET REVENUES		
Reserved for Sinking Funds.....	\$4,598,807.29	\$3,702,478.42
General Reserve Fund, operating reserves, etc.— Net.....	<u>1,826,038.91</u>	<u>1,747,431.98</u>
Total ††.....	<u>\$6,424,846.20</u>	<u>\$5,449,910.40</u>

†Deficit.
††Includes income earned from General Reserve Fund, \$93,282.44 in 1940, and \$205,367.44 in 1939, and income earned from Insurance Fund, \$24,964.00 in 1940 and \$20,431.50 in 1939.

Development OF THE PORT

MUST GO ON

THE PLAN of port development adopted by the states, in creating the Port Authority, was the fruit of an exhaustive engineering and legal study and was set forth in legislation enacted in 1922.

The statutes define the broad objectives of the plan: to reduce waste and increase the efficiency of the port's terminal and transportation methods through the medium of a central, unifying agency.

The attainment of these objectives was the broad mandate placed upon the Port Authority. Specifically the agency was directed to plan on a continuing basis for the long term development of the port; to advise and cooperate with other governmental bodies and private transportation companies and, in addition, itself finance, construct and operate certain needed improvements.

Port Authority activities, during the past twenty years as a planning and advisory agency, have been extensive. They have included a continuous research program on questions of pier and harbor development, channel improvements, arterial highways, airports, markets, union terminals and allied subjects.

In many instances the Port Authority has cooperated with other agencies in studying such projects as the foreign trade zone constructed by New York City on

Staten Island, and the new naval drydock for the Port of New York. This improvement will soon be built by the federal government in Bayonne.

Reduced to its essentials, the problem of port development is one of unification. The difficulties inherent in a large scale program of unification clearly indicate the need for a joint agency with power to proceed and a mandate to do so. This is especially true in the field of terminal unification, where it is necessary to bring together competing transportation companies. For example, a union freight station, used by numerous rail carriers would have been a difficult venture for private enterprise. Analogous problems exist in the fields of motor truck transportation, bus transportation and terminal marketing.

For example the movement of 4,800 short haul buses which carries an army of 50,000 persons to and from New York City daily, has created a grave problem. The crowded city streets of Manhattan, taxed by existing intra-city traffic, are faced with an added volume of interstate bus traffic. In an effort to solve this traffic problem the City of New York would require these buses to load and unload all passengers west of Eighth Avenue. In that event a central bus terminal would be desirable.



Through its Committee on Program and Work, some of whose members are pictured here, the Authority is continuously engaged in shaping plans to meet shifting conditions, in cooperating with other agencies of government, and in speeding the fulfillment of projects vital to the welfare of the entire port and of the nation

Another pressing problem is that of food distribution to which the Mayor of the City of New York recently called attention. Announcement was made of a plan for a 35 acre shedded terminal, stretching along the Hudson River waterfront utilizing city owned piers now largely devoted to receiving fruits and vegetables, shipped by rail and carfloat.

The need for bi-state study of transportation questions which involve the entire Port District is illustrated by the suburban rapid transit problem. It has long been the considered opinion of transportation experts that the daily flow of commuters between New Jersey and New York could be immeasurably improved by a co-

ordinated system of rapid transit which would discharge passengers along strategic points in Manhattan itself. Since such a system must span the Hudson and connect both states, it is a bi-state problem which the Port Authority has studied.

Emergency conditions affecting world commerce and creating problems of national defense give added urgency to certain port development projects such as additional arterial highways and connections, and the proposed Cross Bay Railroad Freight Tunnel. The latter would be a vital rail link between strategically important sections of the country. Its construction has hitherto been deferred because of financial obstacles.

Under existing methods of operation Manhattan street corners serve as loading points for many interstate buses. This frequently obstructs city traffic; is inconvenient for passengers as well as bus operators



A rapid transit system, by furnishing rail transport from Northern New Jersey directly to central points in Manhattan would materially



aid commuters now dependent on ferries to reach New York where they must retransfer to subway or bus to reach their destinations



To alleviate congestion at the New York City produce markets in the vicinity of Washington Street, a terminal market has been proposed. The market will save six millions yearly for consumers and farmers



Port Commerce

A VITAL ASSET MUST BE PROTECTED

MORE THAN PRIDE and prestige are involved in maintaining New York's position as America's largest port. At stake are the livelihoods of steamship employees, longshoremen, truck drivers, warehouse employees and other port workers. With their families and dependents, there are nearly one million persons directly dependent on the movement of commerce through the port. Every vessel, every cargo which flows through the Port of New York means work and wages to these people.

Swelling the figure are thousands more indirectly dependent on port commerce—retail merchants, clerks and others who gain their livelihood by furnishing food, clothing and supplies to the army of port workers; employees of the port industries which are located in New York because of its preeminence as a seaport.

It is estimated that steamship companies alone expend almost one hundred million dollars annually in the Port District for labor, supplies, services and the like.

Almost one billion dollars has been invested in the piers, warehouses and other harbor facilities of the port. This investment and the livelihood of the port's workers are placed in jeopardy by any conditions which threaten to divert or impede the flow of commerce through the Port of New York.

Port commerce is continually threatened by forces largely unknown even to those they most intimately affect. Hardy perennial of these threats is the railroad rate structure, the rate differences (technically known as port differentials) between interior points and the various seaports of the nation.

The port differential story has its origin in the early history of the United States Railroads. In the days when the trunkline carriers were unrestrainedly competing for traffic, slashing of freight rates became a common practice. An era of bitter rate wars resulted, which had special consequences for the seaports.

The railroads tailored their rates to fit their respective port interests or affiliations. The Baltimore and Ohio Railroad was naturally interested in attracting traffic to Baltimore; the Pennsylvania Railroad, to Philadelphia; the Chesapeake & Ohio to Newport News.

Studying the ocean freight rate structures, the railroads found that New York, being closer than Philadelphia and Baltimore to Europe, had generally cheaper ocean steamship rates. In order, therefore, to stimulate the flow of traffic through the other ports and offset New York's geographical advantage they awarded Baltimore and Philadelphia substantial rate differentials on freight from the interior.

The rate wars proved so vicious and self-destructive that the railroads themselves determined to end them. This they undertook to do in 1877 through an Arbitration Commission, which succeeded to a considerable degree in stabilizing rates but also pegged the port differentials favoring Baltimore and Philadelphia.

Ten years later, when the Interstate Commerce Act gave the Interstate Commerce Commission jurisdiction over the charges made by railroads, the matter of port differentials was taken out of the hands of the railroads. The differential railroad rate advantages under New York were gradually extended to Montreal, to the Gulf ports and to the south Atlantic ports to and from mid-west territory.

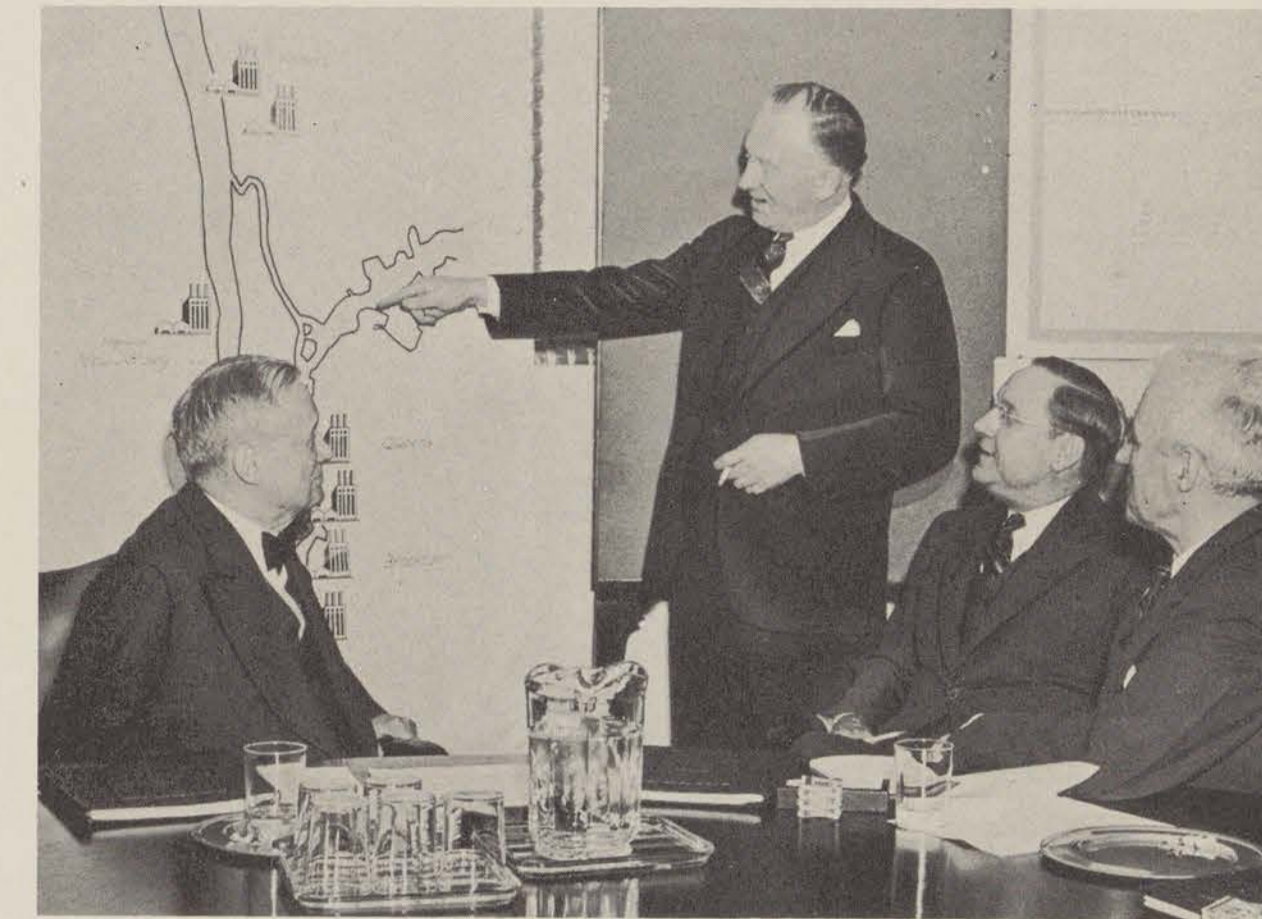
Today, more than half a century later, port differentials, with various adjustments for different types of commodities, remain woven in the fabric of the United States railroad rates. Unfortunately for New York its ocean rate advantages, which were the original excuse for the railroad differentials, have since disappeared.

Nevertheless, rival ports are constantly appealing to the Interstate Commerce Commission for more favorable rates to the interior than those to and from New York.

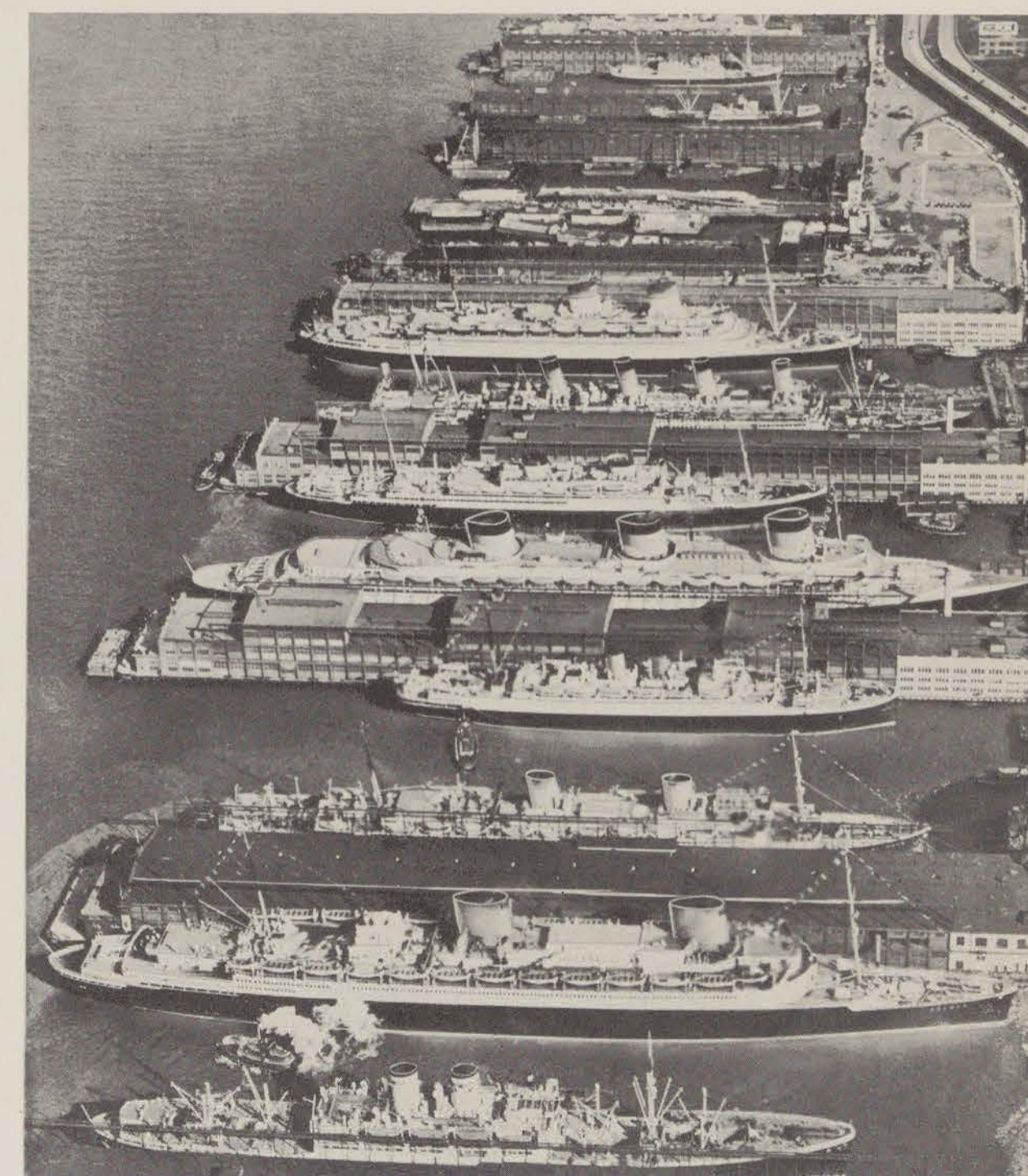
In some cases the lower rates are demanded because of a shorter distance to the interior; while contemporaneously other ports justify their rates on the ground that distance is of no importance. Not a year passes without a new group of cases to be contested.

The Port of New York Authority, which is charged by New Jersey and New York with the duty of appearing before the Interstate Commerce Commission in such proceedings, must be vigilant to guard against further widening of the disadvantageous differentials and prompt to press for their abolition where it is clear that their continuance is indefensible. In behalf of the port and of the commercial interests of the country as a whole the Port Authority argues that all ports should be treated alike, with preference to none.

The federal government's control of the United States merchant marine has played an important part in determining essential trade routes and the allocation of various lines in the merchant fleet. It has frequently been necessary for The Port of New York Authority to present facts and arguments in behalf of the Port of New York before the committees of Congress, the old shipping board and its successor, the United States Maritime Commission. Through such efforts it has defeated the frequent attempts made in the past to transfer important steamship services to other ports, or to change sailing schedules to the disadvantage of New York. Despite strong inter-port competition, in direct steamship sailings to world ports New York offers services which are unmatched.



Shown above are members of the Port Authority Standing Committee on Port Protection matters



Steamship lines spend one hundred million dollars a year at New York for labor and supplies



TOWARD New Horizons

TWENTY YEARS AGO trans-river vehicular crossings were the port's most urgent transportation need. Today, essential bridges and tunnels have been built or, like the Brooklyn-Battery tunnel, are under construction. As a result, islands, peninsulas and mainland have been linked together with well-nigh incalculable savings in time to the huge volume of commerce and millions of passengers who have moved over these facilities.

Not fully realized, as yet, are the ultimate potential benefits of the new facilities. For modern, high speed bridges and tunnels stimulate motor traffic, make it imperative that the construction of connecting highways keep pace with the development of river crossings.

There has been a lag in the construction of supporting highways necessary to achieve maximum serviceability of bridges and tunnels built in the last twenty years. In consequence, certain areas of unnecessary congestion and delay remain in both New York and New Jersey. To eliminate these bottlenecks and permit increased use of existing vehicular crossings, new highway links are necessary. What they will mean to interstate traffic is illustrated by the map on the opposite page which highlights the existing congested areas and shows how the new links will speed the port's motor traffic.

Both in New York and in New Jersey recommendations have already been made. The New Jersey State Highway Department has proposed some thirty-two highway projects to cost approximately fourteen and one-half million dollars. Included are New Jersey State Highway Route 101 (the proposed Hackensack valley highway); the acquisition of part of the right of way for Route 10 (the proposed Essex east-west highway); and Route S 3 from Route 2 at Rutherford to Passaic Avenue, Clifton. The latter two projects are regarded as especially important links in the connections to the Lincoln Tunnel. Their early construction would be

most timely because the second tube of the Lincoln Tunnel is now being completed under the supervision of The Port of New York Authority's Construction Committee, some of whose members are pictured above.

In New York, the Triborough Bridge Authority has called attention to four vital gaps: The Pelham-Portchester Express Highway, the Brooklyn-Queens Connecting Highway, an Elevated Highway across lower Manhattan and the Harlem River Drive.

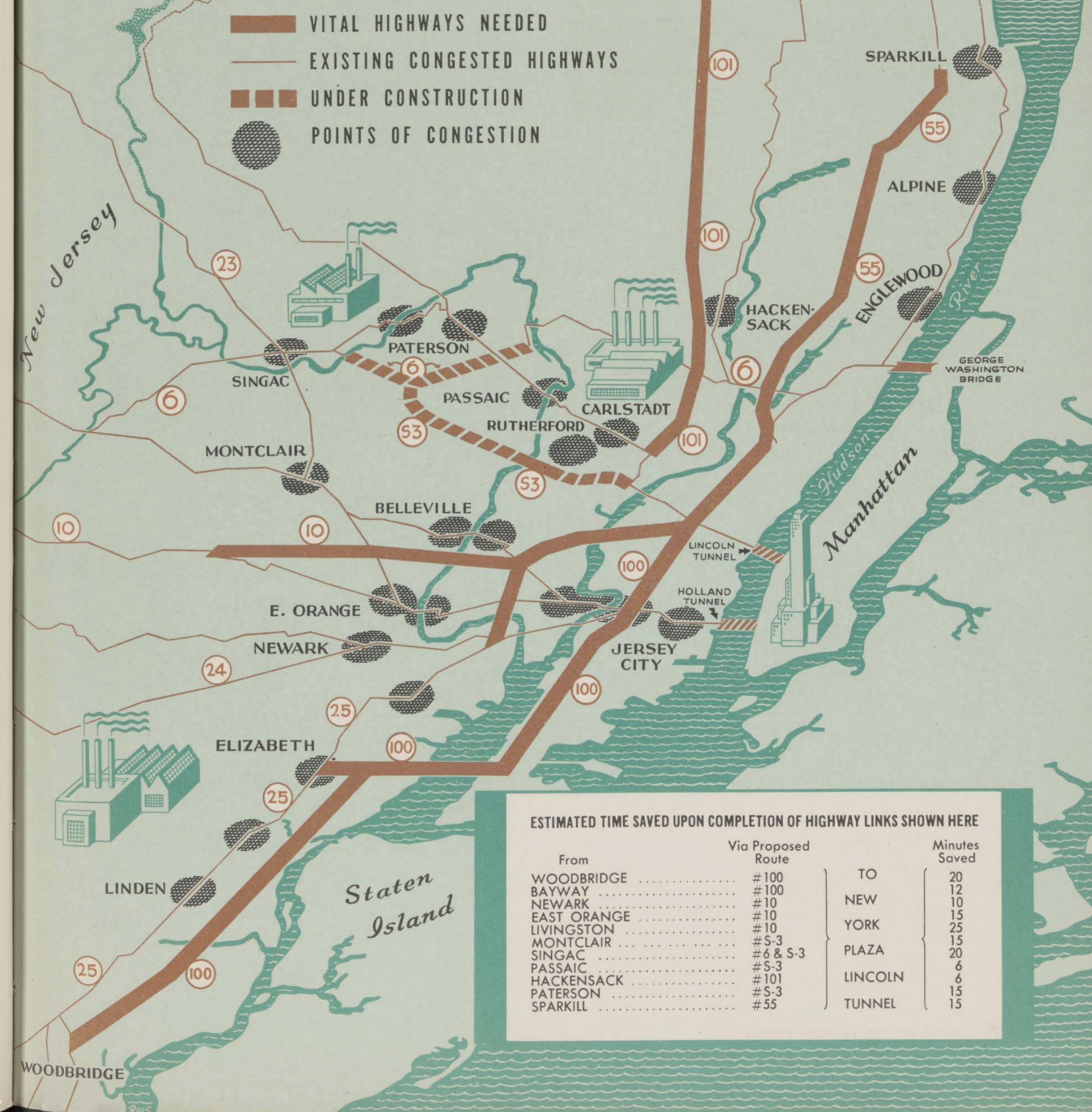
It is significant that the new highway projects recommended in both states are intended to make better use of existing facilities. Significant because this is the keynote of the larger program of port coordination and unification. The Port of New York is at the threshold of a new era, when progress will be marked by careful integration and coordination of existing facilities, and not merely by the size and number of new projects.

The outlines of the program are clear, and in some cases blueprints are ready. Still undecided by government, however, is the method of financing the improvements. In some cases the projects may be self-supporting. In others a government subsidy will be required. Shall existing agencies be called upon to finance the improvements on the basis of their own credit? Or shall new agencies be created to attack the problem?

The decision rests with the state legislatures. In the case of the Port of New York Authority, for example, the States' equity in its properties is constantly being expanded as the debt is being retired. In the not distant future opportunity will be afforded the States of New Jersey and New York to employ that equity by directing The Port of New York Authority to complete some phases of the program, utilizing the foundation of sound credit and basic achievement of the past twenty years to attain new and ever widening horizons of efficiency for the future port.

Vital Highways

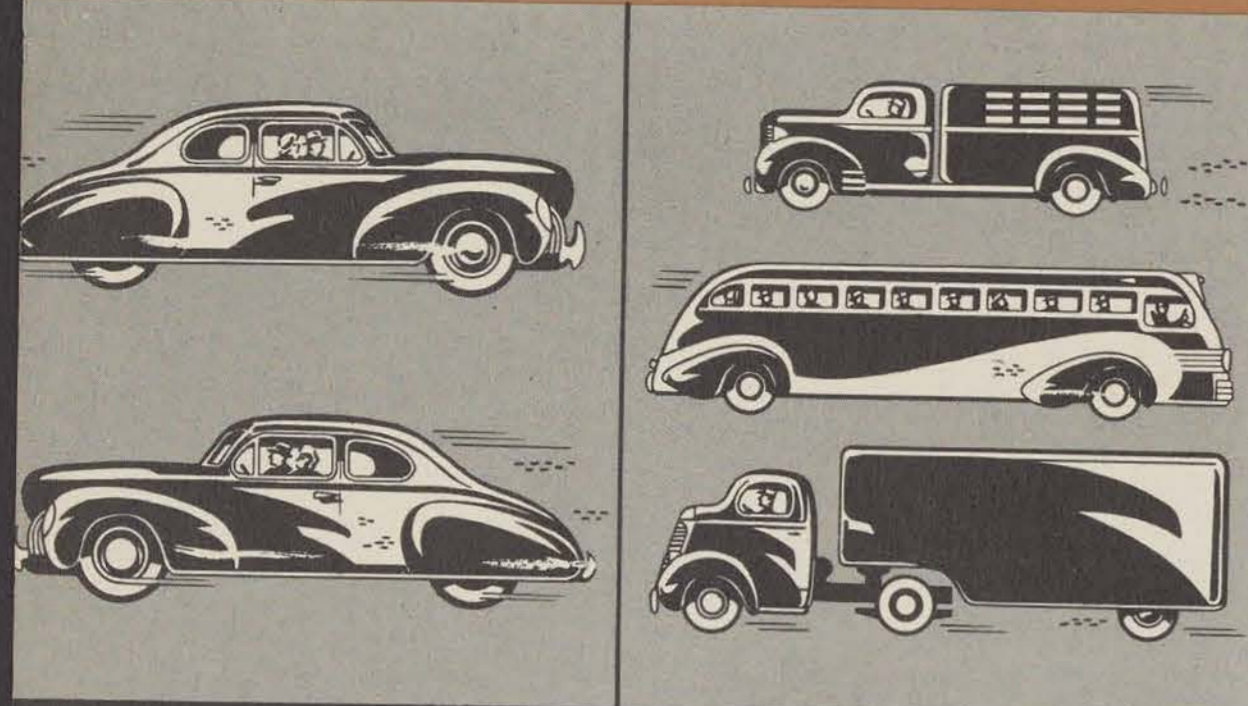
NEEDED TO COMPLETE A CONTINUOUS CHAIN OF INTERSTATE FACILITIES



ESTIMATED TIME SAVED UPON COMPLETION OF HIGHWAY LINKS SHOWN HERE

From	Via Proposed Route	TO	Minutes Saved
WOODBRIDGE	# 100	NEW	20
BAYWAY	# 100	YORK	12
NEWARK	# 10	PLAZA	10
EAST ORANGE	# 10	LINCOLN	15
LIVINGSTON	# 10	TUNNEL	25
MONTCLAIR	# S-3		15
SINGAC	# 6 & S-3		20
PASSAIC	# S-3		6
HACKENSACK	# 101		6
PATERSON	# S-3		15
SPARKILL	# 55		15

\$10,649,772 \$4,659,972



Tolls from Passenger Cars

Tolls from all Other Vehicles

\$1,684,701



Inland Terminal, Other Rents, and Miscellaneous Income

1940
...WHERE THE
Money
CAME FROM



\$3,674,807



To Operate, Maintain and Administer Port Authority Facilities

\$6,894,791 \$6,424,846



To Pay Bondholders Interest on Money Borrowed from Them



For Amortization of Debt, General Reserve Fund & Operating Reserves

AND HOW IT WAS
Used...

★ 37.81% OF 1940 INCOME APPLIED TO
PRESENT AND FUTURE DEBT RETIREMENT

ARTHUR ANDERSEN & CO.

Auditor's Report

67 Wall Street
New York

TO THE PORT OF NEW YORK AUTHORITY,
New York, N. Y.

We have examined the balance sheet of The Port of New York Authority as of December 31, 1940 and the statement of net revenues and appropriations thereof (as later defined) and summary of reserves for the year ended that date. In connection therewith we have examined or tested accounting records of the Authority and other supporting evidence and have reviewed the system of internal control and the accounting procedures of the Authority by methods and to the extent we deemed appropriate. Test checks were made of cash received from revenues and other sources and the disbursements made therefrom to determine that such revenues and disbursements were properly accounted for; changes in personnel and rates of compensation were traced to authorizations of the Committee on Personnel, and although we made numerous test checks of other transactions during the period as outlined in more detail in the following paragraph, we did not make a detailed audit of all of the transactions.

Additions to facilities during the period consisted principally of expenditures for construction of Lincoln Tunnel approaches, etc., and for construction of the 178th Street tunnel and approaches relative to the George Washington Bridge, the construction activities in connection with both projects being substantially completed at December 31, 1940 with the exception of work contemplated in connection with the completion of the North tube of the Lincoln Tunnel. Payments on construction contracts during the period were checked to vouchers and to authorizations of the Commissioners, and other construction expenditures were examined through test checks of vouchers for materials, pay rolls for labor charges and of the amounts distributed to construction accounts as engineering and general overhead costs. During the year ended December 31, 1940 general and administrative expenses aggregating \$18,050.60 have been allocated to the cost of construction of certain facilities as general overhead. A substantial portion of the insurance coverage of the Authority was verified by correspondence with the insurance companies. Cash and securities, including funded debt of the Authority held in its various funds or pledged as collateral to General and Refunding Bonds, were checked by confirmations received directly from the depositaries or holders thereof or by examination. Funded debt issued has been checked to resolutions of the Commissioners authorizing such issues; there are no trustees of the various issues of funded debt. Amounts due to the States of New York and New Jersey were confirmed by correspondence with officials of the respective states. Insofar as we were able to determine within the scope of our examination and as represented to us by the management, all liabilities of the Authority at December 31, 1940 are reflected in the accompanying balance sheet, and contingent liabilities and commitments are set forth in Note 1 thereto.

The Port of New York Authority was created in 1921 by compact between the States of New York and New Jersey with the approval of Congress. The Authority has no stockholders or equity holders and all revenues or other cash received has to be disbursed for specific purposes in accordance with statutory provisions and agreements with the holders of its bonds. In accordance with such statutory provisions and bondholders' agreements, no deductions from revenues may be made for depreciation (except on ancillary equipment). In accordance with resolutions of the Commissioners, the Authority has followed the practice of charging to the investments in facilities all net debt discount and expense incurred in connection with bonds and notes issued for construction purposes and no provision is made for the amortization of such debt discount and expense, which aggregated \$3,450,945.82 at December 31, 1940. In prior years \$1,879,829.47 of interest on bonds, net of income earned on unexpended construction funds, was charged to the investment in certain facilities after the dates of official opening thereof, of which \$340,000.00 was in accordance with the contract with the bondholders of Inland Terminal No. 1 bonds. In the opinion of its General Counsel, the Authority is not subject to either Federal, state or local taxes; the Authority, however, is authorized by law to enter into voluntary agreements to pay a fair annual sum in lieu of taxes in connection with its marine and inland terminals. Under the terms of an agreement with the City of New York dated February 15, 1941 the Authority agreed to pay the City an amount of \$465,173.87 in lieu of taxes in connection with Inland Terminal No. 1 for the period from the dates of acquisition of property to June 30, 1940, and is obligated to make annual payments of \$60,064.10 thereafter. The amounts provided therefor in the accompanying financial statements are in accordance with the above-mentioned agreement. Accordingly, the statement of net revenues includes no deductions for depreciation, amortization, or taxes, except as indicated above, and the amount of net revenues is appropriated for or allocated to various reserves for the benefit of bondholders in accordance with the agreements with such bondholders. The accumulated net revenues, as above defined, to December 31, 1940 are shown in the accompanying balance sheet under reserves which also indicates the various reserves and other purposes for which such net revenues have been reserved or used. Certain of the reserves are applicable to specific issues of bonds and others are available for all bondholders.

In our opinion, the accompanying balance sheet (Exhibit 1), the statement of net revenues and appropriations thereof (Exhibit 2) and summary of reserves (Exhibit 3) fairly present the assets and liabilities of The Port of New York Authority at December 31, 1940, and its revenues, expenditures and appropriations of the net revenues for the year ended that date, on the basis of the accounting policies set forth in the preceding paragraph.

(Signed) ARTHUR ANDERSEN & CO.

New York, N. Y.,
February 24, 1941.

Assets

EXPENDITURES FOR FACILITIES (Including all net debt discount and expense incurred in connection with bonds and notes issued for construction purposes, aggregating \$3,450,945.82, and \$1,879,829.47 of interest charged to the investment in certain facilities after the dates of official opening thereof):		
Arthur Kill Bridges.....	\$17,271,505.70	
Bayonne Bridge.....	13,140,648.88	
George Washington Bridge.....	61,802,911.35	
Inland Terminal No. 1 (Port Authority Commerce Building).....	16,428,966.11	
Holland Tunnel.....	50,816,987.29	
Lincoln Tunnel (completion of North tube authorized by Commissioners in January, 1941).....	70,985,429.77	
		\$230,446,449.10
BALANCE OF PROCEEDS FROM SALES OF BONDS AND MISCELLANEOUS FUNDS AVAILABLE FOR SPECIAL PURPOSES (See Note 5)—Cash in banks (principally time deposits).....		65,431,362.69
CURRENT ASSETS AVAILABLE FOR DEBT SERVICE AND GENERAL CORPORATE PURPOSES:		
Cash in banks and on hand.....	\$ 7,560,930.79	
Investments in securities—		
The Port of New York Authority bonds, at cost or quoted market value at date of internal issuance in exchange for bonds previously reacquired (\$2,362,000 principal amount)—quoted market value \$2,447,145.00.....	2,383,211.27	
Municipal bonds, at cost—quoted market value \$76,720.00.....	77,480.00	
Accounts and accrued interest receivable.....	91,327.91	
		10,112,949.97
SINKING FUNDS (See Note 4):		
Cash in banks (including time deposits).....	\$ 5,674,256.95	
The Port of New York Authority bonds, at cost or quoted market value at date of internal issuance in exchange for bonds previously reacquired (\$2,024,000 principal amount)—quoted market value \$2,088,927.50.....	2,074,855.36	
		7,749,112.31
OTHER ASSETS AND MISCELLANEOUS UNADJUSTED ITEMS:		
Deposits with paying agents for unredeemed bonds and interest coupons.....	\$ 338,691.25	
Mortgages receivable and miscellaneous investments.....	258,294.29	
Prepaid insurance, etc.....	103,439.24	
		700,424.78
		<u>\$314,440,298.85</u>

CONTINGENT LIABILITIES REPORTED AND OTHER NOTES

(1) Contingent liabilities and construction commitments at December 31, 1940, as reported by the management, were as follows:	
(a) Estimated amount payable on a claim for additional compensation on construction work completed.....	\$ 149,000
(b) Condemnation awards and contracts covering purchase of property.....	1,500
(c) Contingent liabilities relative to acquisition of certain easements, payable if and when the owners of the properties elect to have certain construction work performed—not to exceed.....	558,000
(d) Pending lawsuits (substantially covered by insurance or indemnity agreements).....	280,000
(e) Estimated obligation to indemnify certain contractors for New York City Sales Tax in connection with certain construction contracts in the event that such taxes are imposed and upheld.....	15,000
(f) Estimated cost of construction of certain highway connections and paving work, etc., relative to New Jersey approaches to the Lincoln Tunnel.....	650,000
(g) Estimated commitment in connection with proposed construction by The City of New York of a protective pier over the Lincoln Tunnel.....	600,000
(h) Estimated cost of construction of 179th Street Tunnel in connection with the George Washington Bridge which the Authority is obligated to undertake under agreements with The City of New York. The Authority is obligated to build this tunnel when traffic through the 178th Street Tunnel, which was completed in June, 1940, exceeds six million vehicles in a twelve months period. In the opinion of the management, it is unlikely that traffic through the 178th Street Tunnel will reach the aforementioned volume until after a long period of years.....	3,100,000
	<u>\$5,353,500</u>

The foregoing does not include amounts necessary to complete the construction of the north tube of the Lincoln Tunnel, completion of which was authorized by the Commissioners on January 16, 1941. Estimates of the cost of completion of the north tube range from approximately \$5,400,000 to approximately \$8,800,000 depending upon the extent of approach work to be undertaken. Subsequent to December 31, 1940 the Authority received \$50,906.82 from the Federal Works Agency in aid of construction of Lincoln Tunnel approaches, which amount applied to expenditures made or liabilities recorded for construction work performed to December 31, 1940.

(i) The Holland Tunnel was constructed jointly by the States of New York and New Jersey and, in connection with construction of the Holland Tunnel and the Camden-Philadelphia Bridge, the State of New Jersey issued its Highway Extension Bonds under legislative authorization which required the establishment of a sinking fund for the payment of these bonds at maturity and contained the further provision that, after payment of the annual interest on the bonds, the State of New Jersey's one-half share in the remaining net revenues of the Holland Tunnel would be paid into the aforementioned sinking fund. In connection with acquisition of control of the Holland Tunnel in 1931, the Authority paid to the New Jersey Sinking Fund Commission an amount which, taken with the amounts already accumulated in the State Sinking Fund, aggregated a sum sufficient to pay the principal amount of the aforementioned State of New Jersey Highway Extension Bonds. In consideration of this payment, the State of New Jersey agreed to assume in full the obligation as to interest and principal of the said bonds. As a result of the payment and agreement referred to, the statutory provision whereby one-half of the net revenues of the Holland Tunnel is subject to lien of the State of New Jersey Highway Extension Bonds has become largely academic in the opinion of the management. Such lien is not operative unless the State Sinking Fund for the payment of the bonds, and the interest thereon, prove insufficient to pay the principal and interest of the Highway Extension Bonds. In case of such deficiency, the lien is further not operative unless the State of New Jersey defaults in its undertaking to make good any deficits out of other funds.

Liabilities

FUNDED DEBT (Schedule 1)—(See Note 5).....		\$255,001,777.78
SUBORDINATED LIABILITY FOR ADVANCES IN AID OF CONSTRUCTION AND FOR PRELIMINARY STUDIES AND SURVEYS (See Note 2):		
State of New York.....	\$ 4,299,840.17	
State of New Jersey.....	4,300,000.00	
		8,599,840.17
CURRENT LIABILITIES:		
Accounts payable.....	\$ 76,687.06	
Construction costs retained and estimated amounts accrued under construction contracts.....	48,486.29	
Accrued interest on funded debt.....	1,752,169.56	
Accrued liability for contribution to employees' retirement system (See Note 3).....	298,132.39	
Liability in lieu of taxes (for current and prior years).....	495,205.88	
		2,670,681.18
DEFERRED LIABILITIES AND MISCELLANEOUS RESERVES:		
Unredeemed bonds and interest coupons.....	\$ 344,711.25	
Reserve for self insurance (workmen's compensation and certain minor items).....	246,951.75	
Reserves for depreciation of automotive equipment, for painting of bridges, etc.....	351,628.49	
Unredeemed tickets and miscellaneous deposits.....	120,355.03	
		1,063,646.52
RESERVES (See paragraph 3 of auditors' report)—(Exhibit 3):		
Sinking fund reserves.....	\$ 7,749,112.31	
Operating reserves.....	251,611.04	
General reserve.....	5,064,638.06	
Reserves applied to retirement of debt, payment of debt service, etc., less deficit accounts of certain facilities.....	29,991,807.98	
		\$43,057,169.39
Less—Expenses in connection with funded debt refunding and consolidating program (including premium paid on refunded bonds and duplicate interest charges, less net premium received on refunding bonds), deducted herefrom pending consummation of the complete program and determination of final disposition.....	6,780,902.26	
		36,276,267.13
EXCESS OF LIABILITIES TO STATES OF NEW YORK AND NEW JERSEY FOR ADVANCES IN AID OF CONSTRUCTION OF GEORGE WASHINGTON BRIDGE, OVER THE PRINCIPAL AMOUNT OF SERIES F AND FF BONDS ISSUED TO THE STATES IN SETTLEMENT THEREOF, LESS EXPENSES RELATIVE THERETO AND INTEREST ON SERIES F AND FF BONDS TO DECEMBER 31, 1940.....		
		3,577,964.39
FEDERAL GRANTS AND APPROPRIATIONS BY STATES OF NEW YORK AND NEW JERSEY IN AID OF CONSTRUCTION OF LINCOLN TUNNEL AND GEORGE WASHINGTON BRIDGE.....		
		7,250,121.68
CONTINGENT LIABILITIES AND CONSTRUCTION COMMITMENTS (See Note 1)		
		<u>\$314,440,298.85</u>

(2) The subordinated liability for advances in aid of construction and for preliminary studies and surveys includes \$8,299,918.20 representing advances made in connection with the Arthur Kill and Bayonne Bridges which are not repayable until the earnings of such projects have been sufficient to pay interest, sinking fund and statutory reserve requirements; earnings to date of the Arthur Kill and Bayonne Bridges have not been sufficient to pay bond interest. The balance of \$299,921.97 in this account represents advances for preliminary studies and surveys in connection with the George Washington Bridge which are not required to be paid until all Series B Bonds have been retired—see Note 4(a).

(3) In April, 1935, the Authority adopted a pension plan for its employees providing for participation in the New York State Employees' Retirement System. It was provided that for a thirty-year period the Authority should pay an annual deficiency contribution to the System in lieu of making a lump sum payment for the accrued liability at the date of entering the System, and the amounts of both deficiency and current contributions are being charged to expense currently.

(4) Balances in the various sinking funds at December 31, 1940 were as follows:

(a) Series B Bonds (George Washington Bridge).....	\$1,464,420.43
(b) Series D Bonds (Inland Terminal).....	81,344.77
(c) Series E Bonds (Holland Tunnel).....	6,203,347.11
	<u>\$7,749,112.31</u>

(a) As indicated in Schedule 1 there were no Series B Bonds outstanding at December 31, 1940 but \$35,327,000 of such bonds were held alive and pledged as collateral to General and Refunding Bonds. In the opinion of counsel for the

Authority an amount equal to the unpaid advances (\$299,921.97) made by the States of New York and New Jersey for preliminary studies in connection with the George Washington Bridge will have to be maintained in the Series B Sinking Fund until such advances are repaid or satisfied—see Note 2.

(b) Payments into the Series D Sinking Fund to December 31, 1940 were \$1,337,655.23 less than required by the provisions of the agreement with the holders of Series D Bonds. However, Series D Bonds maturing in 1936 to 1940, inclusive, aggregating \$1,500,000 have been refunded, of which \$1,169,000 were pledged as collateral to General and Refunding Bonds at December 31, 1940 and \$331,000 had been retired. As indicated in Note 5, Series D Bonds have been called for redemption on March 1, 1941.

(c) The balance in the Series E Sinking Fund is to be used in connection with the redemption of Series E Bonds on March 1, 1941—see Note 5.

(5) The balance of proceeds from sales of bonds and miscellaneous funds are available for special purposes as set forth below:

Available for refunding of the following bond issues called for redemption on March 1, 1941 and for purposes incidental thereto including the payment of interest on the bonds to be refunded—	
Series D, 4¼% Serial Bonds (Inland Terminal No. 1).....	\$ 7,409,799.36
Series E, 4¼% Serial Bonds (Holland Tunnel)—see Note 4(c).....	25,445,225.41
General and Refunding Bonds, First Series, 4½%, due 1975.....	27,596,813.01
Available for refunding of Series F and FF Bonds, 3½%, due March 1, 1941 and for purposes incidental thereto.....	3,946,876.21
Available for construction and for purposes incidental thereto.....	1,032,648.70
	<u>\$65,431,362.69</u>

THE PORT OF NEW YORK AUTHORITY

EXHIBIT 1
SCHEDULE 1

STATEMENT OF FUNDED DEBT—

	Amount Authorized (Less Principal Amount Retired)
NEW YORK-NEW JERSEY INTERSTATE BRIDGE BONDS:	
Series A (Arthur Kill Bridges)—4½% serial bonds called for redemption March 1, 1936.....	\$ 12,200,000.00
Series B (George Washington Bridge)— 4% serial bonds called for redemption December 1, 1936.....	45,327,000.00
4½% serial bonds called for redemption November 1, 1939.....	10,352,000.00
Series C (Bayonne Bridge)—4% serial bonds called for redemption January 3, 1938.....	15,669,000.00
NEW YORK-NEW JERSEY TERMINAL BONDS, SERIES D (Inland Terminal No. 1)—4¼% serial bonds due 1941-1960 (called for redemption March 1, 1941).....	42,000,000.00
NEW YORK-NEW JERSEY INTERSTATE TUNNEL BONDS, SERIES E (Holland Tunnel)—4¼% serial bonds due 1941-1960 (called for redemption March 1, 1941).....	1,161,000.00
SERIES F BONDS , 3%, due March 1, 1941.....	2,777,777.78
SERIES FF BONDS , 3%, due March 1, 1941.....	4,000,000.00
SPECIAL REFUNDING BONDS, SERIES G —1.10% serial bonds due 1941-1945 (\$800,000 due October 1, 1941).....	26,103,000.00
GENERAL AND REFUNDING BONDS:	
First Series, 4%, due 1975 (called for redemption March 1, 1941).....	17,500,000.00
Third Series, 3½%, due 1976.....	82,500,000.00
Fourth Series, 3%, due 1976.....	50,000,000.00
Fifth Series, 3¼%, due 1977.....	48,735,000.00
Sixth Series, 3%, due 1975.....	48,735,000.00
Total funded debt	\$331,257,777.78

NOTE: Matured and called bonds for which redemption funds are on deposit with paying agents but which have not been presented

Series B, 4% serial bonds called for redemption December 1, 1936.....	\$ 1,000.00
Series B, 4½% serial bonds called for redemption November 1, 1939.....	73,000.00
Series C, 4% serial bonds called for redemption January 3, 1938.....	100,000.00
Series D, 4¼% serial bonds matured March 1, 1938.....	5,000.00
Series E, 4¼% serial bonds matured March 1, 1938.....	5,000.00
General and Refunding Bonds, Second Series, 3¾%, due 1965, called for redemption December 1, 1939.....	28,000.00
Total	\$179,000.00

DECEMBER 31, 1940

Amount Issued (Less Principal Amount Retired)	Bonds Refunded Through Issuance of General and Refunding Bonds and Pledged as Collateral Thereto (See Note)	AMOUNT OUTSTANDING AT DECEMBER 31, 1940		
		Held by the Public	Held in Funds of the Port of New York Authority	Total
\$ 12,200,000.00	\$12,200,000.00	\$.....	\$.....	\$.....
15,000,000.00	15,000,000.00	.....	.....	.....
20,327,000.00	20,327,000.00	.....	.....	.....
10,352,000.00	10,352,000.00	.....	.....	.....
15,669,000.00	8,436,000.00	7,233,000.00	.....	7,233,000.00
42,000,000.00	9,941,000.00	32,059,000.00	.....	32,059,000.00
1,161,000.00	1,161,000.00	1,161,000.00	.....	1,161,000.00
2,777,777.78	2,777,777.78	2,777,777.78	.....	2,777,777.78
4,000,000.00	4,000,000.00	.....	.....	4,000,000.00
26,103,000.00	.....	26,103,000.00	.....	26,103,000.00
17,500,000.00	.....	15,793,000.00	1,707,000.00	17,500,000.00
82,500,000.00	.....	73,834,000.00	1,751,000.00	75,585,000.00
50,000,000.00	.....	38,920,000.00	928,000.00	39,848,000.00
48,735,000.00	.....	48,735,000.00	.....	48,735,000.00
\$331,257,777.78	\$76,256,000.00	\$ 250,615,777.78	\$4,386,000.00	\$255,001,777.78

to December 31, 1940 are reflected in the above statement as follows:

	Included as Pledged Bonds	Deducted from Amounts Authorized and Issued
.....	\$ 1,000.00	\$.....
.....	73,000.00	5,000.00
.....	100,000.00	15,000.00
.....	5,000.00	.....
.....	.....	5,000.00
.....	.....	28,000.00
Total	\$179,000.00	\$53,000.00

STATEMENT OF NET REVENUES AND APPROPRIATIONS THEREOF FOR THE YEAR ENDED DECEMBER 31, 1940 EXHIBIT 2

Particulars	Combined	Arthur Kill Bridges	Bayonne Bridge	George Washington Bridge	Holland Tunnel	Lincoln Tunnel	Inland Terminal No. 1 (Port Authority Commerce Building)	General Reserve Fund and Insurance Fund
GROSS OPERATING REVENUES:								
Vehicular tolls from bridge and tunnel facilities.....	\$15,309,742.61	\$480,571.27	\$284,937.29	\$4,757,919.90	\$7,380,962.75	\$2,405,351.40	\$.....	\$.....
Rental income: From tenants.....	1,230,052.91	.....	.....	.....	.....	.....	1,230,052.91	.....
From The Port of New York Authority.....	83,323.80	.....	.....	.....	.....	.....	83,323.80	.....
Miscellaneous.....	36,519.83	14,631.90	60.55	3,657.64	18,064.91	104.83	.....	.....
Total gross operating re- venues.....	\$16,659,639.15	\$495,203.17	\$284,997.84	\$4,761,577.54	\$7,399,027.66	\$2,405,456.23	\$1,313,376.71	\$.....
OPERATING EXPENSES:								
Net operating revenues.....	\$13,056,433.93	\$381,000.26	\$208,834.01	\$4,112,441.90	\$5,778,519.29	\$1,744,426.40	\$ 831,212.07	\$.....
OTHER INCOME, LESS OTHER DEDUCTIONS (Including \$60,- 437.98 provided in lieu of taxes).....								
.....	272,491.99	79.37	2,172.77	109,881.74	74,787.98	20,326.36	62,291.57	127,535.34
Total	\$13,328,925.92	\$381,079.63	\$211,006.78	\$4,222,323.64	\$5,853,307.27	\$1,764,752.76	\$ 768,920.50	\$ 127,535.34
INTEREST ON FUNDED DEBT								
.....	6,904,079.72	528,640.00	366,070.00	1,404,742.50	1,792,083.32	2,147,840.00	655,415.00	9,288.90
Net revenues available for sinking fund reserves for re- tirement of debt and for other appropriations in accordance with statutory requirements and agreements with bond- holders (see paragraph 3 of auditors' report).....	\$ 6,424,846.20	\$147,560.37	\$155,063.22	\$2,817,581.14	\$4,061,223.95	\$ 383,087.24	\$ 113,505.50	\$118,246.44
APPROPRIATIONS AND ALLO- CATIONS OF NET REVENUES:								
To sinking fund reserves.....	\$ 4,598,807.29	\$.....	\$.....	\$2,817,581.14	\$1,700,000.00	\$.....	\$ 81,226.15	\$.....
To general reserve.....	2,454,506.39	.....	.....	.....	2,361,223.95	.....	.....	93,282.44
To deficit accounts.....	685,710.83	147,560.37	155,063.22	.....	.....	383,087.24	.....	.....
For additions to property accounts.....	32,279.35	.....	.....	.....	.....	.....	32,279.35	.....
Net revenues transferred to re- serve accounts (Exhibit 3).....	\$ 6,399,882.20	\$147,560.37	\$155,063.22	\$2,817,581.14	\$4,061,223.95	\$ 383,087.24	\$ 113,505.50	\$ 93,282.44
To insurance reserve.....	24,964.00	.....	.....	.....	.....	.....	.....	24,964.00
Total, as above	\$ 6,424,846.20	\$147,560.37	\$155,063.22	\$2,817,581.14	\$4,061,223.95	\$ 383,087.24	\$ 113,505.50	\$118,246.44

SUMMARY OF RESERVES FOR THE YEAR ENDED DECEMBER 31, 1940 EXHIBIT 3

Particulars	Total	Sinking Fund Reserves	Operating Reserves	General Reserve	Reserves Applied To Retirement of Debt, Payment of Debt Service, Etc., Less Deficit Accounts of Certain Facilities	Expenses in Connection with Funded Debt Refunding and Consolidating Program
Balance, December 31, 1939.....	\$31,945,822.83	\$6,256,305.02	\$251,611.04	\$5,166,959.92	\$24,978,664.72	\$4,707,717.87
Appropriated net revenues for the year ended December 31, 1940 (exclusive of earnings of \$24,964.00 on insurance fund transferred to insurance reserve) from Exhibit 2.....	6,399,882.20	4,598,807.29	.....	2,454,506.39	653,431.48	.....
Excess of amounts realized from sales of the Authority's own bonds, previously internally issued, over market value of such bonds at dates of internal issuance.....	3,746.49	.....	.....	3,746.49	.....	.....
Funded debt retired:						
Series B 4% Bonds (George Washington Bridge).....	.....	2,000,000.00	.....	.....	2,000,000.00	.....
Series D 4¼% Bonds (Inland Terminal No. 1).....	.....	106,000.00	.....	.....	106,000.00	.....
Series E 4¼% Bonds (Holland Tunnel).....	.....	1,000,000.00	.....	.....	1,000,000.00	.....
Appropriations of General Reserve:						
For 1940 sinking fund requirement on General and Refunding Bonds, First Series, 4%, due 1975—\$364,000 principal amount.....	.....	.....	.....	388,129.07	388,129.07	.....
For retirement of \$327,000 principal amount of General and Refunding Bonds, First Series, 4%, due 1975.....	.....	.....	.....	348,676.39	348,676.39	.....
For retirement of \$1,284,000 principal amount of Special Refunding Bonds, Series G.....	.....	.....	.....	1,284,000.00	1,284,000.00	.....
For additions to property accounts—George Washington Bridge For payment of interest and additions to property accounts— Inland Terminal No. 1.....	.....	.....	.....	250,781.54	250,781.54	.....
For payment of interest and additions to property accounts— Inland Terminal No. 1.....	.....	.....	.....	125,000.00	125,000.00	.....
For payment of interest on Series F and FF Bonds.....	.....	.....	.....	163,987.74	163,987.74	.....
Expenses in connection with funded debt refunding and con- solidating program:						
Premium paid on bonds refunded.....	1,550,726.01	.....	.....	.....	.....	1,550,726.01
Net premium on refunding bonds issued.....	253,387.36	.....	.....	.....	.....	253,387.36
Miscellaneous expenses (net).....	13,144.39	.....	.....	.....	.....	13,144.39
Interest on refunding bonds (\$1,344,531.04) from date of issuance to call or maturity date of refunded bonds less interest (\$581,829.69) on refunded bonds acquired before call or maturity date.....	762,701.35	.....	.....	.....	.....	762,701.35
Balance, December 31, 1940 (Exhibit 1)	\$36,276,267.13	\$7,749,112.31	\$251,611.04	\$5,064,638.06	\$29,991,807.98	\$6,780,902.26

DESCRIPTION OF *Funded Debt* OUTSTANDING AS AT MARCH 1, 1941*...

DESIGNATION	DATED	MATURITY	INTEREST		AMOUNT (E) OUTSTANDING	FISCAL AGENTS	CALLABLE ON 30 DAYS' NOTICE (A)	AMOUNT SOLD (F)	DATE SOLD	INTEREST COST TO PORT AUTHORITY	GENERAL FEATURES	
			Rate	Payable								
General and Re-funding Bonds	3rd Series	May 1, 1936	May 1, 1976	3½%	May 1 and Nov. 1	\$17,500,000	Paying Agent— Central Hanover Bank & Trust Company. Registrar— Manufacturers Trust Com- pany.	At 103, on May 1, 1941 and on or before May 1, 1945; Thereafter at 102, on or before May 1, 1950; Thereafter at 101, on or before May 1, 1955; Thereafter at 100 to maturity.	\$17,500,000	May 1, 1936	3.507%	<ul style="list-style-type: none"> ● Exempt, in the opinion of General Counsel and Bond Counsel, under the Constitution of the United States, as now in force, from any and all taxation (except estate, inheritance and gift taxes) now or hereafter imposed by the United States of America unless the States of New York and New Jersey consent to such taxation; and under the Treaty of 1921 and supplemental legislation, from any and all taxation (except estate, inheritance and gift taxes) now or hereafter imposed by the States of New York and New Jersey or by political subdivisions thereof. ● Eligible, in the opinion of General Counsel of the Port Authority and Bond Counsel, under existing legislation, for investment in New York and New Jersey for state and municipal officers, banks and savings banks, insurance companies, trustees and other fiduciaries; and for deposit with state or municipal officers or agencies for any purpose for which the deposit of bonds or other obligations of the States of New York or New Jersey, respectively, is now or may hereafter be authorized. ● Coupon bonds, registerable as to both principal and interest, or as to principal alone and if so registered, convertible into coupon bonds in accordance with the provisions for registration endorsed thereon. ● General and Refunding Bonds are direct and general obligations secured by: <ul style="list-style-type: none"> (a) Full faith and credit of the Port Authority. (b) Revenues of George Washington Bridge, Lincoln Tunnel, Holland Tunnel, Arthur Kill Bridges, Bayonne Bridge and Inland Terminal No. 1. (c) General Reserve Fund. (d) Special Reserve Fund for General and Re-funding Bonds. ● Special Refunding Bonds are direct and general obligations secured by: <ul style="list-style-type: none"> (a) Full faith and credit of the Port Authority. (b) General Reserve Fund.
General and Re-funding Bonds	4th Series	Dec. 15, 1936	Dec. 15, 1976	3%	June 15 and Dec. 15	\$75,585,000	Paying Agent— The Chase National Bank of the City of New York. Registrar— City Bank Farmers Trust Company.	At 103, on Dec. 15, 1941 and on or before Dec. 15, 1945; (B) Thereafter at 102, on or before Dec. 15, 1950; Thereafter at 101, on or before Dec. 15, 1955; Thereafter at 100 to maturity.	\$10,000,000 17,500,000 33,000,000 9,000,000	Dec. 15, 1936 June 15, 1939 Mar. 1, 1940 July 26, 1940	2.838% 2.924% 3.022% 3.06%	
General and Re-funding Bonds	5th Series	Aug. 15, 1937	Aug. 15, 1977	3¼%	Feb. 15 and Aug. 15	\$39,848,000	Paying Agent— City Bank Farmers Trust Company. Registrar— The Chase National Bank of the City of New York.	At 104, on Aug. 15, 1942 and on or before Aug. 15, 1946; (C) Thereafter at 103, on or before Aug. 15, 1951; Thereafter at 102, on or before Aug. 15, 1956; Thereafter at 101, on or before Aug. 15, 1961; Thereafter at 100 to maturity.	\$15,000,000	Aug. 15, 1937	3.271%	
General and Re-funding Bonds	6th Series	Dec. 1, 1940	Dec. 1, 1975	3%	June 1 and Dec. 1	\$48,735,000	Paying Agent— City Bank Farmers Trust Company. Registrar— The Chase National Bank of the City of New York.	At 103, on Dec. 1, 1941 and on or before Dec. 1, 1945; (D) Thereafter at 102, on or before Dec. 1, 1950; Thereafter at 101, on or before Dec. 1, 1955; Thereafter at 100 to maturity.	\$27,750,000	Dec. 19, 1940	2.914%	
Special Refund- ing Bonds	Series G	Oct. 1, 1940	Oct. 1, 1941 Oct. 1, 1942 Oct. 1, 1943 Oct. 1, 1944 Oct. 1, 1945	1.10%	Apr. 1 and Oct. 1	\$ 800,000 800,000 800,000 800,000 800,000	Paying Agent— J. P. Morgan & Co., Inc. Registrar— The Chase National Bank of the City of New York.	NON-CALLABLE	\$5,284,000	Oct. 1, 1940	1.07%	

NOTES: * Outstanding Funded Debt as of March 1, 1941—\$185,668,000. Excludes bonds acquired and pledged as collateral security under the Refunding Program.

(A) Notice of call is required to be published twice; not less than 30 nor more than 45 days before the date fixed for redemption, and not less than 10 nor more than 20 days before said date.

(B) Subject to redemption prior to December 15, 1950, only through the operation of the Sinking Fund.

(C) Subject to redemption prior to August 15, 1951, only through the operation of the Sinking Fund.

(D) Subject to redemption prior to December 1, 1945, only through the operation of the Sinking Fund.

(E) Includes bonds sold publicly or privately, or issued in exchange for other bonds.

(F) Amounts shown are only those bonds which were sold by public sale. In addition thereto, bonds have been issued from time to time by exchanges.

