



REGIONAL PLAN ASSOCIATION is a nonprofit citizen organization which has been working since 1929 for the efficient and attractive development of the Metropolitan Region surrounding the Port of New York and for expanding opportunities for all its residents.

THE STUDY AREA, shown at the left, is the geographic context of the Association's current work on a Second Regional Plan, a successor to the pioneering Plan of New York and its Environs of the 1920's. The Study Area is deliberately drawn larger than would be required to accommodate the most extensive of several development patterns being evaluated for the year 2000, the time horizon of the new plan. The area includes 31 counties in New York, New Jersey and Connecticut with a population in 1965 of 18.9 million and a land area of 12,748 square miles.

REGIONAL PLAN ASSOCIATION

Prepared by F. Carlisle Torrey in collaboration with Philip Israel, under the supervision of Stanley B. Taskel and Boris Pushkarev. Edited by William B. Shore.

REGIONAL PLAN DECEMBER, 1968

FOREWORD

The Second Regional Plan is a report of the Regional Plan of New York and New Jersey, published in a series of chapters from 1927-1931.

Like its predecessor, the Second Regional Plan will comprise a series of chapters on the Lower Hudson, the New York City, Bergen and Hudson Counties in which it has been recently revised for

Regional Plan Association

THE LOWER HUDSON



REGIONAL PLAN ASSOCIATION

Prepared by F. Carlisle Towery in collaboration with Philip Israel, under the supervision of Stanley B. Tankel and Boris Pushkarev. Edited by William B. Shore.

A REPORT OF THE SECOND REGIONAL PLAN DECEMBER, 1966

Regional Plan Association

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The Second Regional Plan will incorporate the earlier findings of the New York Metropolitan Region Study, eco-

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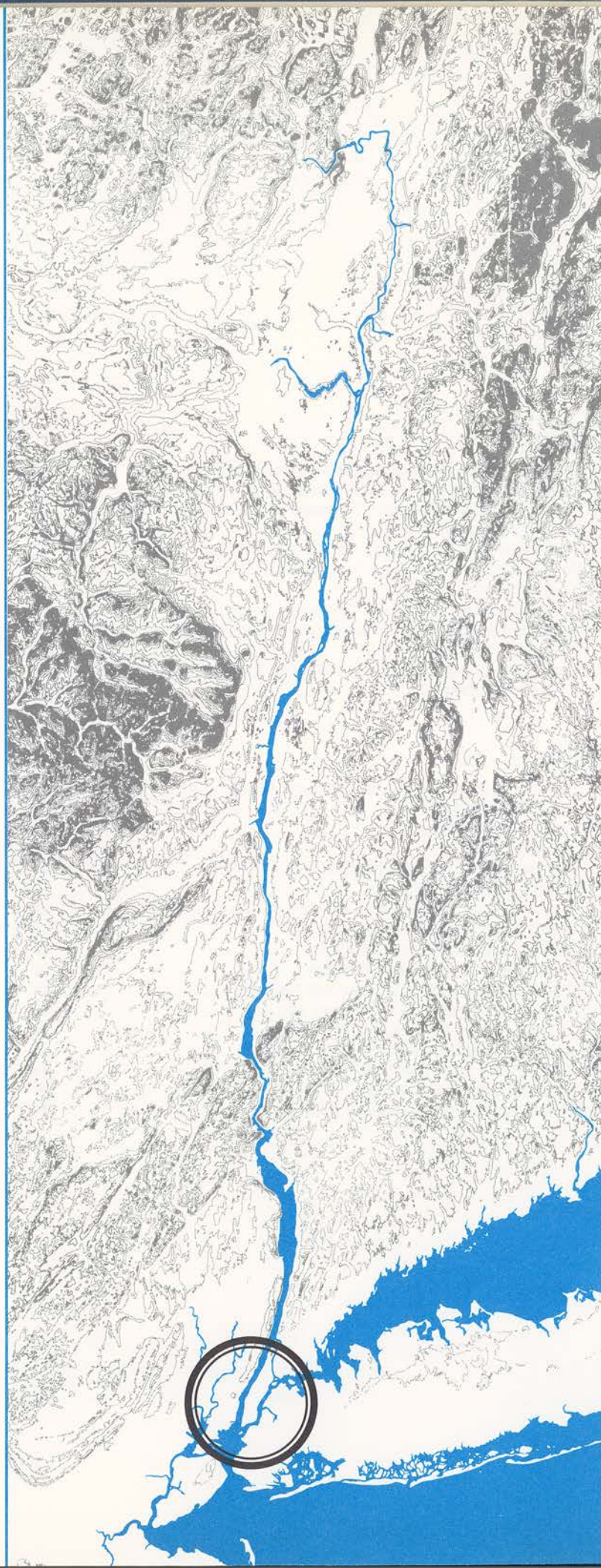
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THE HUDSON RIVER

From its farthest source to Manhattan, where it empties into the sea, the Hudson River is about 300 miles long. This report on the Lower Hudson deals with only that small fraction of the River's length below the George Washington Bridge.

INTRODUCTION

Commerce and manufacturing in many American cities were once heavily dependent on water for transportation and power. The cities' growth and prosperity were often the consequences of convenient waterfront access. Industrial and cargo-handling facilities were located on their downtown waterfronts. Thus, the non-working life of the city was forced inland and its social and cultural areas were isolated from the rivers and harbors.

Such was the case in New York City and Hudson County where the rapid crowding of industrial, storage and transportation facilities on their waterfronts contributed to urban expansion while effectively separating city from River. For many years, most residents of Manhattan or Jersey City had no view of the Hudson River and little access to it. Riverside Park was not usable for recreation until 1936. Even now, Manhattan, south of 72nd Street, is visually and physically blocked from the River. The Battery—a preindustrial remnant once used for harbor defense—provides the only real opening to the water. The New Jersey side of the River is still shredded by rail yards and is largely inaccessible to its residents.

By contrast, the great river cities of Europe grew tightly around their waterfronts, enfolding the river affectionately with churches, palaces, quays and parks,

before the advent of the factory machine.

But significant changes in technology and in American cities themselves are beginning to affect conditions on the old industrial and cargo waterfronts in this country. Traditional occupants of urban waterfronts are moving away, leaving vacant riverfrontages in the heart of the city. These changes create the opportunity to reclaim large parts of the waterfronts and develop them for major social, residential and recreation activities.

This opportunity exists now on the Lower Hudson—a river that is typical of others in the nation and illustrative of the general conditions and trends. But the Lower Hudson area is also special. It is at the center of the world's most populous region. It has the world's greatest harbor. It has magnificent natural and man-made features that are unique: on one side, the Palisades cliffs, a massive and beautiful geologic formation not yet completely despoiled; on the other side, the world's most spectacular city skyline; in between, the River itself; at each end, a long, graceful bridge; at mid-bay, the Statue of Liberty.

These monuments identify and exalt this Region. Now, for the first time in a century, we can exploit them properly, eliminate the barriers between the city and its River, and transform the Lower Hudson into a major, usable amenity.

SUMMARY & RECOMMENDATIONS

The Issues

Use and abuse of natural amenities. The quality of America's urban environment continues to deteriorate because of an increasing lack of amenity, neglect and failure to recognize and exploit aesthetic potential. In this Region, we have often failed to use natural amenity and we have often destroyed it. Two examples are the blocking of the Lower Hudson from the people who live and work on its banks and the casual obliteration of the Palisades there. Reversal of the attitude which permits these actions is vital to the livability of the city. Recognition of opportunities and the translation of these opportunities into plans for providing and preserving urban amenities are major planning problems for this and future generations. These are the problems with which this report is concerned.

The Lower Hudson is important in itself, both for the special beauty it possesses and for the special opportunity of enjoyment it presents for the millions of people who are near it daily. It is important, also, for the basic question it raises of how urban man can live with and enjoy the city's natural setting.

This question applies particularly to riverfronts in many parts of this and other urban regions.

The Hudson and the Lower Hudson. There seems to be general agreement that a plan should be prepared for the entire Hudson River. This plan need not be a highly detailed one. Design and use principles, some general guidelines for proper activities along the several segments of the River, and specific project proposals at certain points probably would suffice.

But the Lower Hudson requires and deserves special attention:

- First, because it is so highly developed, complex, its parts so interrelated — visually and functionally; much more detail is necessary for an effective plan;

- Second, because so many people could see and enjoy this stretch of the River;

- Third, because its shores are experiencing an investment boom and the individual projects, since they are separate and uncoordinated, are beginning to destroy the scenic and recreational resource of the Lower Hudson and to reduce the great over-all potential there.

Summary of Findings

Transition. The waterfronts of the Lower Hudson River are in rapid transition. From the George Washington Bridge south to Bayonne on the New Jersey side and to the tip of Manhattan on the New York side, the traditional users of the Riverfront — railroads, industry and ocean-freight handlers — are gradually leaving.

At the same time, almost \$3 billion in public and private capital may be invested soon for housing, parks, offices, highways, passenger piers, educational facilities. This will radically change the appearance and use of both sides of the River.

The cities on both sides seem ready to turn outward toward the River, building for activities which allow people to enjoy the River and the view of the Palisades and New York skyline. But the change is disorderly and piecemeal. The full potential of the Lower Hudson is not being realized.

Obstacles to achieving the full potential. While most of the new activities being built, planned or discussed for the Lower Hudson are appropriate, serious conflicts in their location and design are appearing. These conflicts are likely to prevent the fullest development and best use of the Riverfront.

For example:

- The placement and design of most of the new apartments on the Palisades are depriving the New Jersey municipalities of a great asset and destroying an important regional scenic resource;

- The proposed reconstruction of the West Side Highway will have decisive effects on the future of Manhattan's Hudson waterfront. It will affect every proposed project on that waterfront. The Lower Manhattan Plan recently submitted by consultants to the City Planning Commission and the new passenger-liner terminal being studied by the Port Authority will be enhanced or damaged by the highway's design;

- The huge sewage plant proposed for the Manhattan side could, paradoxically, damage the river it is supposed to improve;

- Several proposed apartment developments could block views from present parks and other proposed apartments;

- Transportation plans for the New Jersey side—new highways and changes in commuter rail routes—could interfere with some housing proposals and might not be adequate to serve others.

The Lower Hudson is, visually, a single zone. Anything added or taken away affects the whole. Conflicts in design and appearance are inevitable if random development continues or if massive new construction takes place without an over-all effort to relate the projects to each other and to the whole.

Finally, under the present conditions, the last remnants of the River's important history are likely to be lost without a deliberate program to save them.

Recommendations

A plan for both sides of the River south of the George Washington Bridge is needed quickly to guide the advantageous transition from goods handling to residential and recreational uses.

Three broad principles should be reflected in the plan:

1. Uses planned for the waterfronts should be those which **bring people to the River** to enjoy it and the views of both shores: housing, parks, recreation areas, and related community facilities. Maximum public access should be provided along both banks.

2. The design and arrangement of what is there should be **focused on the River**, serving to unite the two sides visually. Certain existing sight lines across the River and up and down it should be preserved and new ones created.

3. The design and arrangement should **clarify and reinforce the essential visual characteristics** of the Lower Hudson; primarily, the natural wooded cliffs on the west, the man-made skyline on the east, and the contrasting opposite edges of the River.

Uses of the Riverfronts. Regional Plan Association's suggestions for appropriate uses of the Lower Hudson are summarized on pages 34 to 35. In general, they call

for high-rise housing and parks (including a bicycle-hiking path and maximum public access to the River), both on the Manhattan shore and on the New Jersey side from the George Washington Bridge to the Morris Canal Basin in Jersey City. From this point south to Constable Hook, Bayonne, industry and port activities seem most appropriate for the future. The residential areas of Bayonne should continue to be turned toward Newark Bay.

In Manhattan, Riverside Park should be extended south to 59th Street, and the mile-long gap in the park between 125th and 145th should be filled with additional park. The new passenger-liner terminal should be built between 39th and 59th, integrated with generous open space and facilities for travellers, their visitors and sightseers. South to 12th Street, freight handling probably should continue, at least for a time. From 12th Street to the Battery, housing, parks and related facilities should be built along the River to complement the growing office developments like the World Trade Center. This is in accordance with the Lower Manhattan Plan recently submitted to the New York City Planning Commission.

Steps needed: Immediate protection. (1) A public agency should immediately acquire the face of the Palisades from the George Washington Bridge to the Holland Tunnel approach in Jersey City. (2) New York City should locate the proposed North River Pollution Control Plant on Ward's Island, as originally intended, or redesign it so it is completely compatible with recreational use of the waterfront and the beauty of the Hudson River.

Preparing the plan. Regional Plan Association continues to favor a planning commission for the whole Hudson River that is representative of federal, bi-state and local interests. Coordinating the planning for both sides of the Lower Hudson, relating it to the rest of the River and to pollution control priorities for the whole, will require a river-wide planning context.

For two reasons, however, it would be best to begin planning for the Lower Hudson with the sponsorship of New York City's Planning Commission for the Manhattan side and the eleven municipalities with the State of New Jersey for the west bank: First, the process of

planning for the Hudson probably would be done best if the federal-state-local commission asked municipalities and counties to initiate proposals for their own parts of the River. Second, development along the Lower Hudson is occurring so fast that planning must begin immediately to have proper and sufficient effect on the changes. The federal-state-local commission may not begin operations soon enough to have this effect.

Therefore, Regional Plan Association — in addition to urging again that the two states work with the federal government to arrange for an over-all Hudson River planning commission — recommends that New York City begin a plan for the east bank of the Lower Hudson and that New Jersey bring together the eleven municipalities on the west bank to sponsor a plan for the west bank.

In addition, New Jersey must make arrangements for equitable sharing of revenues and local costs attendant on new development so that each municipality receives a fair share of whatever facilities are planned for its taxing and service area.

Coordinating the plans for the two sides of the River should be done in the first instance by the professional planners working on the two plans and ultimately by the federal-state-local commission.

Although all the localities will benefit from the plan — their optimum development depends on it — standby enforcement powers should be established by the federal-state-local commission to assure that the plan is followed. The nation, the states and the localities all have an important stake in the Lower Hudson River.

Design. Some design rules to protect the view of the Palisades: (1) buildings on top of the Palisades should be placed well back from the cliff edge; (2) they should be low enough so the line and height of the cliff remains dominant; (3) no development should take place on the cliff face; (4) buildings in front of the Palisades should accentuate and dramatize the cliff line; structures should be very low (up to 5 stories) and extensive or widely spaced clusters of very tall towers — much higher than the cliff line — never about the same height. Several views from the Palisades should be protected, including the spectacular one of the skyline from the helix entering the Lincoln Tunnel and the several pan-

oramas from strip parks along the top of the cliffs. Many views of the Palisades and River should be opened up on the Manhattan side.

Transportation. The additional population along the New Jersey side of the River that would result from these recommendations will need improved transportation from some areas and expanded capacity from others. The Port Authority Trans-Hudson (PATH) system should be extended as development occurs and eventually used primarily as a local subway system. The proposed freeway connecting the Holland and Lincoln Tunnels and the George Washington Bridge is needed and should have several access points along the waterfront for local service.

Historic preservation. Some ferryboats and certain ferry terminals are worth preserving, and it is important to retain the historic qualities of the City of Hoboken that give it a rare character and distinction.

Ferry terminals, specifically the Erie-Lackawanna building in Hoboken, the municipal ferry house at Whitehall Street in Manhattan and the old central section of the Central of New Jersey terminal in Jersey City, are all worthy buildings with historic value. They might, however, be turned to new uses.

Hoboken's general appearance can be preserved if rehabilitation is emphasized and if new buildings are located properly and designed to complement the old elements of the city.

CHARLES PRATT



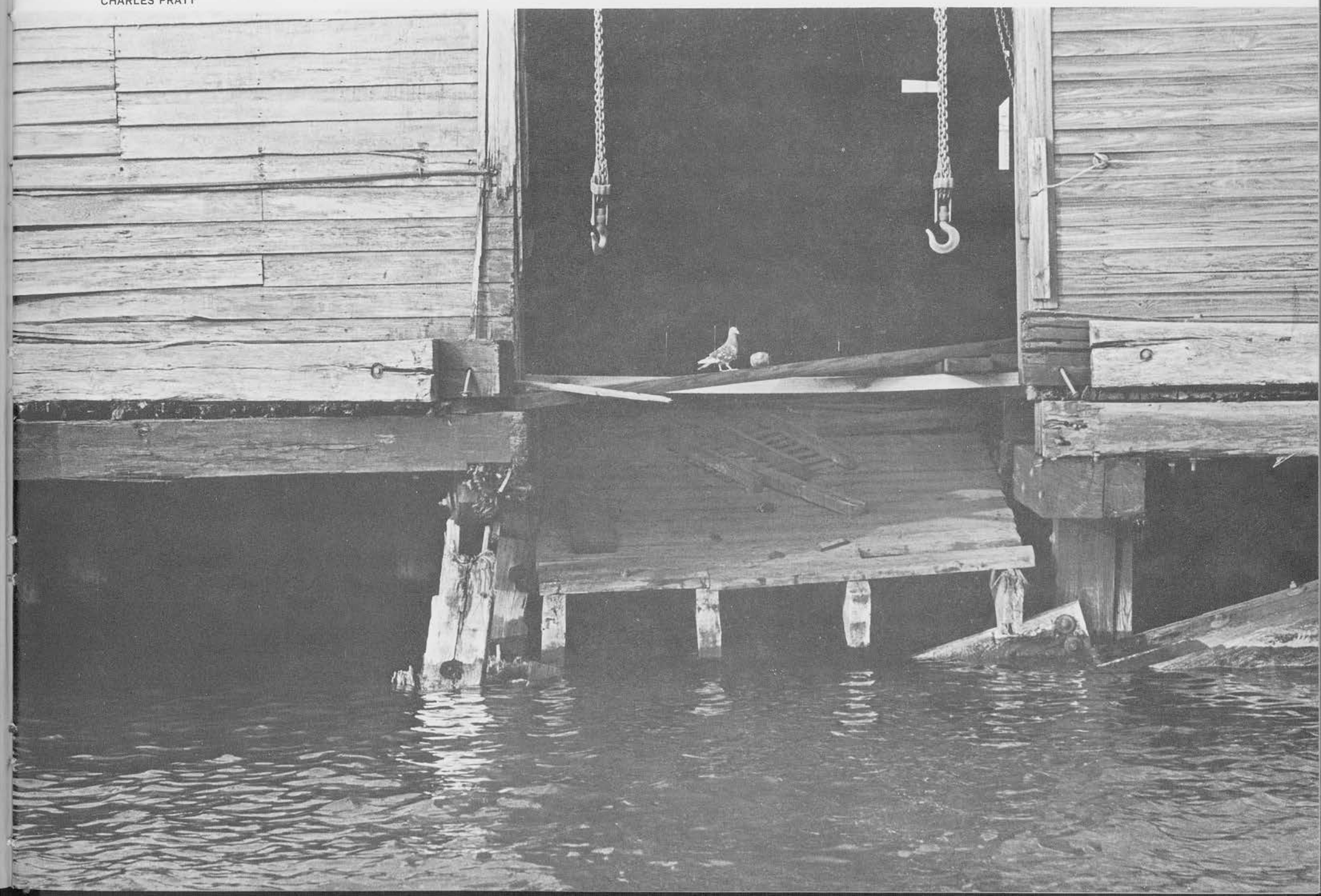
"If the economy no longer requires so much industry or commerce on the waterfront, why cannot we consider it for more pleasurable uses? The answer is: we can. Our urban waterfronts can be treated as a new resource ..."

Christopher Tunnard

White House Conference on Natural Beauty, 1965

THE CHANGING WATERFRONT

CHARLES PRATT





GENERAL DESCRIPTION

This report deals with the Hudson River waterfront (Map 1) from the George Washington Bridge to the northern boundary of Battery Park on the Manhattan side and to the eastern tip of Constable Hook in Bayonne on the New Jersey side. The New Jersey waterfront is defined as extending roughly to the line of the Palisades ridge. Below Hoboken, however, where the River turns away from the ridge and the cliffs have less visual impact, the waterfront is considered to be the flat areas either adjacent to the Hudson or affected by their proximity to the River. In Manhattan, the waterfront includes Riverside Park—which extends from the Bridge south to 72nd Street. From 72nd Street to the Battery, it includes the blocks which front the River.

Natural Characteristics

New Jersey bank. South of the George Washington Bridge, the Hudson River flows between two gradually declining ridges. The Palisades ridge on the New Jersey side is 300 feet above the River at the Bridge, is 100 feet at Jersey City, and drops to 30 feet at Bayonne.

At the George Washington Bridge, the ridge is very close to the water's edge, heavily wooded, and its face relatively free of development. Portions of this area are in the Palisades Interstate Park system.

Between the Palisades and the water are low, flat areas, narrow in the vicinity of Edgewater, wider at Hoboken and widest at Jersey City. Virtually none of the narrow strips is in its natural state but little of the eight-mile section from the Bridge to Hoboken is intensively used for any purpose.

Between Communipaw and Constable Hook, land areas are large and flat, and shoals have encouraged large land filling projects for railroad use and such facilities as the United States Naval Supply Center. This section is actually the waterfront of Upper New York Bay and the mainland edge behind Liberty and Ellis Islands.



The Palisades cliffs rise directly from the water's edge at the George Washington Bridge in Fort Lee. Between the Palisades and the River are strips of land, narrow in Edgewater,



wider at Weehawken, and widest at Hoboken and Jersey City.



South of Morris Canal Basin, Jersey City, are large, flat land areas on the waterfront.



Manhattan bank. On the Manhattan side, the ridge is distinguishable down to 72nd Street, but further south, building is so dense that almost no natural features are visible.

Man-Made Characteristics

The functions of the waterfront facing each other across the Lower Hudson could be described as opposites—New Jersey, the supplier; Manhattan, the consumer. These generalized roles are reflected in their development patterns. The New Jersey waterfront, acting as the mouth of a great funnel through which New York City is fed, is horizontal and extensive. Manhattan, the consumer, is vertical and intensive.

New Jersey. Measured roughly along the bulkhead line,¹ the New Jersey waterfront from Constable Hook to the George Washington Bridge is 18.5 miles. Of this, more than 12 miles are used for railroad yards, industry, freight terminals and rail-ferry passenger terminals. Nearly a mile is in residential use. Almost 5 of the 18.5 miles are unused at present, but only 0.6 miles are deliberately left open for public recreation or scenic open space. Most of this (0.5 miles) is the sheer face of the Palisades ridge in Fort Lee. Only about 0.1 mile (700 feet) of waterfront is public open space south of Fort Lee.

Two exceptions to the rail and industrial waterfront use are in Edgewater, where some single-family houses are scattered along the northern half-mile of shoreline, and at Castle Point in Hoboken, where Stevens Institute of Technology is located. Edgewater, with 4,000 residents, is the only place where people live near the water and can get to it easily.

Manhattan. North of 72nd Street, the Henry Hudson Parkway and strip parks overlooking the River have been built on an artificial hill above the New York Central tracks. Only one pier and a marina are on the water. South of 72nd Street, the Riverfront is solidly

1. Bulkhead is the boundary established by the U.S. Army Corps of Engineers beyond which solid fill may not normally be extended. Under certain conditions, this rule may be modified to allow solid fill between the bulkhead and pier-head line.

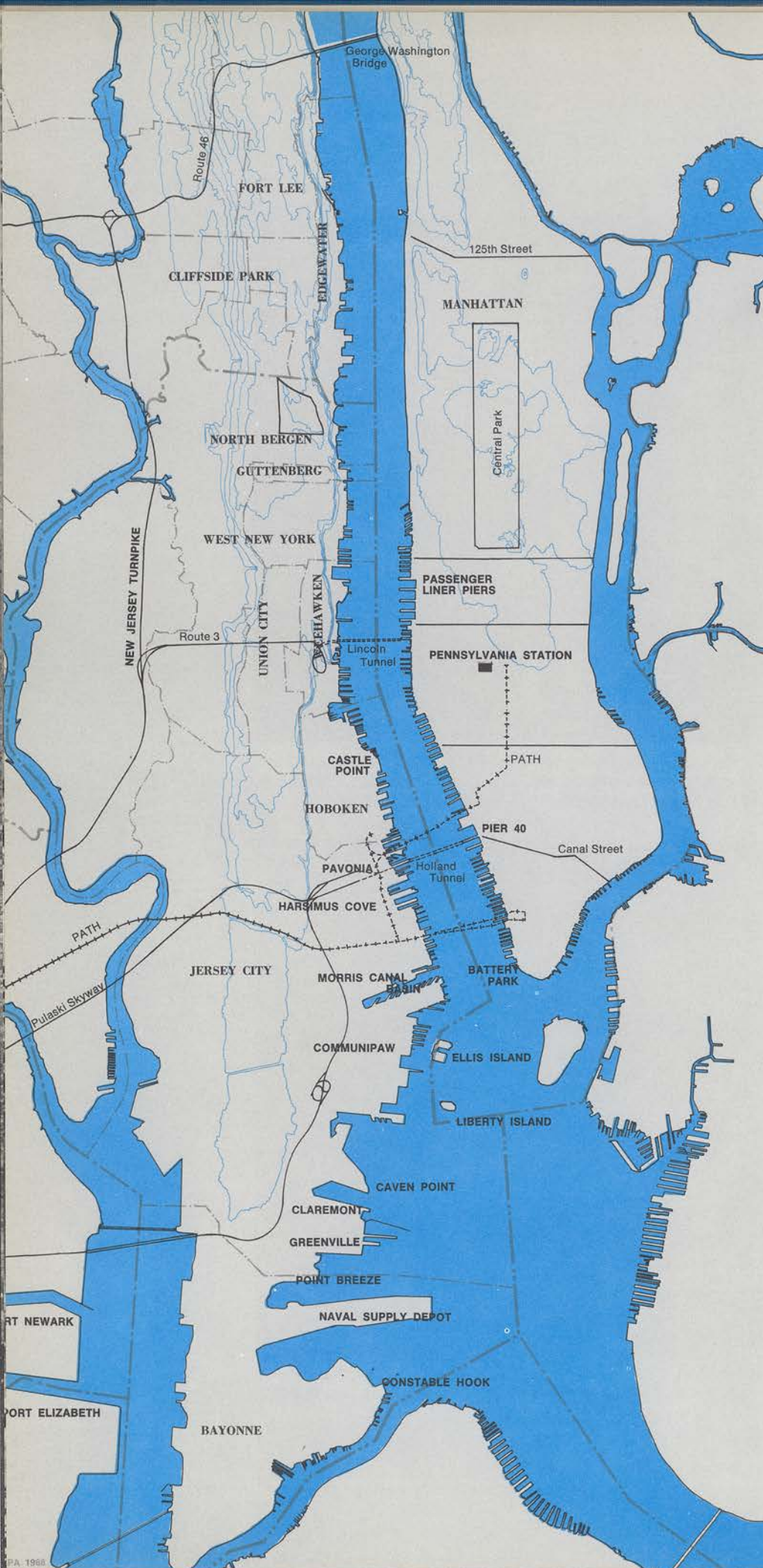
CONTRASTING RIVERFRONTS (Left) Manhattan, the consumer, is characterized by vertical, intensive development. The New Jersey waterfront, the supplier, is horizontal and extensive.



Riverside Park and the Henry Hudson Parkway — constructed on filled land over railroad tracks — occupy the Manhattan waterfront between 72nd Street and the George Washington Bridge.



From 72nd Street south to the Battery, the Manhattan waterfront is lined with piers. The elevated West Side Highway is just behind the piers.



lined with piers to Battery Park and the elevated West Side Highway is immediately behind.

Table 1. Use of the Lower Hudson Waterfront, 1966
(In miles, measured along bulkhead line)

	New Jersey	Manhattan	Total
Cargo Piers	0.7	1.1	1.8
Passenger Ship Piers	—	0.7	0.7
Railroad Facilities	4.7	1.3	6.0
Industry	3.5	0.1	3.6
Recreation and Parks	0.6	4.8*	5.4
Miscellaneous	3.3	0.9	4.2
Residential	0.9	—	0.9
Vacant or Open	4.8	1.5	6.3
Total	18.5	10.4	28.9

*Riverside Park

Political Divisions

Municipalities. The New Jersey side of the Lower Hudson is divided into eleven municipalities.

Fort Lee is on top of the Palisades where the cliff comes directly out to the River. The cliff face at this point is undeveloped, but several large apartment houses have been built on the top, overlooking the River.

Edgewater occupies a narrow strip of land between the Palisades and the River.

Cliffs Park, North Bergen, Guttenberg, West New York, Union City and Weehawken are built mainly on the ridge overlooking flat land at the water's edge. There are no residents on the flat land, but there are some industry and rail yards. The boundaries of Cliffs Park and Union City do not extend to the water's edge; boundaries of the others do.

Hoboken, Jersey City and Bayonne occupy wide, flat areas adjacent to the River. Jersey City and Bayonne extend onto the top of the Palisades as well.

The three northern most municipalities on the Lower Hudson are in Bergen County. The remaining eight are in Hudson County.

MAP 1 THE LOWER HUDSON

The New Jersey waterfront is 18.5 miles long from the George Washington Bridge to Constable Hook, Bayonne. Manhattan's waterfront from the Bridge to the Battery is 10.5 miles long.

PRESENT USES AND TRENDS

Railroads

Railroads are chief among the present users of the Lower Hudson waterfront (Map 2). Facilities of nine railroads occupy almost 1,900 acres on the New Jersey shore (Table 2), and piers used by six railroads cover one-fourth of lower Manhattan's Hudson waterfront south of Riverside Park. There are two large rail-freight yards on the Manhattan side of the River.

Table 2. Railroad Yards on the New Jersey Waterfront

Railroad	Location	Area (in acres, measured to pier-head line*)
Pennsylvania	Harsimus Cove	100
	Greenville	400
	Hoboken (Marine Repair)	8
Central of New Jersey	Communipaw	411
Baltimore & Ohio		
Reading		
Erie-Lackawanna	Pavonia,	
	Hoboken—Jersey City	203
	11th Street, Hoboken	4
	Weehawken	90
Lehigh Valley	Claremont	140
	Communipaw	157
New York Central	Weehawken	210
New York, Susquehanna & Western	Edgewater	25
Hoboken Shore	Hoboken	27
Total		1,875

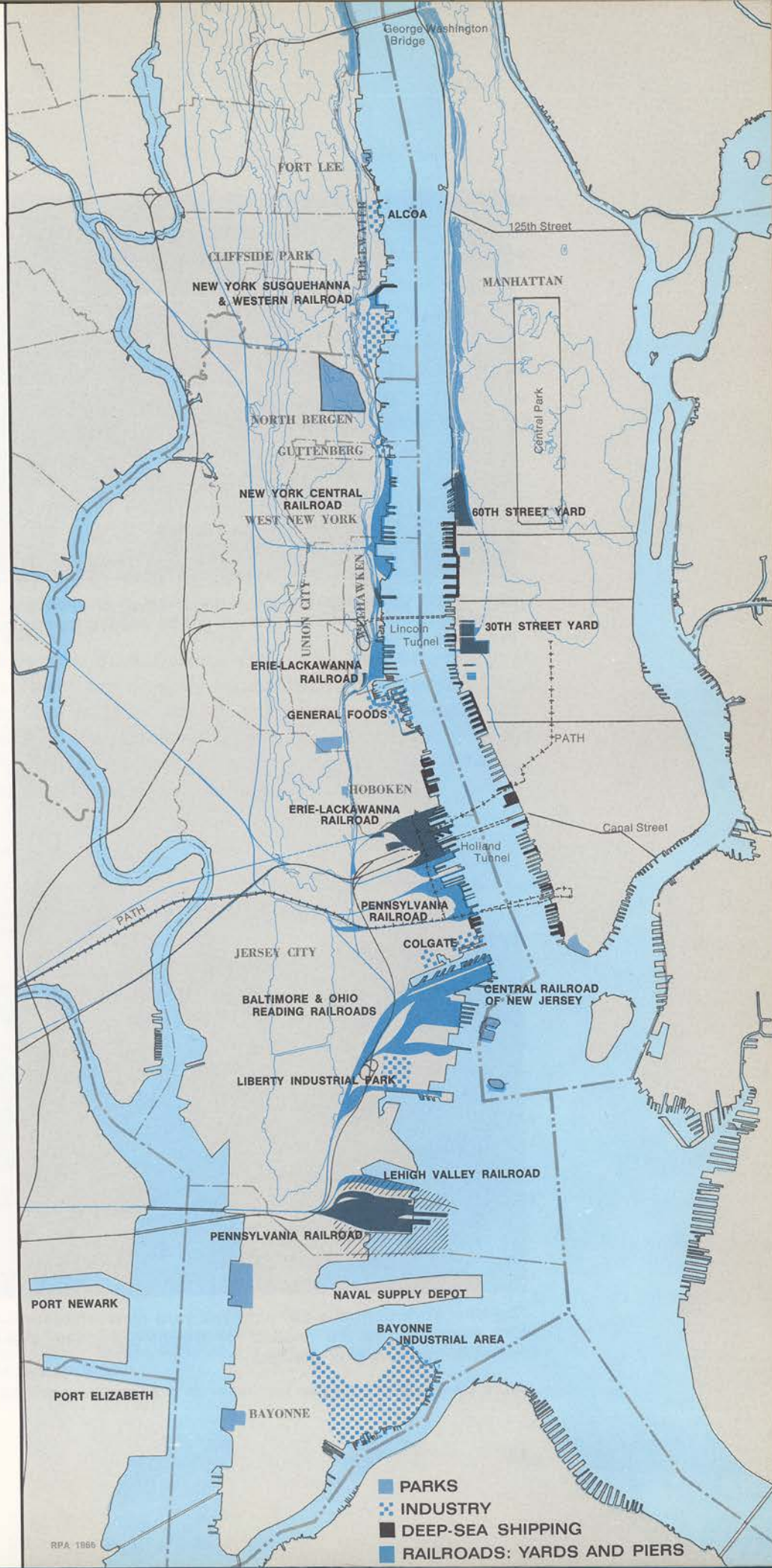
Source: State of New Jersey Division of Taxation

*The pier-head line is the boundary in a navigable river, set by the U.S. Army Corps of Engineers, beyond which construction may not extend.

MAP 2

PRESENT USES

Railroads and industry are the dominant users of the New Jersey waterfront. Riverside Park and the Henry Hudson Parkway occupy the upper Manhattan waterfront from the Bridge to 72nd Street, but the rest of it is solidly lined with rail, cargo and passenger piers. The dark blue indicates railroad yards and piers that are likely to remain; the hatching is an area of possible expansion of rail-freight facilities.





Rail-freight yards now occupy large areas of New Jersey waterfront. But much of this land will not be needed for this purpose in the near future.



The New York Central's 200-acre rail yard at Weehawken—West New York may not be needed for freight operations when the Penn-Central merger is effected.

Excess area. Most of the facilities are old and some are underused. The combined areas of existing yards still exceed that required to handle present traffic, even though some railroads have released large parcels of waterfront land.

Rail-freight movement in the harbor has declined substantially and continued declines are projected by the Port Authority. Port Authority figures show that from 1950 to 1960 there was a 30 percent decrease in annual waterborne rail-freight tonnage. The Port Authority's projection of this tonnage for 1980 is 60 percent lower than the 1950 figure.

Table 3. Waterborne Rail Freight Tonnage in the New York Harbor

1950	1960	Projected 1980
31,886,000	22,610,000	12,540,000

Source: Port of New York Authority

The projected decline does not necessarily indicate further deterioration in railroad business. Railroads are in a period of transition—mergers and technology are changing operations and traffic patterns. Every rail company on the New Jersey side of the harbor, except the Hoboken Shore Railroad, is involved in a pending or proposed merger. The Hoboken Shore has applied to abandon its service completely. The merger of rail systems can create new traffic patterns. For instance, some Pennsylvania Railroad freight from the Midwest that is now shipped to Greenville and floated in the harbor can, after the Pennsylvania-New York Central merger, be routed via Albany directly into Manhattan or New England. Thus, while total freight traffic may be increasing, floating in the harbor will decrease. Movement of goods by "piggy-back"² may also reduce the amount of floating.

Consolidation possibilities in New Jersey. The certainty of change and the uncertainty of the exact shape of the changes makes future requirements difficult to predict. It is certain, however, that so long as there is no rail-freight tunnel across New York harbor or the Narrows, some major waterfront rail yards will be necessary. Presently proposed and pending mergers indicate that, except for spurs that serve industries, in the long run, only two of these facilities will be retained. The merged Penn-Central system is expected

² Piggy-backing is the hauling of freight in truck trailers which can be transferred to or from a rail flat-car.

to use Greenville as its waterfront yard. The Chesapeake and Ohio and the Norfolk and Western, which have proposed a merger including the Central Railroad of New Jersey, Reading, Erie-Lackawanna and Baltimore & Ohio, would probably use the Erie-Lackawanna's Hoboken-Pavonia yard.

Could suitable arrangements be worked out, the railroads might eventually consolidate all their harbor facilities. Conditions for such cooperation among competing systems are complicated and difficult to arrange, but there is interest in the possibility. The Tri-State Transportation Commission, in cooperation with twelve railroads on both sides of the harbor, studied the feasibility of consolidating all lighterage and car floating.³ Although no arrangement satisfactory to all the railroads has yet been developed and questions about location of shared facilities have arisen, the increase in economy and efficiency that is possible through consolidation was shown to be significant.⁴

In addition, a consolidated lighterage terminal would allow the Central of New Jersey to sell to the State of New Jersey part or all of its present lighterage terminal located behind Ellis Island National Park. This area could then become part of the new 400-acre Liberty State Park, as the State has proposed.

Where intercorporate arrangements were unnecessary, some operationally-useful consolidation has taken place. For example, the Erie-Lackawanna transferred the functions of its Weehawken yard to other waterfront facilities, and the Weehawken yard is now surplus property. Corporate mergers would accelerate this. With the Penn-Central merger, some of the operations of the New York Central's Weehawken yard and the Pennsylvania's yard at Harsimus Cove will be transferred to Greenville. Inclusion of the Susquehanna and the Lehigh Valley in a larger system could reduce or eliminate the need for their waterfront facilities.

3. Lighterage is freight transferred from a rail car to a barge for delivery; car floating is the movement of rail-freight cars by barge from one waterfront rail head to another.

4. *Study of Consolidated Railroad Marine and Lighterage for New York Harbor*. The Tri-State Transportation Commission. New York, 1964. The Tri-State Transportation Commission was established by the three states of the Region to plan for development and transportation in the metropolitan area.

Government initiative in commuter operations can also effect consolidation. The CNJ passenger terminal on the Jersey City waterfront will become surplus property when all CNJ and Reading passenger service is routed into Penn Station, Newark, via Aldene.

Facilities in Manhattan. Changes are also taking place in Manhattan. Station floating⁵ is gradually being replaced by piggy-backing, thereby reducing the number of piers required to move freight. The railroads are releasing these Manhattan piers.

The float bridges⁶ and float-bridge yards are active and fairly permanent, but consolidation of their activities might be possible. After the Penn-Central merger, that railroad may eliminate the need for its float bridge at 37th Street by connecting the Pennsylvania's 37th Street yard to the Central's West Side Freight Line.

The New York Central's yards at 30th Street and at 60th Street are directly connected to its Hudson Division. This is Manhattan's only direct rail-freight connection to the mainland. These yards can be considered permanently necessary, but air rights over them for additional uses are available.

Cargo Shipping

Manhattan side. A mile of Manhattan's waterfront is occupied by deep-sea cargo handling operations.

Conditions have changed drastically since Manhattan dominated the port in cargo handling. Technology has evolved, industry and population have dispersed and downtown Manhattan has become a more concentrated core of predominantly high-value office activities.

The major technological change is the introduction of container operations. These require large port areas for mechanized handling and storage. The Port Authority has used 10 to 12 acres of "back-up space" for each ship berth, but experience at Port Newark has demonstrated that 17 acres is more efficient. It is difficult to assemble such large parcels of land in Manhattan, and even if this much area were available, the cost

5. Station floating is the movement of rail-freight cars on barges, called station floats. Station floats have a raised center platform from which the cars are loaded.

6. Float bridges are used to move railroad cars from station floats to land.



In Manhattan, sufficient space for modern cargo container operations is costly to acquire and difficult to assemble. As shown above, stored containers must be squeezed under the elevated West Side Highway.



In contrast to Manhattan, large upland areas and efficient container facilities are available at new port areas such as Port Elizabeth.

of acquiring it for goods handling would probably be prohibitive. The cost of preparing land for freight handling in Port Elizabeth—including dredging the channel, filling the land and constructing streets and utilities—is about \$60,000 per acre. Land for port use in Manhattan has been estimated by the New York City Planning Commission to cost at least \$400,000 per acre.

Most of the cargo now received in Manhattan is destined for other places and must be transshipped, generally by truck. These trucks add to and suffer from the heavy traffic congestion in the center of the city. Their routes to the piers are indirect and slow, and there is insufficient maneuvering or parking space for them when they arrive.

As a result, Manhattan's share of the port's deep-sea cargo tonnage has decreased from 51 percent in 1925 to 21 percent in 1961. (See Table 4.) Many cargo piers are now vacant. The City Planning Commission has recommended that Manhattan utilize these for waterfront, residential and recreation activities rather than encourage an increase in cargo operations there.

Some Manhattan piers—such as Pier 40 at Houston Street and the Chelsea Piers (14th to 37th Streets)—are rebuilt or relatively new. They are active and likely to remain so for some time. This stretch of waterfront seems to have sufficient capacity for receiving all Manhattan-destined cargo.

The area from 14th Street south to Battery Park contains many old cargo piers as well as most of the dilapidated railroad piers. The City of New York owns all but four of these. This section of the waterfront, except for the new Pier 40, might be completely transformed. In this section are the sites of two proposed urban renewal projects (Washington Market and Gansevoort), the Greenwich Village waterfront and the site of the World Trade Center. Most of the area is recommended for change in a report recently submitted to the New York City Planning Commission by a consultant group.⁷ Some of the old piers are being demolished now.

7. **The Lower Manhattan Plan:** Wallace, McHarg, Roberts and Todd—Architects and Planners, Philadelphia. Whittlesey, Conklin and Rossant—Architects and Planners, New York. Alan M. Voorhees & Associates, Inc.—Transportation and Planning Consultants, Washington, D. C. Jack C. Smith, Special Consultant.

New Jersey side. In New Jersey, the cargo piers at Hoboken and Jersey City, occupying 0.7 miles of waterfront, have maintained a rather steady share of the port's activity. (See Table 4.) But along other sections of the New Jersey waterfront, the many vacated piers indicate the over-all decline of these activities in the Lower Hudson. The Port Authority piers in Hoboken are active but their tenant is apparently in need of substantial additional back-up space for anticipated container operations.

Table 4. Deep-Sea Cargo Shipping by Port Sector
Percent Distribution

	1925	1961
North (Hudson) River	63%	34%
Manhattan	(51)	(21)
Hoboken-Jersey City	(12)	(13)
Newark Bay	2	14
Brooklyn	31	50
Staten Island	4	2
	100%	100%

Source: New York City Planning Commission

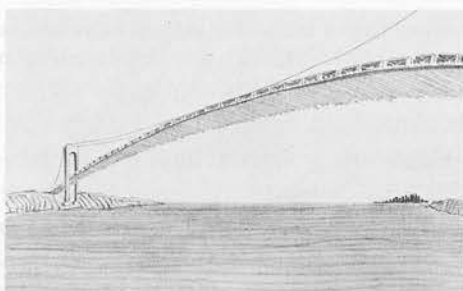
Two deepwater piers in Hoboken opposite 14th Street in Manhattan are owned privately and currently occupied by a general cargo-handling company. These piers are active and in good condition, but long-range needs and competition from Port Authority facilities could reduce the value of this location for such operations.

A large privately-owned facility at Jersey City is not fully used now and does not seem likely to be in the future.

Deep-Sea Passenger Shipping

One mile of Manhattan's waterfront is occupied by ocean-liner piers. Most of the facilities — used by almost 1 million passengers a year — are old, ugly and inadequate. Access to and from the piers is difficult and time-consuming. There are no direct connections to the bus, railroad or airline terminals or the subway system. Even the adjacent West Side Highway is not a convenient, efficient access. Partially because of the highway, almost no related activities — such as hotels,

THE APPROACH TO MANHATTAN FROM THE SEA



1. ENTICEMENT

The ship passenger's first glimpse of Manhattan is as he passes "the gate" to the city — the Verrazano Narrows Bridge.



2. BUILD-UP

The island seems to float on the horizon, unreal, like a mirage.



3. EXCITEMENT

The skyline sharpens and expectations increase as the ship approaches.



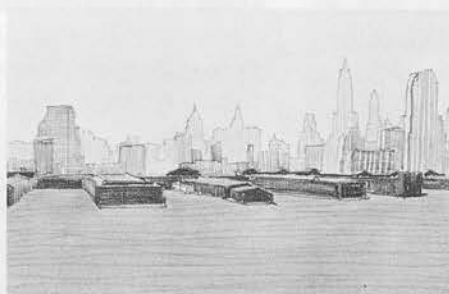
4. FULFILLMENT

As the rich shapes of the city come into focus, the sense of arrival is satisfied.



5. CHANGE

But the ship doesn't stop, and as it moves into the Hudson, the skyline tapers off.



6. LETDOWN

The waterfront becomes visually prominent with its rows of dilapidated piers and lack of activity.



7. DISAPPOINTMENT

The elevated highway, unsightly structures, parked cars and trucks constitute an ugly, fragmented edge of the city.



8. DEFLATION

The ship turns to dock and the passenger's last views of the city from the water are far less pleasant than his first.



ANTICLIMAX The arriving ship passenger is greeted by a cramped and dreary waterfront, packed with cars and trucks but almost devoid of pedestrian space, shops, restaurants, hotels, or waiting places. The broadside of a gas tank and the bottomside of an elevated highway are poor symbols of New York City.

restaurants and shops, waiting areas or lookout places — are nearby.

While airplanes have diminished the relative importance of ocean liners for trans-Atlantic travel, pleasure cruises are increasing. It is estimated that the number of cruise passengers passing through the port will double by 1980, raising the total ocean-liner passengers by about 30 percent, compared to 1961. (See Table 5.)

The approach to New York from the sea is one of the world's most famous entrances. But now the experience degenerates—from the first excitement of passing under the Verrazano Narrows Bridge and seeing the Manhattan skyline, to disappointment as the details of the city come into view, and finally to deflation when the passenger steps onto the dreary shore. There he is greeted by the bottomside of an elevated highway and

the broadside of a gas tank.

The New York City Planning Commission has recommended the redevelopment of the passenger-liner piers as a consolidated terminal, "rivaling our new airport facilities in ultramodern passenger convenience and truly an international gateway to America."⁸ The Commission estimates the cost at \$100 million.

Table 5. Overseas Ship Passengers in the Port of New York

Type of Service	1961	1980
	Actual	Forecast
Regularly scheduled	705,000	650,000
Cruise	242,000	550,000
Total	947,000	1,200,000

Source: Port of New York Authority.

8. *The Port of New York, Proposals for Development*, New York City Planning Commission, 1964.

Industry

Industry occupies little of the Manhattan Riverfront, but nearly a fifth of the New Jersey side.

Several conditions are causing the departures of industry from the New Jersey waterfront:

1. There is insufficient area for modern, horizontal plant layout or for expansion of old facilities. The waterfront is confined between the River and either dense urban development or the Palisades cliffs.

2. The waterfront is not easily accessible to trucks or commuting employees. Vehicles must travel through or around the towns, and there are few roads from the top of the Palisades to the waterfront.

3. The taxes exacted by the municipalities on activities which remain have been rising as other tax sources decline.

4. These municipalities are not felt to enhance industry's "image."

5. Industries which depend on the River for transportation have the additional problem of siltation, which requires constant and costly dredging. This affects the waterfront from the George Washington Bridge to West New York.

Large employers, like Ford Motor Company and Aluminum Company of America in Edgewater, and Thomas J. Lipton Company and Todd Shipyards in Hoboken, have moved away in recent years. The departures of many smaller firms have left the waterfront strewn with obsolete buildings and abandoned, rotted piers. Others, large and small, may not remain. A survey by one of the towns disclosed that 19 of its 55 major firms were planning to leave within ten years. Three exceptions to the trend are Lever Brothers in Edgewater and Colgate in Jersey City, which recently added research facilities, and General Foods in Hoboken, which is expanding.

Trucking and warehousing activities have utilized some of the vacated buildings, but little new manufacturing has been established on the New Jersey bank of the Lower Hudson.

Some of the same reasons that have caused industries to depart apparently have deterred new ones from coming in. Jersey City has attracted industry to less than 10 percent of the 800 acres acquired from the railroads during the past twenty years. There are about



Much industrial land on Jersey City's Hudson waterfront has been vacant for a generation. There are almost 1,000 acres of such land available today.

1,000 acres of vacant land on Jersey City's Hudson River waterfront, most of it zoned for industry.

The decline is all the more striking because New Jersey, as a whole, is experiencing substantial growth in plant construction and output of manufacturing industries. And while over-all manufacturing employment in the State increased somewhat,⁹ Hudson County experienced a decline of 12.5 percent.

Apartments

The most dramatic trend along the River is the construction of apartment buildings on the New Jersey bank.

In the past four years, fourteen large structures have been built there—twelve of them on the top or face of the Palisades. Six more will be completed soon. (Table 6.) Together, these buildings will accommodate

9. Manufacturing employment rose in New Jersey from 782,000 in 1959 to 801,000 in 1964. In the fourteen New Jersey counties of the Regional Plan Association Study Area, it increased from 672,000 to 692,000 during that period. The Study Area comprises the following 31 counties: (New Jersey) Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union, Warren; (New York) Dutchess, Nassau, Orange, Putnam, Rockland, Suffolk, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond; (Connecticut) Fairfield, Litchfield, New Haven.



Since 1961, twelve large apartment buildings have been constructed on the top or face of the Palisades in the Lower Hudson. Six more buildings are under construction, three are planned, and land has been assembled for residential development at seven additional sites.

some 12,000 persons and represent a total investment of well over \$100 million.

Unable to attract industry or commerce to replace declining tax revenues from railroads and factories, the New Jersey municipalities have welcomed development expected to provide a "tax profit"—namely apartments for residents who have money to spend but no children for the community to educate.

In each municipality is a section of the Palisades—normally undeveloped and natural—in parcels that are relatively easy to assemble. So the unencumbered cliffs, with a view of the spectacular skyline across the River and located a short trip from Manhattan, are being sold for quick development.

As industries continue to depart, as tax revenues from railroads diminish and as the costs of municipal services increase, the municipalities are likely to encourage this development.

Table 6. New High-Rise Apartment Buildings on the New Jersey Side of the Lower Hudson

Municipality	Name of Development	Number of Buildings		Dwelling Units
		Constructed Past Four Years	Under Construction	
Fort Lee	Horizon House	4		720
	Horizon Towers	2		540
	Mediterranean Towers	1	1	960
	Lemoine Cross		1	130
	Mandarin House		1	128
Edgewater	Hudson Harbor*		1	240
North Bergen	Regency House		1	340
Guttenberg	Summit House	1		182
West New York	Versailles	1		286
	Tower West	1		189
	Riviera Tower	1		421
Union City	Troy Towers	1		315
Jersey City	Gregory	2	1	1,000
Total		14	6	5,451

*Three more buildings are planned in this development.

NOTE: Land on the Palisades or waterfront has been assembled privately for other residential development in Union City (2 sites), Weehawken, Guttenberg, North Bergen and Edgewater (2 sites).

But apparently many of the new buildings are not renting fast. According to a recent report of the Federal Housing Administration,¹⁰ the luxury housing market in Hudson County in general is less than was expected. Luxury apartments do not seem to have attracted as many New Yorkers as had been anticipated. For the buildings on the Palisades, this may be because most of them are not attractive from the New York side of the River. Their awkward placement on the cliff and indifference to the beauty of the Palisades may raise doubts about the quality of the buildings themselves and about the future of the environment around them.

No new apartments have been built recently on the Manhattan waterfront, but there are many proposals for residential development.

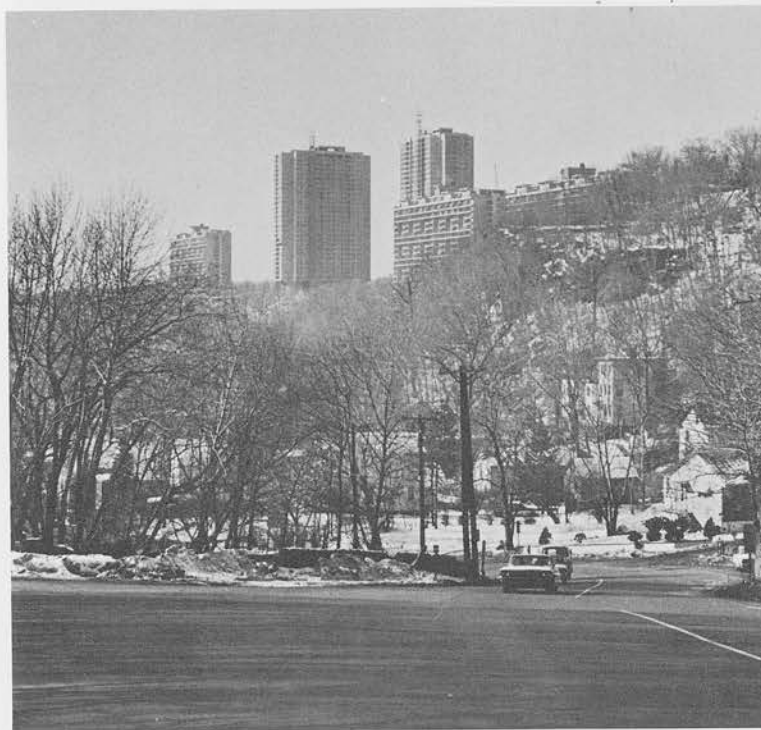
Other Trends

Depollution. Under the New York State "Pure Waters" program, many sources of pollution of the Hudson River from the New York side will be eliminated in a decade or so. This program provides tax incentives for industry, stronger enforcement of antipollution regulations and federal and state contributions of 30 percent each to help finance municipal sewage treatment facilities. About \$400 million will be spent to depollute the Hudson.

Public interest. There seems to be a growing interest in the Hudson River's value as an amenity. Among the indications are: the decisive vote in favor of New York State's billion dollar water depollution program, appointment by the Governor of a Hudson River Valley Commission to plan for preservation and controlled development in the entire Hudson Valley, federal interest in planning and protecting the Valley — evidenced by recently-passed federal legislation and in investigations by the Department of the Interior — and new proposals for waterfront uses by municipalities, by the two states and the Tri-State Transportation Commission.

The most comprehensive recent proposal for the Lower Hudson, which emphasizes the River's potential for public use and enjoyment, is the Lower Manhattan Plan prepared by consultants to the New York City Planning Commission. It aims, among other things,

10. *Analysis of the Jersey City, New Jersey Housing Market* (Hudson County) June 1, 1965. Federal Housing Administration.



Half of all the apartment structures recently built or under construction on the Palisades have gone up near the George Washington Bridge in one municipality — Fort Lee.

to "take maximum advantage of the great beauty of downtown's waterfront." It proposes opening the Riverfront to the City and providing residential, recreation and cultural facilities there.

A recent New York State proposal also called for housing on the Lower Manhattan waterfront.¹¹

A plan for the Jersey City waterfront¹² would transform large areas of under-used industrial and transportation land into residential communities. Liberty State Park, 400 acres of waterfront open space behind Ellis and Liberty Islands, is included in the plan.

The Tri-State Transportation Commission conducted a "generalized examination of the harborfront" and suggested new uses for the New Jersey side—including two completely new communities—for areas likely to be released if rail-freight facilities are consolidated.¹³

11. *Battery Park City*, announced by Governor Rockefeller on May 12, 1966.

12. *Waterfront Development — A Planning Approach*, City of Jersey City, Division of Planning, 1964.

13. *The Changing Harborfront*, A Report of Prospects for New Development of Released Lands, Tri-State Transportation Commission, March 1966.

Table 7. Investments on the Lower Hudson
Current and Expected

	Announced Costs (in millions of dollars)	
Projects Recently Completed		
Cargo Piers, Manhattan	\$ 48.6	
Sight-seeing Piers, Manhattan	1.9	
Gregory Apartments, Jersey City	14.0	
Urban Renewal, Holland Tunnel Area, Jersey City	4.5	
Apartments, Palisades Area (11 Buildings)	65.0	
Apartments, George Washington Bridge Approach,* Fort Lee	6.0	
Improvements, Greenville Railroad Yards	1.1	\$ 141.1
Projects in Progress		
Liberty State Park, Jersey City	\$ 10.0	
Gregory Apartments, Jersey City	4.0	
Apartments, Palisades Area (5 Buildings)	38.0	
Apartments, George Washington Bridge Approach,* Fort Lee	10.0	
Cargo Piers, Manhattan	3.5	
PATH Improvement	25.1	
World Trade Center	525.0	\$ 615.6
Projects in Active Planning Stage		
New York State Housing, Lower Manhattan	\$ 600.0	
Hudson River Pollution Control (State Program)	400.0**	
North River Sewage Plant, Manhattan (City Program)	127.4	
Ellis Island National Park, Jersey City	6.0	
Freeway, Holland Tunnel to Lincoln Tunnel, New Jersey	27.5	
Stevens Institute Expansion, Hoboken	15.0	
West Side Highway Improvement, Manhattan	75.9	
Passenger-Liner Terminal, Manhattan	100.0	
Henderson Street Urban Renewal, Jersey City	11.0	
Hudson Street Urban Renewal, Hoboken	11.0	
West Shore High School, Manhattan	14.5	
Cargo Piers, Manhattan	10.0	
Sight-seeing Piers, Manhattan	3.0	\$1,401.3
Other Publicized Projects (Rough Estimate of Costs)		
Residential Development, Jersey City	\$ 147.0	
Lighterage Terminal, Jersey City	30.2	
Freeway, Lincoln Tunnel to George Washington Bridge, New Jersey	49.0	
Henry Hudson Parkway Improvement, Manhattan	84.2	
Recreation and Convention Center, Manhattan	87.3	
Gansevoort Urban Renewal Area, Manhattan***	25.0	
Washington Market Urban Renewal Area, Manhattan***	30.0	
Central City Housing, Manhattan	100.0	
Exchange Place, Jersey City	3.5	\$ 556.2
Projects Completed and in Progress	\$ 756.7	
Projects Planned and Publicized	1,957.5	\$2,714.2

*Cost of land excluded.

**This program applies to the entire Hudson River. The portion of the investment affecting the Lower Hudson has not been determined.

***Land only.

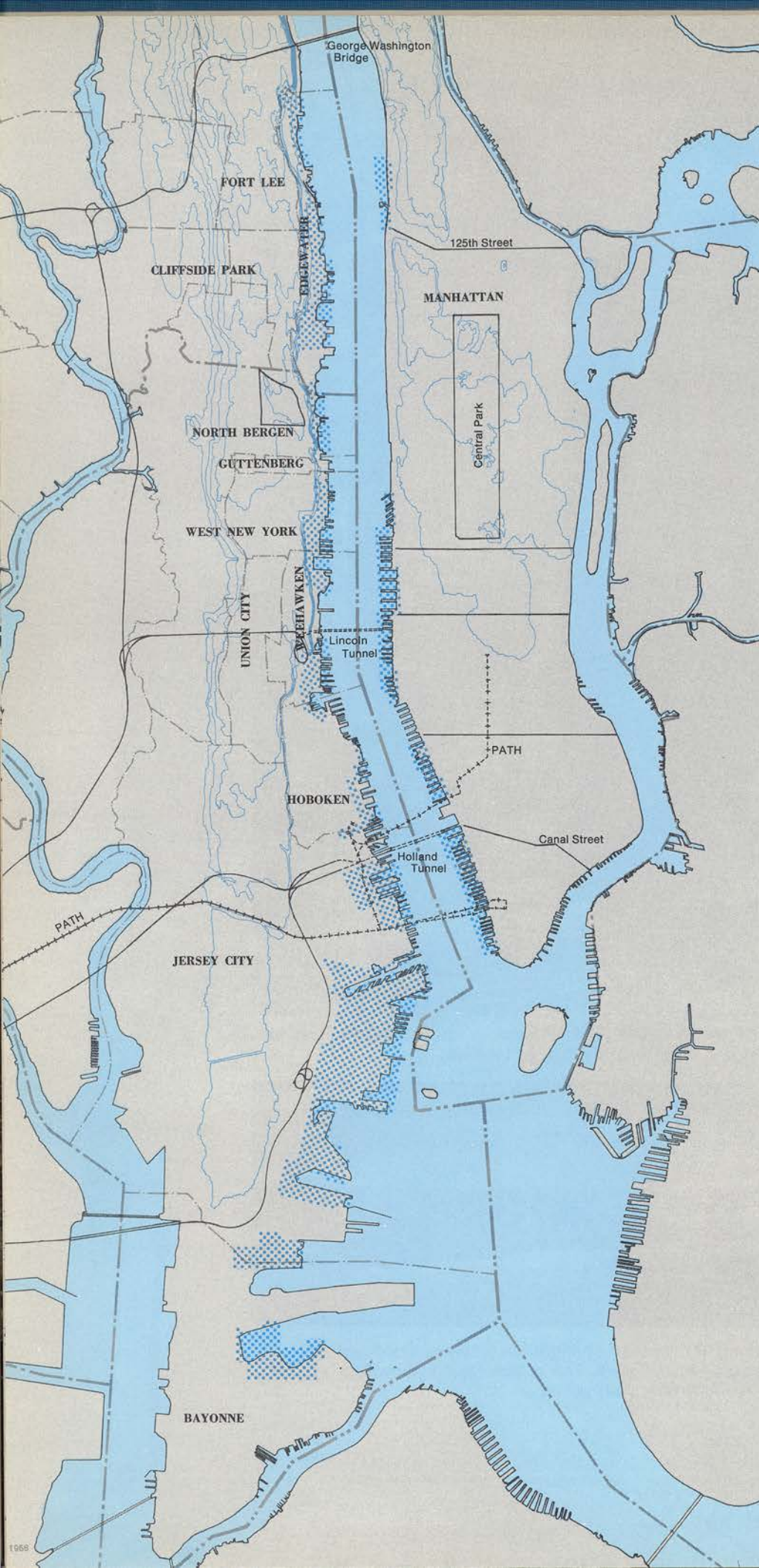
Note: Other projects have been proposed, but plans are not now concrete enough to be listed in this Table.



The \$525 million World Trade Center, in lower Manhattan, is the largest single project on the Lower Hudson.



Ellis Island, the former immigration center, has been recently designated a national park. The original buildings will be retained and a new monument (left) added.



Washington Bridge to the Lincoln and Holland Tunnels. The section between the tunnels is well along in planning.

The **World Trade Center**, with two towers tall enough to dominate the Manhattan skyline and be visible from most points of the New Jersey waterfront, will be built on sixteen acres between Liberty and Vesey Streets. The project will cost over a half-billion dollars and provide space for 50,000 jobs. Modernization of the **PATH terminal**, which is under the site, is included in the development.

The City of New York is proceeding with a **pier construction and modernization program** on the North (Hudson) River. Pier 94 at 54th Street, Pier 76 from 35th to 37th Streets, and Pier 62 at 22nd Street are new or rebuilt. Other Chelsea Piers, 59, 60, and 61, will be improved in 1966. A recreation pier at 42nd Street has been constructed.

The Port of New York Authority has conducted a feasibility and location study of a new **passenger-liner terminal** for the City.

Construction of the **North River Pollution Control Plant** is scheduled for 1967. It is designed to be constructed on piles in the River between the bulkhead and pier-head lines, and to extend from 137th to 145th Streets along the Hudson.

Sections of the **West Side Highway** from the Battery to 72nd Street are scheduled for reconstruction.

Almost the entire length of both waterfronts is in transition (Map 4). Within a decade, much of it will be very different from what it is now.

MAP 4 AREAS LIKELY TO CHANGE

Most of the New Jersey waterfront and virtually all of the Lower Manhattan waterfront are in a state of transition at present.

PROBLEMS AND CONFLICTS

All the projects underway and planned on the Lower Hudson will affect each other functionally, visually and economically, whether they are coordinated or not. Few of them are being coordinated at present. The result of so much development so fast, without coordination, will probably be a reduction of the value of the whole. Good and necessary projects which do not belong together can undermine others' effectiveness. Any single project can reduce the value of others by its poor design or its location.

Two Major Conflicts

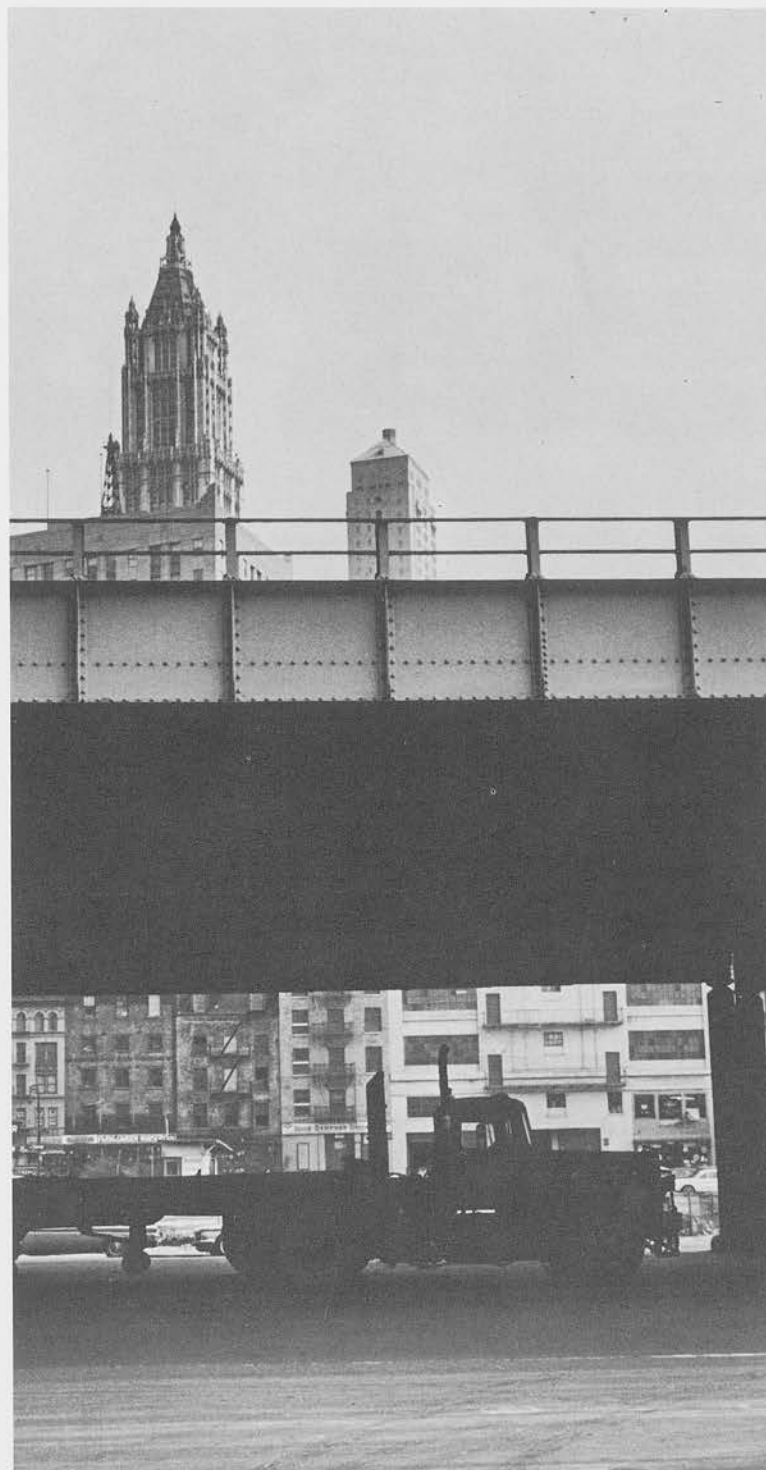
Apartments on the Palisades. The most apparent problem is the destruction of the Palisades by apartment buildings which are already defacing the cliff wall and dominating its top in places, and which may soon be built on the waterfront below the cliff, blocking the view of the Palisades from across the River.

The West Side Highway. Another important problem is the projected reconstruction of the West Side Highway without deliberately relating the new design to other prospective projects or to proposed new land uses along the River. The reconstruction of this highway offers the opportunity to open the River to Manhattan's millions of residents, employees and visitors if it is planned and designed with that objective in mind.

Both housing and related activities on the New Jersey bank and the reconstruction of the West Side Highway are desirable in themselves. The problem arises because they are being done independently, without regard for the many imminent projects around them and without the benefit of a design plan for the whole.

Other Potential Conflicts

There are other examples of potential conflicts if comprehensive planning is not carried out:



The elevated West Side Highway separates lower Manhattan from the Hudson. Unless the reconstruction of this highway is coordinated with the many waterfront projects and architecturally integrated with development, it will continue to be a major deterrent to redevelopment of the Riverfront.

- The huge sewage plant, which the City of New York is planning to construct in the River on the Manhattan side between 137th and 145th Streets, would, paradoxically, damage the appearance of the River it is designed to improve. It could, as well, adversely affect the values of adjacent property and preclude development of the waterfront for recreation facilities that Harlem needs so much.

- Edgewater is planning high-rise apartment towers below the Palisades that could block the view both from public promenades on the cliffs anticipated in Cliffside Park's master plan and from apartments on the clifftop in Fort Lee.

- And Edgewater's apartment development could be aborted by the alignment of the freeway under study by the New Jersey Highway Department.

- Modern, large-scale development planned for Hoboken could damage that community's historic qualities and destroy the small, pleasant "urban grain" which makes the Town a unique and special place on the Lower Hudson.

- The design of a new passenger-liner terminal in Manhattan will be severely hampered unless the reconstruction of the adjacent section of the West Side Highway is incorporated as a part of the project. Further, unless the need for public open space at the midtown waterfront is considered in conjunction with the terminal, the new piers could block access to the River just as the old ones have done.

- The Tri-State Transportation Commission proposed the Morris Canal Basin in Jersey City for the site of a consolidated lighterage terminal. Such a facility in this location would separate Exchange Place from the planned Liberty State Park, two areas that would benefit by a strong connection.

- The surplus rail yard in Weehawken cannot be properly developed without consideration, and perhaps incorporation, of the adjacent vacant land in Hoboken.

- Similarly, the potential of North Bergen's vacant waterfront is dependent on the future disposition of the two industrial areas on each side of it in Edgewater and Guttenberg. These two municipalities, in turn, can be prevented from changing and improving their waterfronts if North Bergen develops its waterfront merely in reaction to the existing situation.

- Battery Park City, the Riverfront project proposed by New York State, is generally consistent with New York's City's recent Lower Manhattan Plan in its intended activities. However, unless there is coordination in such aspects as pedestrian and vehicular circulation, shoreline configuration (bulkheading), treatment of the West Side Highway and relation to the rest of Downtown Manhattan, these two schemes will be in conflict.

It is not surprising that those conflicts arise from uncoordinated decisions. Numerous public agencies¹⁴ and private corporations have jurisdictions and interests in the Lower Hudson. But a plan could provide a framework for these decisions. By considering the total land area and resources independent of political boundaries, departmental jurisdictions, or speculative opportunity, a plan could induce both orderly development and preservation, could minimize frictions and diseconomies and could maximize the over-all potential.

Such a plan begins with a broad conception of what the Lower Hudson can become. A conception and some of its major elements are contained in the second half of this report.

14. Among the public agencies with important physical responsibilities in the Lower Hudson are: the eleven municipalities and two counties in New Jersey (Map 1); the Borough of Manhattan, the New York City Planning Commission, Department of Marine and Aviation, Transportation Administrator, Department of Public Works, Department of Parks, and Housing and Redevelopment Board; the Port of New York Authority; New Jersey Department of Highways; New York State Division of Housing and Community Renewal; the Hudson River Valley Commission; The U.S. Department of Housing and Urban Development, Corps of Engineers, Department of Interior; the Interstate Sanitation Commission; Tri-State Transportation Commission, Palisades Interstate Park Commission.

The pace of destruction of the Palisades has been swift. At this site (right), in the summer of 1966, the cliff body is blasted and excavated and the debris hauled a short distance and dumped across the cliff face, which is municipally-owned. Since the 1920's, Save the Palisades Association, Inc., has urged public purchase and preservation of the cliffs. Largely through the efforts of this Association, Hudson County spent \$200,000 around 1930 for acquisition of several strips of land along the cliff top. Municipally-owned land continues to be sold for development. For example, in 1959, the township of West New York sold a municipal park. Save the Palisades Association sued to prevent that sale but lost and that former park became the site of a high-rise apartment building. (Appendix I contains a brief history of the efforts to conserve the Palisades)



"The goal is the creation of an urban society that retains a continuing association with the natural world. This is achieved not by opposing all development, but by insuring that it is channeled into forms that are in harmony with the natural environment... Even in our crowded urban regions of the future, there is a place for nature and a place for man."

*William L. Slayton
Executive Vice President
Urban America, Inc.*

RECLAIMING THE RIVER

RECOMMENDATIONS

Regional Plan has three basic observations and recommendations about the Lower Hudson:

1. There is both opportunity and strong interest in turning most of the land on the Lower Hudson — both banks — from goods handling and production uses to activities that primarily serve, engage and house people. This should be encouraged.
2. The Lower Hudson is a major aesthetic resource, but its scenic potential and its use as an amenity can be fully realized only through a design plan for the whole Lower Hudson area.
3. In a rapid shift of activities, remnants of the area's rich history could be obliterated. Historic buildings and areas should be identified and some preserved.

This is the first opportunity in a century for such large-scale redevelopment in this area of the Region's center. New regional parks and entire new communities are now possible on the Lower Hudson. The chance will be gone in a few years.

Preparing a Design Plan

A design plan for the waterfronts of the Lower Hudson would serve essentially two purposes. First, it would identify the activities that are best suited for specific areas and second, demonstrate ways to provide the facilities so that existing features, natural and man-made, are enhanced. In substance, the question of **how** should be raised as soon as **what** and **where** are considered.

Regional Plan Association has recommended a new planning commission to prepare a detailed design plan for the Lower Hudson as part of a plan for the entire Hudson River Valley. This commission, in our opinion, should be named by the two states, the federal government and representatives of local government along the River.

But, since this commission may not be formed quickly enough to act effectively in the Lower Hudson, we suggest that the State of New Jersey and the eleven New Jersey municipalities sponsor immediately a design plan for their waterfronts and that the New York City Planning Commission prepare a design plan for the entire Manhattan waterfront. Otherwise, the Palisades probably will be further desecrated and the several priority projects now being considered for Manhattan — reconstruction of the West Side Highway, construction of a major new passenger-liner terminal, the World Trade Center, several urban renewal projects and the huge sewage plant — will not be integrated and may prevent the best use and design of the Riverfront for the rest of the century.

The research and reconnaissance in this report do not constitute a detailed design plan. This report intends only to suggest some basic considerations and objectives which a plan should pursue and to identify some specific opportunities for both development and preservation — opportunities which will be lost unless action is taken soon.



CHARLES PRATT

NEW USES OF THE RIVER

The Premise: Riverfronts for People

As a general rule, activities that encourage and allow people to see, use and enjoy the River should be emphasized.

A similar recommendation was contained in a report to the Tri-State Transportation Commission: "For two reasons, housing and open space should have first consideration [for reclaimed waterfront land]. One is that there is a small demand close to the urban center for nonresidential uses that need water. The second is that advantage of every natural feature must be taken if the residential environment of the central area of the Region is to be livable at the densities supported in the center."¹⁵

Wherever possible, public access to the Riverfront should be created—perhaps continuous waterside parks on the New Jersey side, and quays and additional parks along the River in Manhattan. A bicycle and pedestrian path on both sides is recommended.

The new freeway planned for the New Jersey side and the reconstructed West Side Highway in Man-

15. Arthur T. Row, *A Consultant's Report to the Tri-State Transportation Committee on a Reconnaissance of the Tri-State Region and Some Ideas for a Development Plan*. 1965.

hattan should be integrally related to such parks, designed to **encourage** rather than merely allow access to the waterfronts.

In broad terms, there are five areas of the Lower Hudson waterfront which have sufficient distinction and potential to receive preliminary consideration as separate units insofar as prospective uses are concerned. Three are on the New Jersey side, two in Manhattan.

Use Recommendations in New Jersey

From the George Washington Bridge to the northern boundary of Hoboken. The most appropriate major new uses for this section are residential and associated commercial and community activities, regional parks and regional recreation facilities such as marinas and amusements.

The Palisades should be preserved as permanent public open space, and continuous waterfront parkland should be provided by filling in the River at certain places.¹⁶

Northern boundary of Hoboken to Morris Canal Basin, Jersey City. This section would best retain its character of mixed uses, but the rail yards, which are likely to be released, should be reclaimed for residential, recreational and related activities. Large-scale housing developments should be built around the under-used PATH¹⁷ stations at Exchange Place and Pavonia. Adequate separation of existing industrial uses from new residential-recreational uses is possible.

Hoboken's waterfront from Stevens Institute to the Erie-Lackawanna Ferry Terminal should be redeveloped for activities that would benefit from proximity to Stevens and to Manhattan. The historic flavor of Hoboken and its waterfront might also be an attractive setting for hotels and conference centers as well as for

residences. The area near Stevens Institute might accommodate industrial research activities related to the University. The face of the Palisades ridge, which turns away from the water and continues behind this section, should be cleaned up and reclaimed as public open space.

Morris Canal Basin to Constable Hook, Bayonne. Except for the inland area behind Liberty State Park and the Tidewater Basin vicinity—both most appropriate for housing—this section probably is best used as a reserve for future harbor and other water-related goods-handling and goods-producing activities. Constable Hook, Point Breeze, Greenville and Caven Point Military Reservation all seem capable of significant industrial, harbor and rail freight development.

Use Recommendations in Manhattan

From the George Washington Bridge to 59th Street. This beautiful section should stay as it is, with two modifications. First, the absence of a waterfront park between 125th and 145th Streets should be corrected by filling the gap with park and recreation facilities—not with the sewage plant, as now designed, unless it is made compatible with recreation there. This is the best point of access to the Hudson River for Harlem. Second, the park should be extended south to 59th Street and inland to connect urban development with the River. Many more pedestrian passageways over and under the highway should be opened to the River.

From 59th Street to the Battery. A consolidated passenger-liner terminal appears to be best suited for the midtown waterfront between 39th and 59th Streets, but it should be incorporated with public open space. Rail-freight and trucking facilities should be further concentrated in the vicinity of 30th Street and better connections provided to the Holland Tunnel. The Chelsea Piers should be retained, perhaps only temporarily, for deep-sea cargo shipping. From 12th Street to the Battery, essentially park and residential activities should be encouraged with continuous public access to the waterfront. Higher educational activities and research facilities are also appropriate for this area if integrated with residential uses.

16. The Palisades Amusement Park might be relocated in a new regional park on waterfront fill; its present site is valuable for high-density housing.

17. Port Authority Trans-Hudson, the former Hudson and Manhattan tubes, subsurface rail lines from Newark and Hoboken to Manhattan.



ELEMENTS OF THE PLAN

The Setting: A Single Zone

Visually, the Lower Hudson is a single zone. Fundamentally, it is a long, continuous trough, open-ended and open to the sky, with a wall of buildings forming one long side and a natural cliff forming the other. The bottom surface of the trough—its base plane—is the River.

Many things animate this trough—boats, cars, the flow of the River itself. The George Washington Bridge stretches gracefully between the walls on the north.

But the basic form—comprised of river, cliffs, and Manhattan skyline—is what gives the Lower Hudson its aesthetic character.

Each of the trough's major parts has distinct aesthetic qualities:

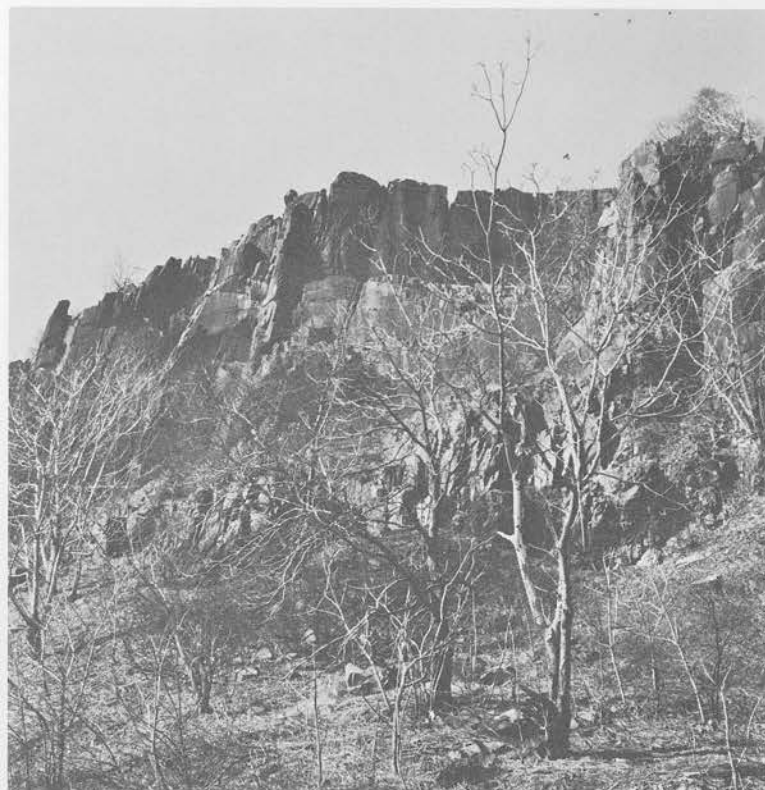
The Palisades cliffs are natural, curvilinear and relatively soft in texture. They are wooded in most places, rocky and barren in others. Seasonal variations—the growing and shedding of leaves, falling and melting of snow—are visible on the cliffs.

The Manhattan skyline is rectilinear, hard and vertical, a sort of man-made cliff. It has a very different appearance by day, in the sunlight, than by night, when it emits its own light.

The River is flat and wide. It moves, sometimes rapidly and noisily, sometimes hardly at all. Ships and boats float on it, rather lazily, and it is reflective—sometimes glaring, but often like a giant mirror—so that things along its banks are visually multiplied and the total effect is magnified.

The shorelines have visible qualities that help to identify the trough and give it special character.

Visual connections across the River and up and down it make the Lower Hudson a single zone. In this photograph (left), the telephoto lens distorts the proximity of Hoboken, foreground, to Manhattan. But the actual distance between the two banks at this point is only 3500 feet.



THE FRAMEWORK FOR URBAN DESIGN

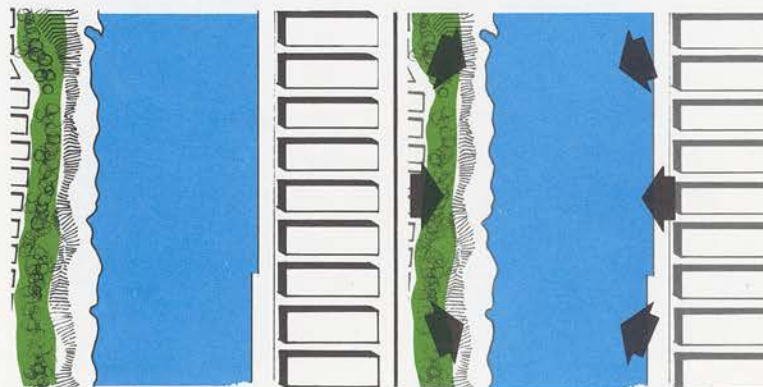
The basic aesthetic components of the Lower Hudson are the natural *Palisades cliffs* on the New Jersey side (top); the man-made *Manhattan skyline* and the flat, wide *Hudson River* (bottom).



Manhattan's waterfront is a hard, constructed edge.



The New Jersey side is a rough and variegated edge.



CONTRAST Physical differences between the two banks should be elaborated.

FOCUS The two banks should be turned toward the River.

The Manhattan shoreline is a constructed edge, entirely man-made. From the Bridge to 72nd Street, it is soft and green. The rest of it is hard and sharp and meets the water cleanly. The River's natural channel is along this side, so the shore is constantly scoured. Tidal variations are not conspicuous to the observer.

The New Jersey shoreline is variegated, with indentations and projections — a ragged, rough edge. It is constantly being changed by deposits from the River. The water is generally shallow along this side, and the tide periodically covers and uncovers sections of the shore.

Two Design Principles

Two broad principles underlie the design recommendations that follow:

1. The River should serve to visually unite the two sides. The cities on both banks should be turned toward the River and opened up to it. Certain existing sight lines across the River and up and down it should be preserved and certain new ones should be created.

The Lower Hudson is a political boundary and has been primarily a physically divisive element in the Region's heart. Unlike the intimate Seine in Paris or Thames in London, it is wide and grand in scale. New activities and facilities focused on the River would break the introverted development patterns along its banks. Continuous public access to the waterfronts and provision of more views from there would visually pull the two sides toward each other and psychologically join them.

Proposed new uses along the River will unite the two sides functionally as well. More New York City employees will live on the New Jersey side, and other New Jersey waterfront activities — such as restaurants or a conference center — might attract people from Manhattan.

2. The unity and essential characteristics of the Lower Hudson should be reinforced. Anything added to or removed from the Lower Hudson zone will change the visual effect.

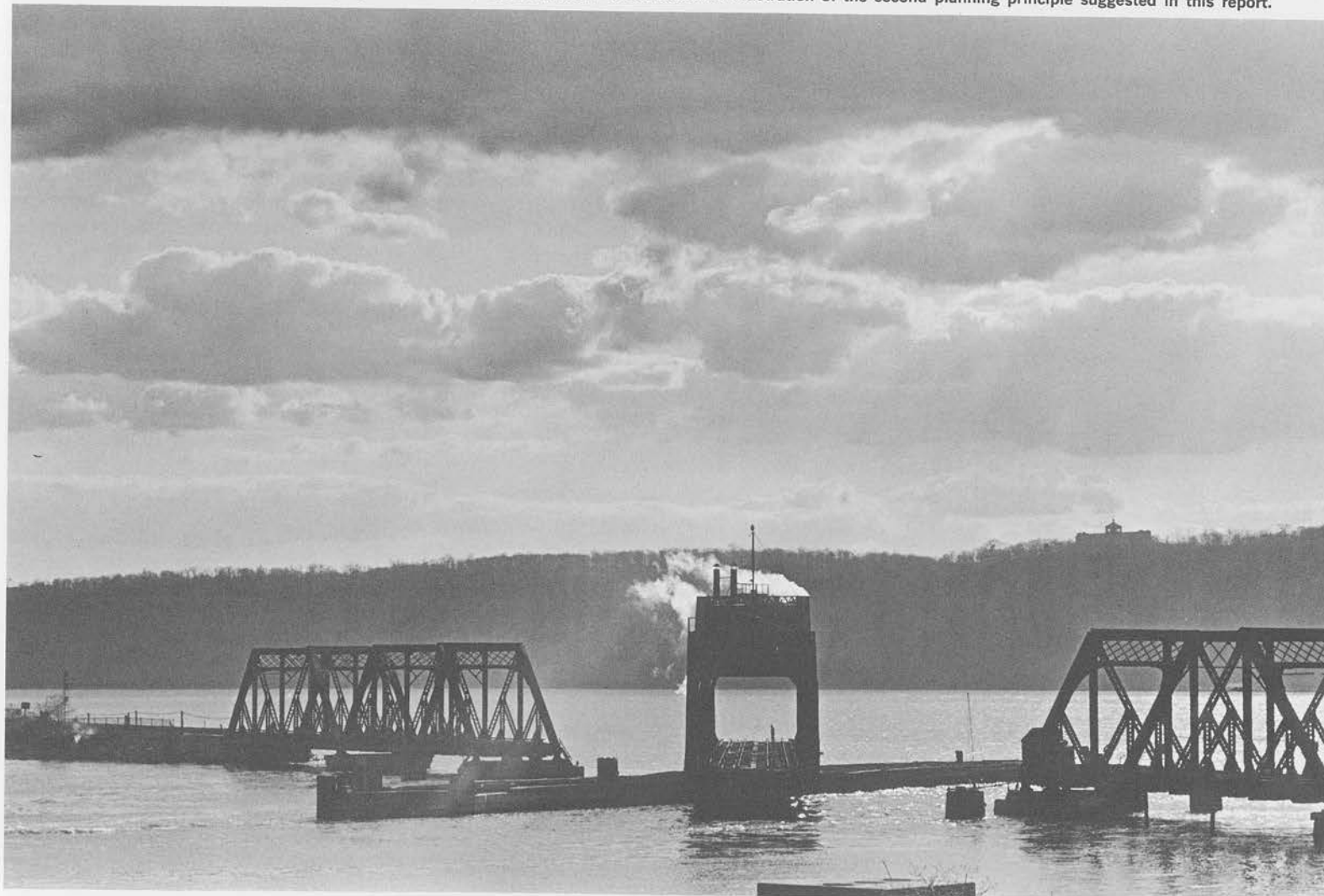
What is added should enhance those basic aesthetic

components which specify "Lower Hudson"—Palisades cliffs, skyline, contrasting River edges. For example, a building added to the New Jersey side should not obliterate the cliffs or obstruct views of them or from them.

What is removed should clarify, reveal or make accessible the River's essential aesthetic qualities. A rotting pier, for example, might be removed on the Manhattan side to allow people to get to the water or to see the cliffs across the River.

Comprehensive control of outdoor advertising should be established, prohibiting all billboards and large signs visible from the riverfront parks and highways on both waterfronts, as well as from the approaches to the Hudson River crossings. The controls should apply continuously along all limited access highways and within sight distance of parks, irrespective of local land use, so that areas of visual blight such as those at 125th Street in Manhattan or near the Holland and Lincoln Tunnel entrances in New Jersey are eliminated.

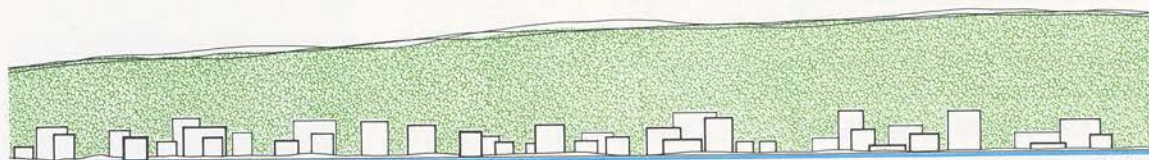
Man-made features in the landscape are often sharpened and dramatized by a natural setting. This scene is just north of the Lower Hudson area, but the improbable beauty of the railroad bridge, foreground, against the River and Palisades is an excellent illustration of the second planning principle suggested in this report.



CHARLES PRATT

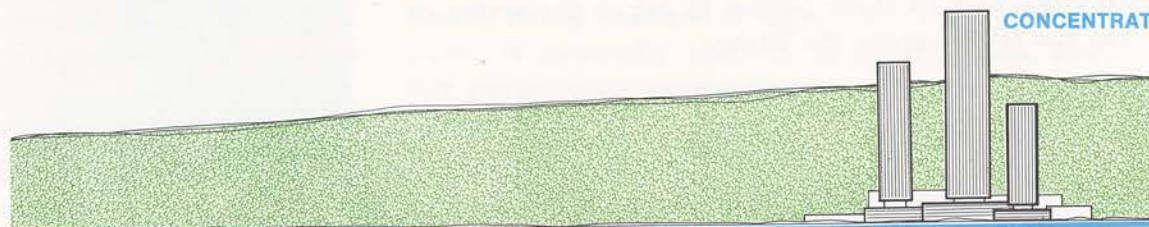
BUILDING LOCATIONS

SUBORDINATE



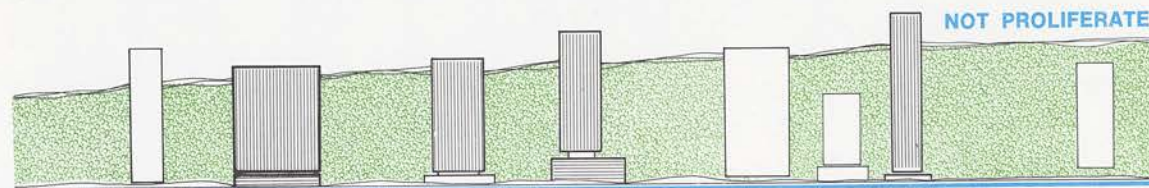
Building heights should either be restricted to 5 stories or less, so the great horizontal sweep of the Palisades is not weakened and views from the cliffs not blocked.

CONCENTRATE



Or, tall buildings should be grouped and adequately spaced along the Riverfront.

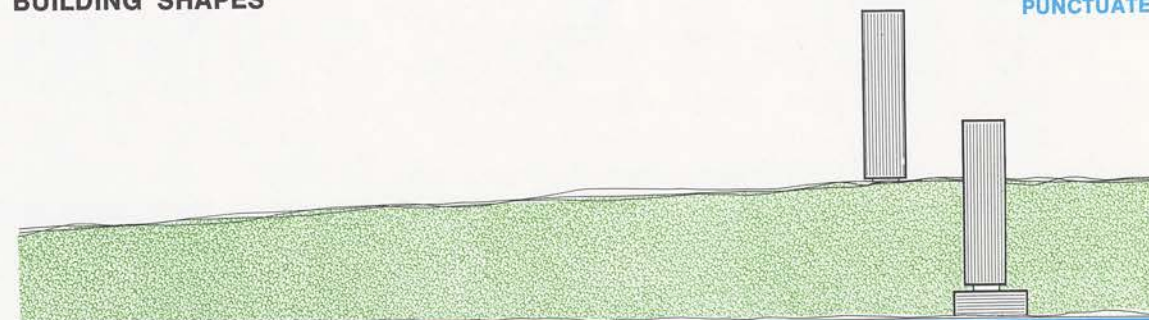
NOT PROLIFERATE



If each municipality continues independently to develop its bit of waterfront, the cliff line could be fragmented — in effect, destroyed — and views of the Manhattan skyline blocked from residents of the cliff-top.

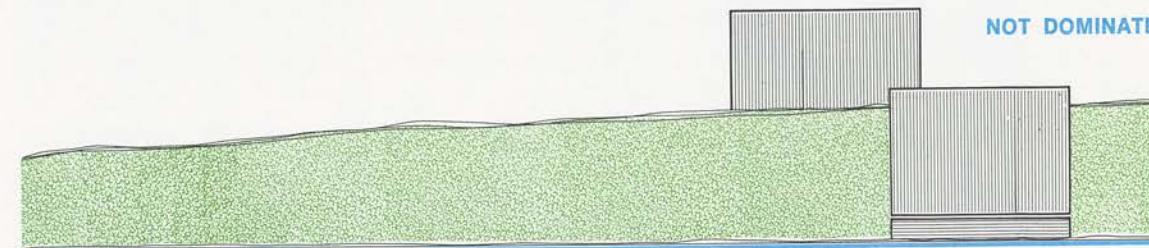
BUILDING SHAPES

PUNCTUATE



Tall, vertical buildings could set off and dramatize the horizontal line of the Palisades.

NOT DOMINATE



But long, wide slab-type buildings would compete with the natural form of the cliffs.

USES AND DESIGN: NEW JERSEY

The Palisades

The Palisades can be developed and preserved at the same time. This can be done by locating and shaping the buildings so that man-made and natural features work together in the landscape and are unified to enhance one another.

Of overriding consideration is the retention of the great, sweeping horizontal cliff line, which should not be fragmented or overpowered.

The Palisades have a special importance in the physical makeup of the Region. They are not only beautiful.

- They are natural. Located in the very center of an increasingly man-made region. They provide a line of reference and orientation—information as well as relief for the eye.

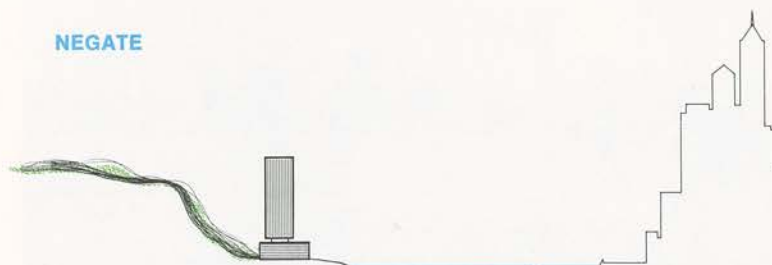
- They are unique and cannot be reconstructed.
- They suggest permanence amid the perpetual change around them.
- Consequently, they are memorable.

The cliff top. The top of the Palisades could be developed much more than it is now, but buildings should be placed well back from the edge—farther at some places than at others—and height restrictions should be placed on them to insure that the grand scale of the Palisades is not further weakened. Occasionally, an isolated vertical tower could stick up, but these should be few and far between so that the general effect would be comparable to Riverside Drive in Manhattan.

The cliff face. Development should not be allowed on the face of the Palisades. The existing new buildings which violate the face with parking structures should be screened with heavy planting.

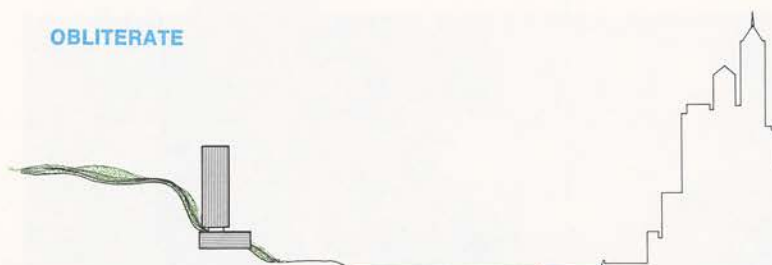
The cliff foot. Buildings below the Palisades could accentuate and dramatize the cliff line. Regulations should either restrict all building heights to 5 stories or less, or allow groups of tall structures—adequately spaced—of thirty to forty stories. Because a structure

NEGATE



Buildings in front of the Palisades could negate both the effect from across the River and the visual advantage from the cliff top.

OBLITERATE



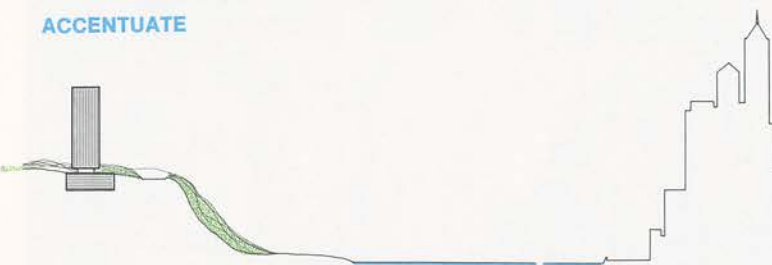
Cutting into the face of the cliff with buildings will destroy the Palisades.

VIOLATE



The form of the Palisades is damaged by buildings carelessly placed on the cliff edge. Parking structures which hang over the cliffs are particularly damaging.

ACCENTUATE



But if buildings are constructed on top of the cliff and placed far enough back from the edge (similar to Riverside Drive on the Manhattan side), the Palisades could be enhanced. Parking facilities should be depressed.



Seen from the helix, the New Jersey approach to the Lincoln Tunnel, the Manhattan skyline is spectacular. This view should be preserved for the 200,000 bus riders who see it each weekday.



From North Hudson Park, on the cliff top in North Bergen, an accidental peek at the River and skyline is available in the summer. In winter, when the trees defoliate, the view is panoramic.



Views from the several strip parks on the top of the Palisades should be protected. The bust of Alexander Hamilton, in Weehawken, marks the nearby site where the fatal duel took place in 1804.

here of moderate height—twenty stories or so—would be about as tall as the cliff top and would tend to compete with the line and form of the cliffs, very tall towers are preferable. Better to have one tall sliver of a building breaking the cliff line than two or three shorter ones competing with it.

The View from the Palisades

Significant views are considered important enough to be protected by law in some countries.¹⁸ There are several places where existing views of the River or Manhattan skyline should be preserved.

From the highway approach to the Lincoln Tunnel. Seen from the helix, which circles from the cliff down into the Lincoln Tunnel, the skyline is spectacular. (Although the base of the Manhattan buildings and the River plane are blocked from the driving motorist by a wall, bus passengers—who comprise two-thirds of those travelling on the helix—get the full view.) Any development of the Erie-Lackawanna yards—between the helix and the skyline—should respect this view by regulating the locations of buildings and by restricting building heights.

From strip parks. Similarly, future buildings on the New York Central yards, below Weehawken and West New York, should not obstruct the views from the long strip of county parkland at the cliff top. More of these outlooks should be provided in continuous sections along the top of the cliffs.

The view of the Riverscape from North Hudson Park in North Bergen is pleasant for its seasonal differences. In summer, only enticing bits of skyline are visible through the foliage on the face of the cliff. In the winter, when the leaves are gone, the view is panoramic; large sections of the River can be seen. The large apartment building being constructed in this area is damaging to the cliff as viewed from Manhattan but fortunately, it will not obstruct the view from the Park.

Preserving and Developing the Palisades

Fortunately, most of the cliff is undeveloped. Except for the five places where apartment towers have cut the

18. For example, France has instituted, since 1906, a number of laws to protect views, sites and natural monuments of aesthetic and historic significance.



In the Fort Lee and Edgewater areas, the cliffs are stony and precipitous.



Further south, from North Bergen to West New York, they are softer, with woods and gentler slopes.



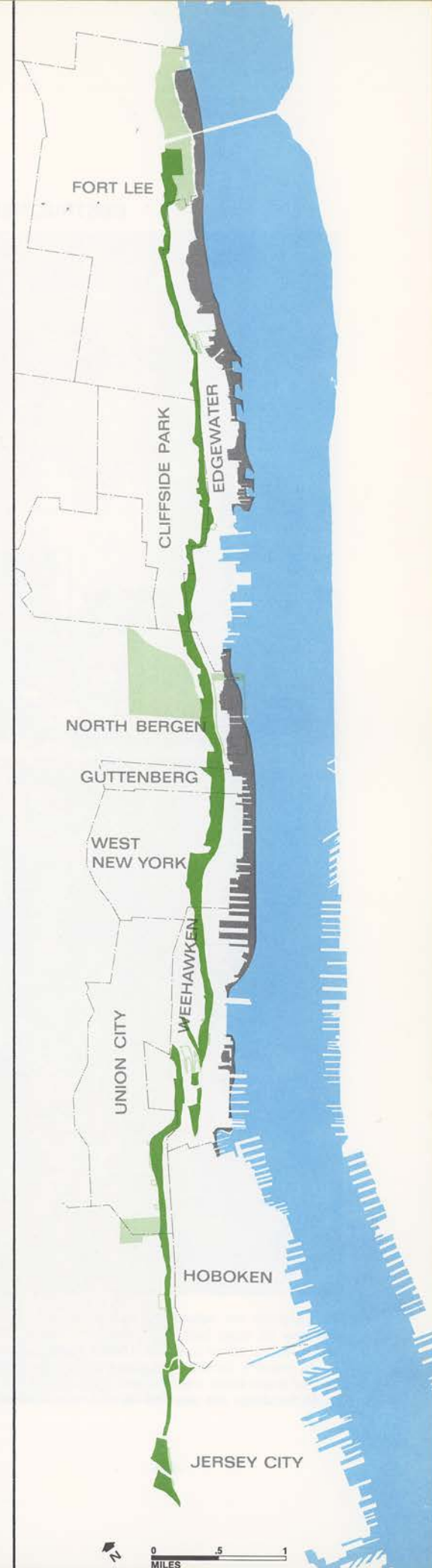
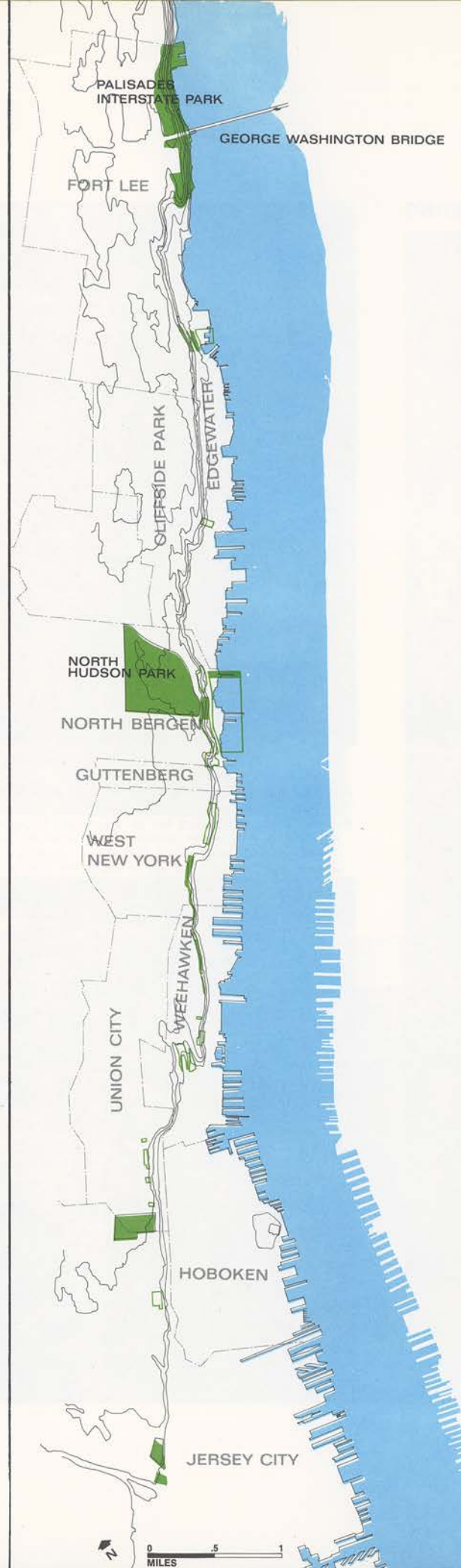
The Palisades form a green backdrop behind Hoboken, demarking the town pleasantly from the higher ground in Jersey City.

MAP 5. LAND ON THE PALISADES IN PUBLIC OWNERSHIP, 1966 (right)

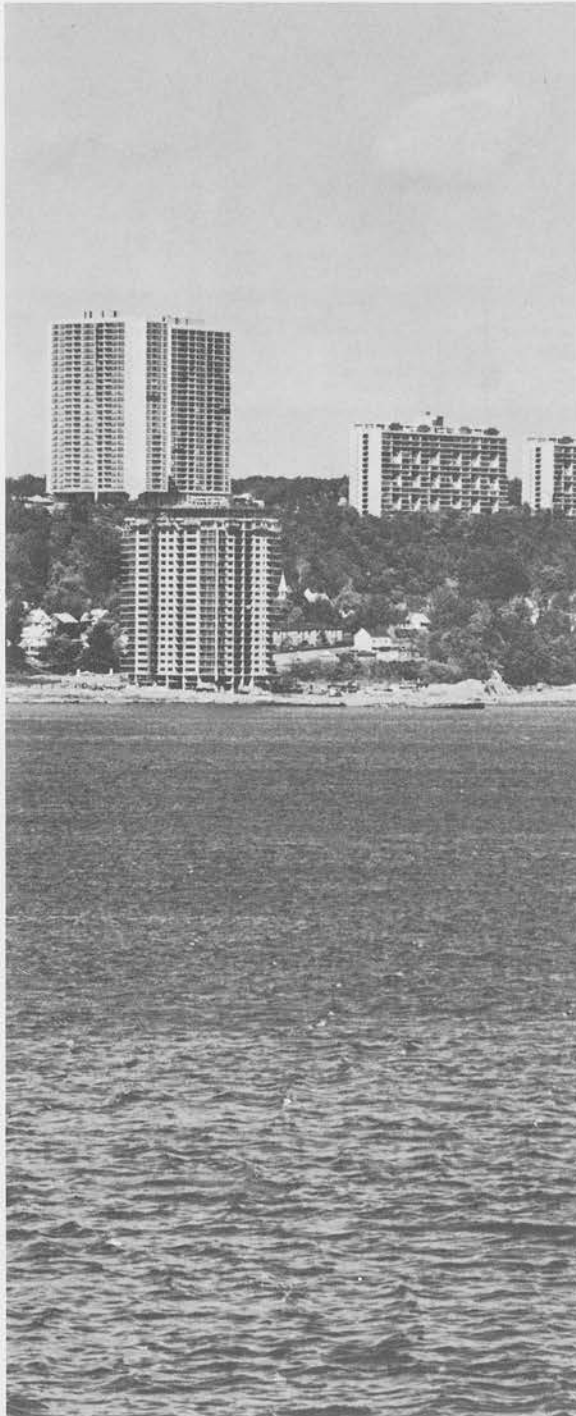
Several large parks, such as the Palisades Interstate Park in the vicinity of the George Washington Bridge and North Hudson Park in North Bergen, are publicly owned. The municipality of North Bergen owns almost all of its waterfront. But most of the Palisades and Riverfront are presently in private ownership. The green outline indicates municipally-owned land; solid green areas are in other public ownership.

MAP 6. LAND PROPOSED FOR PUBLIC ACQUISITION (far right)

The cliff face (shown in green) from the Bridge to the Holland Tunnel approach should be acquired for park purposes. Land, some for development and some for parks, should be created by filling in certain shallow sections along the waterfront (gray). The new land and appropriate adjacent parcels should largely be in public ownership.



DESTRUCTIVE SITING



To enhance the natural, horizontal form of the Palisades, the new 20 story building at the foot of the cliff in Edgewater should either have been much lower (5 stories or less) in its present location, or about twice as tall and located farther down River from the buildings on the cliff top. Three more buildings are planned for this waterfront site.



Most of the new buildings on the Palisades are awkward, posturing structures, brutally placed on the cliffs, (above). They are unrelated to the towns behind them or to each other and destructive of the cliffs. The photograph below shows the cliff being excavated for an apartment building and the excavated material being dumped on the cliff face.





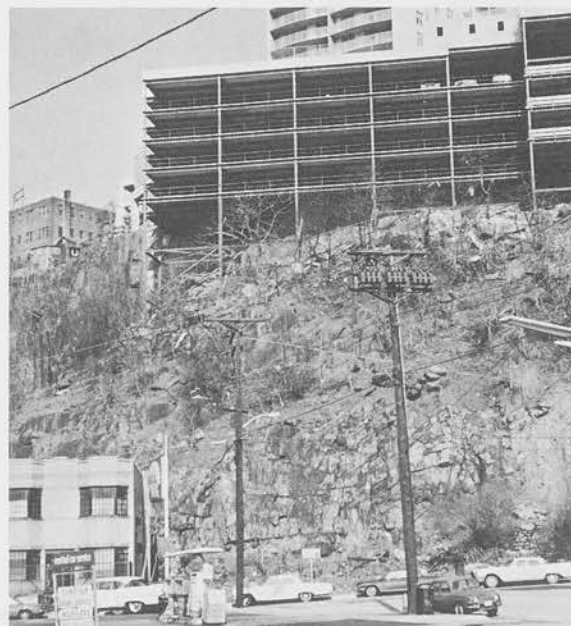
RESPECTFUL SITING

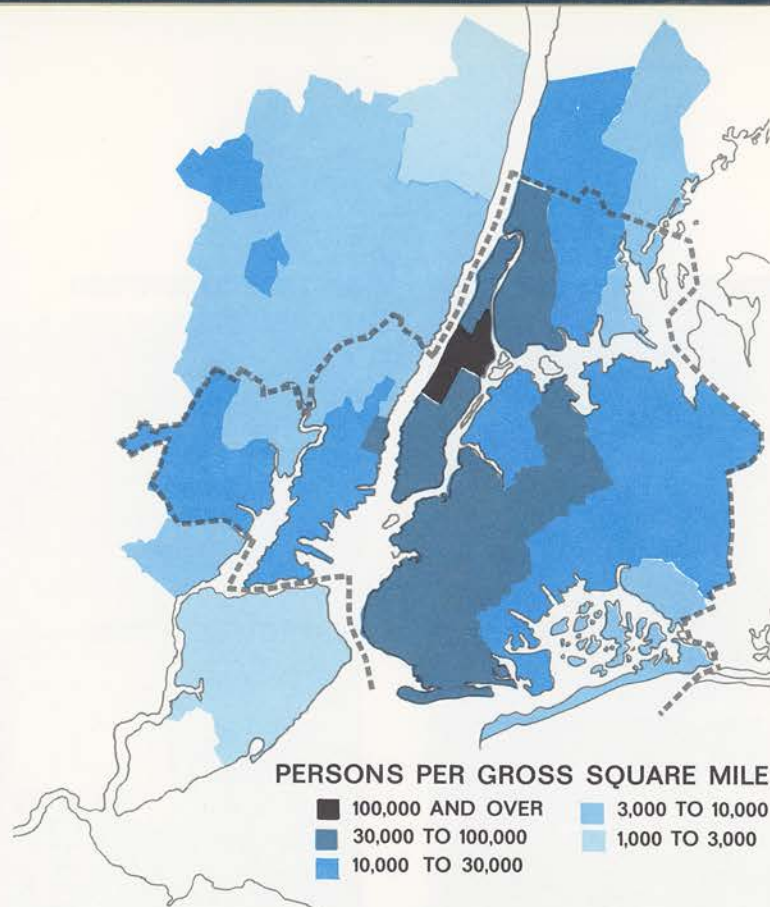


The objective for architecture here is to enrich a landscape that is already beautiful in its natural state. Only one of the Palisades' developments is well-designed and sympathetically, respectfully placed on the cliff (top). When parking structures in buildings on top of the cliffs are placed away from the cliff edge and designed to be unobtrusive (top photographs), the buildings do not break the continuity of the cliff line and the Palisades remain dominant in the landscape.

DESTRUCTIVE SITING

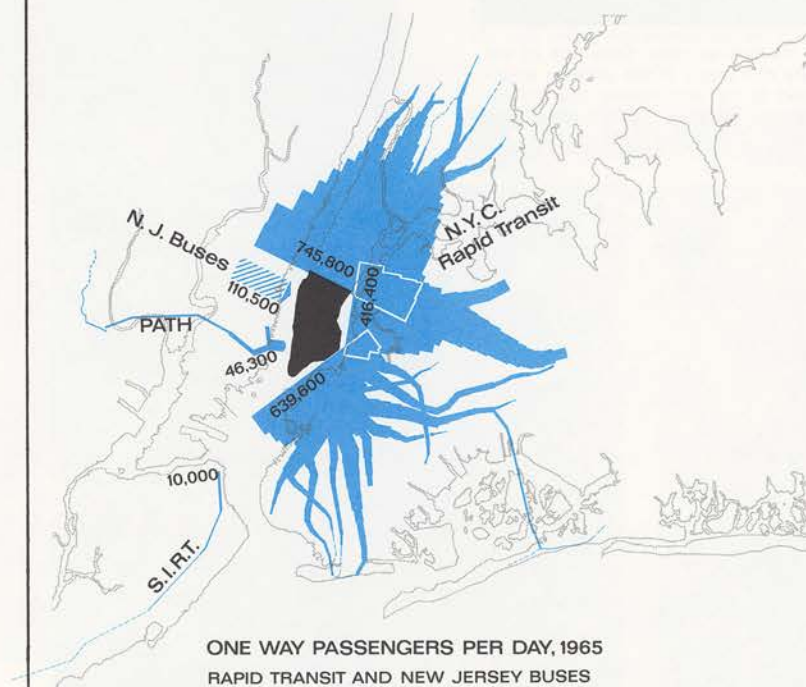
Here, as in most of the buildings on the Palisades, the parking structures are expediently dug into or dangled over the cliff face.





MAP 7. UNBALANCED SETTLEMENT PATTERN

Population densities in parts of Manhattan exceed 100,000 persons per gross square mile. Just across the Hudson River in New Jersey, there are as few as 7,000 persons per square mile. Areas of such low densities on the New York side are 10 to 15 miles from Manhattan.



MAP 8. UNBALANCED MOVEMENT PATTERN

The New Jersey sector of the Region accounts for only 9 percent of all persons entering Manhattan, and for 8.2 percent of those entering by public transit. The map shows persons entering Manhattan by public transit from four directions. New York buses, automobile and commuter railroad movements are not shown.

cliff wall, the Palisades are still beautiful and dominant in the landscape.

The face of the cliffs from the George Washington Bridge to the Holland Tunnel approach in Jersey City should be acquired now by a public agency and set aside as permanent open space. The cliff face should be cleared of all the litter, reforested in places, and generally restored to a natural state. While portions of the face belong to the municipalities, most of it is privately owned; acquisition of the privately-owned parts would cost about \$25 to \$35 million,¹⁹ according to rough estimates made by Regional Plan Association.

Portions of the waterfront land below the Palisades should be acquired in order to protect the view of the cliffs and to insure future outlooks from them and public access to the River. In addition, land filling to the pier-head line—aided by natural siltation—should be undertaken to create additional useful area.

Development on top and in front of the Palisades should be subject to strict regulation to assure optimum location and design of structures.

Municipalities would gain from a strong plan. The municipalities hold the authority for this regulation of use and design; however, both state and federal officials have demonstrated concern about preserving the Palisades and willingness to intervene to save this national scenic treasure.

Regional Plan Association suggests that local interests, even if seen very narrowly, can coincide with the interests of the state and nation. There is no inherent conflict between the interest of the municipalities in obtaining more tax revenue, for example, and the best possible location and design of what is built on the Palisades. Quite the opposite. If a design plan is prepared by an imaginative and highly-qualified architect-planning team assisted by legal and fiscal experts and if the full prospects for the development of the western Riverfront are publicized, it seems likely that a demand for housing for all income levels—including the highest—will be created. (See Map 7.) The concomitant need for rapid transit service might also be great. (See Map 8.)

¹⁹ Not market value. Assessed values of land and buildings were modified by the County Equalization Ratios to provide "true" values.

The New Jersey Riverfront, between the fast-growing office centers in Newark and New York City—in some places as close as five minutes away from Manhattan jobs—almost certainly could be developed to create a strong market for high-quality housing if there were confidence that the total environment would be of high quality. This confidence is most likely to be established by a comprehensive plan for the entire area and an agreement to follow it. Conversely, piecemeal development that is indifferent to the natural features of the area is not likely to contribute to such confidence.

Municipal-state plan sponsorship and enforcement. Regional Plan therefore urges the municipalities to join with the State of New Jersey to sponsor a design plan for the Riverfront (unless a joint federal-state-local planning commission can move fast). The municipalities also should work out an equitable arrangement for sharing public costs and benefits of Palisades development. This suggests a system of tax-sharing so that revenue is fairly distributed among the municipalities regardless of exactly where the tax-paying installations are located along the New Jersey waterfront. A study of techniques for tax-sharing in this type of situation is being made by the State of New Jersey.

While municipal pride and jealousy might seem to stand in the way of such cooperation, residents of these municipalities already have many links across the boundaries. For example, Bergenline Avenue serves as a linear downtown for several of the municipalities. Many of the residents travel from one municipality to another to work. Edgewater treats sewage from Cliffside Park. Fire and police departments of all the towns cooperate. A successful restaurant in Weehawken caters to businessmen from Union City and Hoboken. Many towns bury their dead in North Bergen. Edgewater and Guttenberg have no supermarket or movie. In fact, no single community—with the possible exception of Jersey City—either provides all the municipal services required by its residents or can support an adequate range of retail stores and private services within its own boundaries.

So the sense that one's community extends beyond his municipality is already there.

Some of the towns have social and economic problems which are not only severe but, because they are

essentially caused by forces outside municipal boundaries, simply cannot be dealt with by the town alone. Weehawken derives about 40 percent of its revenues from a rail yard which may be closed soon. Hoboken's population has changed substantially in recent years; 70 percent of its present residents have lived in Hoboken for less than 20 years.

If the New Jersey side of the Lower Hudson were dealt with as a social and economic unit—if inter-municipal cooperation were encouraged—problems like these could be more manageable. (Appendix II contains some comparative statistics on land use and population characteristics of the eleven New Jersey municipalities.)

Further encouraging the localities to cooperate are the federal and state governments which have demonstrated that they might intervene to protect the Palisades and Hudson River if the municipalities are indifferent to these national assets.

Regional Plan Association concludes, therefore, that with encouragement and staff aid from the State of New Jersey, a good planning team could be hired and an agreement by the municipalities to enforce the plan—once approved—would be possible. The state interest should be represented in the planning process and both state and federal standby authority should be available if needed.

Possible state intervention. One procedure for state intervention, if it should prove necessary, might be the purchase by the Palisades Interstate Park Commission or the State of New Jersey of key strips of land on top and in front of the Palisades (in addition to the cliff face, which should be purchased in toto). Legislation should be passed giving the Commission or State Department of Conservation and Economic Development the right to intervene in the matter of zoning and rezoning land areas within a reasonable distance of these public parks. (Precedents for such action are now in effect in New York). When a developer proposes a project for one of these publicly-owned strips which would not harm the view of or from the Palisades, the land could be leased or sold to him.

In any case, the necessary immediate actions in New Jersey are: purchase of the Palisades cliff face and a design plan for the waterfront.



Exchange Place, on the Jersey City waterfront, is separated from the River by an abandoned ferry terminal and some dilapidated piers (top). Behind the unused piers is the skyline of Lower Manhattan (bottom). The tower of the Woolworth Building (tall structure, center) is on axis with the street leading to Exchange Place from the interior of Jersey City. The site of the World Trade Center is just to the right. This vista should be opened up and new construction required to respect it.

South of the Palisades

The ideal spot for Jersey City to open a "window" to the Hudson is at **Exchange Place**. This site has vacant land, a PATH station on the direct line to the World Trade Center site, proximity to the water, and several worthwhile old buildings. The City has proposed to open a new street to connect Exchange Place to Journal Square, the City's business center. The approach to Exchange Place could offer one of the most striking views along the River—the tower of the Woolworth Building in Manhattan is on a visual axis with Montgomery Street which leads to Exchange Place. This view, now obstructed by abandoned piers that could easily be removed, should not be blocked by new construction.

If **Morris Canal Basin**, between Exchange Place and the proposed **Liberty State Park**, were developed with activities and buildings that connected these sites and

united them, the values of all three would be unusually enhanced. Conversely, the introduction of an unrelated activity—such as a rail-freight terminal—that separates, breaks continuity of use, or prohibits public access to the River could be damaging.

The **Tidewater Basin area**, Jersey City, should take advantage of the rare potential for basin-oriented, high-density housing.

Portions of **Liberty State Park** will be created by land filling. This allows large-scale sculpting of land and the development of topographical variety in a place where the temptation is merely to provide flat areas. The park also would be greatly improved by the addition of land now used for the Central Railroad of New Jersey-Baltimore and Ohio Railroad lighterage terminal at Communipaw. But complicated adjustments are necessary to allow the railroad to release this land.

Bayonne, a peninsula, has the advantage of two waterfronts. Two large parks,²⁰ a school and many residences are located directly on its western waterfront which faces Newark Bay. The eastern waterfront is entirely used for industry, and this industrial section is separated from the residential area by topography and by mainline tracks of the CNJ.

Bayonne could become an attractive place for more people to live if this general pattern were reinforced. By providing rapid transit over the CNJ tracks (from which passenger service is soon to be removed) and by aligning the projected Route 440 over or alongside the tracks, the union of the Town and Newark Bay can remain and the separation of town from industry on New York Bay can be emphasized.

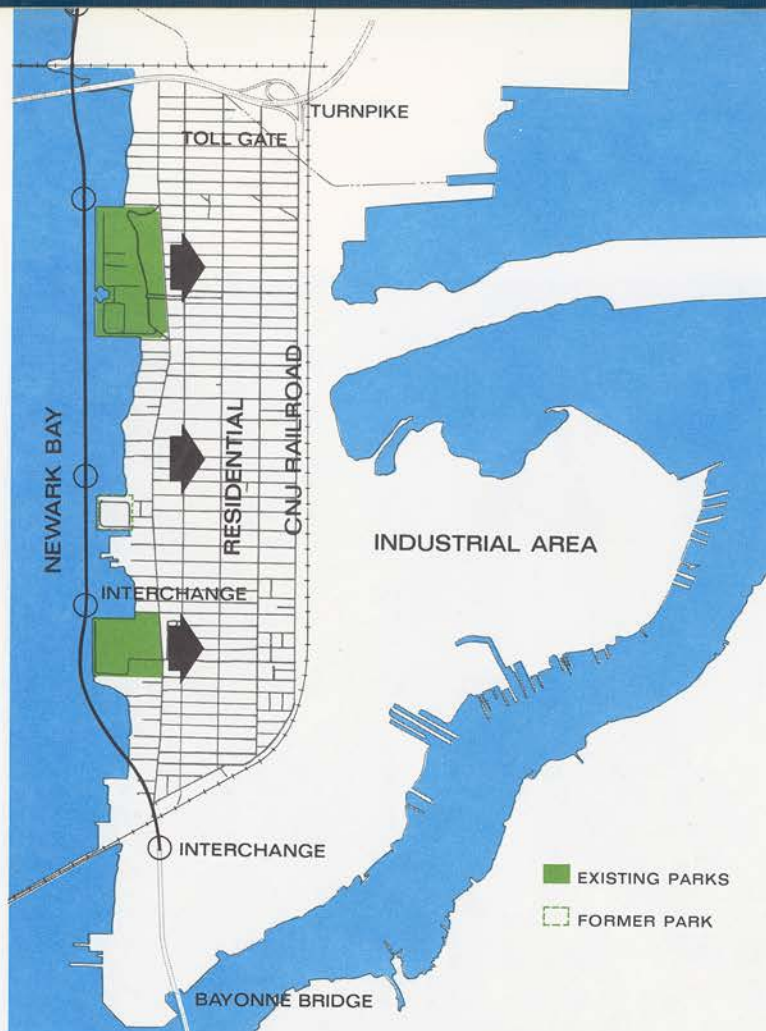
A highway and rapid-transit corridor could attract high-density residential development to inland areas on the eastern bank and benefit industry on this waterfront. Functionally and topographically, the area around the corridor is excellent for high-rise structures.

The entire Newark Bayfront, already largely parkland, should be developed entirely as public open space. Route 440 now is proposed as a causeway in Newark Bay. Not only is this likely to separate Bayonne from the water, it also could attract industry and high-rise housing and leave the Town sandwiched between two transportation corridors with their attendant activities.

20. A third park on the Newark Bayfront was recently sold by the City to a private developer.

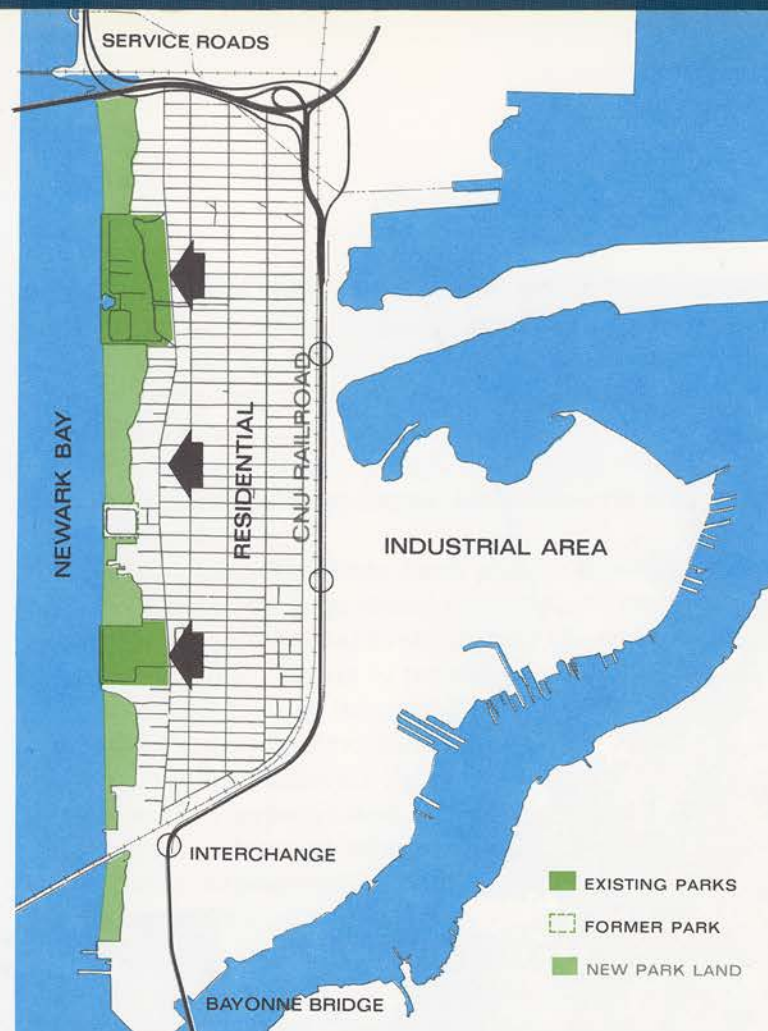


Bayonne is a pleasant old town of tree-lined streets and neat houses.



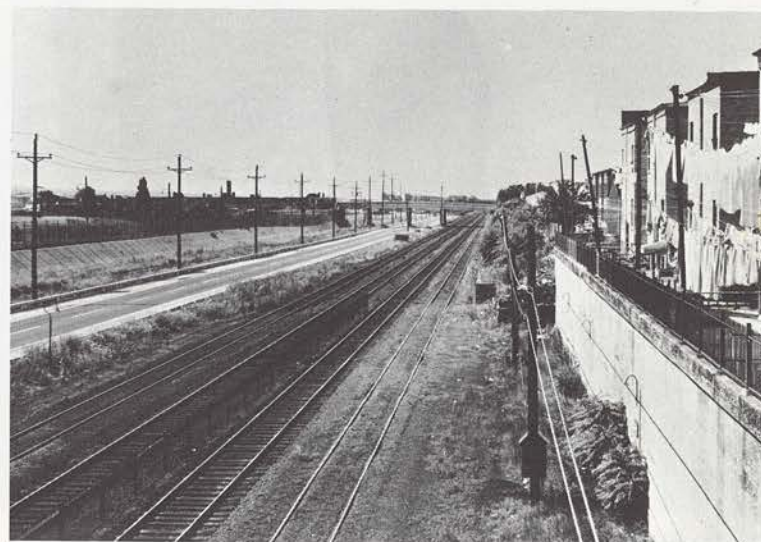
MAP 9. PRESENT PLANS FOR HIGHWAY 440 LOCATION

An extension of N. J. Route 440 as a limited access highway will be located in Newark Bay, along Bayonne's western waterfront, if present plans are followed. This route, while the most direct and similar to a parkway proposed in the Regional Plan of 1929, is no longer appropriate. Bayonne, a peninsula, is blocked from its eastern waterfront by heavy industry and tracks, but the Town is turned outward toward Newark Bay with parks (photograph), public and residential activities. A highway in the Bay would sandwich Bayonne between two transportation corridors and obstruct views and use of the Bayfront.



MAP 10. PROPOSED LOCATION OF HIGHWAY 440

The Town would retain its Bayward orientation, would have better highway connections and a more accessible industrial area if the 440 freeway were routed along the eastern side of Bayonne, over or alongside the Central of New Jersey tracks, and connected to the New Jersey Turnpike Hudson Extension, as shown in the map. (This existing transportation corridor, photograph, would become more active if used for rapid transit, as suggested on the following page.) The Town and the Region would be better served if more parks, and not a highway, were constructed on the waterfront of Newark Bay.



New Jersey-Manhattan Transit

Proposals in this report imply a sharp increase in population for the New Jersey Hudson Riverfront, with many of the new residents likely to be commuters to Manhattan. Transit must be adequate to attract these people.

While bus service is relatively fast from much of this area to the Port Authority Bus Terminal in midtown Manhattan, it cannot be readily expanded. There is virtually no rush-hour capacity in the Lincoln Tunnel and at the Terminal. Ferry service from Jersey City is to be ended soon and ferries from Hoboken probably will terminate within a few years.

This leaves PATH as the major transportation system to serve the increased number of commuters. PATH is now considerably underutilized. Current improvements will further increase its capacity.²¹ Thus, even after the addition of all rail commuters who now ride the ferries from Jersey City and Hoboken, more peak-hour passengers could be carried.

Consideration should therefore be given to serving the increased demand for transit service to Manhattan and Newark from the New Jersey waterfront. Residential development seems particularly appropriate for areas around PATH stations at Exchange Place, Pavonia and Hoboken. Feeder buses to PATH stations would tap a still wider area.

Under such conditions, the long-range future of PATH would be that of a local transit service—not a “bridge” between the New Jersey commuter railroads and Manhattan—the expectation being that long-distance rail commuters eventually would be provided with direct access to Manhattan, without transfers to PATH.

The great potential for redeveloping the New Jersey side of the Hudson for public parks and residential activities will be enhanced by the improvement of the PATH system. As development occurs, extensions of the system south through Bayonne and possibly north will become more realistic. While hardly warranted by

²¹ When re-signalling and platform extensions are completed, the southern PATH tunnel will have a seated capacity of 13,500 and a comfortable total capacity of 30,000 passengers per inbound track per hour. The capacity of the northern tunnel will be about 11,000 and 25,000 respectively. Present inbound peak hour volume is about 11,300 passengers on the southern tunnel and 7,300 on the northern one. The ferries from Jersey City and Hoboken together bring in some 10,000 rail passengers in the peak hour.



Several PATH stations on the New Jersey waterfront are near large vacant areas. There are about ten acres of open land around the station at Exchange Place, Jersey City, above. At Pavonia, below, a PATH station is located on the site of the old Erie rail and ferry terminal. About 100 acres of land around this station soon may not be needed for railroad operations.



present demand,²² such extensions should be considered a development device to attract high-density residences and financed accordingly.

²² At present, about 1,400 round trips are made daily on the Central Railroad of New Jersey from the Bayonne peninsula to Manhattan; presumably, most of these will shift to buses when CNJ service is discontinued. In addition, some 9,000 daily round trips by bus are made from or through Bayonne to points north.



The Henry Hudson Parkway is a superior design for its graceful, efficient alignment and for the views it affords the motorist. But the highway pre-empted the waterfront and has allowed insufficient pedestrian use of it.

A New Jersey Waterfront Freeway

A highway for the New Jersey side of the Hudson River would improve access to jobs and other destinations for the many residents expected to move to the waterfront and would open new waterfront parks to people from elsewhere in the Region. The highway also would connect the Holland and Lincoln Tunnels and the George Washington Bridge, allowing easier choice of alternative routes across the River.

The paramount considerations in locating and designing this highway are aesthetic:

- The view from the road should offer the visual excitement of skyline and River for the motorcar passenger.
- The view from the waterfront and from new development should not be blocked by the highway.
- The view from across the River should not be marred either. The highway must be integrated with the Palisades cliffs and the Riverfront so that these natural features are enhanced and not damaged.

A suggested alignment. One way, but by no means the only way, of applying these principles is as follows:



A highway on the New Jersey waterfront should be designed not only to expose the riverscape and skyline to the motorist but also to provide public waterfront parks and maximum pedestrian access to them.

Beginning in Edgewater, the highway could come down the hill roughly parallel to River Road, swing out to the water's edge past new parks and marinas, then inland around the town's industrial "pocket." It could be located on the surface from the Bridge to the waterfront parks, with numerous pedestrian crossways, and elevated at the industrial area—unobtrusively and sympathetically located against the cliffside.

At North Bergen, it could turn out to the water again and be located at the pier-head line along the entire area of the present New York Central yards at West New York and Weehawken. This alignment could encourage unified development of this two hundred-acre tract, which has potential for an entire new community if left in a single parcel. Here, the highway should be decked over for pedestrians so that it is not conspicuous from the waterfront area or from the cliff top and so that the River is accessible to people.

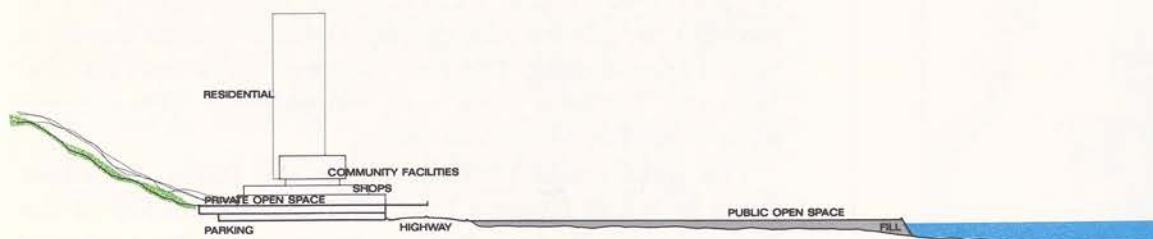
The highway would turn inland at the Lincoln Tunnel helix, connect there and continue to the Holland Tunnel approach along the railroad right-of-way at the foot of the Palisades behind Hoboken. The highway might

MAP 11. A NEW JERSEY WATERFRONT FREEWAY

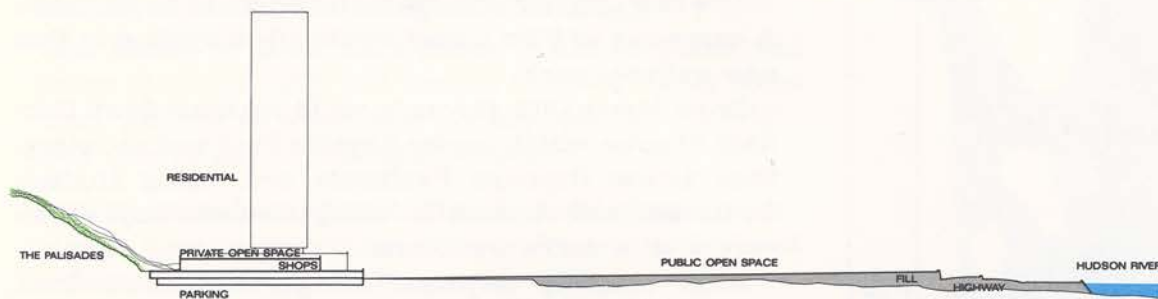
"The construction of efficient, effective and attractive freeways demands a total design concept. This means the integration of all aspects of design into a whole that is satisfying and effective... integrated with its surroundings. This is a job not merely for the highway and traffic engineer, but for the architect, the landscape architect, the city planner and other specialists."

"Freeways in the Urban Setting"
Report to Housing and Home Finance Administration
and Bureau of Public Roads, 1960

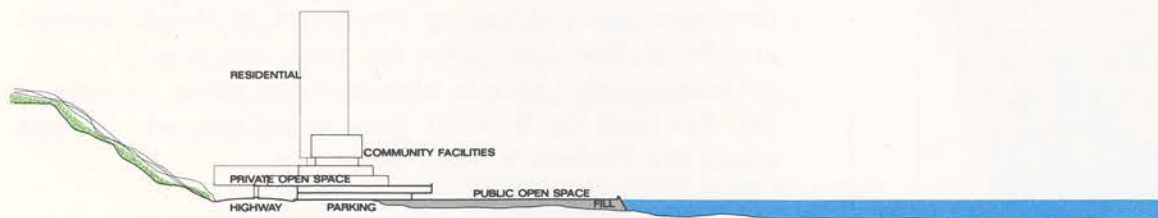
INTEGRATING FREEWAY, HOUSING AND PARKS WITH CLIFFS AND RIVER



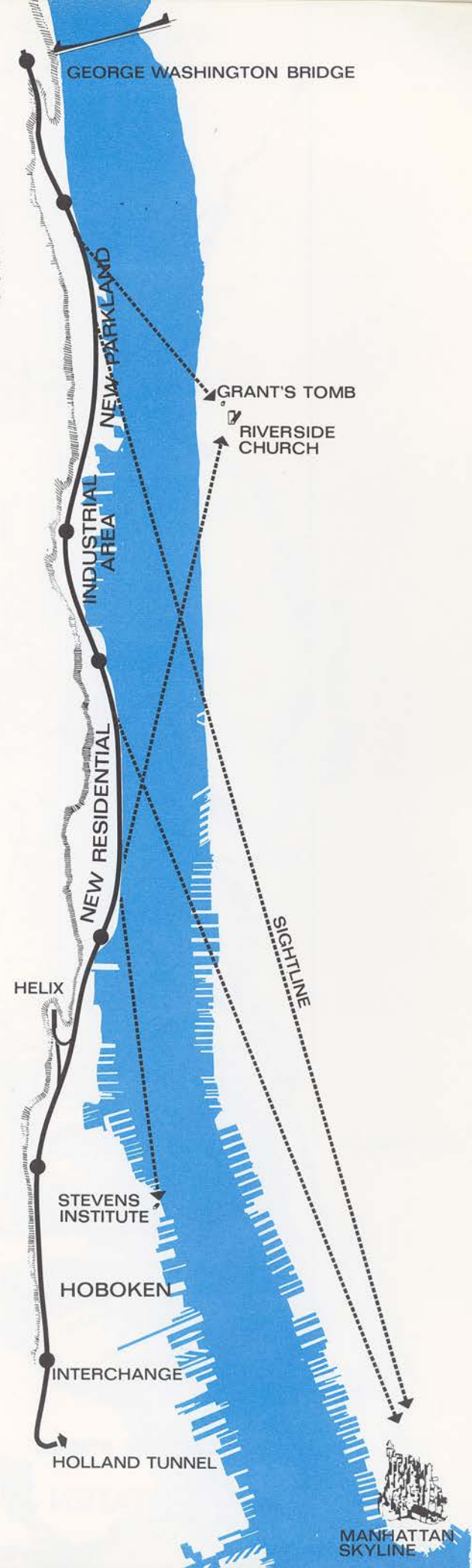
At places where the Highway is midway between the cliffs and River, buildings might be constructed in conjunction with it and public open areas provided along the waterfront.



On the Weehawken-West New York waterfronts, the Highway could be located at the water's edge without blocking views of the skyline or of the Palisades.



The Highway could pass beneath buildings in the sections where it is located near the cliff base.





be elevated directly over the tracks in this section or located alongside them at grade.

In addition to terminal connections to the two Tunnels and the Bridge, several interchanges are needed to provide convenient connections to certain areas on the waterfront: at the new regional park in Edgewater (where the Palisades Amusement Park might be relocated); at both ends of the New York Central yards; at both ends of Hoboken, perhaps at the 14th Street viaduct vicinity on the north and Observer Highway on the south. A connection at the Edgewater industrial complex would be advisable if the plan anticipated long-term industrial activity at this point.

Hiking and Bicycle Path: New Jersey

A "bridge-to-bridge" path (George Washington to Verrazano) for hikers and cyclers (with separate lanes) is worth considering. The rich range of cityscape, natural features, historic sites and recreational areas make such a facility of special value.

The path could proceed along the River on River Road to North Hudson Park; then along the top of the Palisades on Hudson Boulevard, passing the series of overlook parks above Weehawken; then to Castle Point, and on to the new state park at Jersey City, where rest and refreshment facilities could be provided. A causeway to Ellis Island would allow cycling to that new national park.

From Jersey City, the route could continue down Garfield Avenue, which passes Bayside Park and cemetery, then across Bayonne Peninsula and, using Hudson Boulevard and Avenue A, along Newark Bay where several nice parks are located.

After crossing Bayonne Bridge, Richmond Road could be followed through the center of Staten Island, hilly and still rural, to Willow Brook Park. The path might continue down the hill to the FDR Boardwalk, then turn north to link up Woodland, Midland, Graham and South Beaches. Here the path would end.

Consideration should ultimately be given to extending the path up to meet the Long Trail, which runs along the Hudson to Bear Mountain.

MAP 12. HIKING AND BICYCLE PATH: NEW JERSEY

This proposed path would connect the many historic, scenic and recreation areas between the George Washington and Narrows Bridges.

USES AND DESIGN: MANHATTAN

The West Side Highway

The present location and design of the elevated West Side Highway is a serious deterrent to redevelopment of the Manhattan Hudson Riverfront below 72nd Street. The obsolete Highway is hazardous and insufficient for traffic, and sections require rebuilding for structural reasons. It should be redesigned completely so that it not only carries vehicles but also enhances several specific projects on the waterfront and anticipates probable future uses there.

72nd to 59th Streets. Because of the height of the Henry Hudson Parkway at 72nd Street and the active rail yards under the Highway, this section could remain elevated for some time. But the redesign should anticipate new park land on the waterfront and the redevelopment of the Manhattan hinterland over the tracks.

59th to 39th. Here it should be planned in conjunction with a new passenger-liner terminal and related facilities serving both passengers and sightseers, and it should be located and designed accordingly.

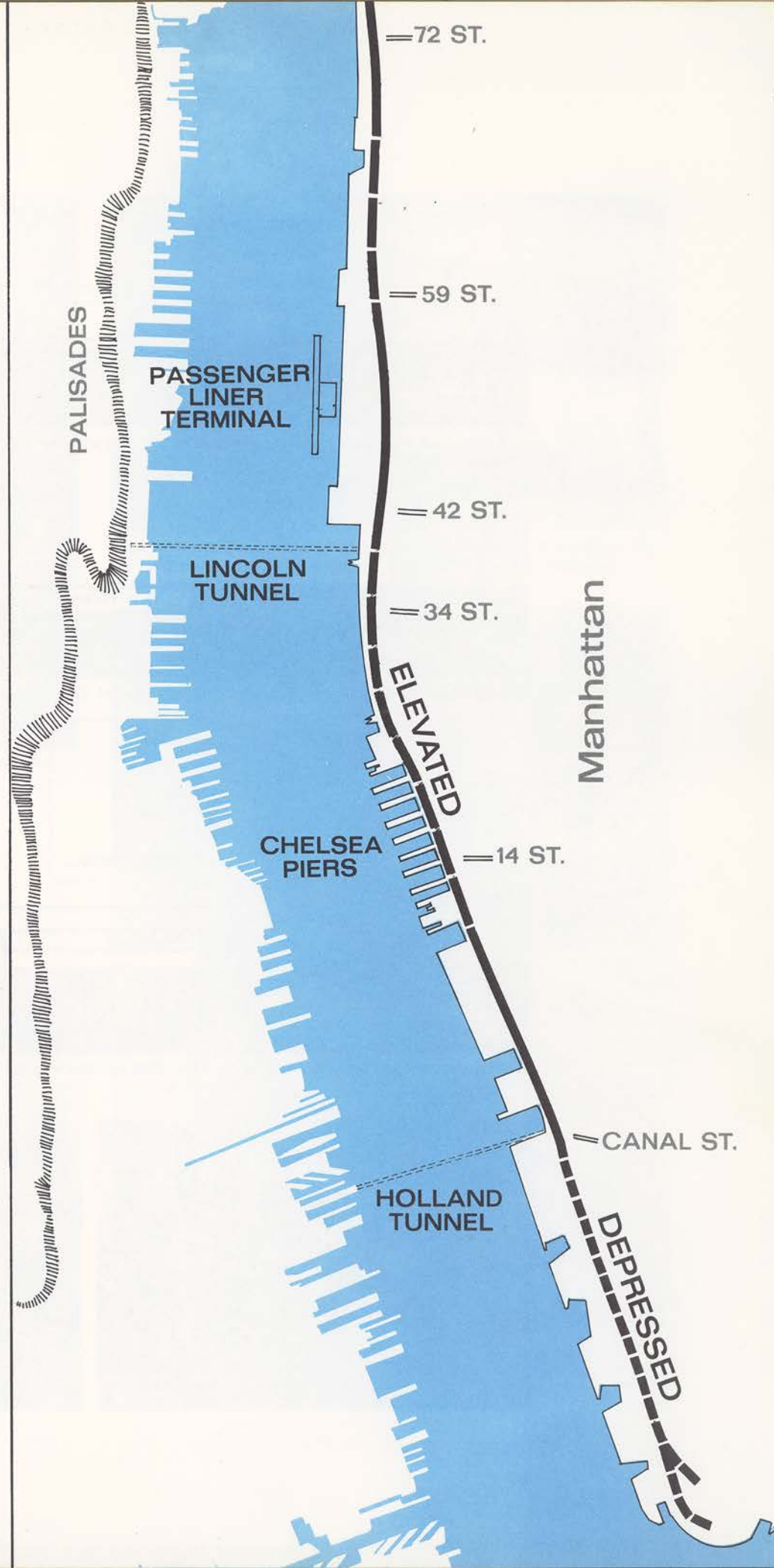
39th Street to about 12th Street. Railroad yards and cargo piers probably will remain in this area for some time. As long as these uses are appropriate, the Highway can be elevated in this portion.

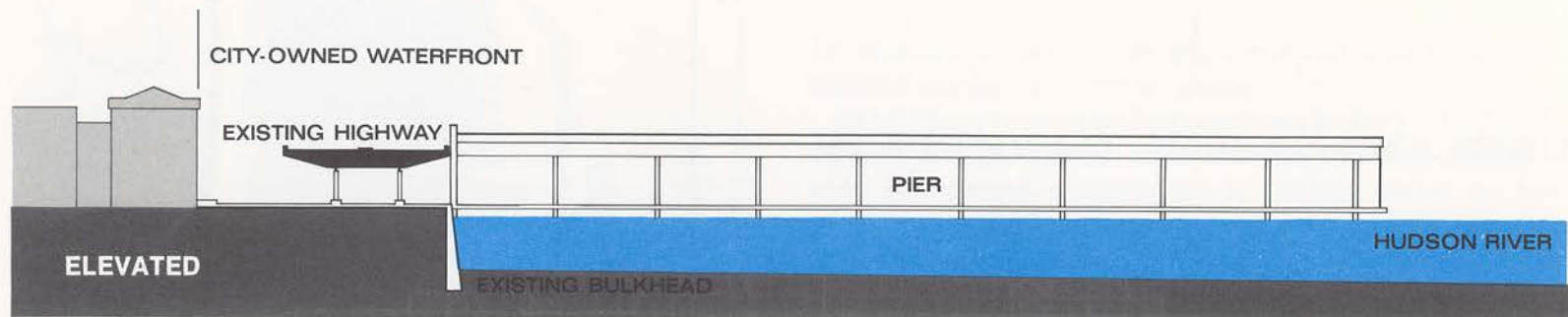
12th Street to Canal Street. The Highway should be designed here to permit maximum physical and visual access to the River from Greenwich Village.

Canal Street to the Battery. It should be built below grade level in this section, in accordance with the Lower Manhattan Plan, the recent consultants' proposal to the New York City Planning Commission. But some overhead openings should be provided so the motorist can orient himself and get glimpses of the exciting world above him.

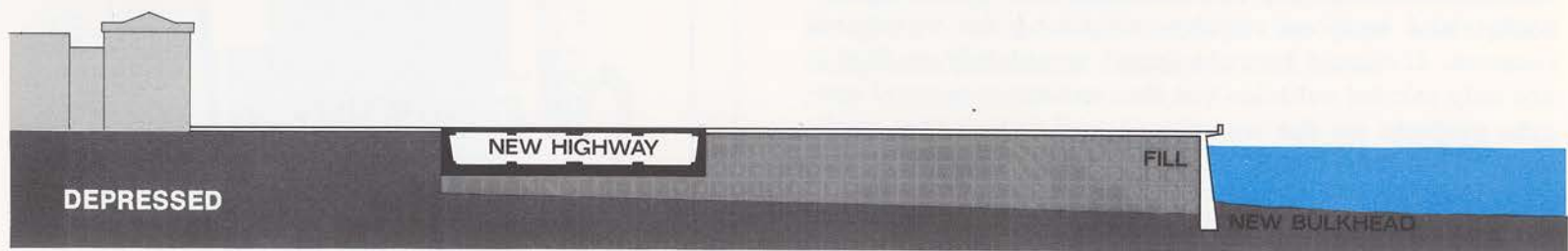
MAP 13. REBUILDING THE WEST SIDE HIGHWAY

The elevated West Side Highway is in poor condition and there are official plans to rebuild it. It should be completely redesigned and integrated with new and prospective uses along the River. The map suggests elevations of the Highway in relation to different sections of the waterfront.

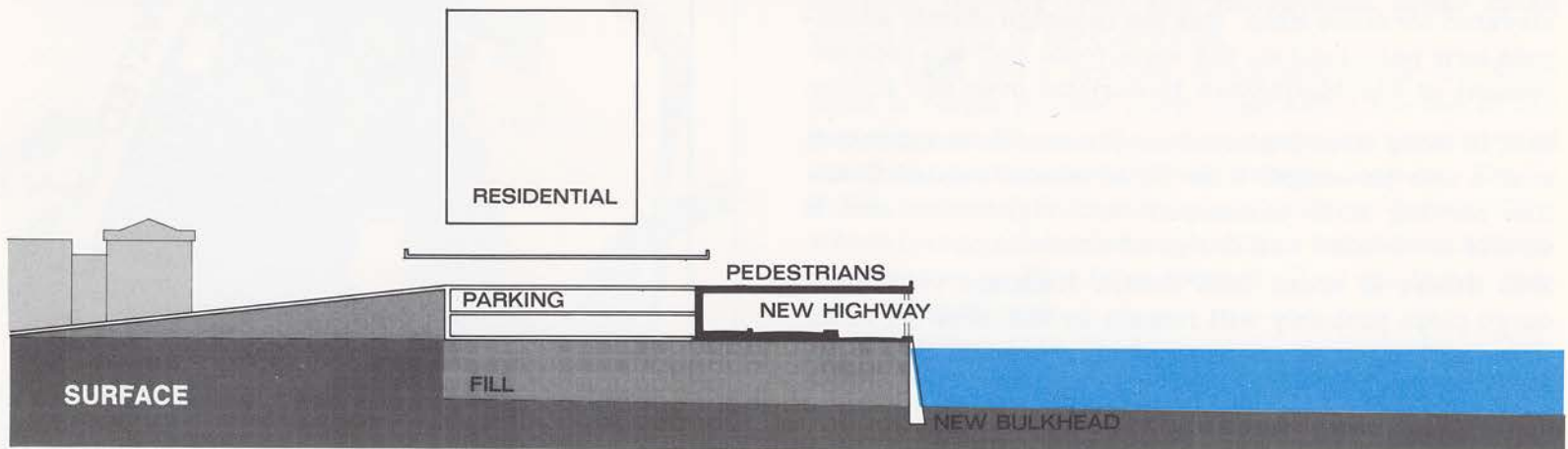




The West Side Highway is entirely elevated at present; with the narrow land area and piers, the Highway isolates the waterfront and deters new use of it for other activities.



Depressing the Highway was recommended in New York City's *Lower Manhattan Plan*. The new land would be used for residential and recreation activities.



At some places, the Highway might be located at the surface with public open space, local streets and new housing built over it.



The East River Drive, Manhattan, is incorporated into the City at several places, like at the United Nations building (left), where park and buildings are built over it. But the West Side Highway (far left), is separate from the City and physically unrelated to it.



The elevated West Side Highway, with its deep shadows, effectively blocks views of the River and impedes approaches to it from Manhattan streets.



Even from underneath the structure there is no sense of arrival or visual fulfillment. Instead of widening vistas of River and Palisades, boats and barges...



there are parked automobiles and bleak, rotting piers.

Manhattan's Hudson waterfront is a kind of urban limbo where one feels trapped between highway and piers—separated from the City and barred from the River.





The proposed sewage plant would be constructed out in the River between 137th and 145th Streets — a clear violation and misuse of this Manhattan waterfrontage. On each side of the site are parks (top photograph) and upland from it are new and old apartments on Riverside Drive (bottom). As presently designed, the sewage plant will extend 500 feet into the River and use 20 acres of it.

Riverside Park

The continuity and beauty of Riverside Park is broken between 125th and 145th Streets. This gap could be filled by new planting in presently empty stretches, by filling in the River at a few places, by decking over the exposed railroad tracks, and by moving or redesigning the sanitation pier that is now there.

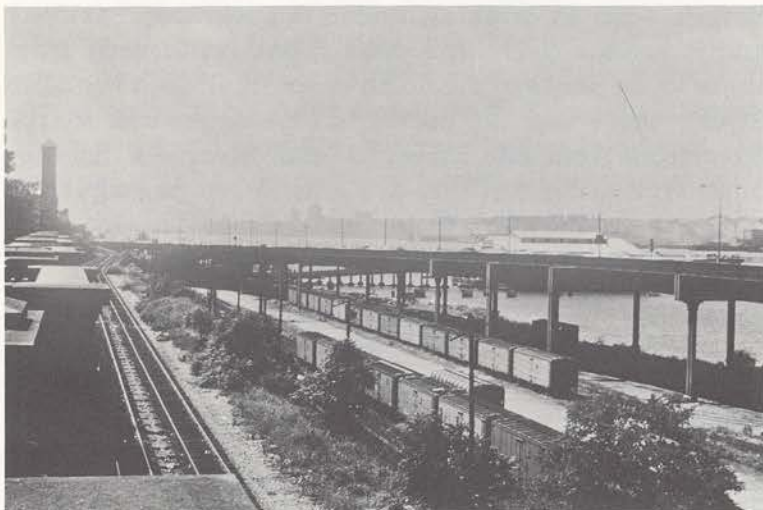
It is important to extend the park and provide access to the River here in Harlem, a park-poor part of the City. Access to the River is easy at 125th Street and at the northern end of the gap.

The problem of the sewage plant. However, instead of filling this gap with Riverside Park extensions, the City is proposing to build a sewage disposal plant there from 137th to 145th Streets, about 1,700 feet long and 500 feet into the water—some twenty acres in size. Construction of the plant has been delayed pending re-study of its “technical design and aesthetic effect on the Hudson.”

While this may be the best location from an engineering standpoint, the aesthetic and recreation needs—present and long-range—are serious overriding considerations. Not only would the plant—as presently designed and placed on the site—preclude the use of the Riverfront by Harlem residents, it also would spoil the view from Riverside Park, from many places on the Henry Hudson Parkway, and from the new apartments across the River.

The uniqueness of the Hudson Riverscape seems ample justification for the extra cost of locating the plant at Ward's Island on the East River as originally planned. The costs of piping the sewage to Ward's Island from the west side of Manhattan which the plant will serve, and of treating it to a higher standard of purity for the smaller, slow-flowing East River, could be substantial, but misusing the Riverfront destroys an irreplaceable, scarce resource and is probably more costly ultimately than the Ward's Island site. In any case, the choice and alternative costs should be studied thoroughly and publicized so the public can participate in the decision.

At the very least, the plant should be redesigned and worked into the site so that it is both unobtrusive and usable for recreation.



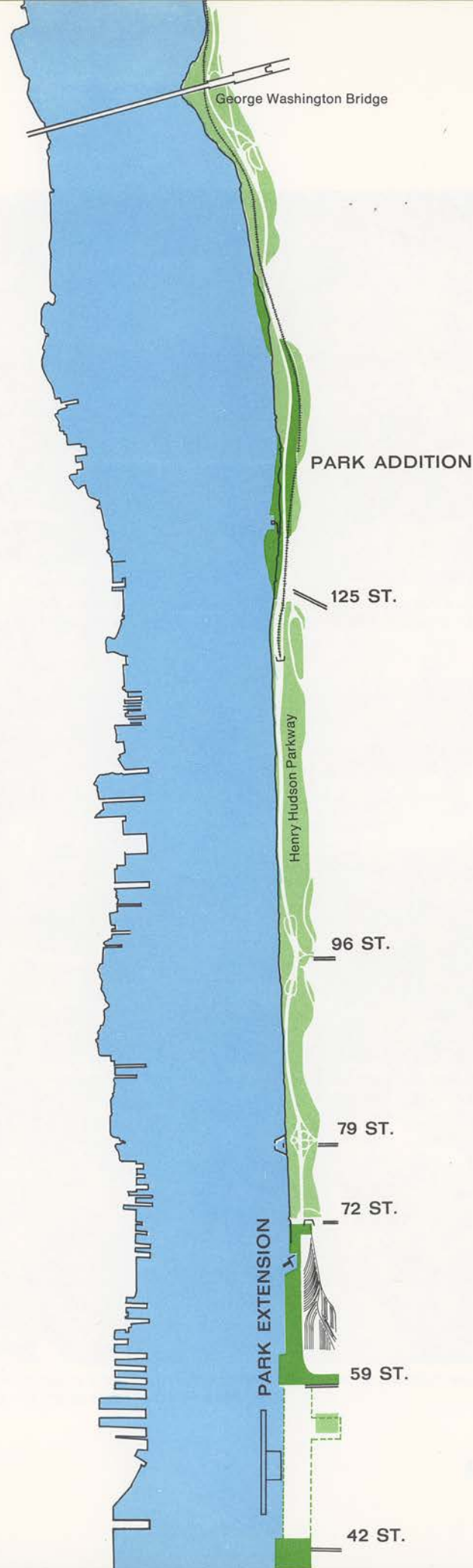
It would be highly preferable if the proposed sewage plant were located at an appropriate site. But if a different location is shown to be economically prohibitive, the structure should be moved inland on the shore (photograph) and totally redesigned to make the plant itself an integral part of the River bank and the entire area usable for recreation.

Hiking and bicycle path. A path for pedestrians and cyclers should be constructed on Manhattan's waterfront from the George Washington Bridge to the Battery. From the Bridge to 72nd Street, the path could follow the water's edge at ground level, linking up new and existing parks. South to Canal Street, the path should be designed in conjunction with the reconstructed West Side Highway. And from Canal Street to the tip of the Island, it might utilize the waterfront esplanades and public open spaces recommended by the Lower Manhattan Plan.

Improving pedestrian access. The beauty of the Henry Hudson Parkway and its wonderful views for the motorist are great assets to the Region. But there are insufficient crossings for local residents to reach the park and waterfront by foot. Additional pedestrian access under and over the highway should be provided. They should be designed to channel pedestrians to the River without the circuitous stair-climbing or ramp-circling that make so many present day highway overpasses of little value to pedestrians.

MAP 14. ENLARGING RIVERSIDE PARK

Manhattan's Riverside Park should be extended south to 59th Street and the gap between 125th and 145th Streets filled with new park land.





The western end of 125th Street, a natural opening on the River, is potentially one of Manhattan's best places for pedestrian access to the waterfront.



A large, ugly sanitation pier suddenly interrupts the sequence of magnificent views of the George Washington Bridge and River from the Henry Hudson Parkway.

At the end of 125th Street, one can easily reach the River's edge by walking under the elevated Parkway and Riverside Drive. But one cannot get directly from there to the parks to the north or south. Except for 125th Street, there are no pedestrian passageways to the Riverfront from 96th Street to 148th Street—a distance of about $2\frac{1}{2}$ miles. There are only seven passageways crossing the Parkway in the five-mile section from the George Washington Bridge to 72nd Street.

Extending the Park to 59th Street. Extension of Riverside Park from 72nd Street, where it now ends, to 59th Street, where the project area of the ocean-liner terminal should end, would be a significant increase in public open space in an excellent place, as well as an inducement for development of facilities related both to the terminal and to the new developments on the upper West Side. The housing around Lincoln Center, the Fordham University expansion, and the proposed West Shore High School make this section of the waterfront especially appropriate for park use. A possible corridor of green from the River to Lincoln Center and Central Park deserves some thought as well.

One railroad float bridge and the Consolidated Edison coal pier are the only facilities on this stretch that could not be eliminated or relocated in the near future. These could be bridged to connect the parks on both sides of them.

Clearing the view from the highway. In Manhattan, the northbound motorist on the Henry Hudson Parkway can enjoy a great visual experience as the George Washington Bridge is first revealed and then hidden by soft foliage, then revealed, then hidden again. But suddenly, at 125th Street, the large, white sanitation pier comes between viewer and Bridge, distracting and interrupting the pleasant sequence. For this reason as well as for more essential park needs, this pier should be relocated or rebuilt much less obtrusively below the sight line of the motorist if possible.

Also in the same vicinity, the southbound motorists' view of Grant's Tomb and Riverside Church—two New York landmarks—is disrupted by large, commercial billboards in the foreground. These should be removed. Indeed, this fifteen-block section of the Riverfront in the vicinity of 125th Street is the one unsightly and incongruous area along the Parkway from 72nd Street to the Bridge.

The Passenger-Liner Terminal

The contemplated new terminal for passenger liners could be more than a facility where ships dock and people board them. Like the John F. Kennedy Airport, which attracted over 8½ million visitors last year, the terminal will be a significant tourist attraction as well as an important international point of entry to this city and nation.

A broad plan. So the location and design of this project is at least a two-fold problem: (1) the construction of a terminal that functions efficiently in itself and in relation to the City, and (2) the provision of public spaces to accommodate visitors and observers. An additional important problem is the handling of the West Side Highway's realignment in conjunction with the terminal project.

The recent Port Authority study on the feasibility of the liner terminal disclosed that about two-thirds of the total ship passengers do not live in the New York Region and that about half of these—a third of the passengers—spend at least one night in New York City at either end of their trip. Hence, proximity to hotels and to related commercial and entertainment activities is an important locational consideration.

The Port Authority has recommended constructing a six-berth terminal—at the midtown waterfront, roughly between 45th and 51st Streets, where the passenger piers are located at present.²³ This seems to be the best general location for the project.

But to provide the most attractive and convenient services for those departing and arriving as well as to maximize the enjoyment of the ships for the City as a whole, the terminal should be planned together with the entire midtown waterfront, including the redesign of the West Side Highway. In addition to the terminal itself, existing sight-seeing facilities, new and existing hotels, shops, restaurants and parks should be anticipated and provided for. (It would be desirable, as well, to provide space for the Navy's tradition of opening ships to the public. In the first six months of 1966, over 75,000 persons visited Navy ships docked on the Hudson.)

23. The Port Authority also recommended using Pier #40 at Canal Street, with three berths, for additional passenger-liner facilities.

LOUIS B. SCHLIVEK



Passenger shipping is a traditional and proper use of the Manhattan waterfront. About a million persons use the present facilities each year.



PORT OF NEW YORK AUTHORITY

This mile-long section of the waterfront from 39th to 59th Streets is all owned by the City and is occupied by several impermanent facilities and some piers whose uses could be relocated.

Design of the terminal docks. There are three basic designs for a terminal of six berths:

1. Three of the familiar finger piers, each with a berth on both sides, connected with a "head house."

2. Two box-type piers (like the new Pier #40), both with a berth on each of their three sides, providing four perpendicular berths and two parallel to the shore.

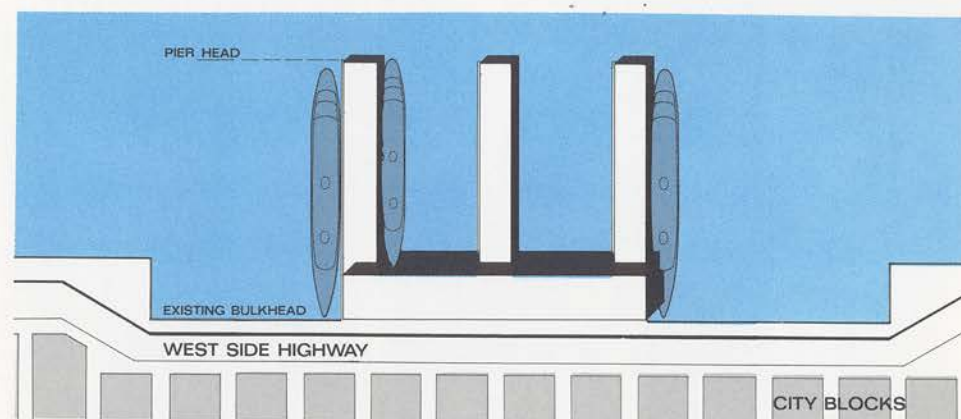
3. A quay-type "T" arrangement in which all six berths are parallel to the shore.

Because the space needed for the ships between the pier-head line—the farthest extension allowed into the River—and the shore is less for the quay-type than for the other arrangements, the quay configuration can provide extra space along the shore. This filled land can be used for many purposes, including the reconstructed West Side Highway and more public open space along the shore. This configuration uses a larger section of the waterfront than the others and involves more expensive piling. Modifying three finger piers without dealing with the problem of the Highway or provision of open space may be the most expedient and least expensive.

There are many valid ways to solve this complex problem. But whatever the shape of the terminal, it should be gracious and ample, amid a complex of related facilities, and connected to—not separated from—the interior of the City. This can only be achieved by a cooperative effort in city-port planning by the New York City Planning Commission and the agency which will build and operate the terminal.

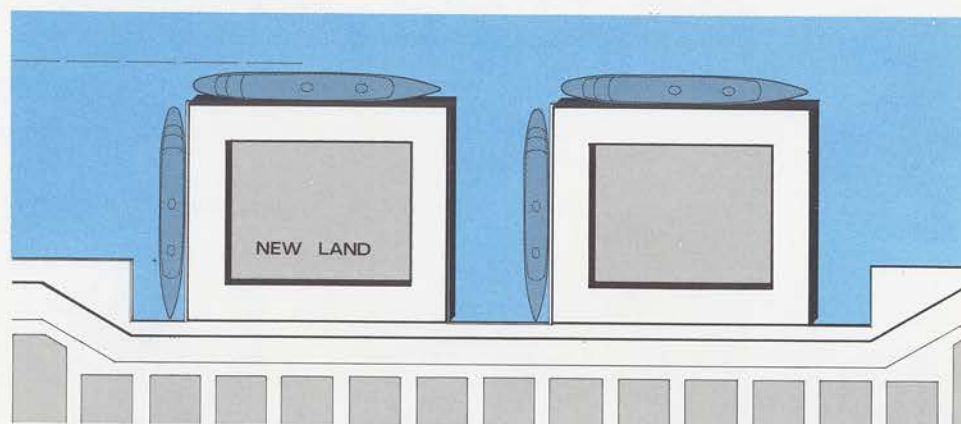
A tall structure with a public viewing place belongs somewhere in the project, as well as large, open areas where the ships may be seen from a distance as well as from close vantage points. Now, only fragmentary views of the ocean liners are afforded as they pass on the River or lie at the pier.

Complete views of the ocean liners are available only from the air or from a few tall buildings in the City.



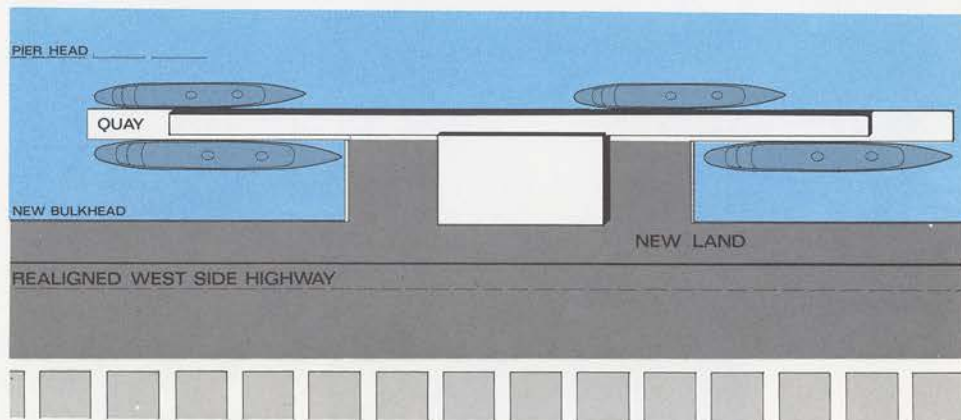
MODIFICATION OF FINGER PIERS

Reconstructing three existing finger piers is probably the least expensive way to build a six-berth terminal. Sufficient public access and views could be provided if several piers on each side were replaced by parks. But the configuration of finger piers complicates the reconstruction of the West side Highway. Also, the piers occupy most of the distance between the bulkhead and pier-head lines, leaving insufficient room for upland open space.



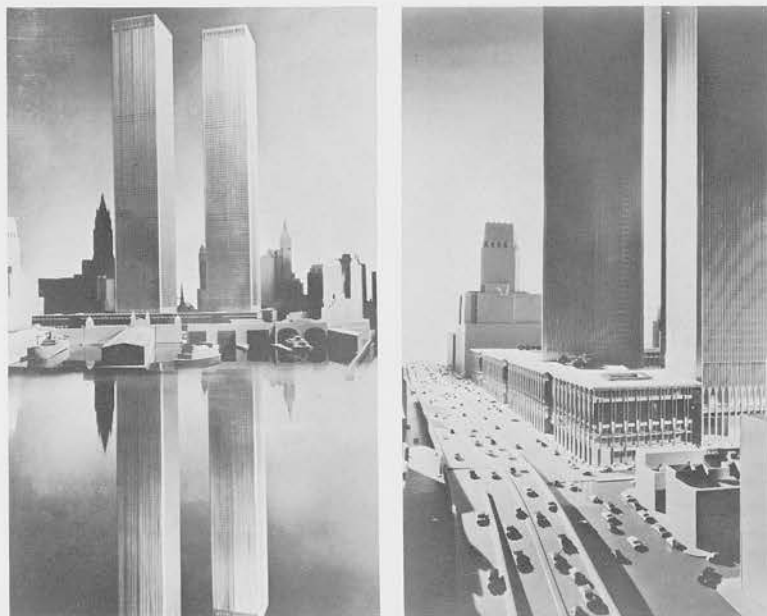
BOX-TYPE PIERS

Two of these structures would provide extra internal area but no open space. This scheme likewise does not allow lateral room for dealing properly with the Highway.



QUAY-TYPE PIER

Docking the ships parallel to the shore allows dramatic views and the possibility of providing upland area for several uses, including open space and the relocation of the Highway. This configuration would utilize most of the midtown waterfront and the construction cost would be comparatively high.



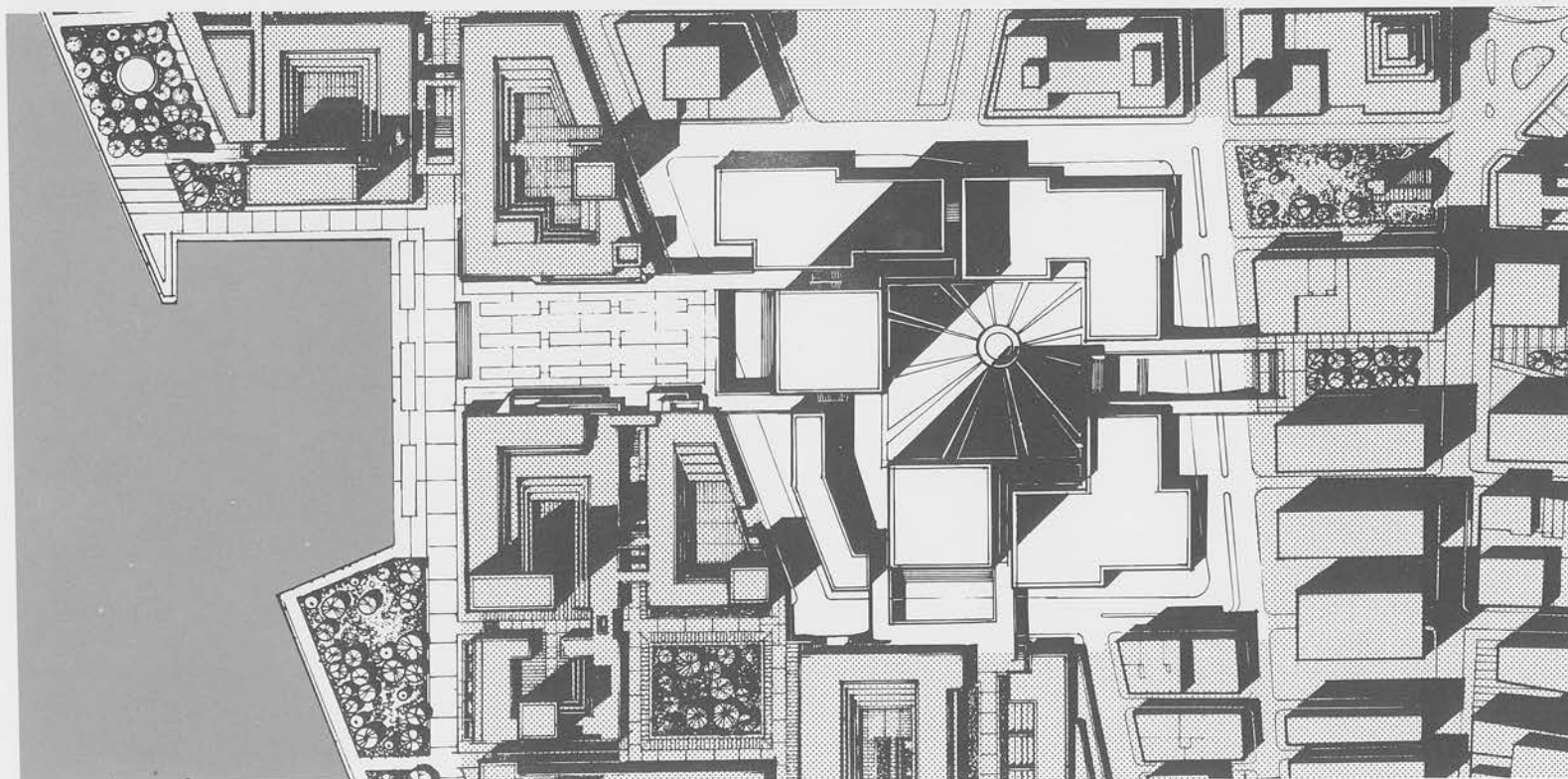
In the original plan, the World Trade Center was separated from the Hudson by dilapidated piers, (left, above) and by the elevated West Side Highway (right). Revised plans anticipate a depressed highway and a large riverfront plaza (opposite page).

World Trade Center

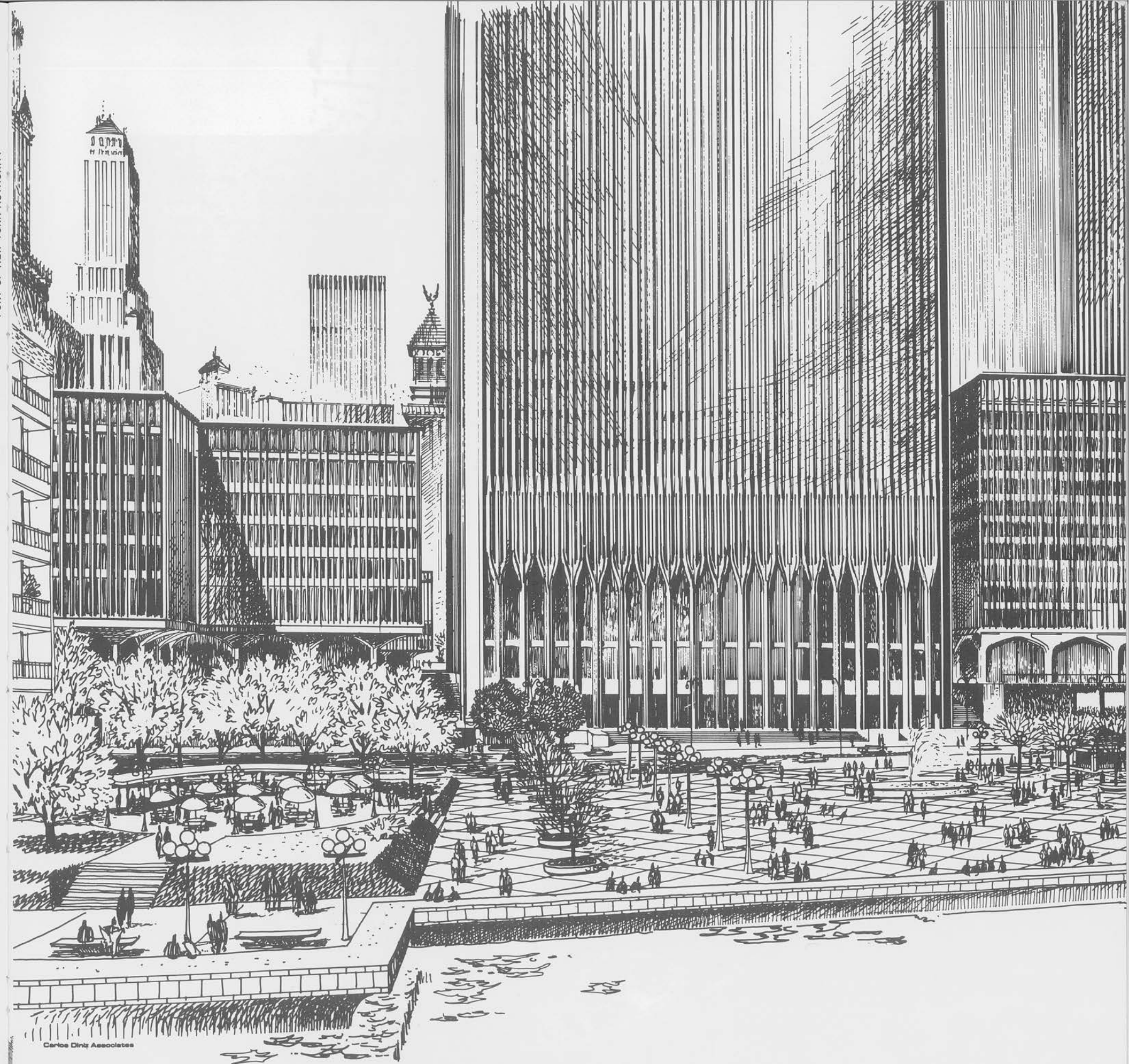
The World Trade Center should be extended over the West Side Highway to face the port it serves. The 50,000 employees and thousands of expected daily visitors would doubtless make good use of a waterfront plaza or park. The section of the shore in front of the project's site is presently occupied by three rotting piers built in the 1890's.

The latest plans for the World Trade Center anticipate a depressed West Side Highway and make allowances for the possibility of using the waterfront for a public place. These plans should be followed. The need for open space in lower Manhattan is obvious. The increased need caused by the addition of the World Trade Center makes the depression of the highway imperative.

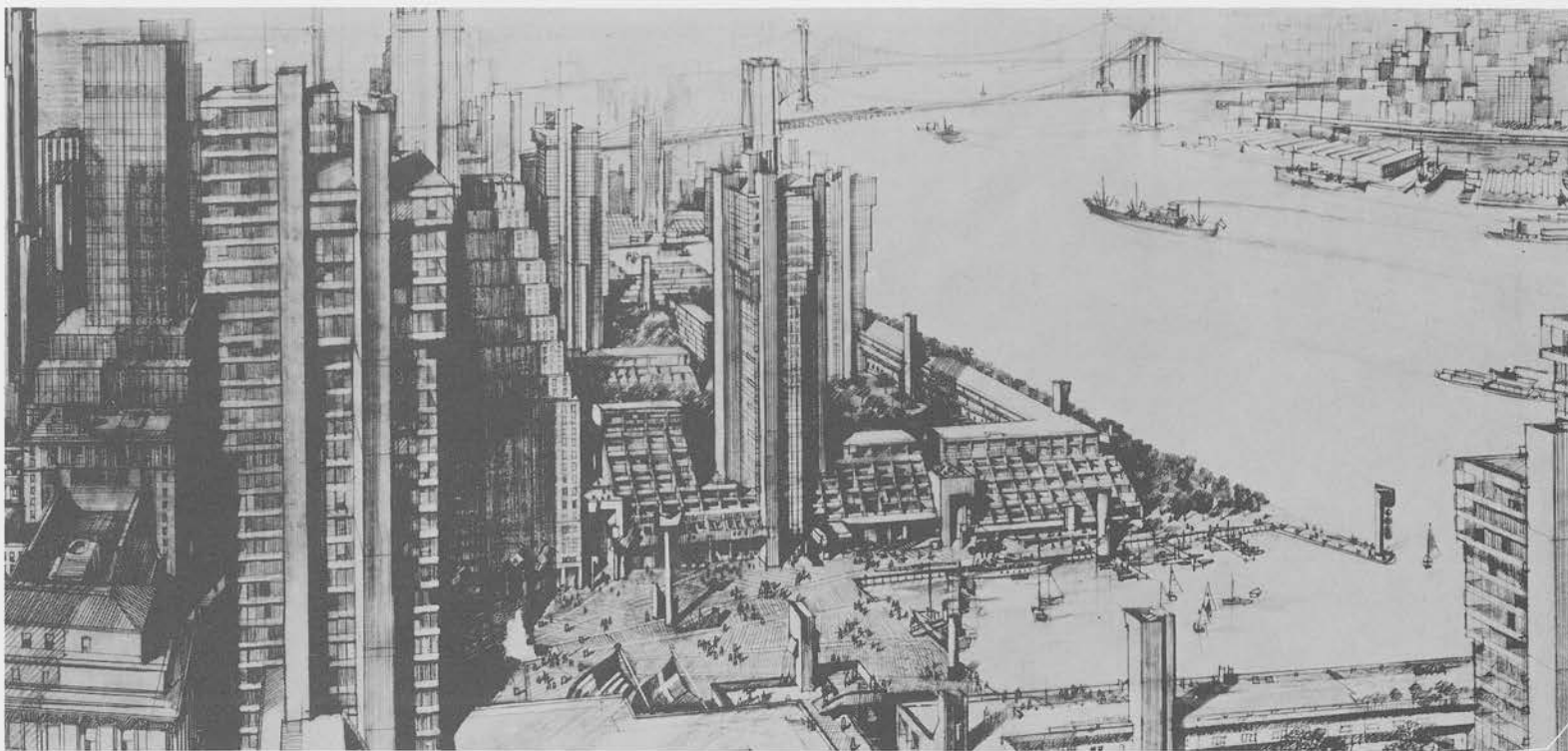
Excavated material from the World Trade Center site will be used to provide about 23 acres of new land on the Hudson waterfront. This fill should be located and placed so as to be the first stage in the implementation of the Lower Manhattan Plan.



The Lower Manhattan Plan called for redeveloping the pier area and depressing the highway, and showed how the Trade Center might be linked to the River with pedestrian areas.







Map of Manhattan's southern tip (left), rendered here with shadows to indicate relative heights of buildings, was published in New York City's *Lower Manhattan Plan*, 1966. Buildings along the Riverfront are residential and related facilities on new land fill; a continuous esplanade connects the several waterfront parks. This use of the River's edge and its direct connection to the City's interior is made possible by depressing the West Side Highway (upper left corner). Drawing above, of East River proposals, shows development and open space possibilities for Hudson waterfront.

The Lower Manhattan Plan

The Lower Manhattan Plan, submitted in 1966 to the City Planning Commission by a consultant team, calls for using the water's edge as "a series of residential-commercial-recreational communities." Comprehensive proposals are made for the economic and physical improvement of this important part of the Region's heart. Included are recommendations for "rationalizing the movement system" by separating pedestrian, arterial and service traffic and by improving mass transit systems and facilities. The West Side Highway would be depressed and parking confined to the periphery of the Island. Housing for some 100,000 people would be provided—much of it on land filled at the River's edge—continued office expansion encouraged, the quality and character of public space upgraded, employment opportunity diversified and maximum advantage taken of the "great beauty of downtown's waterfront."

A series of plazas along the River would be connected by a waterfront esplanade, providing public pedestrian access around the entire tip of the Island.



About 190 acres of new land (gray) would be created by filling the Riverfront. The West Side Highway (dotted line is its present location) would be relocated nearer the River and depressed (solid black line).



CHARLES PRATT

LANDMARKS AND FERRY BOATS

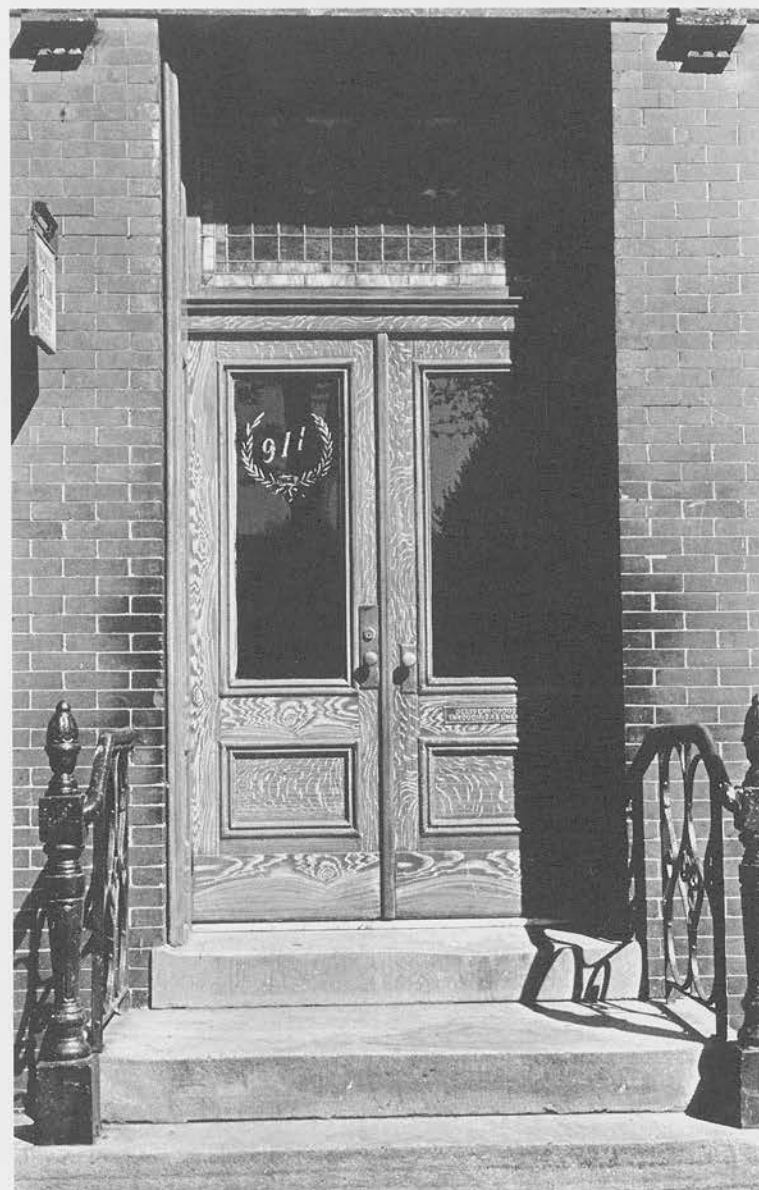
Hoboken

Hoboken is a special place on the Lower Hudson and therefore in the Region. The only town built right up to the River's edge, Hoboken has retained its authentic character from the railroad and steamship era and still has a waterfront flavor. Its small scale gives it an intimate community feeling—even with 50,000 people. The many blocks of fine townhouses with aligned cornices and uniform styles endow sections of the Town with a charm that is rare in the Region. It has several elegant individual buildings and squares. With a successful, growing engineering university (Stevens Institute) and a transit connection to Manhattan (PATH), Hoboken has great potential as a place for more people to live and for others to visit and enjoy.

Retaining the character. Both the City and the Region would be the gainers if Hoboken's particular physical qualities were preserved. The first requirement is to retain the street pattern and small blocks—the urban “grain.” Maximum restoration of existing brownstone buildings and reconstruction of low housing, built up to the street in the Hoboken way, should be emphasized. The number of tall buildings should be limited, their locations carefully selected, and the building bulks controlled so that the impression of the streetscape is not impaired. Using materials similar to those in surrounding buildings can further insure against modernizing away the charm of the old.

A waterside for people. The passenger-ship piers that once made Hoboken's waterfront a colorful, populous place are gone now and with them the hotels and some bars and restaurants that served the crowds they brought there. The large freight piers attract no significant related activities and exclude people from the waterside.

Redevelopment of Hoboken's waterfront from Stevens Institute to the ferry terminal (which should be restored and reused when the railroad leaves it) could add im-



CHARLES PRATT

“But let us speak most fervently of those landmarks that are the work of unknown men, anonymous structures which served well in their time and by some happy chance have come down to us intact. They may even be ugly by contemporary taste. But their honesty can be splendid; their wholeness can make them sweet. Touch these, and you destroy much that makes the city human. Keep them, and you keep the quality of life itself.”

August Heckscher

measurably to the attractiveness of the Town. Housing, education and entertainment activities, perhaps motel and convention facilities, would be appropriate new uses for the area.

There is exciting potential for linking a waterfront redevelopment to the downtown commercial area and creating a town center directly on the River.

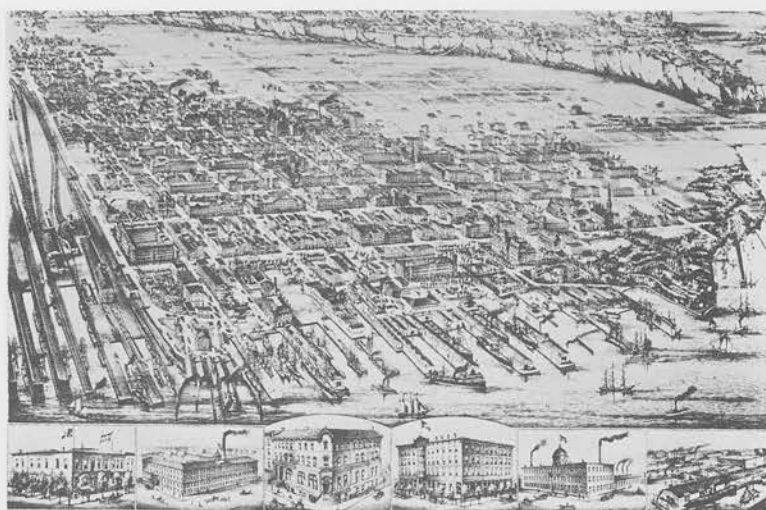
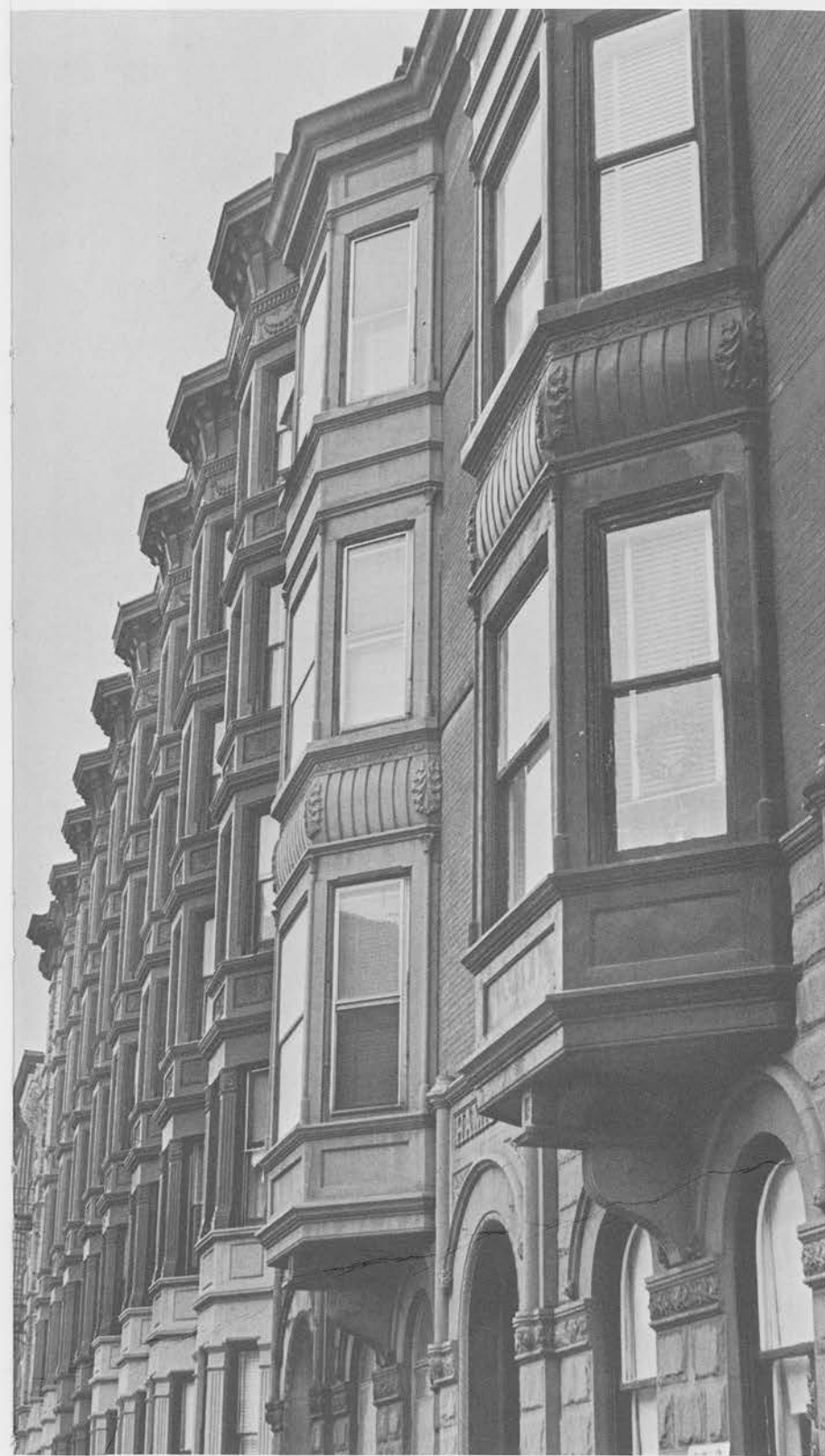
CHARLES PRATT



The Erie Lackawanna terminal building is sheathed in ornate copper.



Hoboken has many distinctive buildings and rows of townhouses. The similar building styles and aligned cornices give the Town an over-all unity that is pleasant and unusual in the Region.



Hoboken was built almost entirely during America's "railroad era," 1870 to 1910. The drawing shows Hoboken in 1881; its waterfront dominated by active cargo and passenger shipping. The original Lackawanna railroad and ferry station, in the lower left of the drawing, was replaced in 1907 by the present building.



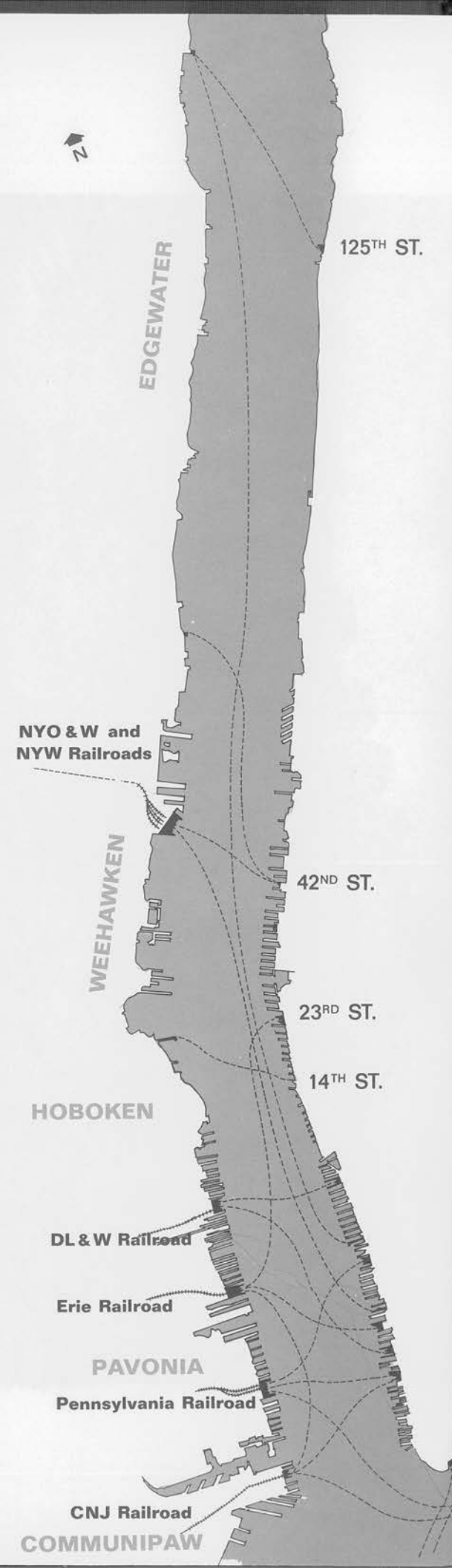
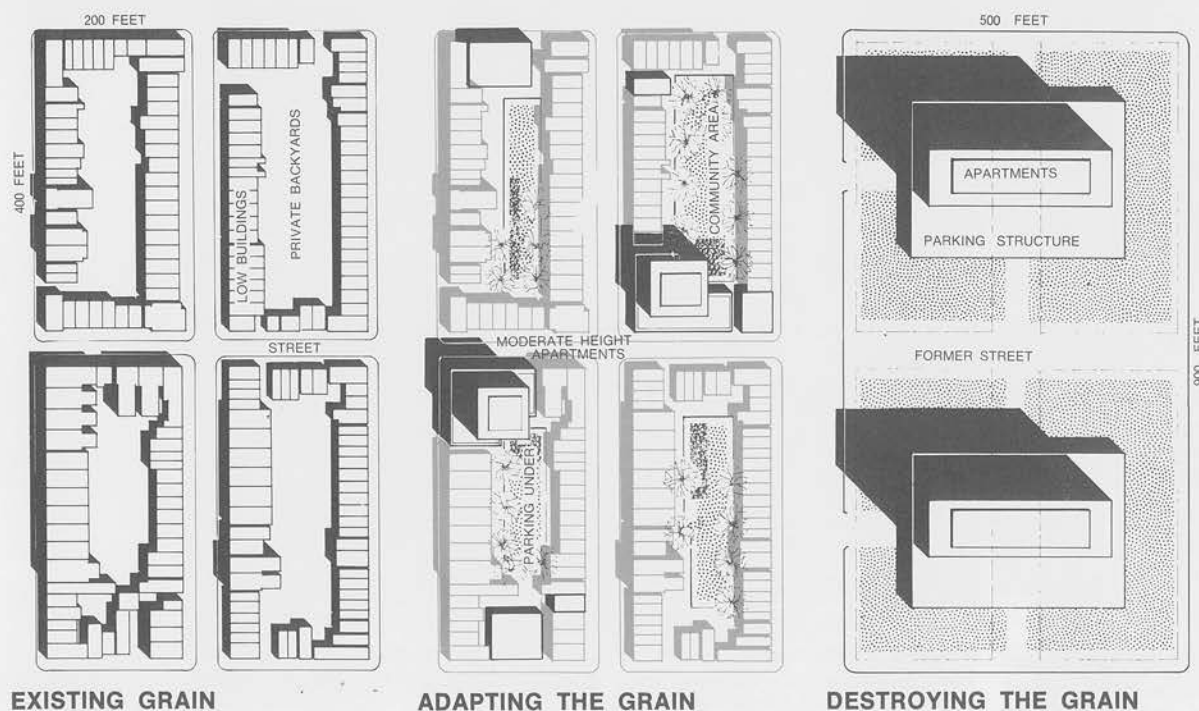
Freight piers now occupy most of the town's waterfront (photograph). Passenger shipping and the attendant activities — hotels, bars, restaurants — have gradually moved away. The railroad station and ferry terminal, lower left in photograph, may be closed soon.



Hoboken's small blocks and low, repetitive pattern of small buildings give it a pedestrian scale and a sense of urban community (left sketch below). The blocks and street patterns comprising this pleasant "grain" can be retained and new apartment buildings constructed through planning

and design that is sympathetic to this existing physical character. Buildings that cannot be renovated could be replaced by new structures of similar size, height and materials. Apartment buildings of moderate height are inserted in the blocks. The interiors of the blocks would become open com-

munity space, with parking under them (middle sketch). The super-block with giant buildings and garages (right sketch) is inappropriate for Hoboken, and does violence to the fine grain and feeling of community that is increasingly attractive to people who wish to live in the city.





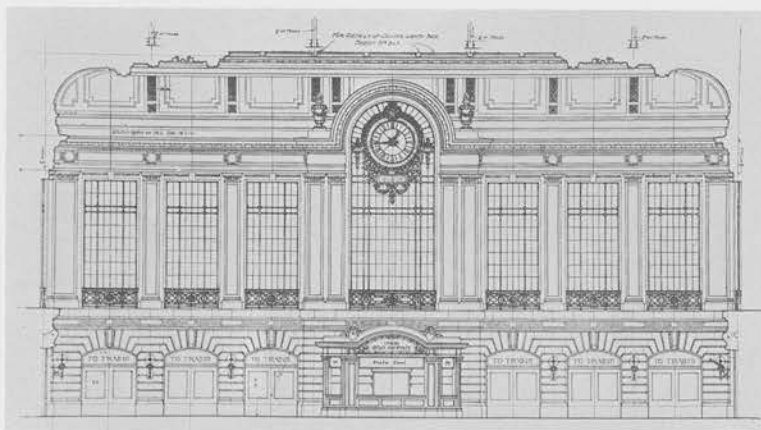
The municipal ferry house at the foot of Whitehall Street, Manhattan, is particularly pleasant to approach from the water. The building, designed by Walker and Morris, Architects, with eight of the elegant arches, was built about the turn of this century.

Ferry Boats and Ferry Houses

Ferry operations are no longer efficient. The Central of New Jersey ferries are soon to be abandoned, the Erie-Lackawanna's probably will follow. They are things of a past era, and they reflect it well. The ample, easy-moving boats (named for places whose significance and vitality are faded now) represent a different taste and pace, which may, however, gradually return. The terminal buildings reek of the lavish eclecticism of the turn of the century—an era whose mark is being steadily erased from American cities, including New York.

The first ferries in the harbor were open row boats and sail boats. Later came the team ferry, powered by

horses turning the drive shaft. In 1814, Robert Fulton introduced the steam ferry. The early ones were large, double-ended paddle-wheelers with a passenger cabin at either end. The steam ferries were heated, carpeted and piloted by a uniformed captain. Passenger comfort was an important consideration in their design. John Stevens, of Hoboken, developed a propeller-driven boat in 1888 which soon supplanted the paddle-wheelers. No paddle-wheeled steam ferry has been preserved. At the turn of the century, about fifty passenger ferries were in operation across the Harbor. In 1966, there were eight. The present boats, modified versions of Stevens' steam ferry, are about sixty years old.



The Erie-Lackawanna terminal, built in 1907, has an interior of regal proportions and details, "modelled after the French style." It is a bit fraudulent—the limestone walls and plaster ceiling hide a steel frame structure—but the building is cleverly engineered and planned.

At the beginning of this century, there were eighteen ferry terminals in active use on the Lower Hudson. The largest were those at the rail terminals on the New Jersey side. These were built at the height of railroad prosperity and were more elaborate than most of those in Manhattan—the notable exceptions being a group of three formerly at 23rd Street and the municipal station still standing at the foot of Whitehall Street but now used only for limited transport to Governor's Island.

Two of the original five rail-ferry terminals on the New Jersey side remain today: the CNJ's main passenger station at Jersey City and the Erie-Lackawanna building at Hoboken. Plans for rerouting trains will soon eliminate the need for the former, and the Hoboken terminal could be closed in a few years. The two Erie-Lackawanna Manhattan ferry houses at Barclay and Liberty Streets will then be shut down.

Some of the ferry boats should be overhauled and retained and the best terminals preserved for use by tourists and the increasing number of residents along the waterfront. As more time and money are available to people for leisure, the old port district, its old buildings, and the historic places on both sides of the River will become useful and unusual recreation areas. A tourway, similar to that suggested by the Hudson River Valley Commission, could connect all these waterfront places and make them easily accessible.²⁴ The Commission pointed out that there was a 35 percent increase in river-boat passengers on the Hudson River Day Line between 1964 and 1965. About 144,000 people used this line during the year. Many more take the Circle Line boat tour around Manhattan. A potentially large tourist market for the Hudson River exists. The elegant, ornate stations could be restored and put to economic uses related to this tourism.

The Erie-Lackawanna terminal in Hoboken and the municipal station at Whitehall Street, Manhattan, are the best examples to save and restore. But the CNJ terminal might also have a useful future in tourism if the Liberty State Park is developed adjacent to it as planned. The original central section of this building, built in 1864, might be appropriate for some activity related to the Park.

24. Such places as 42nd Street, Hoboken, Liberty State Park, Ellis Island National Park, the Staten Island Beaches, Wall Street at the East River, and the United Nations could be stops along the ferry ride.

The Hoboken terminal might be restored to include the original 200 foot tower—fog-bell, clock and all. Its grand main room might accommodate a junior department store, with offices above and specialty shops in the smaller ground floor area. The present restaurant, where retired porters serve as waiters, could be improved and featured. Portions of the ferry-slip areas might be developed into a small maritime and railroad museum. Hoboken has a rich legacy from Colonel Stevens' famous railroad and steamship experiments there.

The graceful ferry house at Whitehall Street could serve any of several purposes, so great are the needs for additional, varied activities for Lower Manhattan's workers. It might become a large restaurant or store, or it might simply be a place to go and sit at noontime to watch the water and ships in the harbor. It is unfortunate that it cannot be used for its original purpose; it is architecturally superior to the new ferry terminal beside it, and it could be far more pleasant to be in or to pass through.

The ferry boats and ferry houses, now rare, were once commonplace. They are therefore significant as a record of the past. It will be costly to overhaul and modify the boats even for limited use. It may be expensive to restore and adapt the terminal buildings. But doing so would represent care and respect for a part of our heritage. The ordinary things that past generations built and used in their daily lives are historic monuments in their own way.



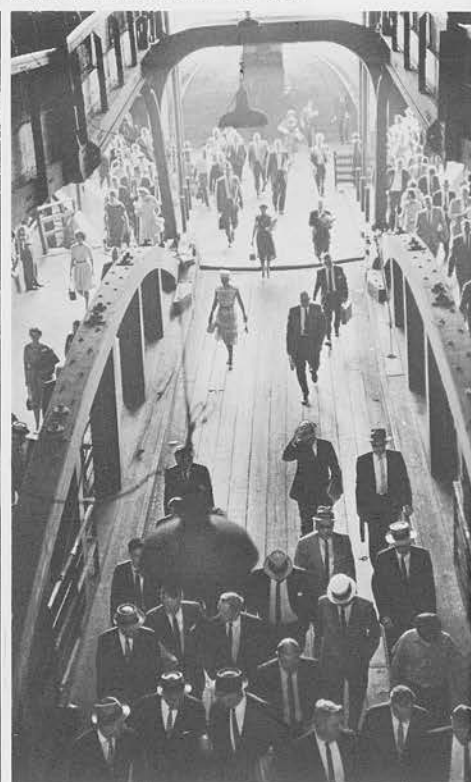
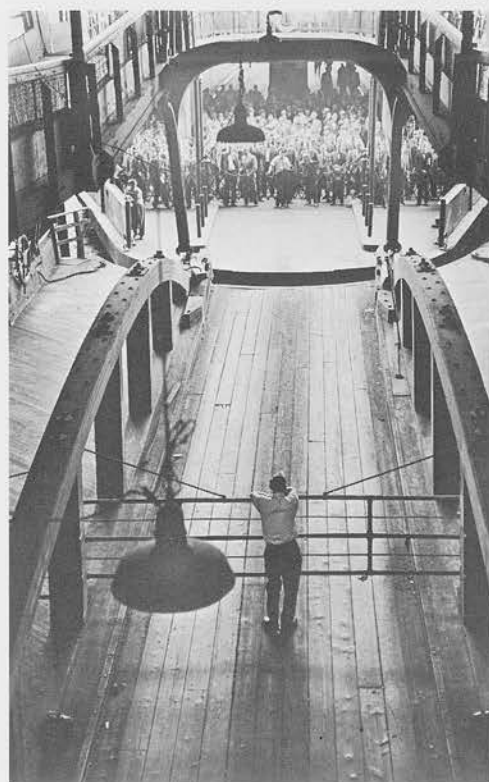
The ferry boats are old companions of the River. They move with ease and dignity, reflecting a prosperous past and important era in the Region's history. In a few years, when the River is renewed and people have more leisure time, the ferries may be more pleasant and useful than ever. The 60 year old Erie-Lackawanna boats, below, are handsome double-enders and their interiors, above, are curvaceous.





The ferry houses are strange and wonderful spaces — curious realms of transition where the boat docks inside a building and one is simultaneously on the river and in the city.

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APPENDIX

I. Conservation and Reclamation Efforts on the Lower Hudson

The Palisades

The struggle to save, beautify and make the Lower Hudson area easily accessible to the public is not new. Present interest is a somewhat transformed revival of an earlier mood. It probably began when the quarrying of the Palisades began. In the middle of the 19th Century, loose talus was being quarried and a few years later the high columns of rock in the area from Edgewater to Englewood were being blown up.

In the 1890's, strong public forces began to urge preservation of the cliffs. The States of New York and New Jersey tried to convince the United States government to make the area a military reservation. It was hoped, of course, that recreation would be the major use of this military preserve. The States even ceded to the federal government the area from Fort Lee to Piermont, but because the Palisades had little military value the United States Congress did not accept the gift.

Then the New Jersey Federation of Women's Clubs swung into action. At their urging, a committee was appointed by Governor Foster M. Voorhees of New Jersey. Governor Theodore Roosevelt of New York also appointed a committee. Its report urged preservation of the Palisades cliff top and the waterfront from Englewood north. In 1900, the States formed the Palisades Interstate Park Commission. Small appropriations were made for studies and surveys. A gift from J. P. Morgan allowed the first purchase—a quarry north of Fort Lee. Shortly thereafter, the public was politically edified by the rare event of one state buying land in another state to create a park. In 1901, New Jersey appropriated \$50,000 and New York \$400,000, all for land in New Jersey. Since then, through public purchase and gifts such as the Rockefeller donation (approximately 12 miles long and 700 acres), the Palisades Interstate Park Commission has preserved most of the Palisades north of the George Washington Bridge.

At the turn of the century, the area from Bayonne to Edgewater was considered too heavily developed to be part of the Palisades Park. Quarries, railroads, factories and warehouses owned and used the cliff and the waterside. What remained was the spectacular view of Manhattan's skyline from the strips of land east of the present Boulevard East. But by the 1920's, this was also in danger. The Save the Palisades Association was formed in 1926 to preserve this view along the cliff edge. The Association was a group of Hudson County citizens who proposed acquiring the cliff top as an extension of North Bergen Park. Largely through their efforts, and with the support of Frank Hague in 1929, the Hudson County Board of Chosen Freeholders adopted a resolution to float a bond issue for \$200,000, with which strips of land along the cliff edge were bought. The County built Boulevard East on this land and then gave all but one of the remaining portions east of Boulevard East to the municipalities. Several municipalities have recently rezoned this land for high-density residential use. In many places, developers are assembling parcels of land on the edge of the cliffs for high-rise apartments. Some of these sites were purchased from the municipalities. In one instance, Save

the Palisades Association sued to prevent sale of a municipal park to a real estate developer. The Association lost the case. Thus, the future of public as well as privately-owned land atop the Palisades across from Manhattan is now in jeopardy.

Riverside Park

In New York City, the Hudson at mid and downtown Manhattan has long been an active, major port area. But the stretch of riverfront north of 72nd Street—Riverside Park—has been a public park for a century. This park was first established in 1867. In 1894, the park's boundaries were defined as the New York Central railroad tracks, the river, 72nd Street and 129th Street, with small dock reservations at 79th and 96th Streets. That the area was a public park was not generally known. According to a City Comptroller's report, dated January 30, 1924, this ignorance was "due to the long delay in improving these lands and the unspeakable desecration of this waterfront by offensive garbage dumps, coal pockets and other attempts at commercialization of this area." This report proposed a plan that was subsequently revised by Parks Commissioner Robert Moses, who said, "The problem is one primarily for park, parkway and landscape experts, and not one of simple civil engineering." By 1937, the park had been transformed. New land was created with fill excavated from the 8th Avenue Subway. The railroad was covered by a landscaped, artificial hill and a pedestrian promenade. The Henry Hudson Parkway was built from Miller Highway in Midtown to the newly completed (1936) Henry Hudson Bridge over Spuyten Duyvil. The Parkway incorporated the most advanced principles of landscape design, including smooth horizontal curves, different elevations for the two roadways (to provide views for the motorist) and imaginative use of changes in grade and direction to create a rich spatial experience.

II. Municipalities on the New Jersey Side of the Lower Hudson

Table 8. Changes in Population, 1940 to 1960

	1940 Number	1950 Number	1960 Number	Change Number	1950-1960 Percent
Bergen County					
Fort Lee	9,468	11,468	21,815	10,167	87
Edgewater	4,028	3,952	4,113	161	4
Cliffside Park	16,892	17,116	17,642	526	3
Hudson County					
North Bergen	39,714	41,560	42,387	827	2
Guttenberg	6,200	5,566	5,118	-448	-8
West New York	39,439	37,683	35,547	-2,136	-6
Weehawken	14,363	14,830	13,504	-1,326	-9
Union City	56,173	55,537	52,180	-3,357	-6
Hoboken	50,115	50,676	48,441	-2,235	-4
Jersey City	301,173	299,017	276,101	-22,916	-8
Bayonne	79,198	77,203	74,215	-2,988	-4

Table 9. Land Use Comparisons

	Population 1960	Total Land Area (sq. miles)	Persons Per Square Mile (000's)	Land Use By Percent of Total Area						Streets, Insti- tutions, Other
				Parks	Residential	Commercial	Industry	Railroads	Vacant	
Fort Lee	21,815	2.50	8.7	13%	39%	7%	1%	0%	13%	27%
Edgewater	4,113	.95	4.3	3	23	3	42	3	13	13
Cliffside Park	17,642	.96	18.3	1	55	5	1	0	7	31
North Bergen	42,387	5.60	7.6	7	10	1	4	2	58	18
Guttenberg	5,118	.22	23.3	0	36	10	14	1	6	33
West New York	35,547	1.02	32.3	3	28	7	5	18	3	36
Weehawken	13,504	.51	26.5	2	22	6	0	33+	10	22
Union City	52,180	1.30	40.1	2	42	17	0	0	9	30
Hoboken	48,441	1.00	48.4	2	29	3	20	5	5	36
Jersey City	276,101	15.31	18.0	5	22	4	7	27	19	16
Bayonne	74,215	4.40	16.9	6	25	7	42	2	1	17
TOTALS	591,063	33.77								
AVERAGES			17.5	5%	24%	5%	11%	14%	21%	20%

* Includes Industrial

Sources: Regional Plan Association, U.S. Census

III. A Landmark Lost

Of the four ferry terminals which were built in 1906-1907 at the foot of West 23rd Street in Manhattan, the Lackawanna Railroad's building with its richly decorated copper exterior and clock tower, was perhaps the most handsome. The facade shown in the drawing below faced inland and, with the other terminals, formed a large open plaza. None of the terminals remains today.

Kenneth M. Murchison was the architect for all the buildings, each of which was owned and operated by a different railroad—the Pennsylvania, the Erie, the Central of New Jersey (with the Baltimore and Ohio) and the Lackawanna. Murchison, who also designed the Lackawanna's elaborate rail-ferry terminal in Hoboken (still standing), was an outstanding architect in his time.

