

VISIONS FOR NEW YORK CITY: HOUSING AND THE PUBLIC REALM



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public realm strategists



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Prepared by



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For

The Economic Development Corporation
The City of New York

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Executive Summary

New York City has a growing population, a growing economy, and a growing reputation as one of the world's safest cities. To accommodate this growth and success, New York must add hundreds of thousands of new residential units to its housing supply. At the same time, the city must grow in a way that improves, rather than degrades, its quality of life. Specifically, the city must invest in its public realm to prevent unplanned growth from undermining its competitive advantage. This report, prepared by Alex Garvin & Associates for the Economic Development Corporation of the City of New York, presents opportunities to build between 160,000 and 325,000 housing units, with virtually no residential displacement, and to dramatically improve city's public realm through strategic capital investment.

This report identifies three kinds of housing opportunities: construction of platforms over infrastructure, development of underused waterfronts, and investment in transit to stimulate development in areas without nearby subway service. None of these strategies displace existing residents, and each project would increase the city's housing supply and enhance the adjacent communities.

This report also recommends strategies to improve New York's public realm. The city's streets, sidewalks, parks, and plazas can become a "mixed-use" public realm that balances pedestrians and cyclists with motor vehicles and mass transit. Greening boulevards, protected bike lanes, Sunday closings, and pedestrian reclamations are four strategies to create this balance on streets throughout all five boroughs.

If the city acts promptly and decisively to implement these improvements, New York's economy and population will continue to grow. Each opportunity will stimulate private development and make the city a better place to live. Collectively, these opportunities will help New York City to prosper in the global economy.

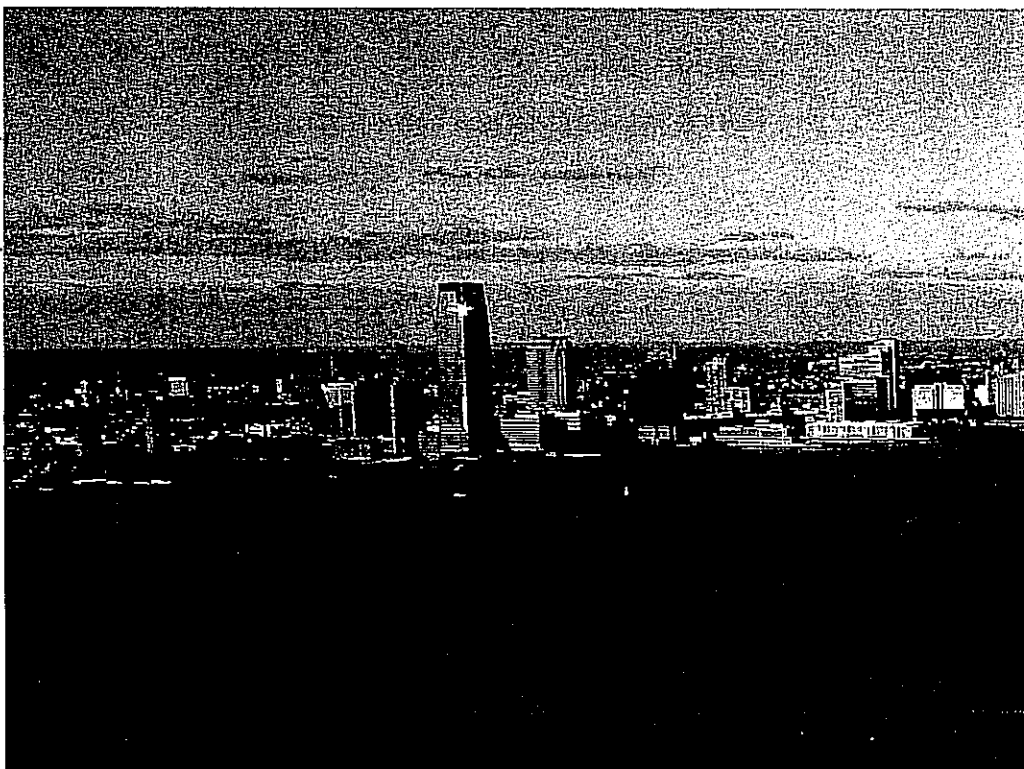
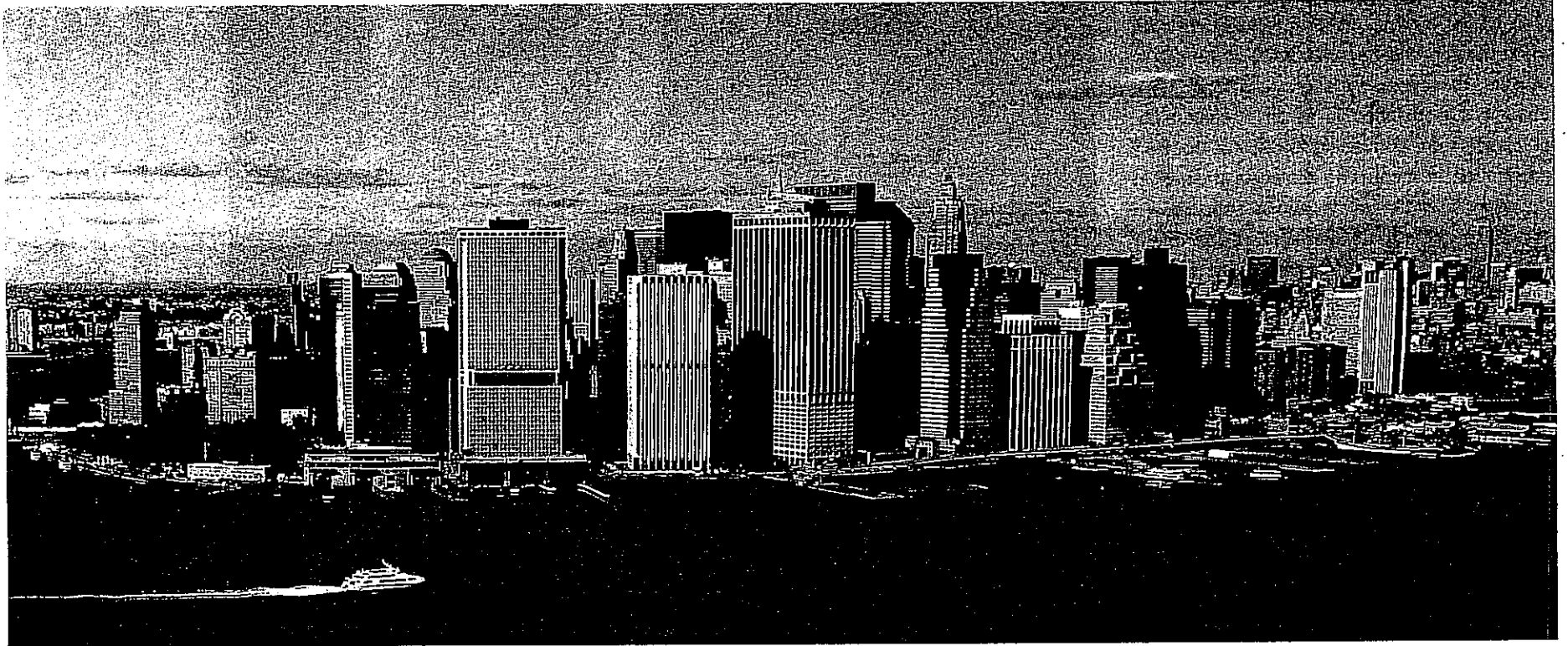


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Introduction

By almost any measure, New York City is in vibrant health. Having rebounded from the recession that began in 2000 and the 9/11 attacks, the economy is growing vigorously. The city's population is at an all-time high, crime rates are continuing to decline, housing production is increasing to levels unseen in decades, and the city's public schools are improving under the mayor's new Department of Education. In short, New York City is stronger than ever.

New York is growing because it offers its 8 million citizens a strong economy with abundant jobs, a comprehensive, well-planned infrastructure, and a high quality of life. A population study by the Department of City Planning projected that the city's existing population of over 8 million will exceed 9 million by 2030, if not sooner.

However, as the city continues to grow, it faces an inherent dilemma. The assets that have allowed the city of 8 million to flourish will be insufficient for a city of 9 million. If the city's infrastructure does not expand, those same assets will become liabilities, hindering the city's ability to accommodate growth. Because New York competes on local, regional, national, and international scales with cities as different as Stamford, Boston, Los Angeles, and Tokyo, unbalanced and unplanned growth will undermine the appeal of living in the city and reduce New York's



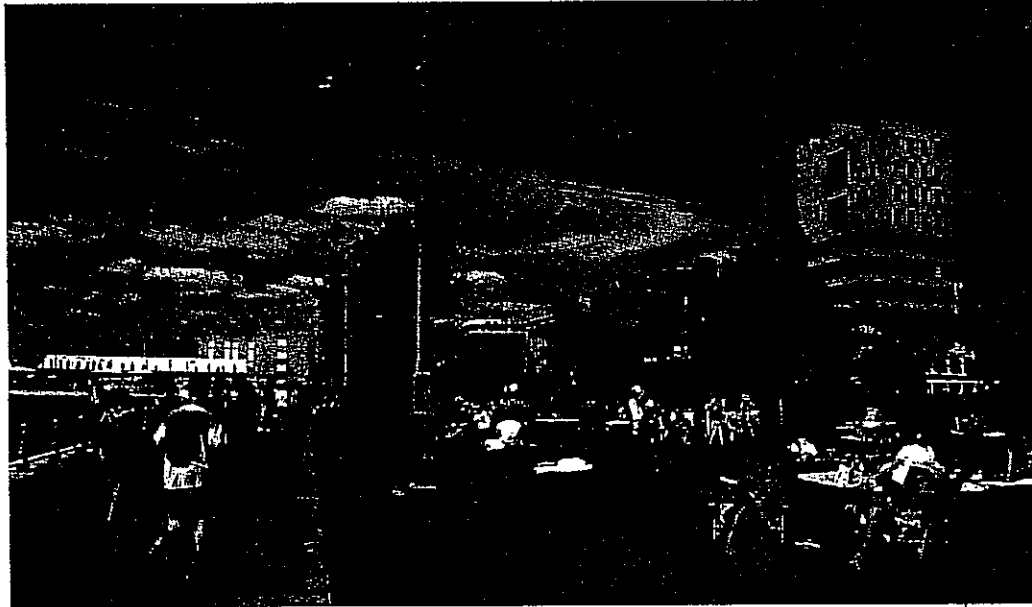
competitive advantage.

As the city's population has grown, so too has the demand for housing. Because housing production has not kept up with demand, housing prices have risen. If housing production does not accelerate to match the growing population, housing prices will climb still higher. Such an expensive housing market will make it difficult for New York to attract the world's top companies and employees, to retain an economically and culturally diverse population, and to continue expanding opportunities for every New Yorker.

New York's existing infrastructure is

already having difficulty accommodating current growth. The transportation system, for example, is reaching capacity and efficiency limits, thereby inhibiting new commercial and residential development. If the city's infrastructure does not expand to accommodate new growth, the city will not be able to provide its citizens with the high level of service that past residents have enjoyed, and which has made the city so competitive.

If New York makes strategic investments in new housing, along with improvements in transportation and infrastructure, it can provide residences for its growing population,



offer the framework of services necessary to support this new population, and trigger additional development in areas that have not yet reached their market potential.

New York's competitive position, however, does not depend solely on its ability to accommodate growth: it also depends on quality of life. That quality of life depends on the city's ability to balance many distinct but related components of city living, including housing, transportation, safety, recreation, retail, jobs, and education.

Today, the city's unparalleled quantity and variety of employment, cultural, and

entertainment opportunities give it a real competitive advantage. But jobs and activities alone do not constitute quality of life. Quality of life also depends on the quality of everyday experiences—the streets and squares, the sidewalks and public buildings, the waterfront and parks. We may call this the public realm. A city's quality of life largely depends on the quality of its public realm.

New York City currently offers a magnificent public realm. However, the city must ensure that its public realm is even more magnificent after the population increases by 1 million. This is no easy task. There is no one

governmental agency or program that controls the public realm. Rather, the public realm embraces a number of components: roads, shops, parks, schools, etc. Each component falls within the purview of a different city agency, yet they are forced to co-exist within the same public realm. In short, New York City's public realm is mixed-use.

If New York City is to have a premier public realm, the city government must enact programs that better coordinate and balance these disparate components to create a more unified, mixed-use public realm of the highest quality.

This report, prepared by Alex Garvin & Associates for the Economic Development Corporation of the City of New York, recommends public actions that, in conjunction with initiatives already in place, will improve the city's competitive advantage:

- Increase the housing supply
- Improve the quality of the public realm

While the actions recommended in this report support and reinforce one another, they are fundamentally different. The former absorbs the city's growth, while the latter helps ensure that growth occurs in the first place. Taken together, they create a mixed-use public realm framework around which the city can prosper.

Introduction

Methodology

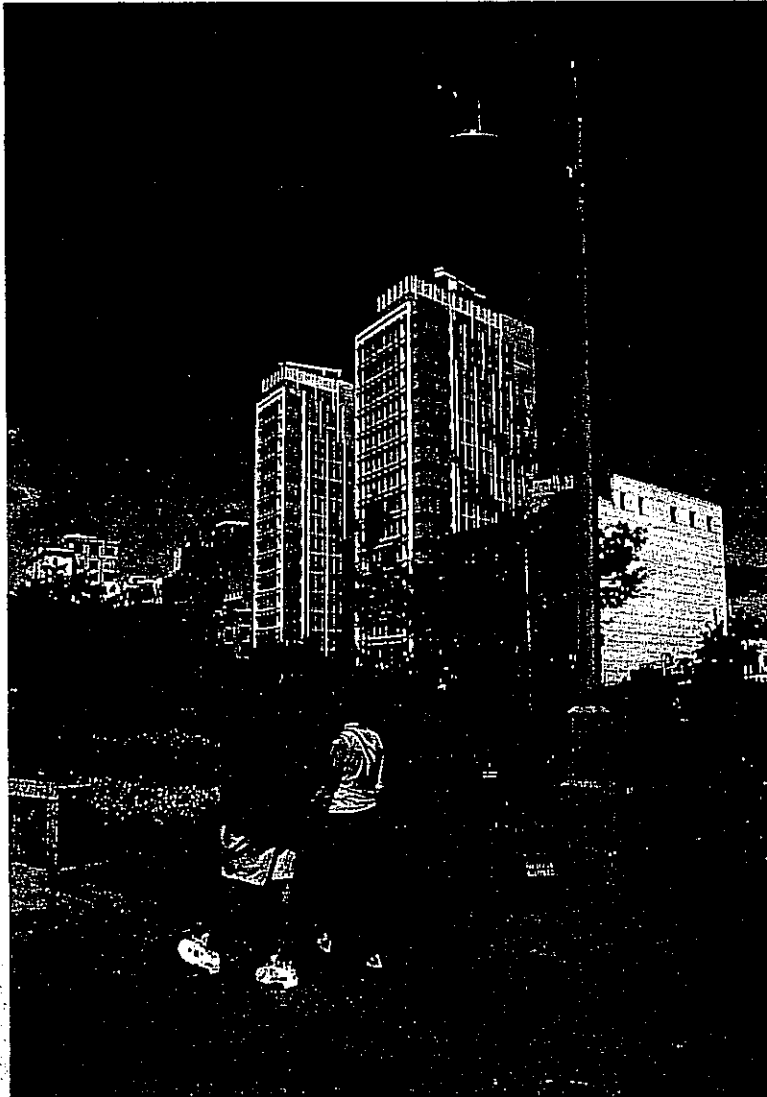
Planners commonly attempt to quantify the public's needs—real or perceived—based on polls, surveys, studies, and other types of data. They then recommend projects based on their analysis of that data. This method is commonly referred to as a "Needs Analysis." By its very nature, any Needs Analysis is reactive rather than proactive—that is, it reacts to existing conditions or projections, rather than guiding and driving future conditions. The data from which these "needs" are derived may be inaccurate, outdated, or theoretical, and ultimately, what constitutes a "need" will inevitably be arbitrary.

This report presents an "Opportunity Analysis." Rather than asking "What should a city do?", without considering the feasibility, an Opportunity Analysis asks "What can a city do?" In some cases, the outcome may be the same. But in many cases, asking the latter question yields opportunities that would not even be considered based on Needs Analysis. Opportunity Analysis saves time by immediately eliminating those options that are not feasible—whether the reason is physical, financial, or political. Rather than responding to vague social needs, this report presents a variety of physically and financially feasible options which may be implemented as they

become relevant, depending upon market conditions. Most importantly, Opportunity Analysis is entrepreneurial in nature, and seeks to identify an overlooked market or to create one that currently does not exist.

Striving to implement the goals of the report—increasing the housing supply, and improving the mixed-use public realm around which it can grow—the authors began a broad search across all five boroughs of the city to identify opportunities. Using maps, high resolution satellite photos, site visits, and helicopter flyovers; Geographic Information Systems (GIS) data of ownership, land use, and tax assessments; and Alexander Garvin's expert knowledge of New York City, the project team built a broad and extensive list of potential opportunities.

Development sites were identified because they were vacant, currently underutilized, or because market conditions have changed sufficiently to justify new or adjusted land uses. Public investments in infrastructure were identified where they would improve access to housing, work, recreation, and retail, thereby stimulating widespread and sustained private investment in the surrounding neighborhood. Public realm opportunities were identified because they offer reasonable return on



Right: Hudson River Park

Private Market Reaction

Developers have always been quick to grasp the importance of a new subway, bridge, or park. As soon as a strategic public investment is in place, there is usually a prompt market response. Between 1921 and 1928 when the #7 subway opened on Main Street in Flushing, land values along its route increased tenfold, clearly demonstrating the private market reaction. When the Verrazano Narrows Bridge opened in 1964, it triggered development of thousands of new homes in Staten Island. West Street was a congested, unattractive thoroughfare for years before the Hudson River Park opened. Once the park opened, West Street became a choice location for developers of new housing.

Introduction

investment, benefit a wide spectrum of the population, or could stimulate a sufficient private market reaction to recover the costs through increased tax revenues.

The initial list identified hundreds of potential opportunities that varied in size, scale, cost, and impact. The team researched and analyzed each opportunity in order to select only those with the greatest combination of potential and feasibility for inclusion in this report. As part of this feasibility process, the identified opportunities were filtered through "Guiding Principles," to ensure that they would:

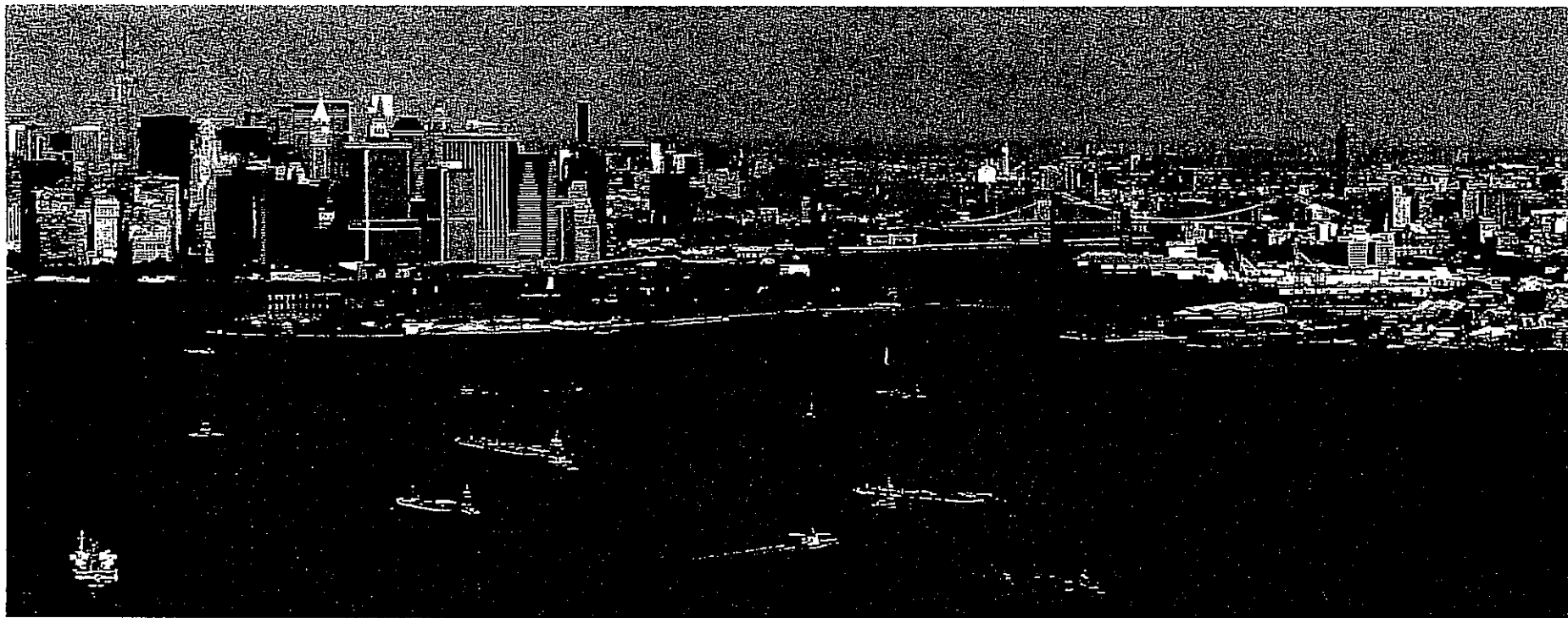
1. Respond to existing and future market conditions
2. Anticipate changing land uses
3. Utilize existing infrastructure & resources
4. Minimize disruption & dislocation of residents and businesses

Many initial opportunities are not included in the report because they did not adhere to the Guiding Principles, or because, upon further analysis, they were deemed unfeasible. Due to the wide range of opportunities identified

in this report, however, the full extent of that feasibility varies for each project. Therefore, each potential opportunity is ranked according to its current level of feasibility: a) those ready for implementation; b) those that require further feasibility analysis; or c) those which do not appear to work now, but may in the future— 5, 10, or even 25 years from now.

Several noteworthy opportunities are ready for implementation, and several more could prove even more transformative if more detailed analysis demonstrates that they are feasible.

In short, this report is a list of opportunities from which the Administration can choose in order to plan and manage the city's growth. Every attempt was made to ensure the recommendations are consistent with the Administration's policies, but this report is fundamentally not city policy. Rather, it is an independent analysis of potential strategic capital investments. These investments were selected in order to yield the greatest benefit in improving New York City's competitive position in the region, the country, and the world.





New housing construction in Williamsburg

Part I:

Increasing the Housing Supply

New York City faces a major housing shortage. Although the city's population grew by 769,000 from 1990-2002, the city added only 217,000 housing units during that period. Because supply has not kept pace with demand, housing prices are rising. If, as projected, the city adds one million new residents by 2030, the city must build over 400,000 new units in the next 24 years, or else the existing shortage will only worsen and the housing market will become even more expensive. Although an expensive housing market demonstrates a strong economy, such conditions can eventually exclude the middle- and working-class residents upon whom the economy relies.

According to conventional wisdom, large development sites are no longer available in a city as built-up as New York. In fact, there are hundreds of acres of empty or underutilized property throughout the city—more than enough to accommodate the hundreds of thousands of new residents. Potential sites fall into five categories, each requiring little or no residential relocation:

- Vacant and underutilized manufacturing and industrial areas
- Infill at urban renewal sites and public housing projects
- Air rights over transportation infrastructure (highway and rail)
- Waterfronts
- Areas poorly-served by mass transit

The first two categories are already being addressed by various city agencies. The City Planning Commission recently rezoned industrial and

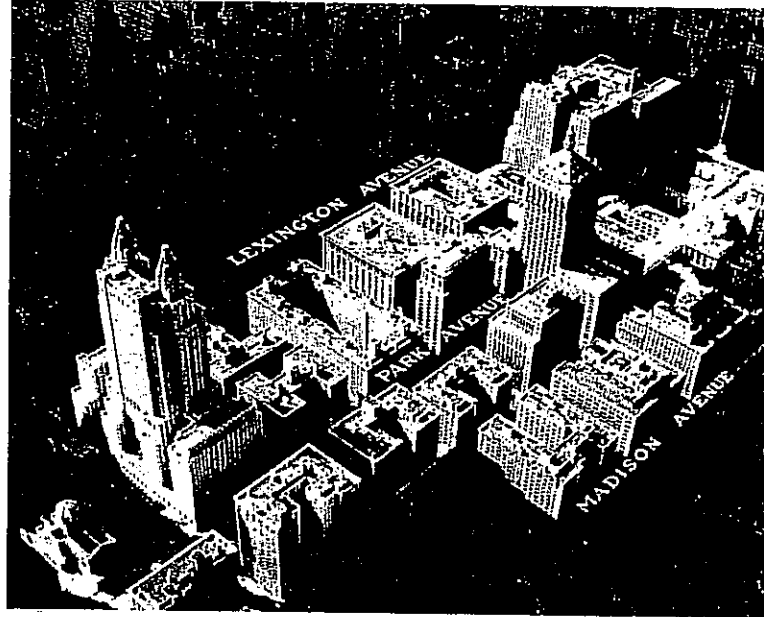
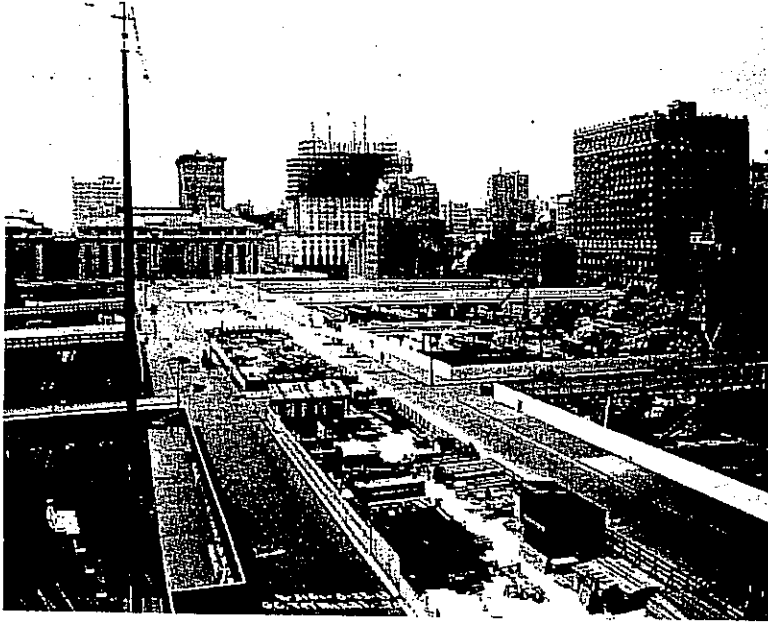
manufacturing areas in Greenpoint-Williamsburg and the Hudson Yards, while other areas are under consideration by the Department of City Planning. The Department of Housing, Preservation, and Development (HPD) and the New York City Housing Authority are both pursuing opportunities for in-fill development on existing city-owned properties in urban renewal and public housing projects. Given the efforts already underway, this report will not focus on these two categories.

Part I of the report identifies opportunities in the latter three categories, namely to:

- Build platforms and new housing over highways, rail yards, and rail corridors
- Develop new communities along the waterfront
- Extend mass transit service to stimulate development

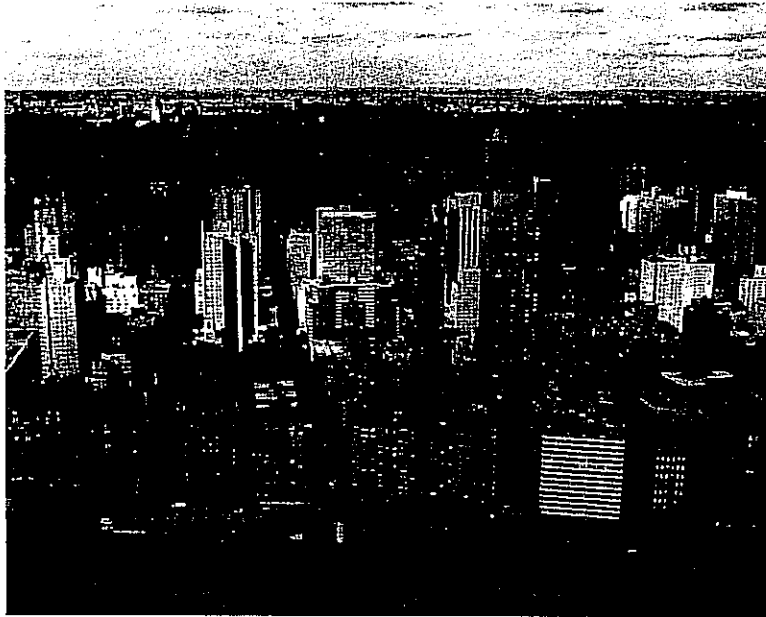
These projects require the city government to negotiate the transfer of development rights, sponsor re-zoning efforts, establish the ground rules for each development, and supervise housing production by the private real estate sector. Such efforts will require collaboration among the Economic Development Corporation (EDC), the Department of Housing Preservation & Development (HPD), and city and state Departments of Transportation (DOT), just to name a few of the key players. The Mayor's office must delegate management for these projects, as doing so is integral to their execution and ultimate success.

Chapter 1



Far Left: At the start of the 20th century, the rail yards around Grand Central Terminal were platformed over to provide sites for development.

Near Left: By 1930, new buildings occupied all the sites that had been created over the rail yards around Grand Central Terminal.



Near Right: The apartment houses on East End Avenue are built over the FDR Drive.

Far Right: Concourse Village in the Bronx was built over the Penn Central rail yards.



1 Platform Opportunities

Transportation infrastructure—especially highways, rail yards, and rail lines—often depresses adjacent property values and creates a barrier between neighborhoods. Over the past century, New York City has periodically built over these types of infrastructure to hide them and to open up surrounding land for development — most notably along Park Avenue in Manhattan. Such a transformation is expensive, but the outcome can be cost-effective and dramatic.

Construction of platforms over highways and railroads is common throughout the city (see photos above). A series of hospital buildings cover the FDR Drive on Manhattan's Upper East Side, as do apartment buildings on Sutton Place and East End Avenue. The Port Authority bus station and four apartment buildings were erected over Interstate-95 at the base of the George Washington Bridge. Concourse Village and a NYCHA tower were built on a platform over the Penn Central

Railroad in the Bronx. Waterside sits on a platform in the East River.

This section presents opportunities to build similar platforms over other highways, rail lines, and rail yards. These platforms can transform areas of noise and pollution into attractive locations for thousands of new residential units, and, in some cases, offer the chance to create entirely new communities.

Chapter 1

Potential platform opportunities are divided into two groups:

Projects for Further Feasibility Analysis

- Sunnyside Yards, Queens
- BQE Cobble Hill, Brooklyn
- Prospect Expressway, Brooklyn
- 36th Street Rail Yards, Brooklyn
- Bay Ridge Freight RR at the northern edge of Bay Ridge, Brooklyn

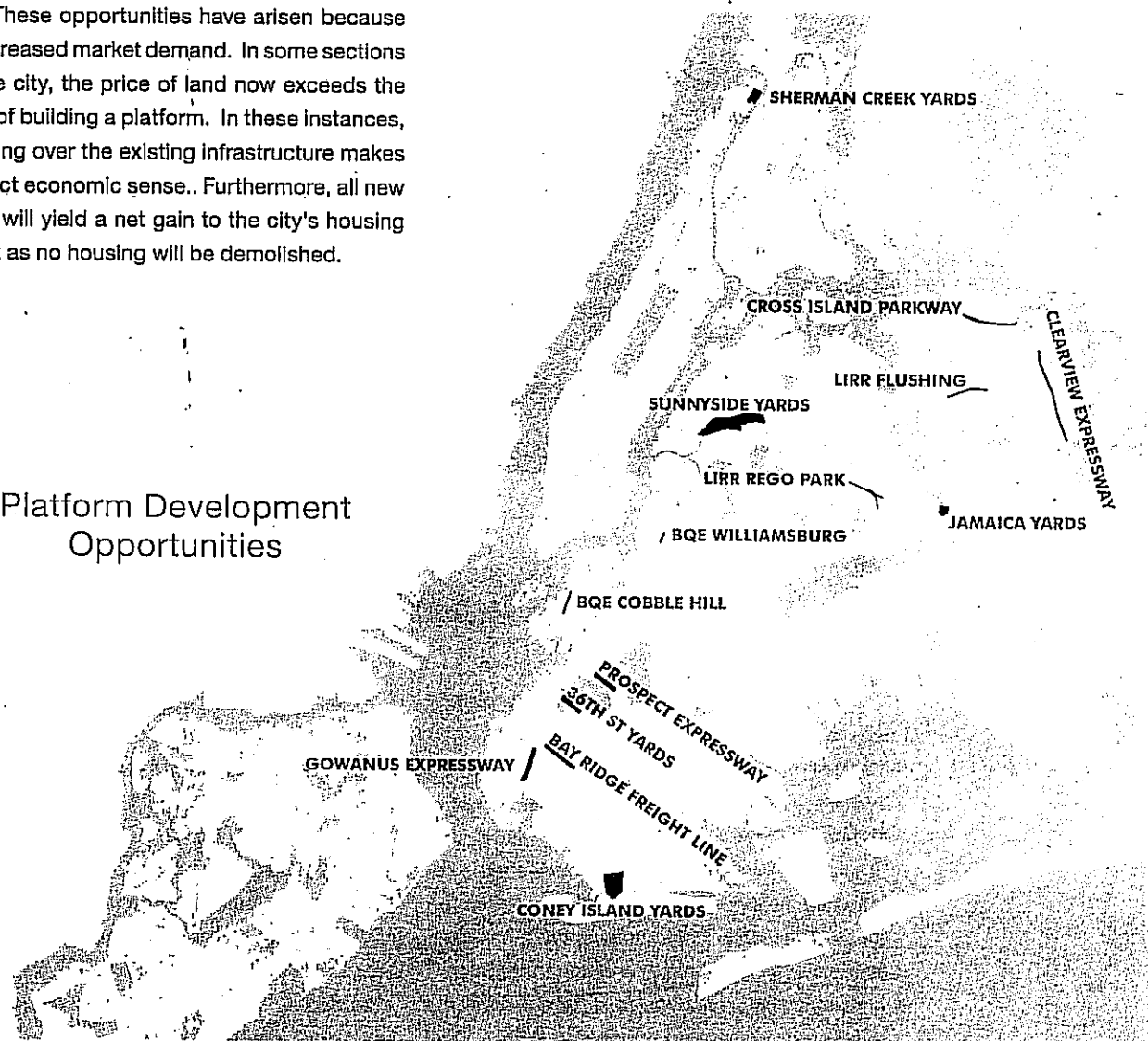
Projects for Future Study

- Gowanus Expressway, Brooklyn
- Brooklyn-Queens Expressway in Williamsburg, Brooklyn
- Clearview Expressway, Queens
- Cross Island Parkway, Queens
- LIRR in Flushing, Queens
- LIRR in Rego Park, Queens
- Coney Island Creek Yards, Brooklyn
- Jamaica IND Yards, Flushing Meadows, Queens
- Sherman Creek Rail Yards, Manhattan

These proposed projects would reconnect long-separated neighborhoods and increase adjacent property values, thus stimulating a private market reaction in the surrounding area. In some cases, the platform would even be large enough to create "new" land, not only for housing, but also for streets, stores, schools, and parks.

These opportunities have arisen because of increased market demand. In some sections of the city, the price of land now exceeds the cost of building a platform. In these instances, building over the existing infrastructure makes perfect economic sense. Furthermore, all new units will yield a net gain to the city's housing stock as no housing will be demolished.

Platform Development Opportunities





Sunnyside Yards

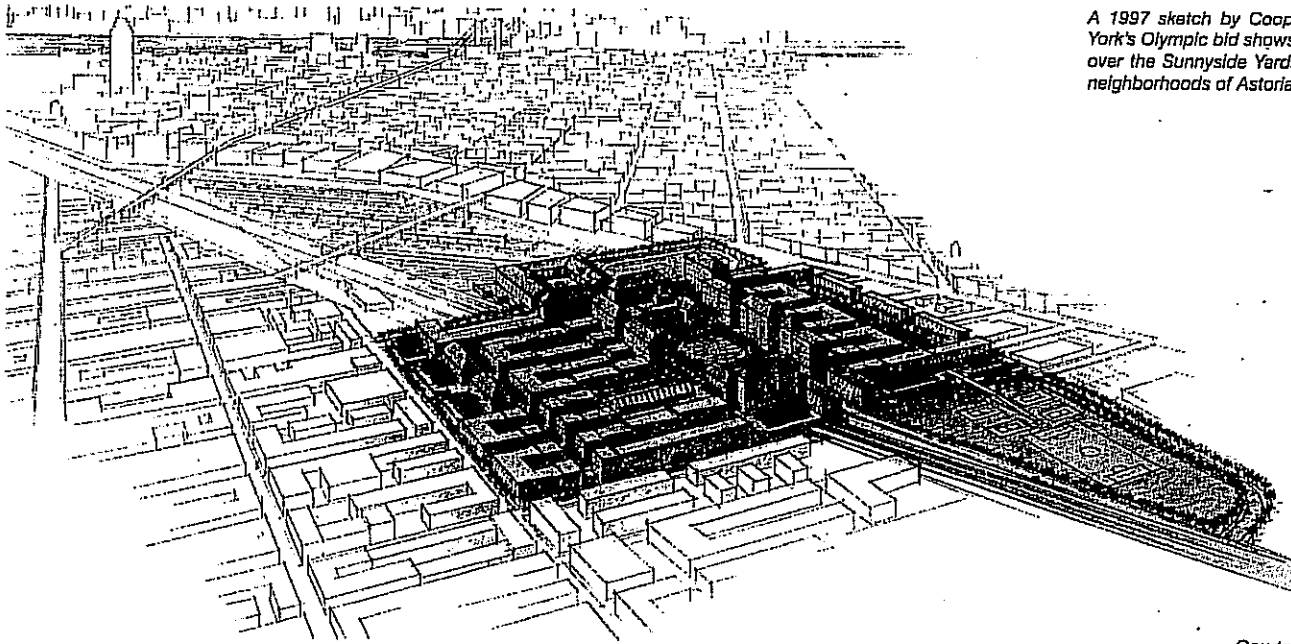
A platform over Sunnyside Yards between Thomson Avenue and 43rd Street would create a development site of approximately 166 acres. Depending on the zoning, the new mixed use neighborhood could add between 18,000 and 35,000 new units—a substantial increase to the city's housing supply. By themselves, the 20,000 to 50,000 residents of this "new-town-in-town" could provide enough customers for an entirely new neighborhood with stores, schools, playing fields, and parks. Because

the added amenities and services would benefit both the adjacent communities and the entire city, Sunnyside Yards is the city's single greatest opportunity to increase the housing supply and simultaneously improve the quality of the public realm.

Besides adding thousands of new housing units, the site could also include an intermodal transportation facility at the intersection of seven subway lines, the Long Island Railroad, and Amtrak. This intermodal

station (an MTA project with a long history) would turn the Sunnyside Yards into a regional sub-center that would justify major retail use and eventually might even support new office space. Furthermore, given the differences in grade between the rail tracks and the existing street overpasses, there is an opportunity to create an underground circulation system for delivery vehicles, several levels of parking, and perhaps even a bus layover yard.

Chapter 1



A 1997 sketch by Cooper, Robertson & Partners for New York's Olympic bid shows a new neighborhood on a platform over the Sunnyside Yards, reconnecting the long-separated neighborhoods of Astoria and Sunnyside.

Courtesy of Cooper, Robertson & Partners

A new neighborhood over the Sunnyside Yards would transform life for the surrounding neighborhoods. Residents of Sunnyside could walk directly and safely to the shopping on Steinway Street in Astoria; residents of Long Island City could commute from an LIRR station within their neighborhood; and children from Astoria could play on new ball fields created over the Yards.

The last time a project of this scale was created occurred in the late 1960s when the United Housing Foundation created the 15,389-unit development Coop City. Coop

City, however, is isolated from the rest of the Bronx and suffers from design flaws common during that era, namely towers without street life. Sunnyside Yards, on the other hand, would connect the neighborhoods of Astoria, Sunnyside, Woodside, and Long Island City; it would be only one stop from either the east side or west side of Midtown Manhattan by subway or LIRR respectively; and it would embody the urban design principles that have made Rockefeller Center and Battery Park City so successful.

Given the high price that waterfront hous-

ing is beginning to command in nearby Hunters Point, Greenpoint, and Williamsburg, the cost of developing the Sunnyside Yards may finally have reached a marketable level. The difficulties and expense of developing a project of this scale, however, should not be minimized. Project planners will have to consider the effect of traffic from the adjacent Queens-Midtown Tunnel and Queensborough Bridge, as well as Queens and Northern Boulevards, in addition to movement from neighboring communities and circulation within the development. Trains run through the yards on a continuous basis,

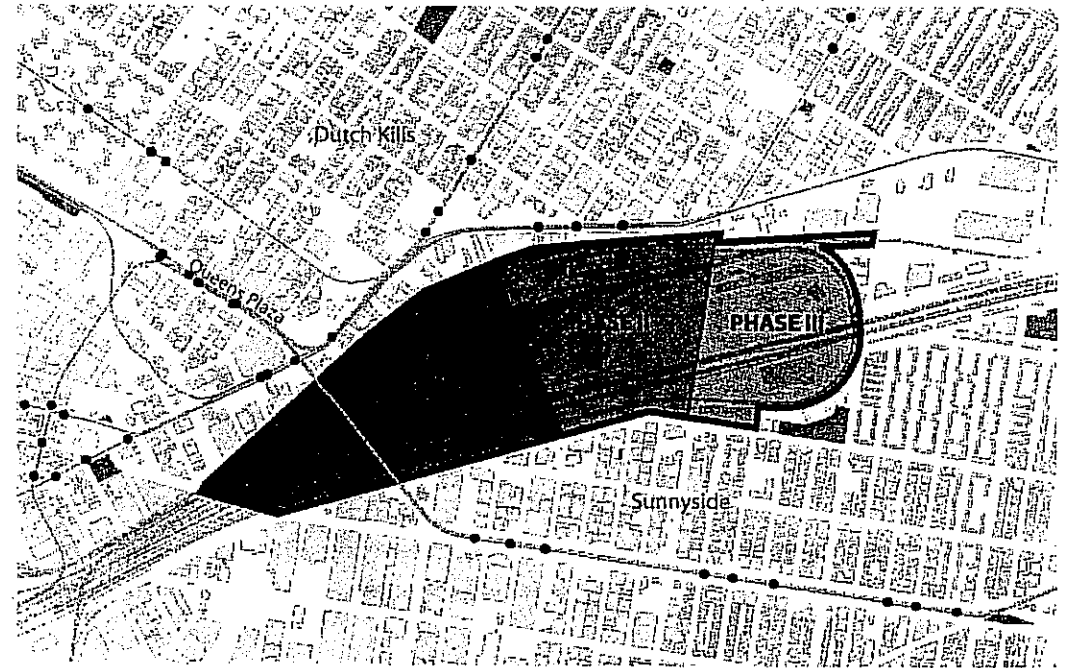
Sunnyside Yards Platform Development

Sunnyside Yards: Total Site Potential

	Area (acres)	Potential Housing Units		
		R7A	R8	R9
FAR		4.00	6.02	7.54
Phase I	75	8,300	12,500	15,700
Phase II	54	5,800	8,800	11,000
Phase III	38	4,600	6,900	8,600
TOTAL	166	18,700	28,200	35,300

Phase I: Estimated Annual Return

Zoning	Return	
	Rental	Sales
R7A	3.3%	-10.4%
R8	12.1%	15.4%
R9	17.2%	30.0%



which will make construction scheduling particularly complicated.

Due to the sheer scale of creating a platform on this site, the process could probably be achieved with the greatest efficiency in three phases: Phase I, a western section of 74 acres, followed by Phases II and III, of 54 acres and 38 acres, respectively.

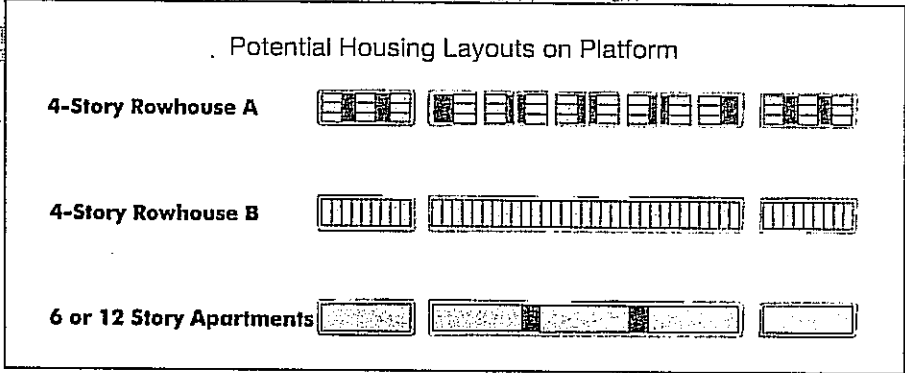
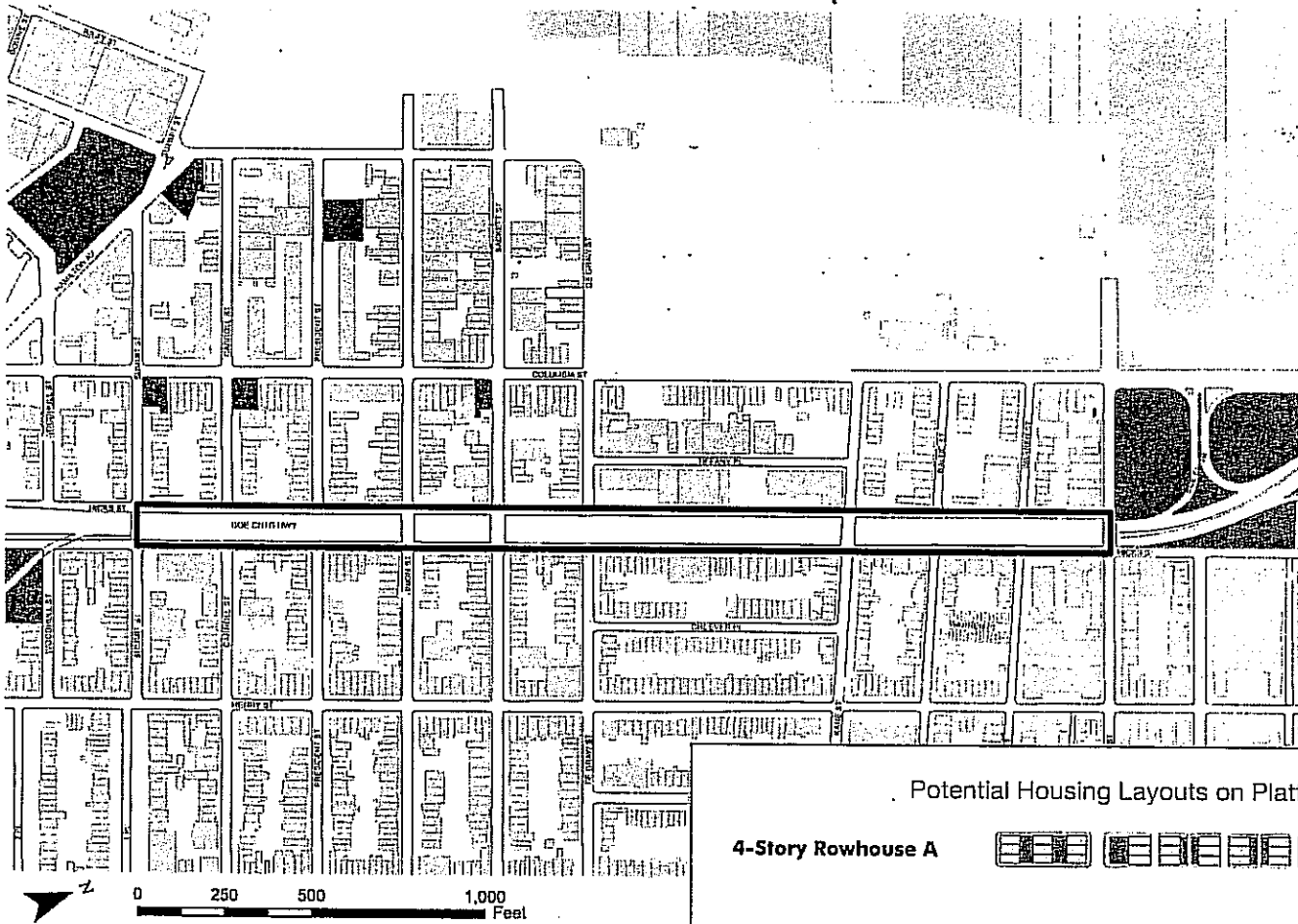
Even with space reserved for multiple uses like a theater, hotel, retail and office space, Phase I alone would produce about 8,000 units of housing if zoned at R7a and nearly 15,000 units nearly if zoned at R9.

Rough estimates in the table above, based on current construction costs and market prices, indicate that developing the site is not financially feasible at low densities. However, development may be feasible at medium densities—especially if some of the cost of the platform is absorbed by the Intermodal transit station and commercial developments. These estimates are based on many assumptions, so a more thorough feasibility analysis is required. This analysis should include input from engineers, traffic analysts, site planners, urban designers, and real estate entrepreneurs.

Despite the complexities, Sunnyside Yards provides New York City with a rare opportunity. By developing the site, the city could create an entirely new neighborhood with tens of thousands of new apartments, knit together long-separated communities, eliminate the noise and blight of an exposed rail yard, and provide a transportation hub for anyone traveling to or from Queens and Long Island. This opportunity is so significant that it is worth pursuing now.

Chapter 1

BQE Cobble Hill Platform Development



BQE Cobble Hill Expressway

PHYSICAL	4-story-A (2-unit walkup)	4-story-B (2-unit walkup)	6-story	12-story
Platform Area (acres)	4.6	4.6	4.6	4.6
FAR as built	2.00	2.51	3.65	7.30
Dwelling Units (DU's)	200	200	700	1,500
Average sq. ft./DU	2,100	2,400	1,000	1,000
FINANCIAL				
Development Cost per square foot	\$450	\$389	\$390	\$414

6-MONTH SALES DATA, Jul-Dec 2005 (per sq. ft. within half mile of site)

1-2 family buildings	\$525
3-6 family building	\$560
condos	\$667

BQE-Cobble Hill

Just south of Atlantic Avenue, the Brooklyn-Queens Expressway dips into a depressed section of roadway bordered on either side by Hicks Street. Continuing straight through to the entrance to the Brooklyn-Battery Tunnel, this sunken highway divides Cobble Hill and Carroll Gardens from land closer to the river—the Columbia Street Waterfront—and has impeded the spread of new development. The cut extends approximately 75 feet from wall to wall. If a platform were built over the entire length of the sunken BQE and cross



streets were extended, the city could create nine new blocks of additional housing and knit together two disparate neighborhoods.

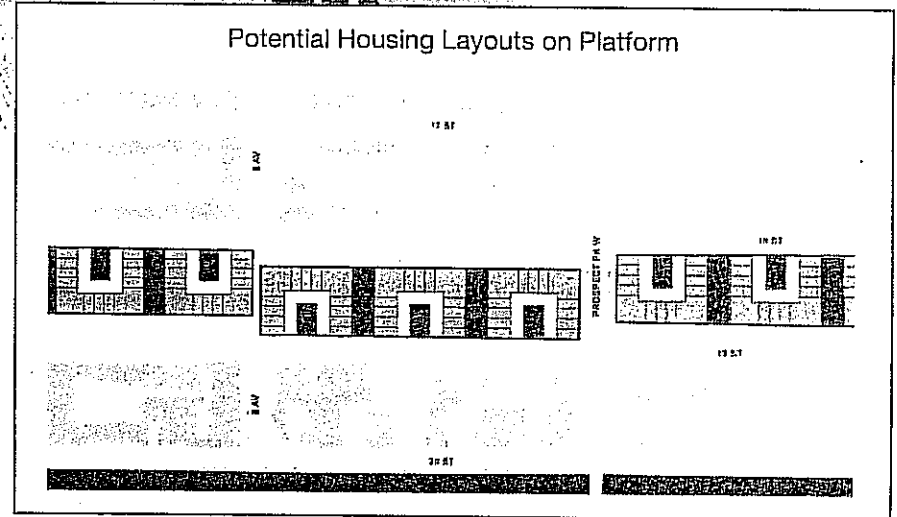
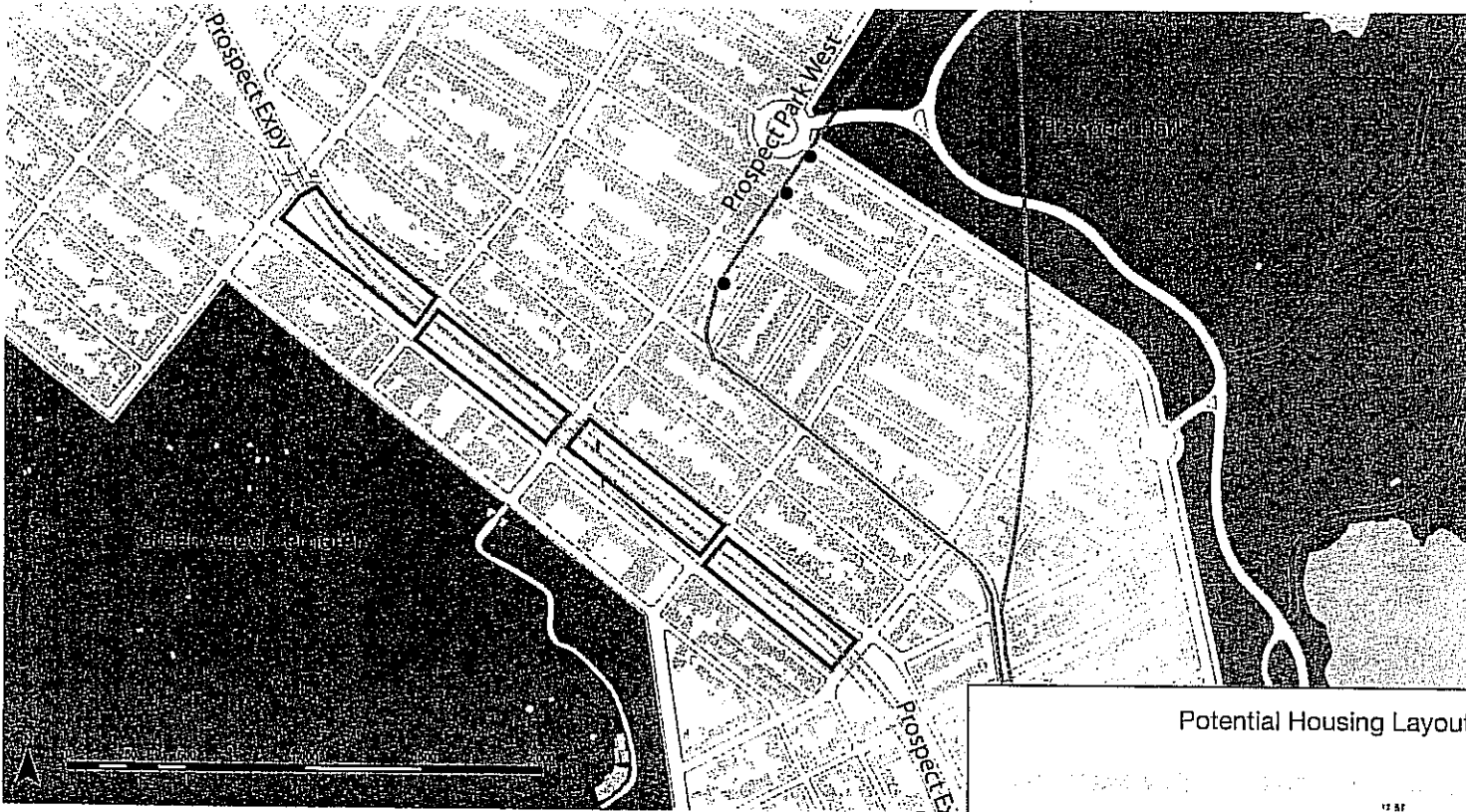
This stretch of the BQE could be developed in three variations: row houses producing 200 units, six-story buildings with about 700 units, or 12-story apartment buildings with nearly 1,500 units (see plans at left and table above). Based on an estimated platform cost of \$500/sq. ft. (including mechanical ventilation), the estimated development cost (\$390-450/sq. ft.) is lower than current market prices (\$525-

667/sq. ft.) within ½ mile of the highway. Thus, the question is not whether to build, but rather, how much to build, and of what character.

Further engineering, design, and market studies are required to verify these preliminary findings. Nonetheless, it appears to be financially feasible—at no net cost to the government—to reconnect neighborhoods that have been separated for more than half a century.

Chapter 1

Prospect Expressway Platform Development



Prospect Expressway

PHYSICAL	4-story (2-unit walkup)	6-story (3-unit walkup)
Platform Area (acres)	10.8	10.8
FAR	2.19	3.28
DU's	600	800
Average sq. ft./DU	1,800	1,800

FINANCIAL

Development Cost/sq.ft	\$424	\$409
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6-MONTH SALES DATA, Jul-Dec 2005 (per sq. ft. within half mile of site)

1-2 family buildings	\$467
3-6 family building	\$345
condos	\$642



Prospect Expressway

The Prospect Expressway is another Brooklyn highway appropriate for platform development. This highway runs through Windsor Terrace and southern Park Slope, areas where demand for housing is growing. Building a platform over the four "blocks" from 7th Avenue to 11th Avenue could provide sites for 600 to 800 units and connect Park Slope with neighborhoods to the south.

The highway's comparatively wide right-of-

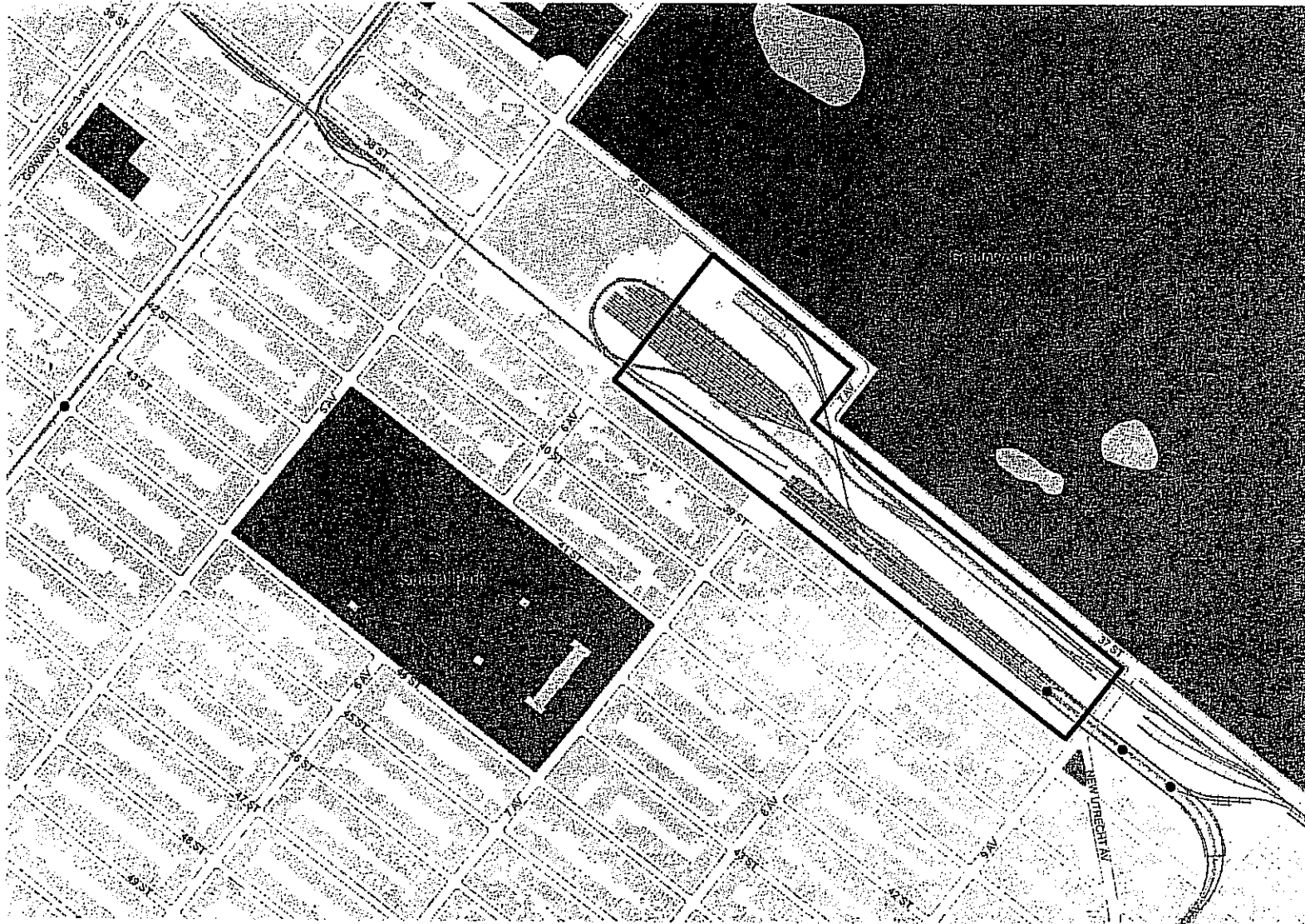
way and its on- and off-ramps currently prevent development from reaching southward to the edge of Greenwood Cemetery. An innovative site design, however, could overcome these obstacles without disrupting the highway exits and entrances (see map at left).

Again estimating a platform cost of \$500/sq. ft, the total development cost for these four blocks (\$409-424/sq. ft.) is around current market prices (\$345-642/sq. ft.) within ½ mile

of this site. Thus, if market trends continue, the city could recoup its investment in a platform while knitting together a neighborhood currently divided by the highway.

Chapter 1

36th Street Yards Platform Development



36th Street Yards

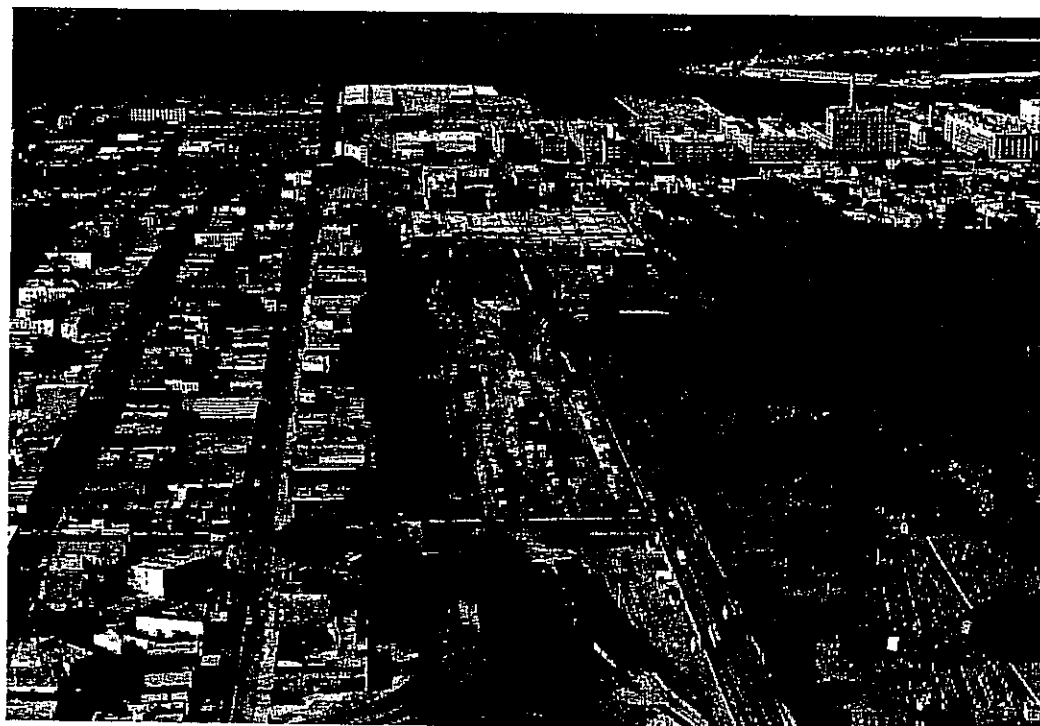
PHYSICAL	R6	R7A	R8
Platform Area (acres)	23.1	23.1	23.1
FAR	2.43	4.00	6.02
Dwelling Units (DU)	2,400	4,000	6,000
Average sq. ft./DU	1,000	1,000	1,000

FINANCIAL

Development Cost/sq.ft	\$495	\$473	\$466
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6-MONTH SALES DATA, Jul-Dec 2005 (per sq. ft. w/in half mile of site)

1-2 family buildings	\$305
3-6 family building	\$212
condos	\$349



36th Street Yards

Brooklyn's 36th Street Rail Yards, between the southern edge of Greenwood Cemetery and the burgeoning neighborhood of Sunset Park, presents another development opportunity. This MTA rail yard is used to store and maintain subway trains running on Brooklyn's 4th Avenue line. This site offers views of Greenwood Cemetery and access to Sunset Park, and it is surrounded by areas with a growing demand for housing. All of these

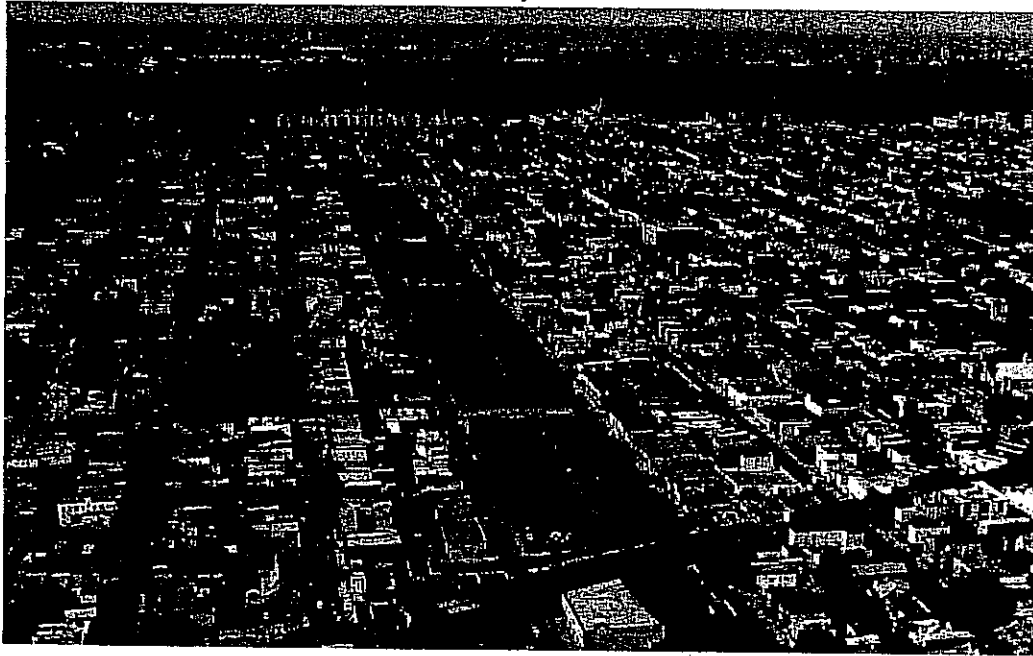
factors make the 36th Street Yards a desirable site for platform investment.

The 36th Street Yards could accommodate 2,400 to 6,000 units, depending on the density permitted by rezoning. Unfortunately, the cost of development here (\$466-495/sq. ft.) is still significantly higher than current market prices (\$212-349/sq. ft.). The rail yard itself may be depressing these market prices, and the views from the developed site towards Greenwood

Cemetery and the harbor may command prices high enough to cover development costs. Nonetheless, development of the 36th Street Yards is risky given today's market conditions. The city should study this area further. If it concludes that the project is not currently feasible, the city should monitor the area in case future market conditions make the opportunity feasible.

Chapter 1

Bay Ridge Line Platform Development



Bay Ridge Line

PHYSICAL	4-story (2-unit walkup)	6-story (3-unit walkup)
Platform Area	20.2	20.2
FAR as built	2.16	3.23
DU's	800	1,300
Average sq. ft./DU	2,200	2,200

FINANCIAL

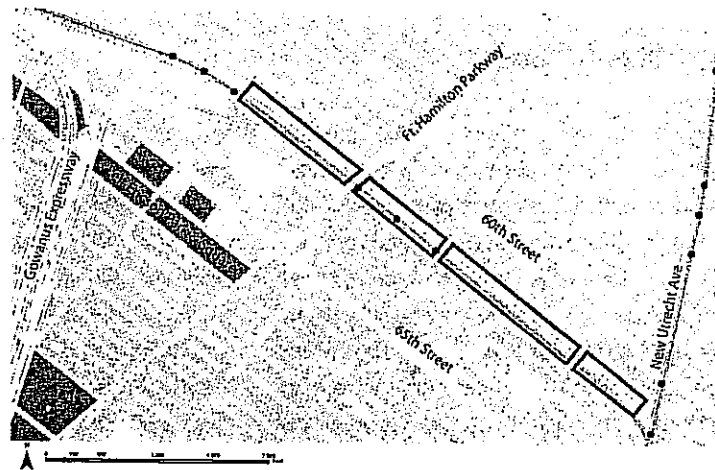
Development Cost/sq.ft	\$428	\$412
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6-MONTH SALES DATA, Jul-Dec 2005 (per square foot within half mile of site)

1-2 family buildings	\$314
3-6 family building	\$262
condos	\$319

Bay Ridge Line

The Bay Ridge freight line in Brooklyn extends for several miles. Between 8th Avenue and 14th Avenue, it consists of a 200-foot wide section within an area of recent growth that is well served by public transportation. Even if necessary zoning changes from manufacturing to R5 or R6 were secured, the development cost would exceed housing prices in the neighborhood. Nevertheless, changing market conditions may justify further feasibility analysis.



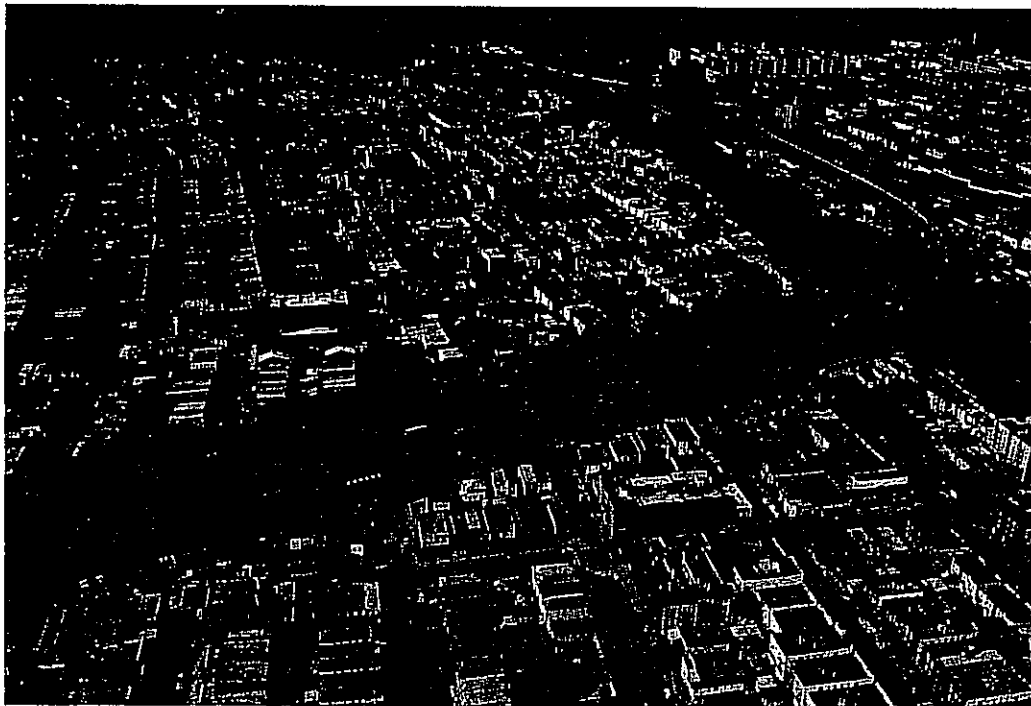
Projects for Later Study

Like the 36th Street Yards, most rail yards, highway cuts, and rail corridors in New York City are located in areas where current market prices in surrounding communities may not justify unsubsidized development. Nonetheless, there are sites with great potential that warrant careful monitoring in coming years. A shift in the residential market or an advance in platform construction technology could make these sites financially feasible. Promising sites include the following (see map on page 14):

- Gowanus Expressway, Brooklyn
- Brooklyn-Queens Expressway in Williamsburg, Brooklyn
- Clearview Expressway, Queens
- Cross Island Parkway, Queens
- LIRR in Flushing, Queens
- LIRR in Rego Park, Queens
- Coney Island Creek and Yards, Brooklyn
- Jamaica IND Yards, Flushing Meadows, Queens
- Sherman Creek Rail Yards, Manhattan

Near Right: NYC Transit Shops and Rail Yard, Sherman Creek, Manhattan

Far Right: NYC Transit Shops and Rail Yard, Coney Island, Brooklyn



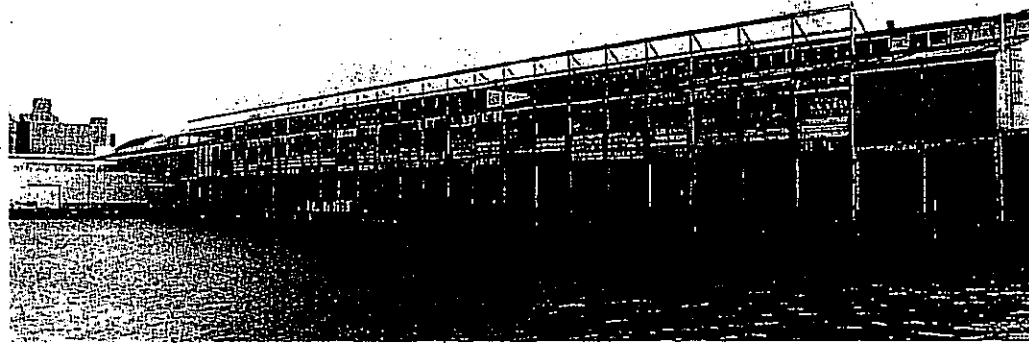
Right: Gowanus Expressway, Bay Ridge, Brooklyn

2

Waterfront Opportunities

New York City's 578-mile waterfront offers one of the city's greatest opportunities for adaptive reuse. In the 19th century, New York City's economy flourished with shipping and trade along its waterfronts. Piers lined waterfronts in every borough as manufacturers, traders, and wholesalers sought to utilize access to docks. During the past 60 years, however, the city's shipping industry has experienced continuous decline as trucks and the highway system have become a cheaper and faster method to ship. New "container" facilities built in New Jersey during the 1950's, which transfer containers from ships to semi-trucks and rail cars, put hundreds of docks and warehouses in the New York Harbor out of business. As a result, piers sit abandoned throughout the city.

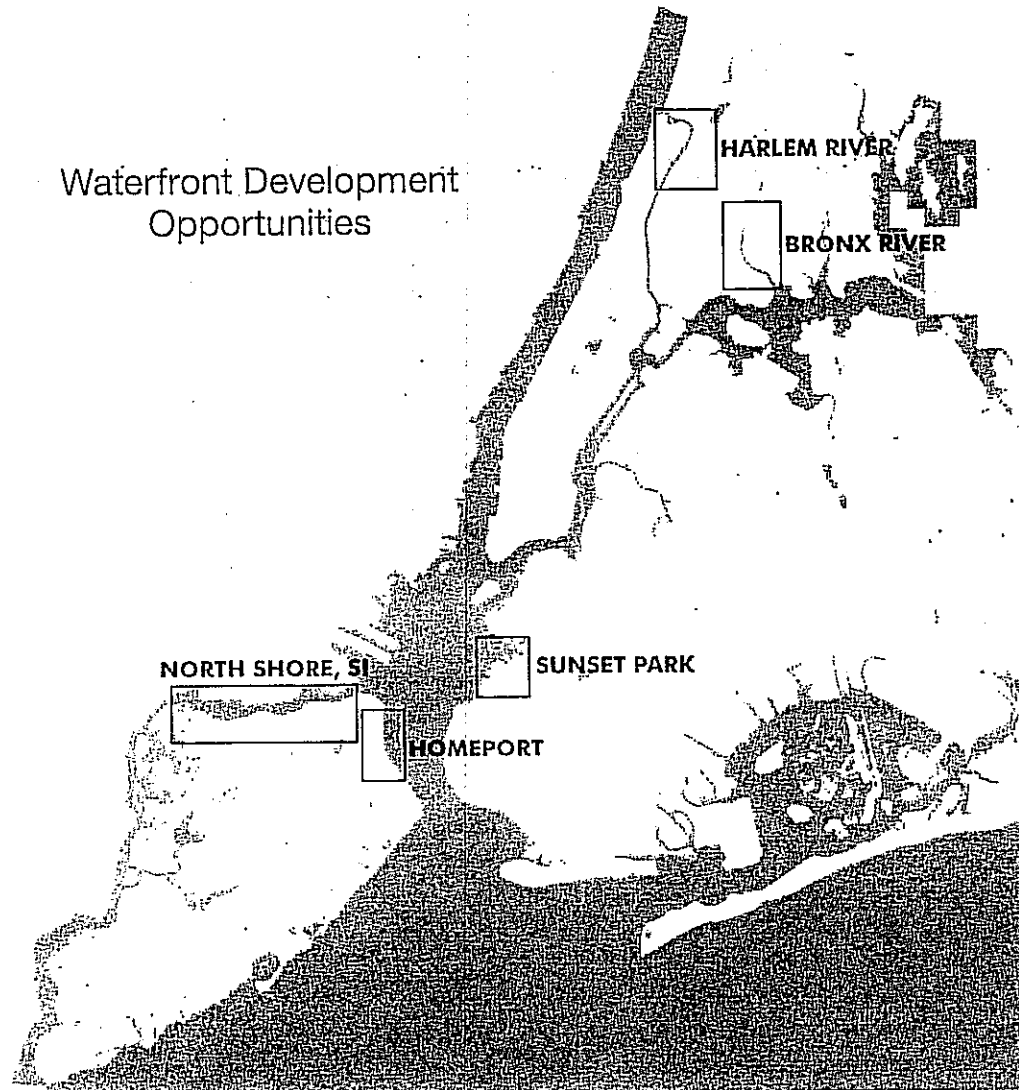
Meanwhile, the decline of waterfront manufacturing and industry has given rise to numerous opportunities. During the 1930s, several East River piers went out of use and were replaced with the FDR Drive and East River Park. In the 1990's, vacated piers along the Hudson River have given rise to the Chelsea Piers Sports & Entertainment Complex and Hudson River Park. More recently, the Williamsburg re-zoning has permitted high-rise apartments to line the river in place of former factories and warehouses.



Left: The once abandoned Chelsea Piers were transformed into a popular sports and entertainment complex.

Courtesy of Chelsea Piers Sports and Entertainment Complex

Waterfront Development Opportunities



Despite numerous adaptive reuse projects, much of the city's waterfront continues to lie inaccessible, abandoned, or otherwise underutilized. These areas offer New York City the chance to increase its access to the waterfront, to provide new recreational and housing opportunities, and thus, to absorb growth in the city's burgeoning economy and to improve quality of life.

This chapter highlights five waterfront development opportunities: three for further feasibility analysis and two for future study.

Projects for Further Feasibility Analysis

- Bronx River, Bronx
- Harlem River, Bronx
- North Shore, Staten Island

Projects for Future Study

- Homeport, Staten Island
- Sunset Park, Brooklyn



Left: The currently underused section of the Bronx River extending from the Bronx Zoo to Soundview Park and the East River could be transformed into a new waterfront neighborhood including housing, parks, and community facilities.

Bronx River Greenway, Bronx

The Bronx River is in the first stage of a major transformation between Soundview Park, the mouth of the river, and Bronx Park. This multi-year, multi-phase process, led by the Department of Parks & Recreation, will create a continuous greenway along a 23-mile stretch of waterfront, 8 miles of which are in New York City. With over \$30 million in city, state, and federal funding, the project will renovate and expand existing parks, add new parkland, and provide greenway connections

where the parks do not directly abut.

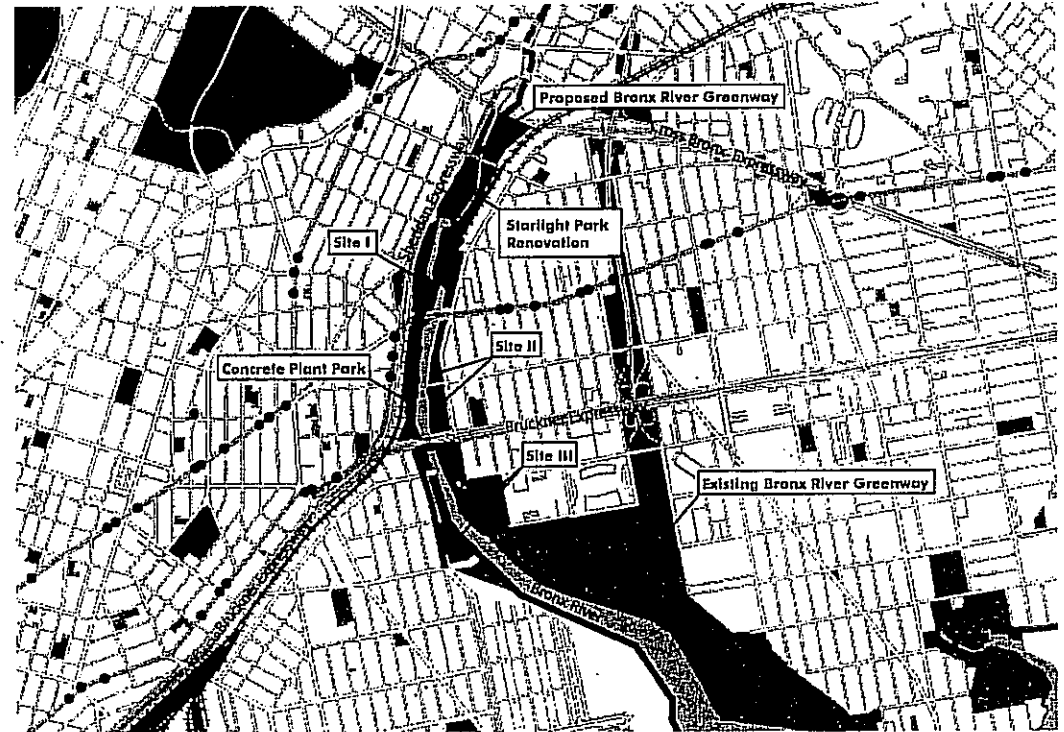
Due to the level of public investment in the Bronx River Greenway, the land directly adjacent could eventually become very attractive to developers. Just as market demand and land value dramatically increased along Hudson River Park, so too could the properties along the Bronx River become a popular place to live. In this case, however, luxury development is unlikely to occur. Instead, the market will probably attract

middle-class residents, who may find that the river, the open space, and easy transit access make the Bronx River a desirable place to live.

However, simply investing in parkland alone will not stimulate this private market reaction. Currently, the plan for the Bronx River Greenway is a strong, one-dimensional plan: it creates wonderful and much-needed open space. If the city takes a more comprehensive approach, the Bronx Greenway could become an entirely new community within which the

Bronx River Greenway Development Opportunities

Bronx River, All Sites Unit Calculations				
	Acres	Potential Units at FAR		
		R6	R7	R8
Site 1	5.6	500	700	1,200
Site 2	7.8	700	1,000	1,700
Site 3 (west)	8.0	700	1,000	1,800
Site 3 (east)	14.0	1,200	1,800	3,100
TOTALS	35.3	3,100	4,500	7,800



river and greenway will be featured attractions. This mixed-use public realm would include not only parks, but also places for people to live, shop, and indirectly monitor the park.

There are three potential development sites along the Bronx River. Collectively, they will provide new opportunities for middle class housing, increase the security along the greenway, and create a spectacular new community. Developing new housing along the Bronx Greenway is of paramount

significance. The table above shows that the combination of these sites, under R7 zoning, could yield 4,500 new units of housing. Or, under R8—which is not inconceivable given the proximity to the subway and separation from existing communities—the sites could yield up to 7,800 units. No longer would the city be investing in only open space and a greenway. Rather, the city would be investing in a new community, a new destination, a new place. Just as Riverside Park transformed

the western edge of Manhattan's Upper West Side into a mixed-use public realm, so too can Bronx Greenway transform the Bronx River. In order for this transformation to happen, the city must take a leadership role.

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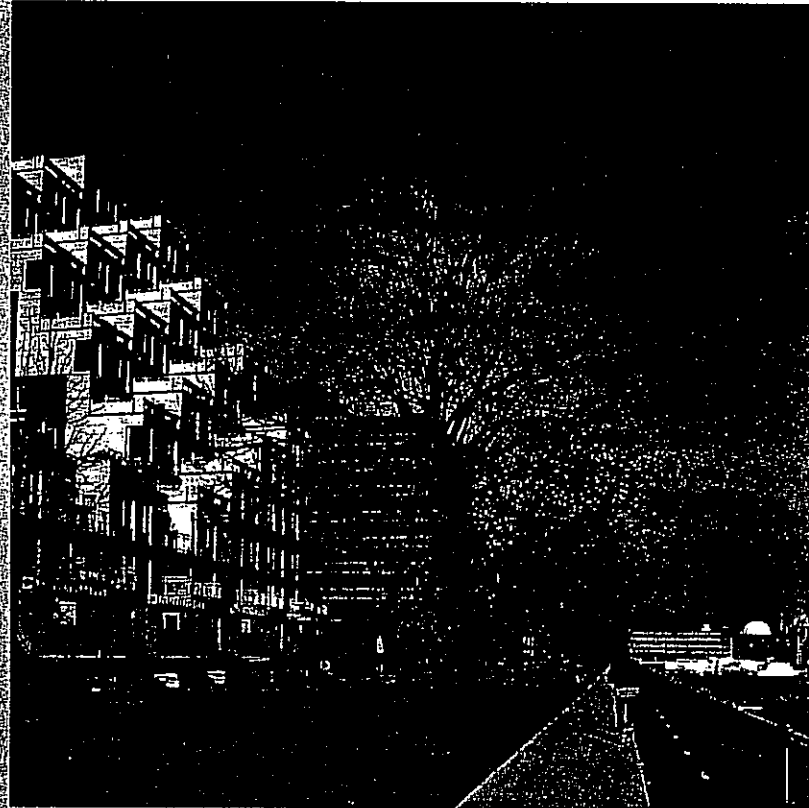


The combination of a waterfront parkland and housing along Lake Shore Drive in Chicago (at left) and the Charles River in Cambridge (below) has made them safe destinations for jogging, strolling, or just relaxing.

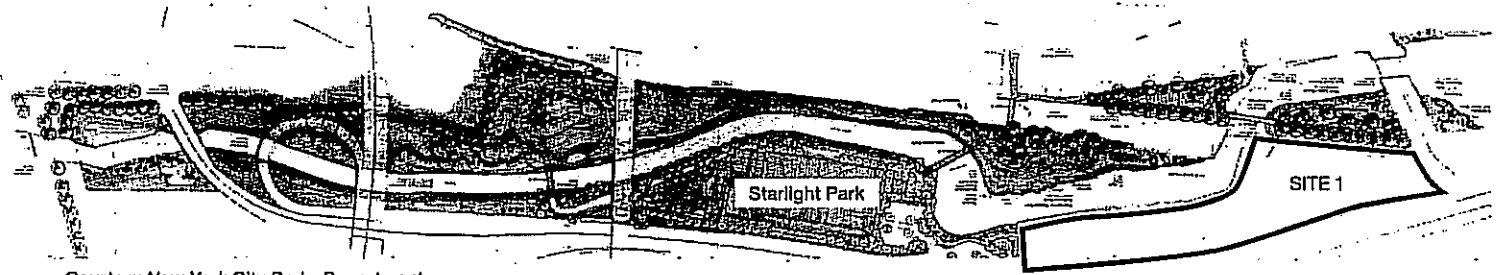
Greenway Safety

Along Chicago's Lake Shore Drive (above) and Boston's Charles River (at right), nearby housing makes the parkland safer. The presence, both indirect and direct, of residents provides what Jane Jacobs referred to as "eyes on the street" — people who watch and listen, whose presence ensures that park users are safe. The residents both provide a user base for the park and make others feel safer in it, at all hours. Through a virtuous cycle, the user base grows as the park becomes increasingly popular, thus making the park even safer. In New York, Battery Park City is a rare example of how new housing can be integrated with new open space to create a safe, attractive recreation area, as well as desirable new housing.

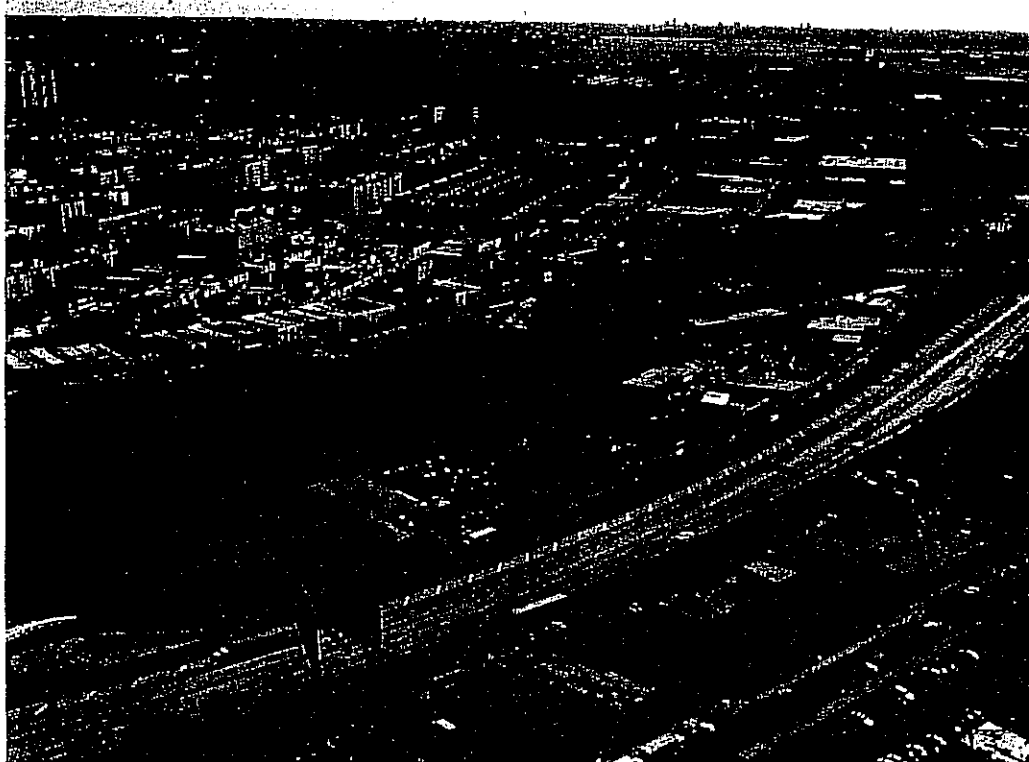
The greatest potential challenge for the future Bronx River Greenway is safety. Much of the greenway lies between the Sheridan Expressway, railroad tracks, and the backyards of a few row houses. Access will be cumbersome at best and visibility from adjacent streets will be minimal. If, however, housing is developed along the greenway, users will feel much safer and visit the park more often.



Site I Map & Starlight Park Renovation Plan



Courtesy New York City Parks Department



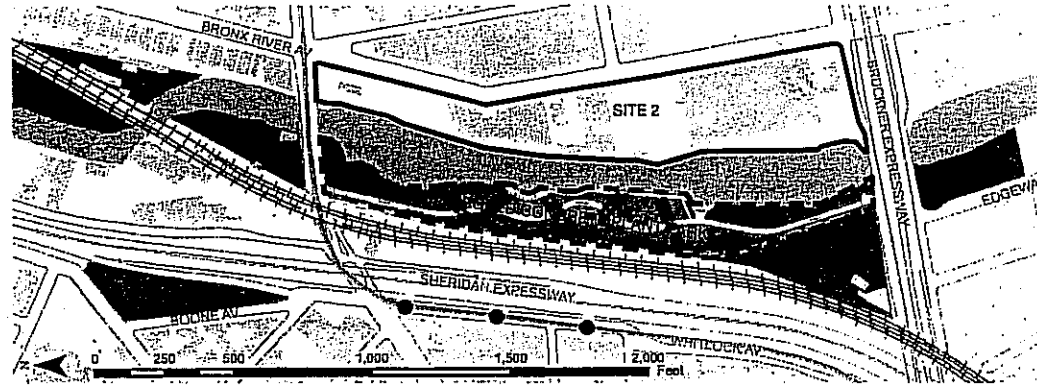
Site I

This 5.6-acre site is wedged between the Starlight Park Expansion, the Bronx River, and the Sheridan Expressway. Starlight Park is an existing park that sits midway along the Bronx Greenway. Construction was underway to renovate and expand the park (see plan) when workers uncovered hazardous environmental contamination. Con Edison, which is responsible for the contamination, will remediate the park within the next year, at which point the park expansion will resume.

Currently, the site consists of auto bodies, scrap yards, and storage facilities. Converting the site into housing is a design challenge because of the adjacent highway and rail line, but the proximity to Starlight Park, the river, and subway access to the 6 train make this site a remarkable opportunity. Given the local zoning in the area (R6 and R7-1), an R7 or R8 zoning may be feasible and would produce between 700 and 1,200 units.

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Site II Map & Concrete Plant Park Renovation Plan

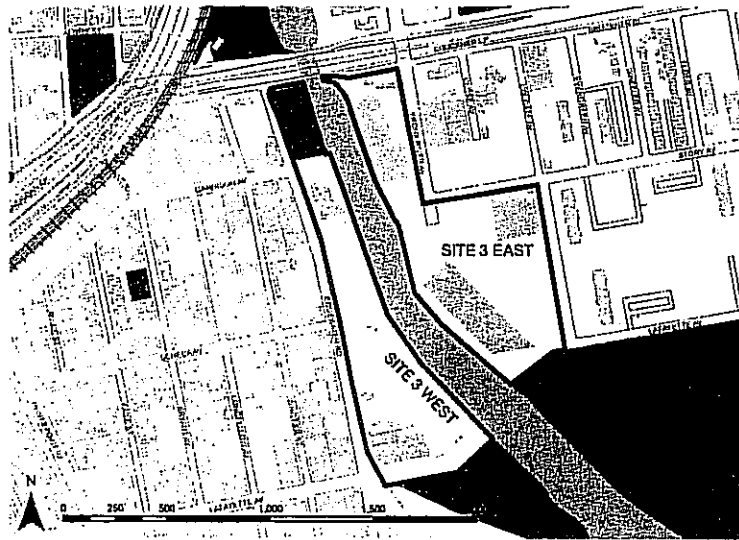


Site II

This site lies across the river from the future Concrete Plant Park (see plan above). Although potential housing sites directly adjacent to the new park do not exist, there are 7.8 acres of waterfront property directly across the river. This area would be highly marketable due to waterfront access and connections to the Bronx Greenway. Disparate ownership, however, including a warehouse for ABC carpets, is a significant obstacle that must be overcome. Despite the potential difficulty in assembling the site, this location could provide up to 1,700 units of housing at an R8 zoning.



Site III Map

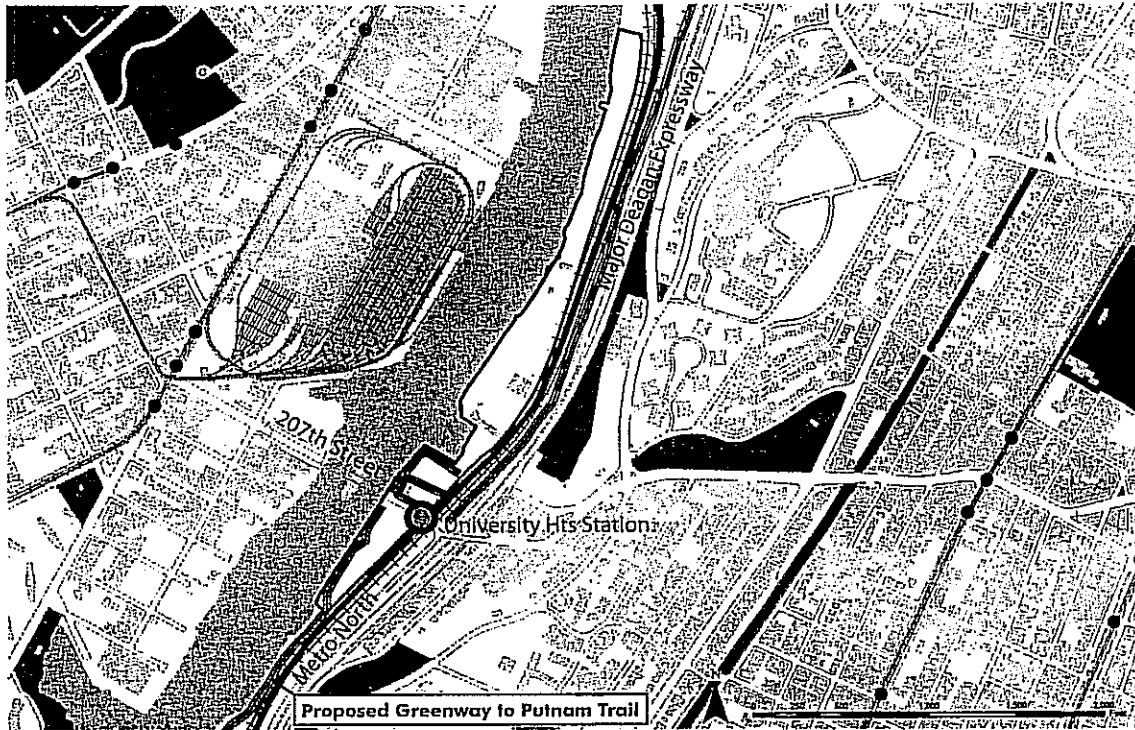


Site III.

South of the Bruckner Expressway, the third site lies on either side of the Bronx River—14 acres on the eastern bank and 8 acres on the western bank. Acquiring at least one side of the river is critical because it would connect the final section of the Bronx Greenway. Currently, the greenway is diverted to the road between Sound View Park and the new Concrete Plant Park. By developing either side of the river as residential with waterfront access required in the zoning, the Bronx Greenway could become a continuous, dedicated greenway from Sound View Park all the way to Bronx Park.

Perhaps the best development site along the Bronx River lies on the east side of the river: an 11-acre parcel under single ownership that abuts Sound View Park. Whatever the level of environmental contamination on this site, with presumed remediation it could provide thousands of units of housing. In addition, developing this site and two additional parcels to the north would provide the connection for a single, continuous Bronx Greenway. Again using an R7 to R8 rezoning, the sites on both the east and west side of the river could provide a combined 2,800 to 4,900 new units of housing.

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Harlem River Development Opportunity

Harlem River, Bronx

Numerous opportunities for adaptive reuse lie along the Harlem River. Roberto Clemente Park and Park River Towers have already been transformed. Other projects are equally appealing. For example, the Department of City Planning is studying a potential rezoning of the Sherman Creek area. Many more opportunities exist along the river. Perhaps the ripest opportunity is at 207th Street in the Bronx, between the Major Deegan Expressway and the Harlem River.

This 6-parcel site covers 4,000 feet along the waterfront and varies between 110 and 350 feet in depth. It is cut off from the upland neighborhood of University Heights by the Major Deegan and by Metro North's Hudson line. The central location of the University Heights Station within the site makes this area ideal for medium- to high-density development. Because the upland communities are on a hill, new buildings would not block views.

An essential component of this development site is the creation of a critical mass of residents who can support the retail shopping and other facilities to make it a self-sustaining community. Developing only one site would not provide enough customers. If, however, the entire site was developed at an R8 zoning, it could produce over 3,800 units—more than enough to justify neighborhood retail around the Metro North Station. Furthermore, improved retail would benefit



Harlem River, Bronx Unit Calculations			
Area (acres)	Potential Zone	FAR	Units (Avg 1,000 sf)
16.9	R7A	4.0	2,500
16.9	R8	6.0	3,750
16.9	R9	7.5	4,700

the residents of University Heights, most of whom must cross the bridge at 207th Street to shop in Inwood.

Given the elevation of the 207th Street bridge over the site, the highway, and the railroad, the design for the development would be straightforward: the first two levels could be parking decks, retail would extend from street level down to the transit station, and the housing would be above street level. The northern half of the site would be reserved

for a new park. Housing and retail would be concentrated at the southern half of the site around 207th Street and the transit station.

In addition to creating an entirely new community, development of this site could also provide a key greenway connection between Roberto Clemente Park and the Putnam Trail rails-to-trails project, which will reach all the way to Van Cortland Park. The existing plan to connect these greenway trails calls for a path adjacent to the active Metro North line—an

unpleasant experience to say the least. If, on the other hand, this site is developed with waterfront access, the connection would make the greenway and waterfront accessible to the entire community.

Currently, the 6 parcels are under separate ownership, including CSX, Con Edison, and the City's Department of General Services. Potential relocation sites will have to be found for the existing facilities, including a recently constructed self-storage facility.

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North Shore, Staten Island

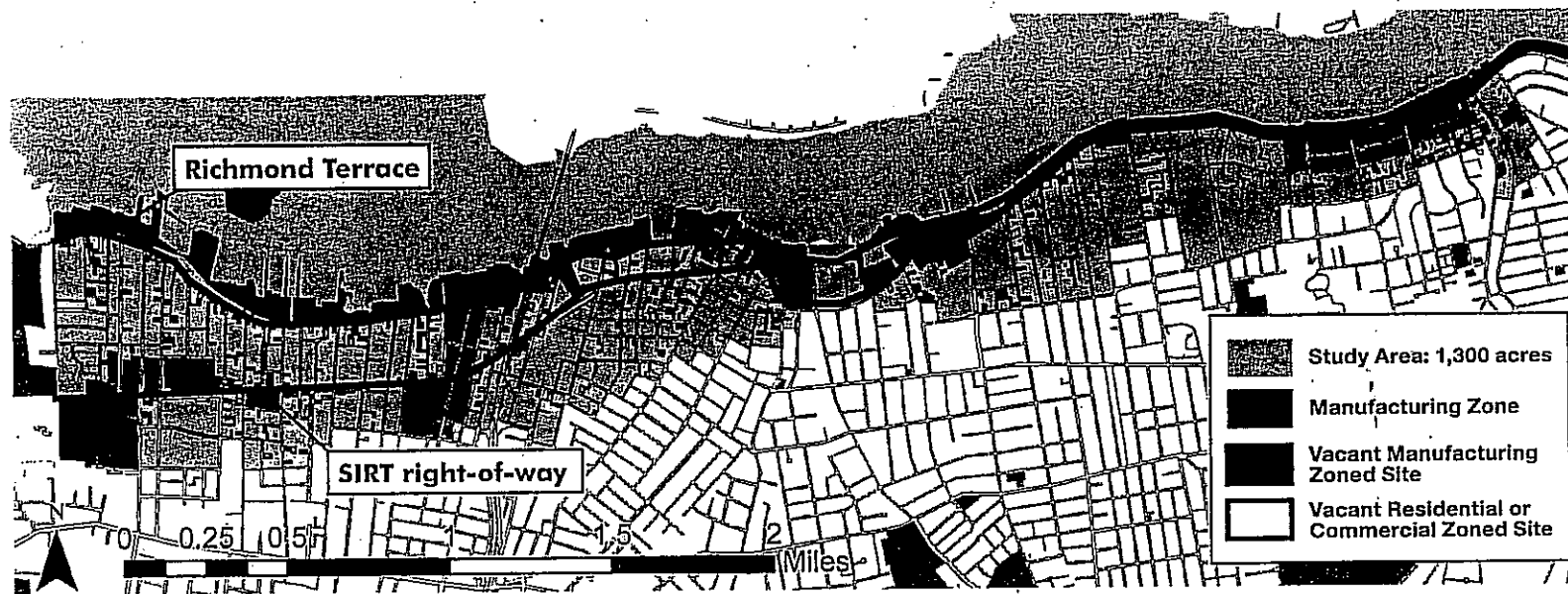
The North Shore of Staten Island is currently a hodgepodge of low-intensity land uses: junk yards, vacant and abandoned buildings, parking lots, and a few active docks. It possesses several outstanding assets, however, including a waterfront with magnificent views of the New York Harbor and the New York and New Jersey skylines, as well as the abandoned SIRT right-of-way that could be used for a transit connection and/or a bicycle and pedestrian path.

In Staten Island, as in Manhattan and Brooklyn, waterfront sites are no longer in high demand as locations for warehouses or manufacturing. Unlike those waterfront districts, however, the North Shore has experienced little of the real estate market pressures that are common along the Hudson and East Rivers. This is not just because existing zoning forbids residential reuse, but also because the area's transportation infrastructure has very limited capacity. The area's growth is constricted by the lack of mass transit and the narrow width of Richmond Terrace, the primary waterfront corridor, which carries only one lane of traffic in each direction.

Before further planning on the area can occur, the city must study current conditions along the waterfront, trends in maritime activity both in New York and nationwide,



North Shore: Manufacturing and Vacant Sites



and the demand for warehouses and factory buildings in Staten Island. The city must also analyze what would be necessary to transform Richmond Terrace into an urban arterial and/or to convert the SIRT right-of-way into a limited-access bicycle and pedestrian route, either in combination with light rail or as an exclusive greenway that could serve a revitalized North Shore.

Consequently, the opportunity to transform the North Shore requires three studies:

1. Status of maritime manufacturing and warehousing activity along the shore

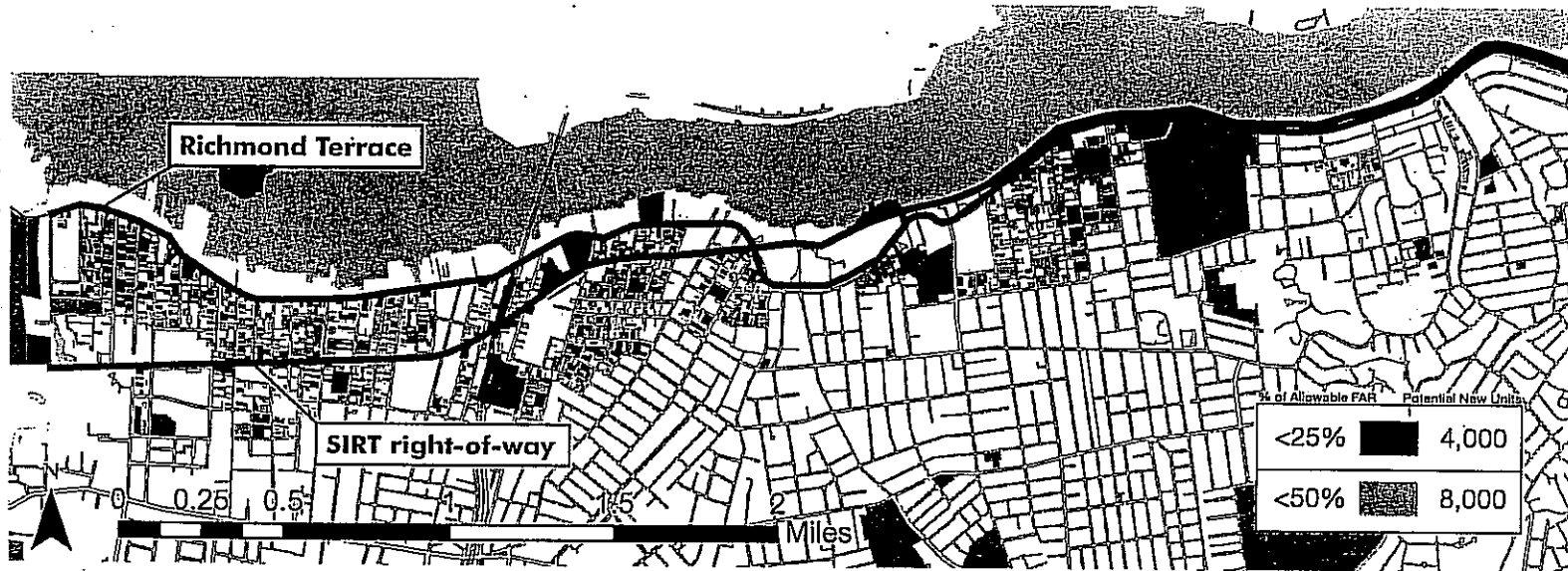
2. Potential reconfiguration of Richmond Terrace
3. Reuse of the SIRT right-of-way as a light rail and/or greenway

Existing trends indicate that the North Shore is ripe for change. If studies confirm that maritime uses will continue to decline and that the costs of reconfiguring Richmond Terrace and the SIRT are not prohibitive, the North Shore should be rezoned. Leaving existing zoning in place will do nothing to open the waterfront to the public or permit underutilized property to be used for anything but the

dwindling activities permitted in the city's manufacturing zones. But rezoning can only come after there is consensus regarding the future for the North Shore—one that is based upon a realistic investment in an improved public realm framework of streets, greenways, transit, open space, and waterfront facilities around which developers would transform the entire North Shore. This public realm framework must also include space for new schools, playing fields, parks, stores, and other community facilities needed to support the increased population.

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North Shore: Potential Development with rezoning of R3 to R4 & R4 to R5



If the capital investments were made to increase transportation capacity, rezoning manufacturing areas to R4 would open up sites for the production of 6,500 new residential units. Between 4,000 and 8,000 units could be added to the area if R3 zoned residential areas were rezoned to R4 and R4 areas were rezoned to R5.

There is no point in creating this new public realm framework or rezoning if current maritime uses can survive. Nor is there any point in dreaming of a future that is beyond the physical capacity of improved transportation or beyond the city's pocketbook. Thus,

the city should commission a serious study of their future. If the results conclude that redevelopment is physically, financially, and functionally feasible, the city should follow that study with a planning process that develops consensus around a vision for the future of the North Shore. The goal of the planning process would be to determine a series of alternative public realm frameworks along with the rezoning needed to make them a reality. The planning process should be carried out in partnership with the Borough President's Office, local businesses, and the surrounding communities.



Homeport, Staten Island

The shoreline between the St. George Ferry Terminal and the Verrazano-Narrows Bridge is an industrial-zoned area that offers a unique opportunity for residential redevelopment. The SIRT connects the area to the Ferry Terminal. The views of the harbor are spectacular. Cromwell Pier, the Alice Austen House Museum & Park, Von Briesen Park, the Fort Wadsworth Gateway National Recreation Area, and nearby South Beach all offer unique recreational facilities to residents in the area.

During the early 1980's, the federal government announced the creation of a \$300 million naval center on a vacant and deteriorated one-

mile section of the waterfront. Ever since the federal government dropped the project in the early 1990's, the city has tried, repeatedly and unsuccessfully, to find industrial occupants to fill the site.

A recent plan created by the Economic Development Corporation is a move in the right direction. The plan proposes a mix of housing, retail, and sports facilities, along with redeveloped open space. This year, the city plans to initiate construction on a waterfront esplanade and a reconstruction of Front Street, part of a planned \$66 million of improvements over the next five years.

The city's plans are promising, but they fall short of the comprehensive effort needed for Homeport to reach its full potential. Homeport and the adjacent industrial properties should be rezoned from manufacturing to residential, and the city should reexamine all industrial property between Bay Street and the waterfront, not just the Homeport site. This area-wide rezoning should be accompanied by an entirely new public realm, including upgraded transit services, improved roads, parks, and all the other community facilities needed to support what could become one of the city's most unique waterfront new-towns-in-town.

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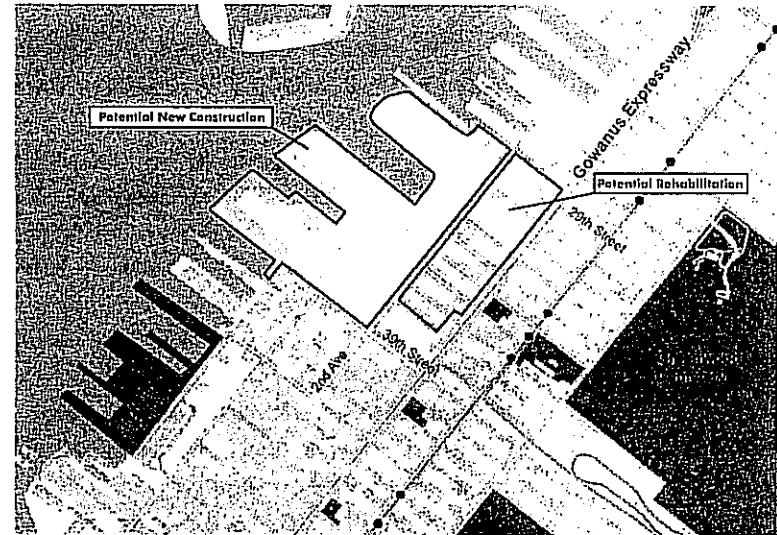


Sunset Park Waterfront, Brooklyn

For decades, the waterfront in Sunset Park, Brooklyn has been one of New York City's major industrial zones. Under the Administration's proposal for 16 Industrial Business Zones throughout the city, Sunset Park will continue to be one of the largest. At the same time, because some residents legally live in the area, the Economic Development Corporation and Parks Department are in the process of adding a new 23.7-acre park at the Bush Terminal Piers. Such an investment indicates a commitment to maintaining the industrial character of the neighborhood while providing neighborhood amenities for those already living in the area.

During its search for large-scale development throughout the city, the authors of this report identified an attractive opportunity to better utilize one section of Sunset Park as a mixed-use residential and industrial district. While areas with heavy industry are unsuitable for mixed use, some residential use is compatible with light industrial use, such as artist live/work lofts, design studios, or small-scale production workshops.

The site is between 28th and 39th Streets, between Third Avenue and the water. The site includes over 100 acres of parking (see aerial photo), which is operated by the Department of Small Businesses. If this parking was



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consolidated into a 12-story garage on 10 acres, it would open 90 acres to new development. The other half of the site, between 2nd and 3rd Avenues, includes a series of warehouses whose size and depth make them ideal for loft conversions.

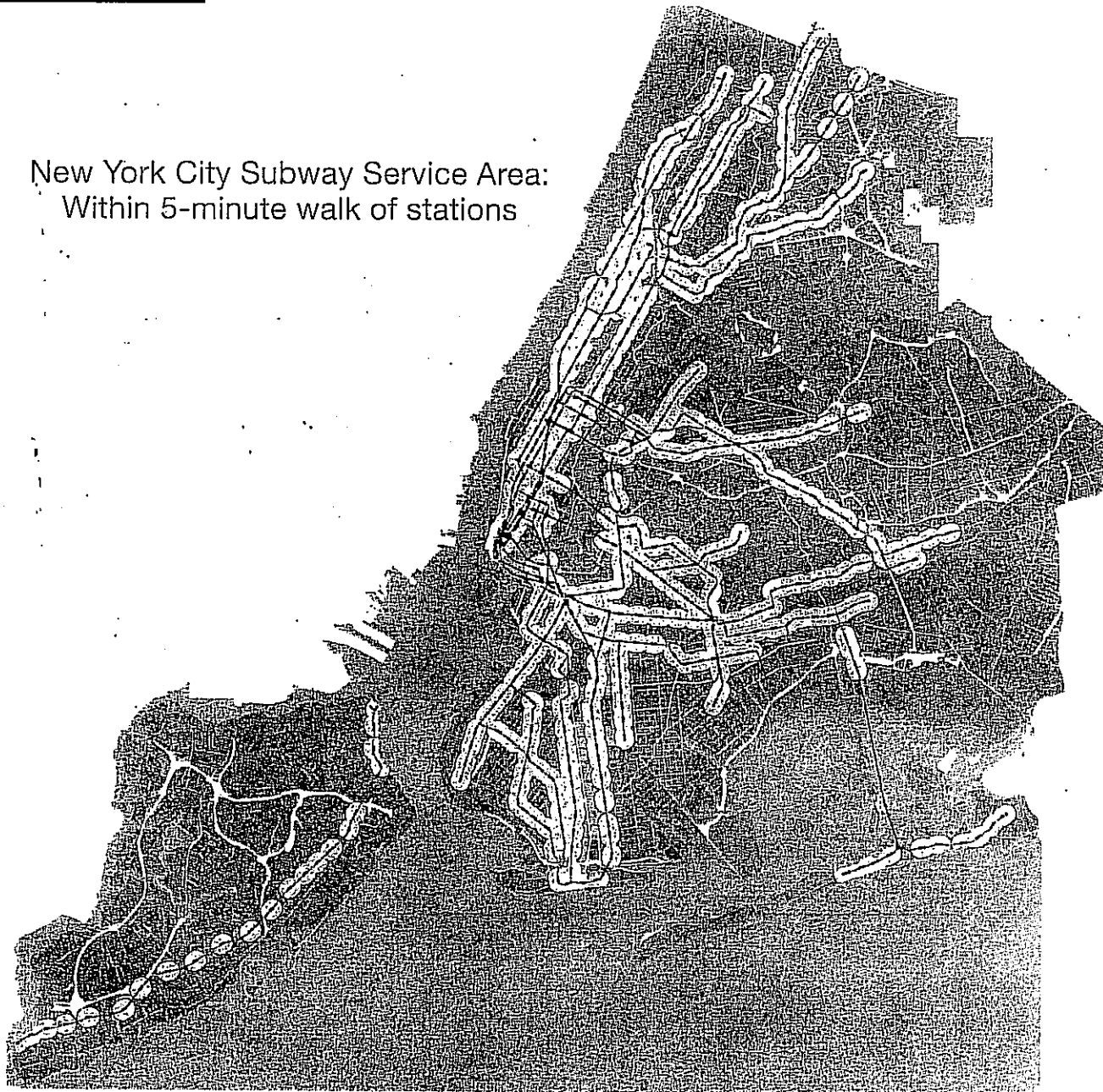
This area is well-suited for mixed use development because 39th Street would serve as the barrier between the heavy Industrial sites of Sunset Park and the new development. Trucks exiting the Brooklyn-Queens Expressway can take the 39th Street exit and turn left onto either First, Second, or Third Avenues, which would not disrupt the new mixed-use enclave on this site. In addition, the location of an existing Costco at 3rd Avenue and 39th Street would help to anchor the commercial activity needed for a balanced community.

When the potential new development and rehab units are considered together, the potential for development at the site is 15,000 units at an R7-A zoning. Although this opportunity may not be available for quite some time, it is worth considering for the future.

Sunset Park Unit Calculations				
New Construction: 102 acres			Rehab: 31 acres	Total Units
Potential Zone	FAR	Units (Avg. 1,000 sf)	Units	
R6	2.4	9,100	4,700	13,800
R7A	4.0	15,100	4,700	19,800
R7X	5.0	19,000	4,700	23,700
R8	6.0	22,700	4,700	27,400

Chapter 3

New York City Subway Service Area:
Within 5-minute walk of stations



3

Transit-Oriented Development Opportunities

Every day, millions of people use New York City's subway for quick, inexpensive access to jobs, shopping, recreation, and residences. In such a subway-dependent city, it is no surprise that areas closer to subways are in greater demand. Areas without good access to mass transit are in much lower demand and are often under-developed.

The adjacent map highlights areas of the city within a quarter-mile of a subway station, approximately a 5-minute walk. As is clear from the map, large sections of the city lack service. In some cases, such as in Bayside, Queens or Canarsie, Brooklyn, the low-density development of these areas is well suited to automobile transit. Here, buses do an excellent job filling in the service gaps between subway stations. In a few exceptional cases—the eastern extremities of the Upper East Side and the East Village in Manhattan, for example—other factors have overridden the lack of close transit access, and the neighborhoods have developed despite limited subway service.

There are other areas of the city, however, where a lack of transit service has not been overcome by either market pressures or automobile access, and development has stagnated. In these areas, public investment

in mass transit service could have a significant impact. Transit improvements that increase mobility and create a new public realm framework will stimulate private investment. Similar logic explains recent transit policy decisions, most notably the extension of the #7 subway line to the Far West Side.

Rather than plan service to meet existing demand, New York must plan transit service to meet projected demand in 2015 and 2020. This means both identifying and, to some extent, creating the future market for development. Given the huge amounts of capital already budgeted for the city's subway and rail system (for the #7 extension, the Second Avenue Subway, East Side Access, and the JFK-Lower Manhattan Airlink), it is unrealistic to expect city or state agencies to invest in additional multi-billion dollar projects. At the same time, simply extending traditional bus service to under-served regions will not increase capacity enough to catalyze a neighborhood to change.

This chapter on "transit-oriented development" identifies opportunities where investment in mass transit service improvements will stimulate private development. Projects of intermediate scale and cost were selected

in order to maximize both feasibility and the private market reaction. Projects are restricted to those that require very little property acquisition or relocation, and relatively modest public investment: streetcars, light rail, or specialized buses on dedicated rights-of-way. Each project was selected to link potential residential development areas with centers of employment, retail districts, or pre-existing transit nodes. Although this chapter includes several opportunities for transit-oriented development, it primarily focuses on two opportunities for Further Feasibility Analysis:

- Third Avenue & 161st Street, Bronx
- 21st Street, Queens

When combined with additional planning and rezoning efforts, these transit improvements will create a mixed-use public realm that attracts new residents and businesses. These transit investments will generate new tax revenues from induced development that will justify the debt required to finance the transportation and public realm improvements. Therefore, the goal for each project is to be financially sustainable, but further study is necessary to determine feasibility at a detailed level.

Chapter 3

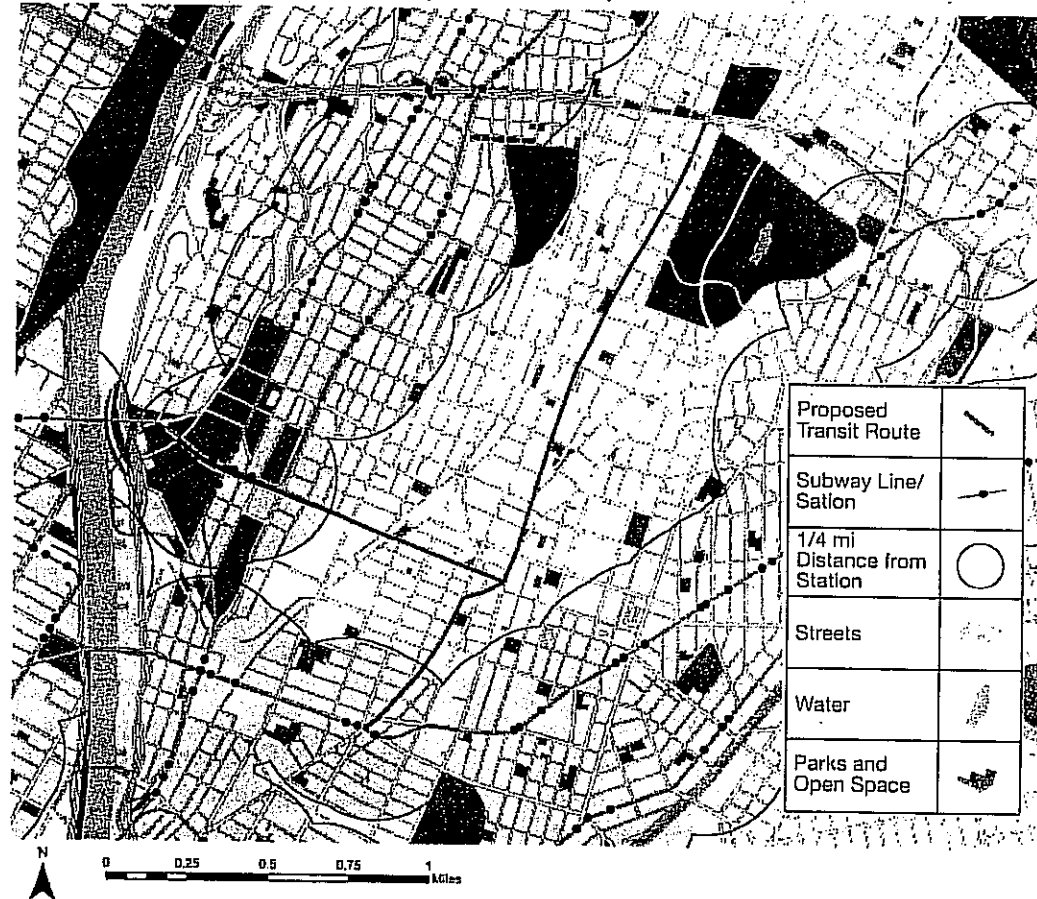
3rd Avenue and 161st Street, Bronx

3rd Avenue in the Bronx is one area of the city most affected by the lack of subway service. Thousands of Bronx residents once used the elevated subway on 3rd Avenue before it was torn down decades ago. Today, many of the tenements that provided customers for the El are gone, a legacy of the abandonment that swept across the borough during the 1960's and 70's. If apartment buildings replaced the empty lots that remain, it would create more than enough riders to justify reintroducing mass transit service.

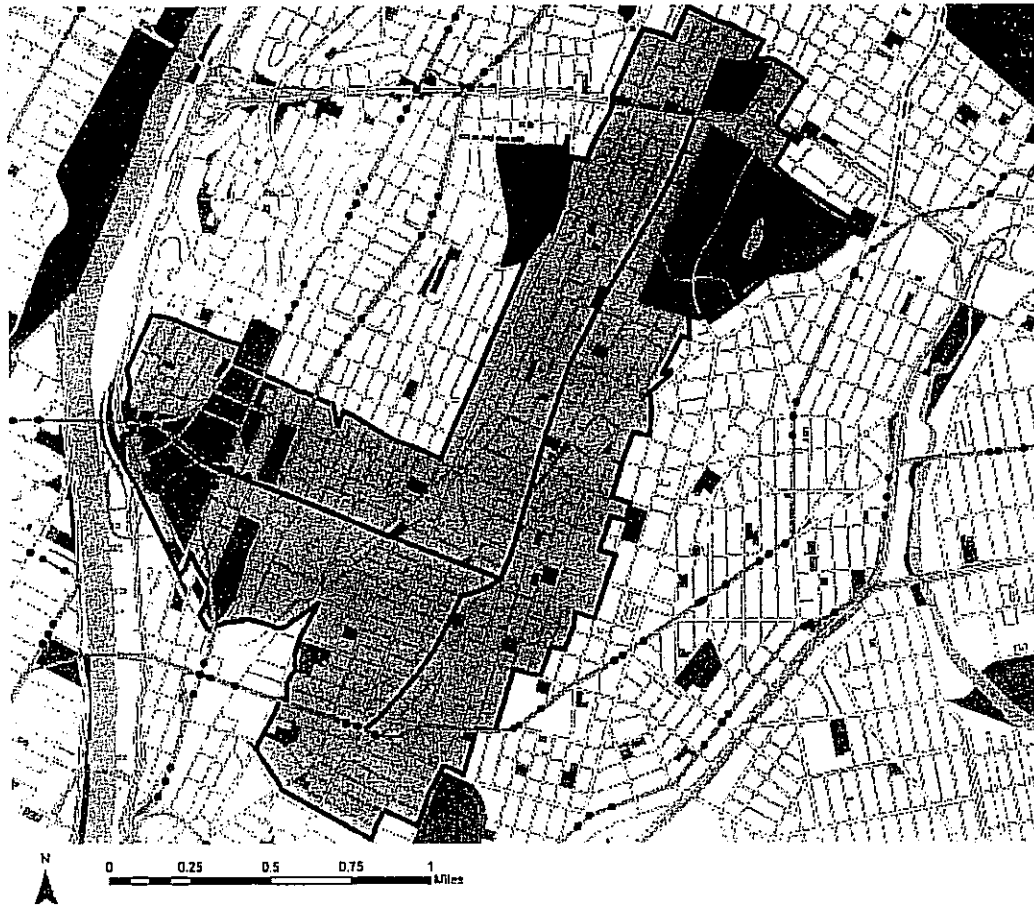
For the first time in decades, private residential developers are beginning to build in the South Bronx, though only in small amounts. Even this small scale development is a huge improvement over the abandonment the area witnessed in the second half of the 20th century. Connecting this region's numerous development sites to Manhattan jobs could stimulate even more development and trigger a renaissance of the South Bronx.

Two sections of Third Avenue and 161st Street may justify new mass transit service, whether in the form of light rail, streetcar, or

Current Subway Service & Proposed Transit Lines



Bronx Transit Study Area



Length of Transit Line on 3rd Avenue		2.2 mi
Length of Transit Line on 161st Street		1.1 mi
1/4 mi Corridor	Area	990 acres
	Existing Dwelling Units	39,000
	2000 Population	106,000

bus rapid transit (see page 46). Specifically, Third Avenue between 149th Street and the Cross Bronx Expressway and 161st Street between Third Avenue and Jerome Avenue offer tremendous development potential. Third Avenue service would connect residents with shopping at the Hub and the #2 and #5 subway lines that would carry them to work in Manhattan or to Lincoln Hospital and Hostos Community College. 161st Street service would bring them to the B and D lines at the Grand Concourse for transfer to the West Side of Manhattan, to the #4 line that would bring them to work on the East Side of Manhattan, and the US Courthouse, Borough Hall, and Yankee Stadium in the Bronx.

Types of Transit Service

New York's public transportation network consists of two primary modes: high-speed, high-cost heavy rail subways and low-cost, traffic-bound buses. This report suggests adding an intermediate transit mode to stimulate development in specific areas of the city. In analyzing potential intermediate modes, it is important to keep in mind two key distinctions: vehicle type and corridor type.

Vehicles: buses v. trams

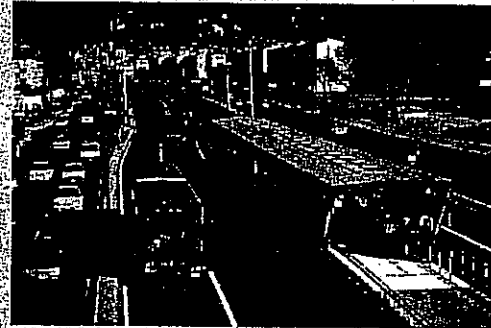
Modern buses are clean-burning, accessible, and larger than before when "articulated" into two sections. Electric trams are quiet and clean but have higher capital costs and less flexibility when re-routing.

Corridors: on-street v. dedicated right-of-way

On-street transit is prone to unpredictable schedules and slow service. Dedicated rights-of-way, on the other hand, offer unimpeded routes for high-speed service. However, dedicated rights-of-way are more challenging to create and can interfere with established traffic patterns.

APPROXIMATE TRAVEL IN 30 MINUTES			
Mode of Transport	Distance	Speed	Capacity
SUBWAY	15 miles	30+ mph	20,000
LIGHT RAIL (dedicated right-of-way)	15 miles	30 mph	5,000
LIGHT RAIL (on-street right-of-way)	7.5 miles	15 mph	2,500
BUS (dense city traffic)	1.5 miles	3 mph	750
BUS (suburban streets)	4 miles	8 mph	1,200
BUS (express)	7.5 miles	15 mph	3,000
BRT (dedicated right-of-way)	15 miles	30 mph	5,000

Bogota, Colombia



Peter Danielsson

Tacoma, Washington



Tom McCann

Minneapolis, Minnesota



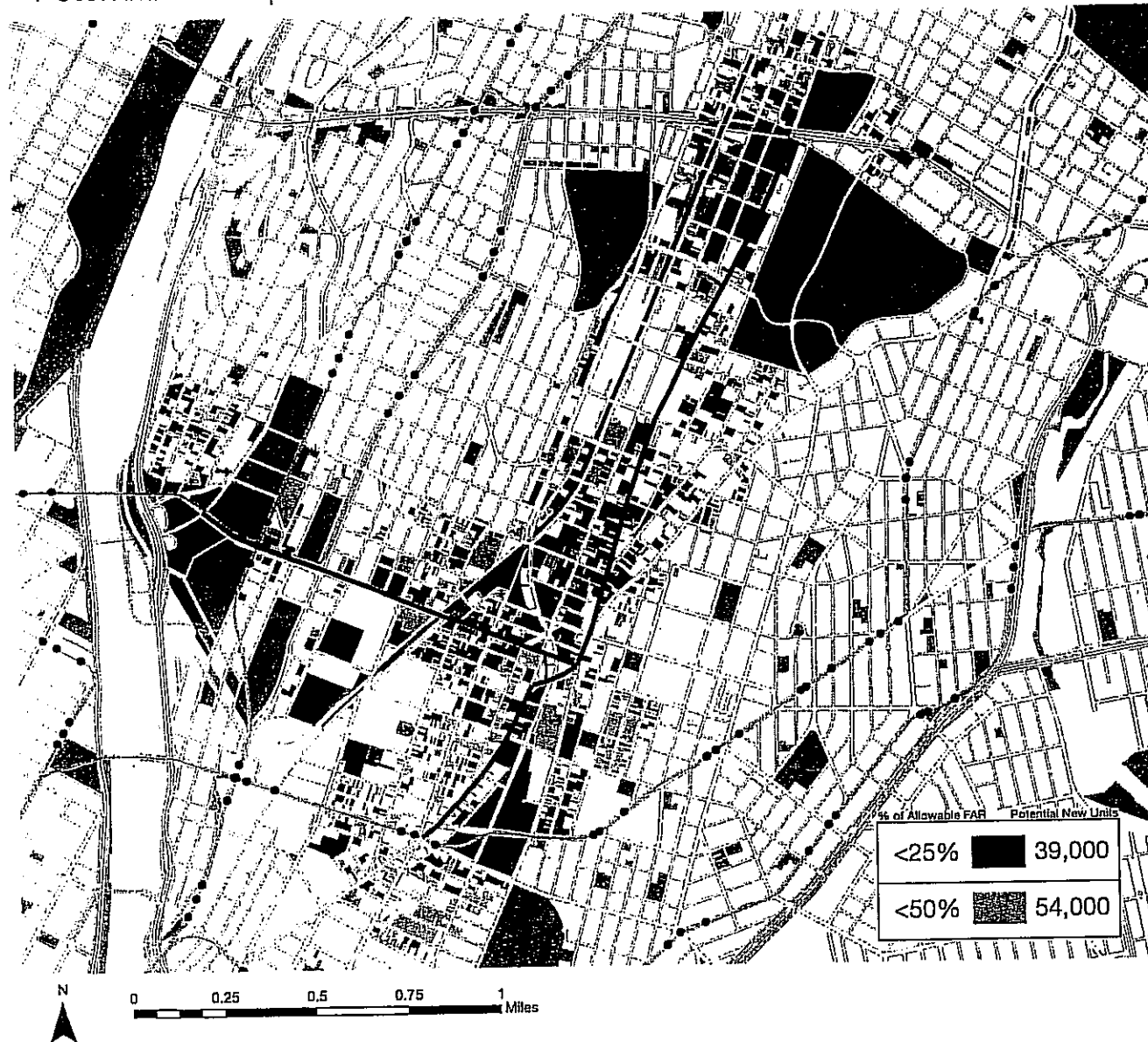
Alex Garvin

Bus Rapid Transit (BRT): In the BRT system, buses operate on dedicated rights-of-way to achieve higher operating speeds and, accordingly, higher line capacities. Utilizing stations instead of stops, BRT systems increase efficiency and capacity by allowing passengers to pay at stations instead of when they board the vehicle.

Streetcars/Trolleys: Electric trams in mixed-traffic offer greater capacity and higher operating efficiency than traditional buses. When well-designed, they can also add character to a streetscape and contribute to a sense of place. A traffic-bound streetcar, however, will sometimes move no faster than a traditional traffic-bound bus.

Light Rail Transit (LRT): LRT systems combine the efficiency of an electric tram with the speed of a dedicated right-of-way. However, establishing a dedicated right-of-way and laying track contribute to higher capital costs.

Potential Development with Manufacturing Rezoned to Contextual Densities



Currently, the 106,000 residents of these corridors walk or take the bus to reach the aforementioned destinations. While the bus service may adequately meet existing demand, more reliable service with greater capacity is necessary to attract developers, investors, and future residents. Increased accessibility will generate future demand, and, at the same time, increased tax revenue from the new development will justify the capital investment.

The combined development potential in these two corridors is substantial. Under existing zoning, developing the vacant and underutilized sites would add as many as 36,000 units to the housing stock. Rezoning underutilized manufacturing zones to R7-2 could add an additional 18,000 units, for a development potential of up to 54,000 units (see map at left). If the area is rezoned to R8, new development would add up to 114,000 new units. The property tax of these new units alone would justify new service, not to mention the increased income and sales tax revenue that the city would gain.

Should the city choose to retain the proposed Bathgate Industrial Business Zone in the far north of the study area as a manufacturing area, the transportation connections will aid local businesses in attracting workers.

Due to their great potential, these two corridors warrant further feasibility analysis. Such work would include real estate market analysis, transit studies, civil engineering (including dimensional requirements for each potential mode of mass transit), land use and zoning studies, and cost estimates. Because the Bronx offers the greatest return on investment for transit-oriented development, this study should begin as soon as possible.

Chapter 3

21st Street, Queens

Along the Queens waterfront north of the Queensboro Bridge, residential development lags behind comparable neighborhoods in the borough. To the south, Long Island City is witnessing residential and commercial development along the waterfront as well as further inland near Sunnyside Yards. To the north and east, Astoria is growing from a historical destination for new immigrants into a vibrant and attractive community for diverse populations. Overall, the population of Community District 1, which contains these neighborhoods, grew 12% between 1990 and 2000, yet the waterfront section of this district remains largely unchanged. With so much growth in the surrounding area, why are developers ignoring western Queens?

The reason that development in western Queens is stagnant is simple: the area is too far from mass transit. Within a quarter-mile of the elevated N and W trains, housing densities are high, but they rapidly drop off as the distance from stations increases (see map on facing page). The key to stimulating development in this area is to improve access to mass transit service. Increased transit access would help attract residents to the waterfront area, whether they commute to jobs in Manhattan or elsewhere in Queens.

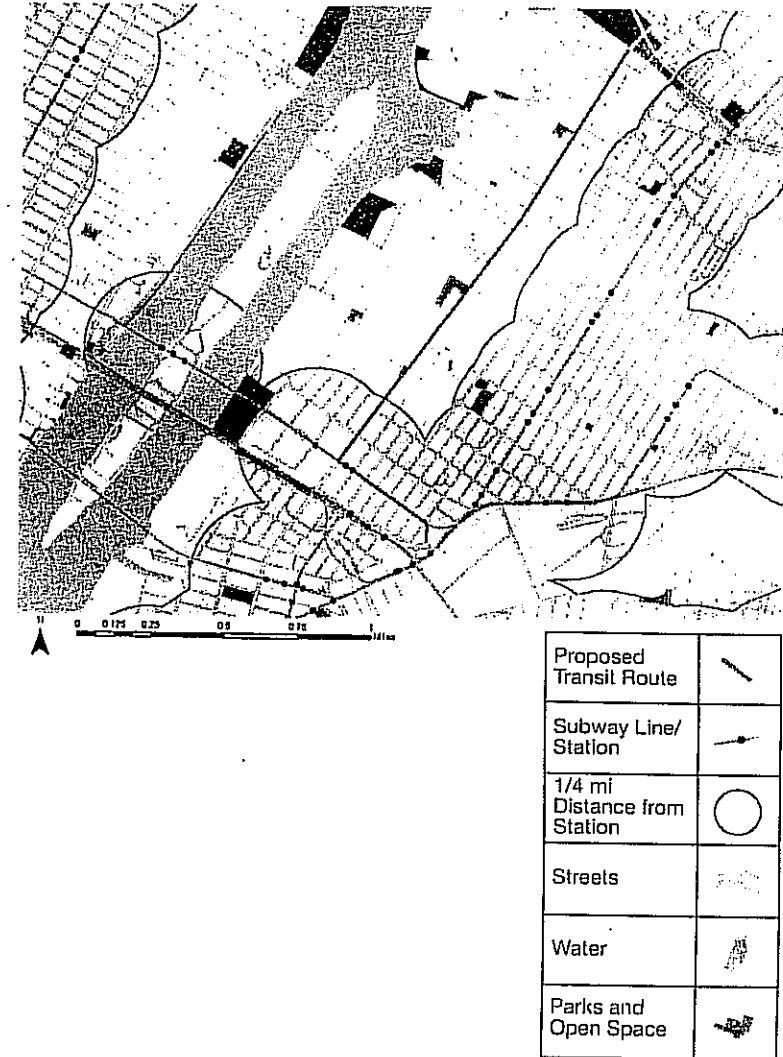
The most effective means to introduce mass transit service is to run a light rail, streetcar, or BRT line down 21st Street in a dedicated right-

of-way lane, terminating at the Queens Plaza subway station in Long Island City (see map at right). The route would connect the underserved neighborhoods of Ravenswood and Astoria to an important transit hub and center of regional development. Furthermore, the street's width provides ample room for mass transit without dramatically reducing existing traffic capacity.

Similar to the opportunity in the Bronx, Queens' 21st Street has strong development potential that would justify the capital investment. Although the 21st Street corridor does not have as much vacant land as Bronx's Third Avenue corridor, opportunities are still abundant, as highlighted in the map and table on page 51. Under existing zoning with residential use permitted on all sites, developing the vacant and underutilized sites would add as many as 32,000 units within a 1/4 mile of the route. If the area is rezoned to R7A, new development would add up to 54,000 new units.

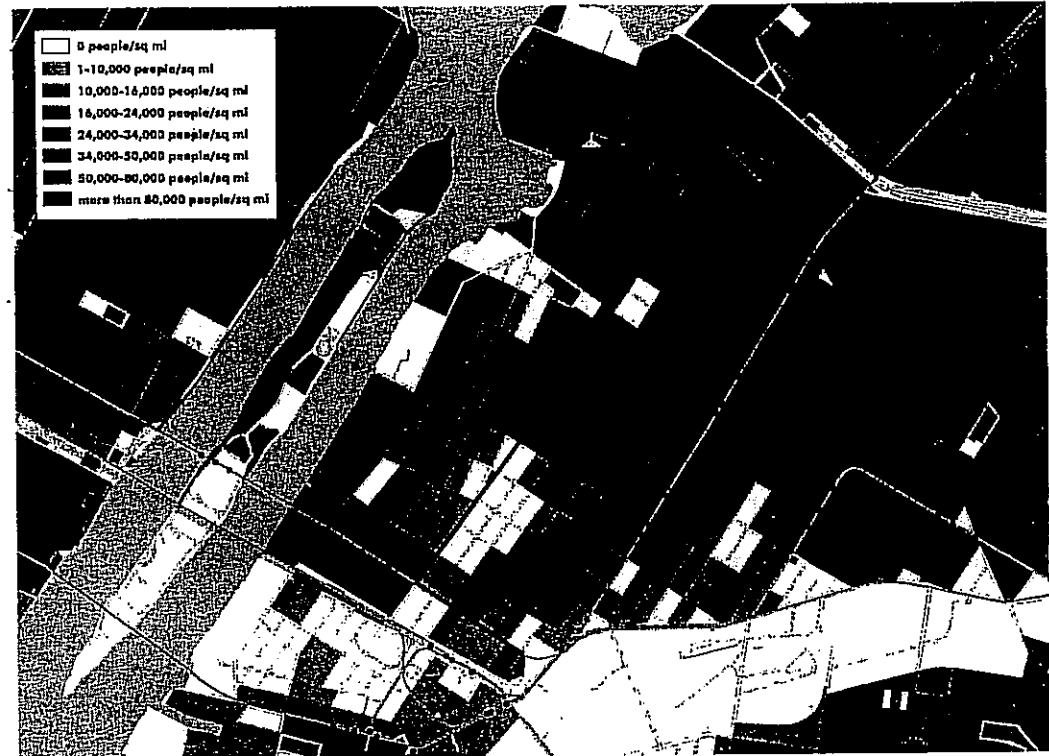
This potential development would be different at different places along the corridor. The southern section the corridor, between the Queensboro Bridge and the Ravenswood Houses at 36th Street, is currently an underutilized manufacturing area. Linking the businesses in this area to transit could provide easier access for workers commuting to this area, helping to boost the area's activity. At the same time, permitting residential use in this

Current Subway Service & Proposed Transit Lines



Current Population Densities

Proposed Transit Line & Study Area



Length of Transit Line on 3rd Avenue		2.15 mi
1/4 mi Corridor	Area	530 acres
	Existing Dwelling Units	20,000
	2000 Population	50,000

manufacturing area may promote even more development, as seen in the Queens Plaza sub-district of the LIC mixed-use district and the Dutch Kills area just north of it (zoned M1-3D)—two adjacent areas where residential use is permitted in manufacturing districts.

The area north of 36th Avenue has a more residential, low-density character (generally R5 with a maximum FAR of 1.25). Even along Broadway and 21st Street itself (zoned R7a and R7x, respectively), many properties have not developed to the maximum allowable

density. With increased demand from mass transit along 21st Street, many property owners would renovate or rebuild their buildings to maximize the FAR and increase the number of units.

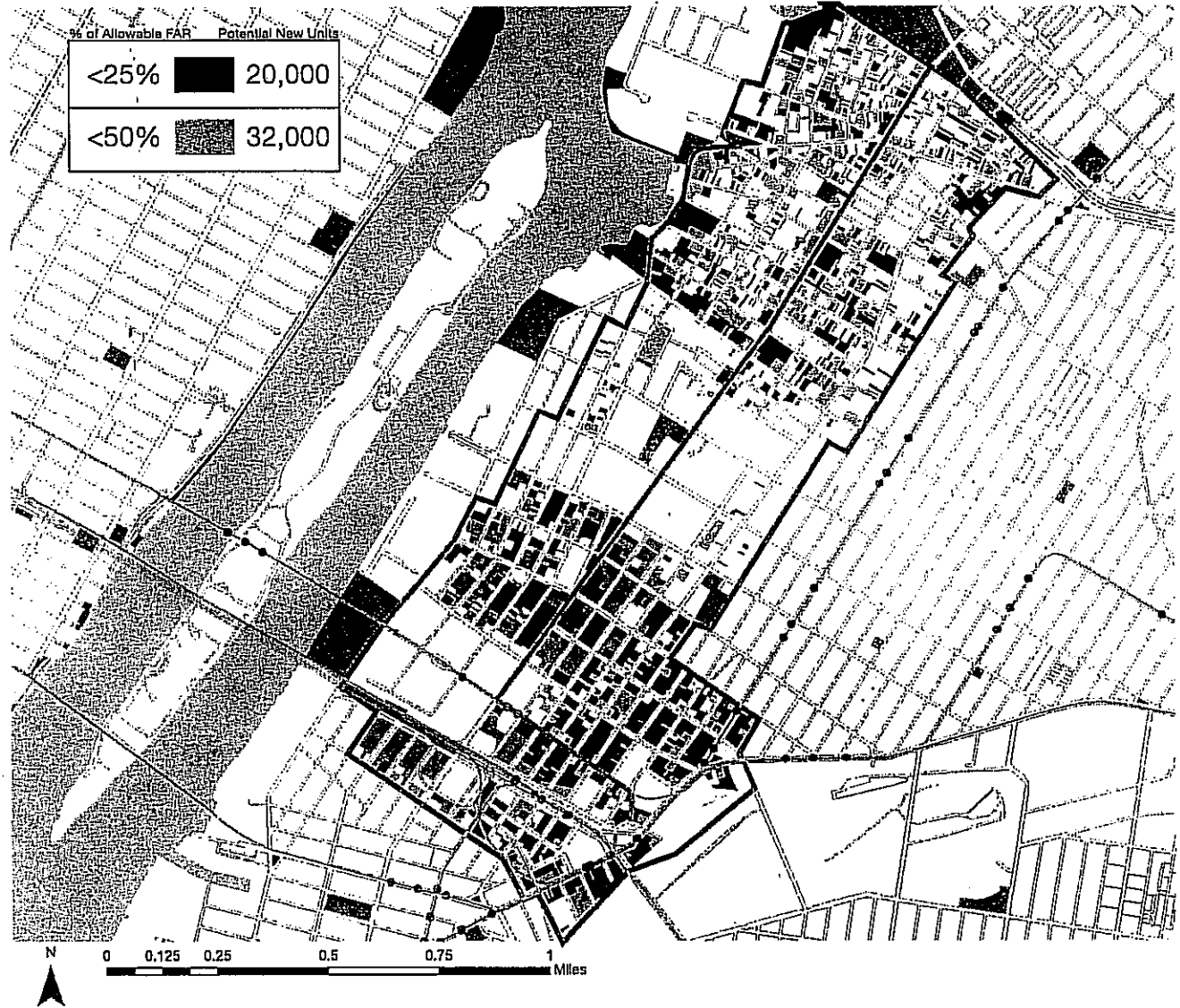
In the predominantly residential district closer to the Triboro Bridge, simply expanding the R7A zone that already exists in parts of the area could encourage developers to build new residential buildings. In addition, extending the R7-X zone south along 21st Street would have a similar impact on the housing market.

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Route of Proposed 21st St. Transit Line

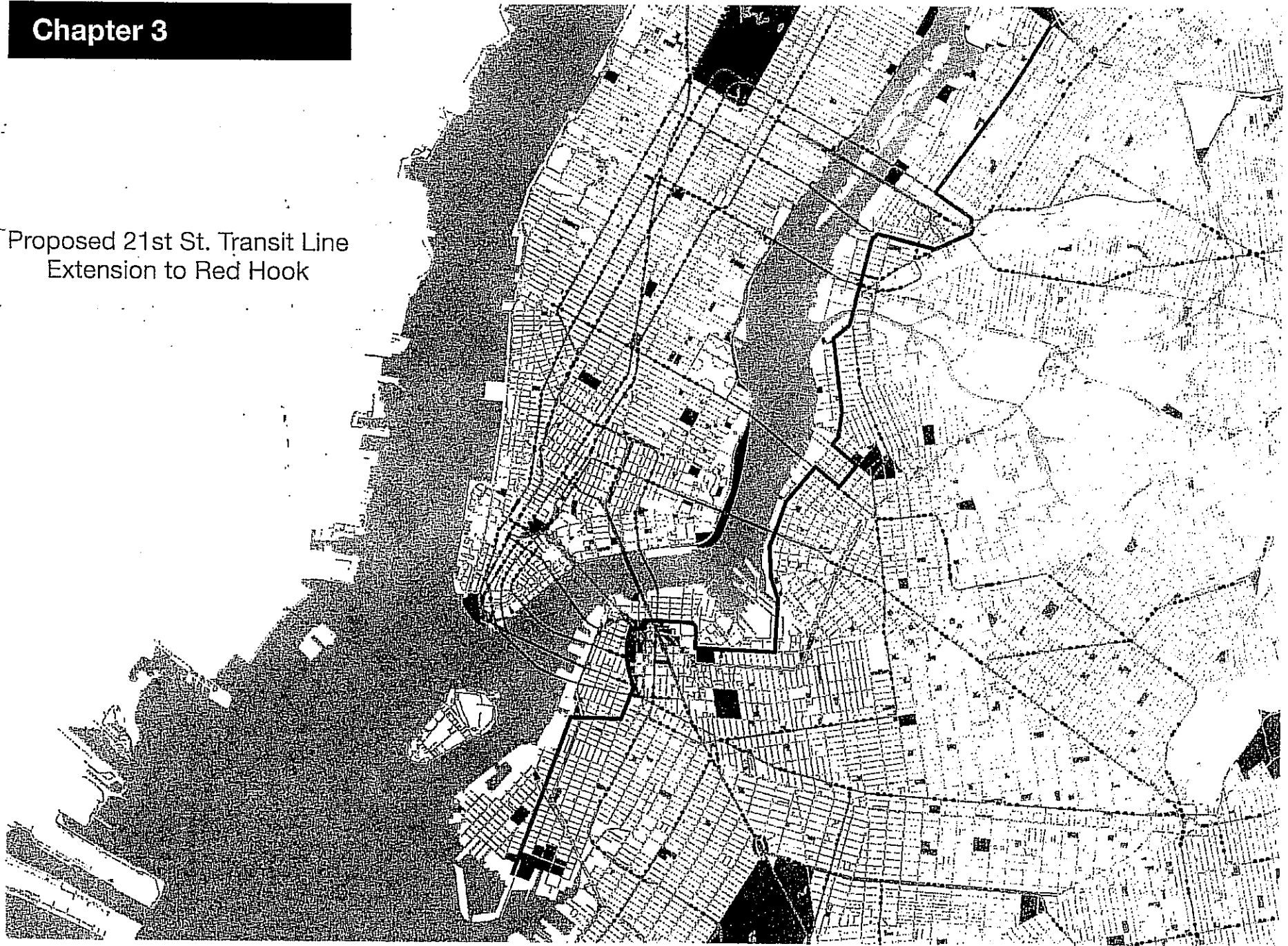


Potential Development with Manufacturing Rezoned to Contextual Densities



Chapter 3

Proposed 21st St. Transit Line Extension to Red Hook



Brooklyn-Queens Extension

If successful, the new transit service along 21st Street could potentially extend south from Queens Plaza past the Williamsburg Bridge to the Brooklyn Navy Yard, thus providing mass transit access to the Greenpoint-Williamsburg waterfront. Such improvements would further accelerate housing development, which was recently made possible by an area-wide rezoning at the City Planning Commission. However, long-term sustainability of this area may be limited by poor subway access.

The extension to serve the Greenpoint-Williamsburg waterfront could use several alternate routes. These include Kent Avenue, Wythe Ave, or Berry Street—all of which would require a new bridge over the Newtown Creek between Vernon Boulevard and Manhattan Avenue.

As the Brooklyn waterfront continues to grow, additional transit service could be extended past the Navy Yard and through downtown Brooklyn before terminating at the site of the new Ikea in Red Hook. Such an extension would open entire areas to development. As a connector, this line would link numerous districts lacking mass transit, such as Vinegar Hill and Red Hook, to pre-existing transit hubs. As a direct service route, this line would help to support manufacturing in the Brooklyn Navy Yard and commercial activity in downtown Brooklyn.



Routes of Proposed Transit Line Extension Along Kent St. In Brooklyn

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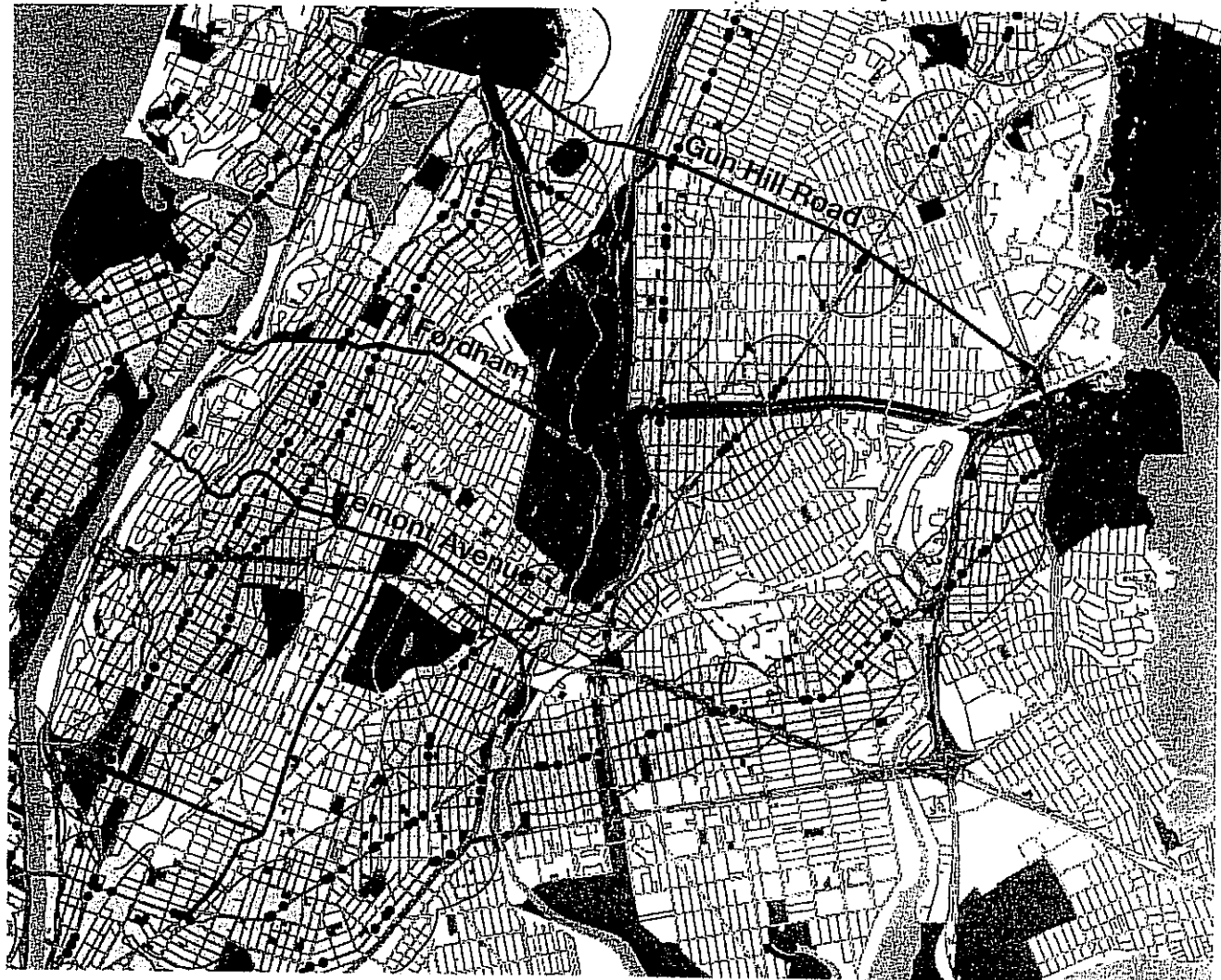
Projects for Later Study

Bronx

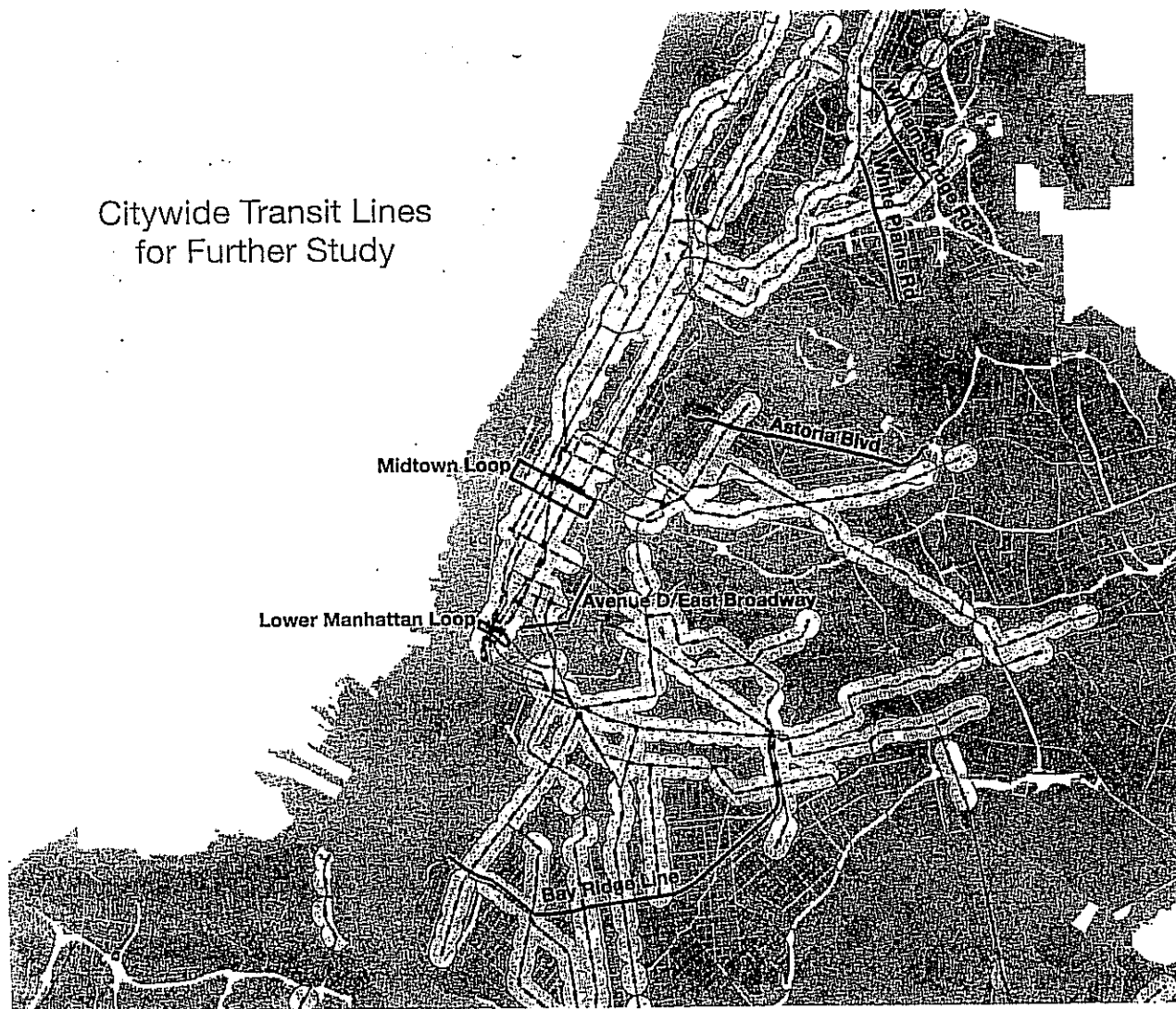
In the Bronx, several East-West corridors could potentially supplement mass transit along Third Avenue and 161st Street. Although these opportunities are not ripe today, they may warrant consideration if housing development continues to grow in the borough. As always, these projects must be evaluated in terms of the private market reaction that they would stimulate. These corridors include:

1. Gun Hill Road
2. Fordham Road
3. Tremont Avenue

Bronx Transit Lines for Further Study



Citywide Transit Lines for Further Study



Citywide

Finally, a series of additional corridors throughout the city may eventually justify mass transit routes in the future. These projects are worth monitoring in the coming years, and they may merit study in the future.

1. White Plains Rd., Bronx
2. Williamsbridge Rd., Bronx
3. Astoria Blvd, Queens
4. Bay Ridge Line, Brooklyn
5. Midtown Loop: 34th Street/42nd Street, Manhattan
6. Lower Manhattan Loop: Fulton St./ Liberty St., Manhattan
7. Avenue D/East Broadway, Manhattan

Part II:

Improving the Public Realm

Americans have more options in choosing where to live than ever before. The free flow of information on the internet and the low cost of air travel mean that New York City's existing and prospective residents can live wherever they like while still having easy access to work, friends, and family across the country. With greater mobility, citizens often choose places that offer the highest quality of life. On the one hand, this means New York City now has more competitors than ever. On the other hand, it means that the city can attract and retain even more residents—especially immigrants, young professionals, and middle-class families. Yet for New York to retain its competitive advantage in attracting a mobile population, the city must offer more than affordable housing—it must also offer a higher quality of life with active squares and plazas, beautiful parks, and enjoyable streets. It must offer a desirable public realm.

One of New York City's great strengths has always been the quality and variety of activities on its streets. A mixed-use public realm must include not only a balanced mix of stores, residences, offices, community facilities, and parks, but also a balance of multiple modes of transportation—pedestrian, bicycle, car, and mass transit. Whereas zoning regulations were once designed to isolate different uses, today the liveliest and most desirable places effectively balance these various components of urban life.

Left: The mixed-use public realm created on Augustiner Strasse in Vienna carefully balances space for residents, sightseers, diners, retail customers, bicycles and motor vehicles.

In many parts of the city, the relationship between street-life and traffic is disorganized and imbalanced. Conventional traffic standards traditionally isolated each mode of transit. Today, however, the most desirable corridors include a balanced mix of pedestrian and vehicular mobility, or "mixed-mode" transportation—a key component to a mixed-use public realm. Just as developers have used mixed-use development in the past 15 years to make projects better and more attractive, so too must cities embrace a mixed-use public realm that balances these various modes of mobility and integrates them to create a vibrant urban environment.

The opportunities to increase New York City's housing supply, as outlined in Part I, should all be developed around such a mixed-use public realm. The mayor's office must coordinate city agencies, developers, planners, architects, engineers, and community stakeholders in creating a unified and well-balanced public realm around which new projects and communities can grow and flourish.

Meanwhile, there are numerous opportunities to improve the public realm in existing communities. Part II of the report highlights several initiatives that will dramatically improve the city's public realm, and thus, help ensure that New York City's growth continues well beyond a population of 9 million.

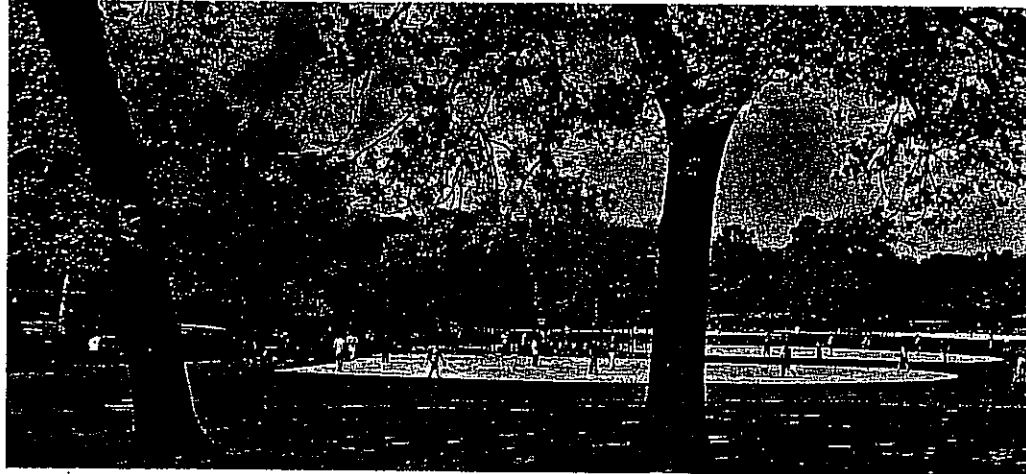
4

Public Realm Opportunities

Most people think only of parks and open space when they think of the public realm. Yet the public realm also includes the streets, sidewalks, and plazas that connect a city's open space system. No matter how great a city's park system, the overall public realm can be compromised by unattractive streets, unbalanced modes of transportation, or undesirable pedestrian conditions.

In too many places, this is the case in New York. The city offers one of the world's best park systems, yet these parks are often isolated islands, separated from the communities around them. As much as one can feel comfortable, safe, and serene within a city park, one can feel equally unpleasant and unsafe on the street two blocks away.

These undesirable, and sometimes unsafe, street conditions are one reason that residents—especially families—move away from the city. Instead, they choose suburbs or other cities with safer sidewalks and streets where children can reach the neighborhood park under safer, more pleasant conditions. The benefits of improving connections to parks, and street conditions in general, extend far beyond families. When over 63 percent of



New York City's park system include first-class facilities, including these fields in Central Park's North Meadow.



Connections to and between the city's parks, however, are often unpleasant. Many streets, such as Vernon Boulevard in Queens, lack trees or attractive landscaping.



Right: Streets like the Stuben Ring in Vienna balance the needs of pedestrians, cyclists, and delivery vehicles.

the population walks to mass transit or directly to work, that walk should be safe, pleasant, and desirable for the entire population. And as the number of elderly increases, pedestrian conditions become even more important.

Therefore, improvements to the public realm should focus on improving pedestrian conditions, especially connections among and ease of access to New York City's remarkable parks. This chapter proposes four types of public realm opportunities that build on existing city programs:

- Greening Boulevards
- Protected Bike Lanes
- Sunday Closings
- Pedestrian Reclamations

These methods are street-based initiatives that will make streets more attractive to visitors, the trip to the park safer for families with children, and the everyday experience more pleasant for all residents. In sum, they improve the quality of life, and thus, make it more desirable for people to live, work, and visit in New York City.

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Claremont Avenue at 116th Street, 1998



Within two years the Green Streets Program transformed Claremont Avenue into a handsome part of the public realm.

Existing Efforts

Several city agencies are already working to improve the city's public realm. The Parks Department has done a remarkable job improving and maintaining over 29,000 acres of parkland (ranking third in the nation in the percentage of the city's territory devoted to parks). With repeated success, the department continues to improve both the size and quality of the system through new investments and renovations. Large capital improvements are in development for the Fresh Kills Land Fill, Brooklyn Bridge Park, and the Bronx River Greenway. At the same time, smaller playgrounds and neighborhood parks are undergoing renovation across all five boroughs. Because the Parks Department has achieved such a high level of success, the public realm opportunities included within this chapter consist largely of connections among and access to parks, rather than proposals for new facilities.

The Greenstreets program, a combined effort by the Parks Department and the Department of Transportation, has reclaimed and transformed over 2,000 traffic triangles

and medians from barren concrete islands into landscaped enclaves with trees and flowers across all five boroughs. Some are purely decorative, others offer seating and shade under trees, but all improve the quality of the public realm.

The Department of City Planning is currently drafting zoning regulations that would require that trees be planted around new housing developments and new parking lots. Furthermore, the department is engaged in several planning efforts that would dramatically improve the quality of the public realm, most notably along the East River Waterfront. As highlighted later in this chapter, the plan will enhance the pedestrian experience en route to the waterfront, under the FDR Drive, and within East River Park.

The Department of Transportation (DOT) has also sought to improve the quality of the public realm as a component of traffic reconfigurations. Some of the department's efforts—including the Grand Concourse near 161st Street, Hunts Point, and Astor Place—will be highlighted in this chapter.

Yet a fundamental shift needs to occur in planning and capital investment for streets. Currently, the DOT includes public realm improvements as a subsidiary of traffic improvements, but only when the public realm improvement does not limit projected traffic flow. Vehicular traffic is one component, albeit an essential one, of the mixed-use public realm. It does not always deserve the highest priority. Sometimes a more pedestrian environment actually promotes greater economic development, trumping traditional traffic capacity requirements.

Although many of the proposed opportunities will supplement and improve existing traffic reconfiguration plans, other opportunities will require that the city government view the street as a mixed-use public realm, as opposed to a right-of-way exclusively for vehicles. While the role of cars, taxis, and delivery trucks is vital to the city's economy, a more balanced public realm will promote economic development more successfully than a single-minded focus on motor vehicles.

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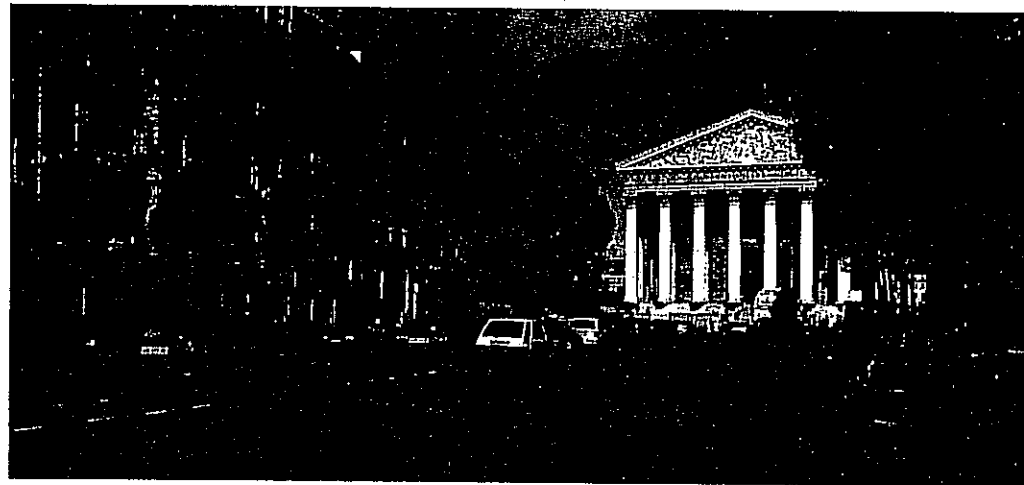
Greening Boulevards

Relatively inexpensive capital investments in new trees and flower beds on existing streets offer tremendous "bang for the buck." Trees provide shade in the hot summer months, radiate warm colors in autumn, transform into sparkling sculptures in the winter, and announce the coming of spring with flowering blossoms. When planted along an entire street corridor, trees can transform a concrete environment from a vehicular artery into a welcoming and scenic destination.

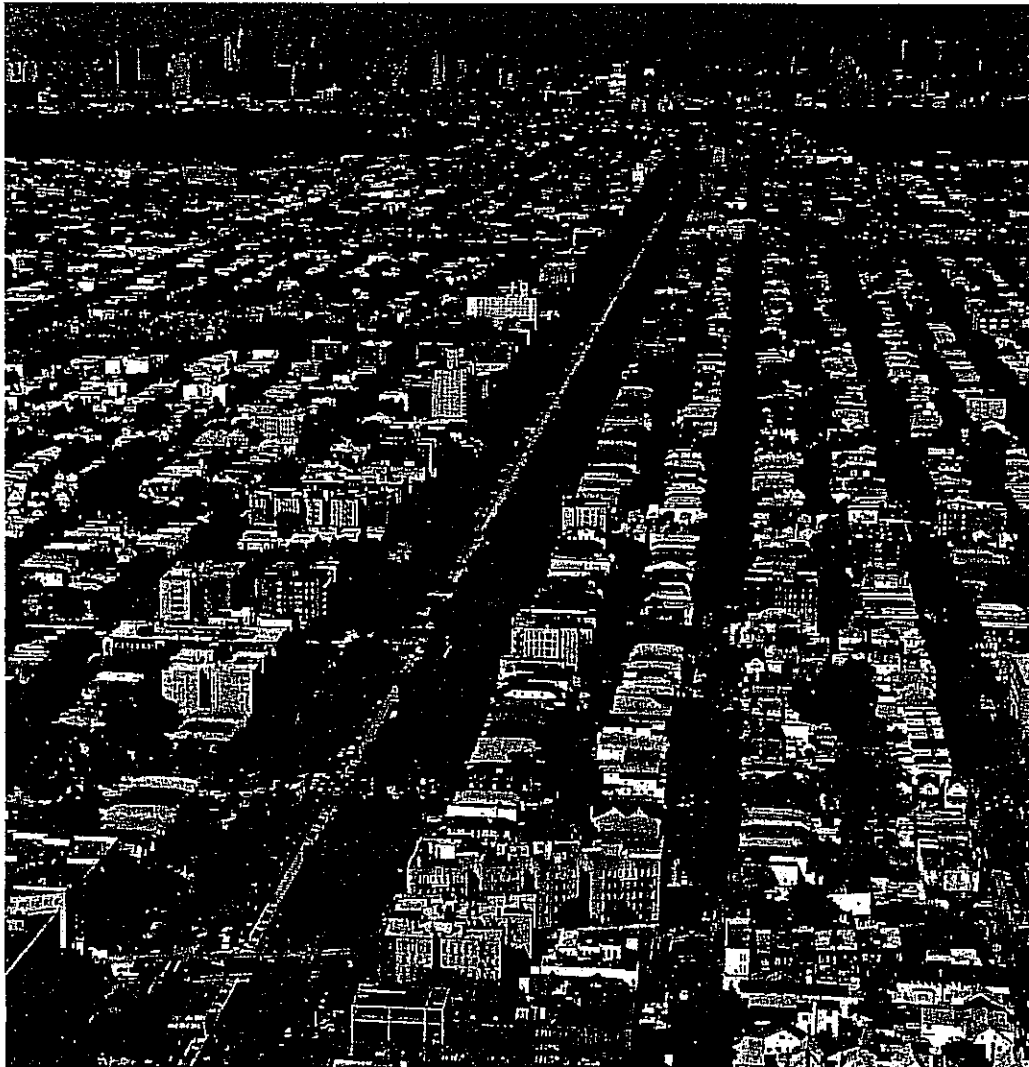
Greening Boulevards with trees and landscaping is not a new idea. Cities throughout the world have been improving their boulevards for centuries. Paris, perhaps the city most famous for its street trees, and, more recently, Chicago, illustrate the impact that street trees can have. In 1980, Paris's Rue Royale lacked a single tree. By 1998, more than 15 years after trees were planted along the sidewalk, the street had been transformed from a barren roadway into a landscaped haven (see images at right). In Chicago, Mayor Richard Daley has made a well-publicized effort to green city streets. Along Michigan Avenue new trees and flowers have enhanced the shopping experience on this premier retail street (see image on page 66).



Rue Royale, Paris, 1980



Rue Royale, Paris, 1998



Right: Ocean Parkway in Brooklyn is a model for Greening Boulevards.

The city's proposal to require trees as part of zoning regulations, while laudable, will only improve areas where property owners seek a building permit. While the city cannot afford to plant trees on every single street, it can strategically invest in planting trees where they maximize impact on the public realm. Those streets that yield the greatest benefit to the public must be targeted first.¹

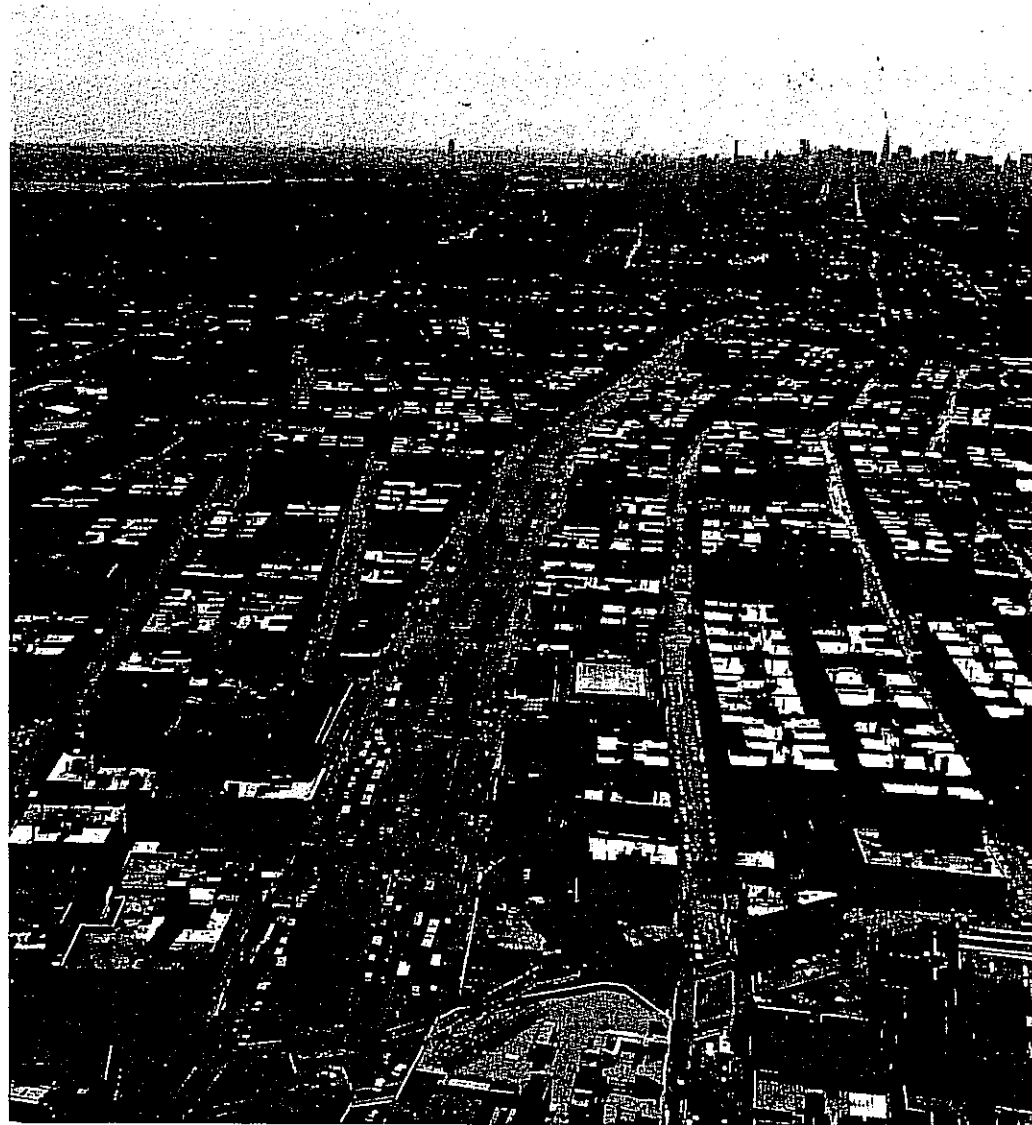
Dozens of parkways and boulevards already offer scenic green landscapes: Pelham Parkway, Moshulu Parkway, and Ocean Parkway, to name just a few. These streets do not require major expenditure; they simply need a few trees to fill in gaps. Dozens of other boulevards, however, could benefit from similar landscaping. The map on page 65 shows the potential opportunities for Greening Boulevards in each borough. Notable opportunities include the Grand Concourse and Boston Post Road in the Bronx, Queens Boulevard in Queens, Kings Highway in Brooklyn, and Broadway in Manhattan.

The capital cost of greening a boulevard is relatively low when compared with acquisition and construction costs for a new or renovated park, a resurfaced street, or a sidewalk reconfiguration. Yet transforming a paved thoroughfare into a mixed-use public realm

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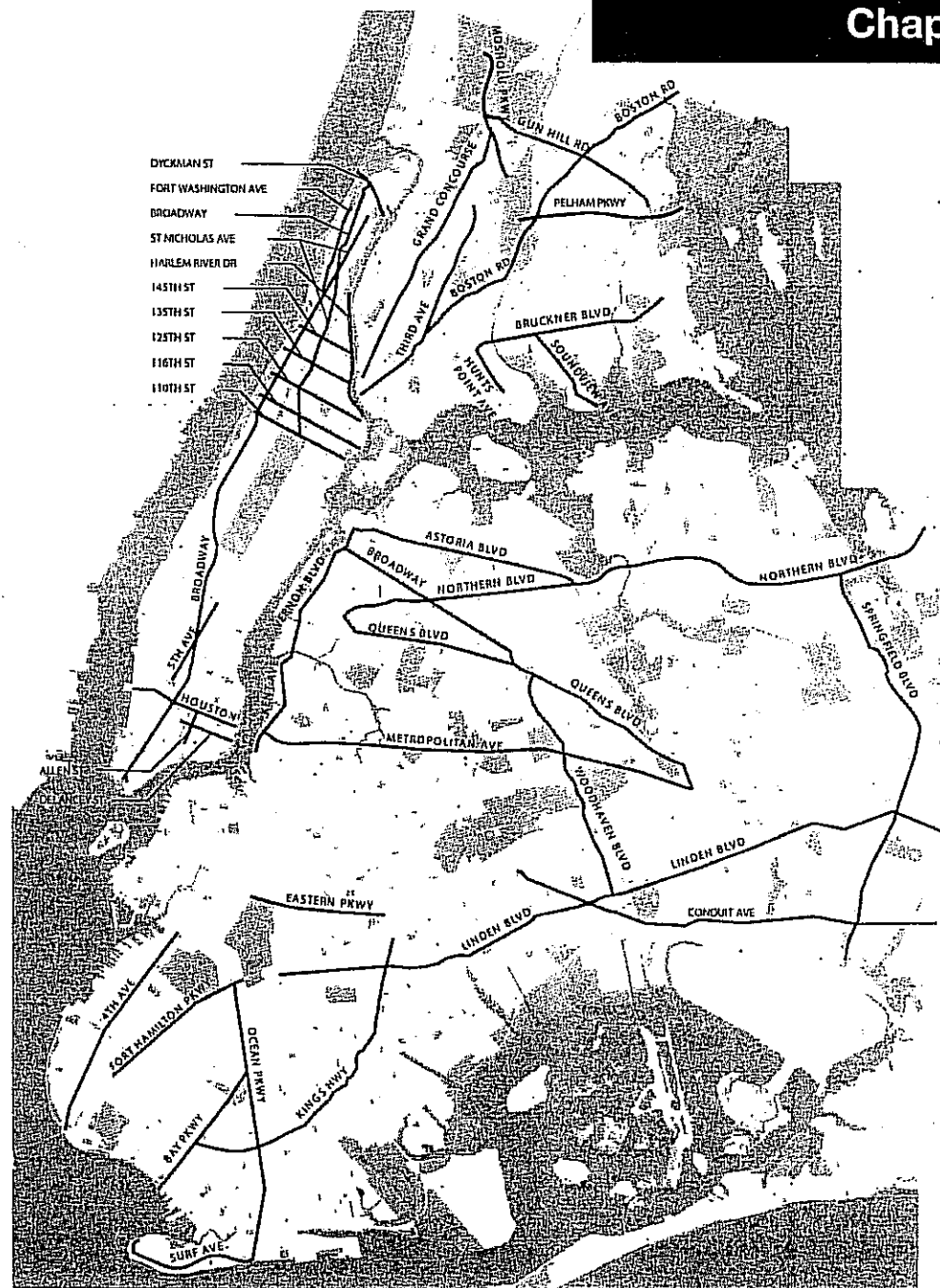
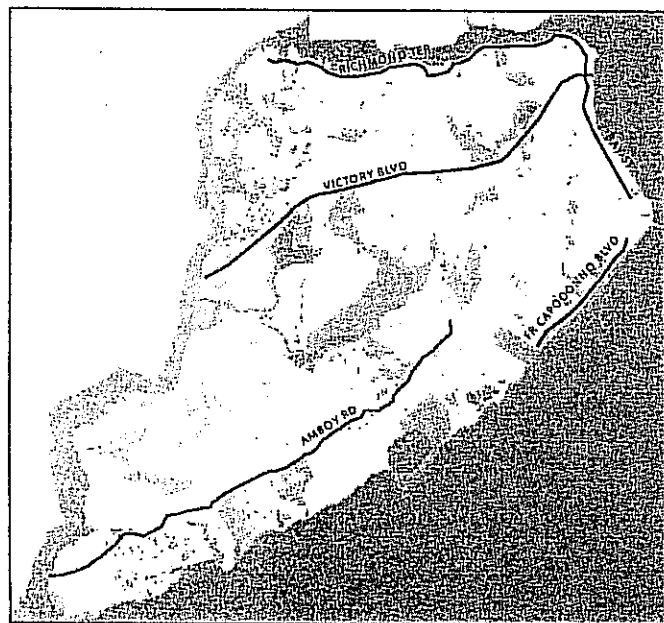
can have a similar effect on the area. A 2 ½- to 3-inch New York City tree costs around \$1,100, and when the labor cost and the tree guard—essential to the tree's survival in the city—are included, the cost becomes around \$2,000 per tree. Tree spacing can vary depending on the location and age of the tree. The typical 25-foot spacing would cost \$32,000 to line both sides of the average 200-foot block, or \$650,000 per mile.

Tree planting is a manageable one-time capital expense, especially when city funding is combined with private resources from business improvement districts, special service districts, or neighborhood associations. A critical issue is securing the maintenance funding. The city plants roughly the same number of trees that it cuts down (roughly 7,000 per year). Many trees are dying because adequate resources are not available to maintain the city's trees. Consequently, the City must ensure that trees receive greater maintenance—especially those trees currently being planted. One way to accomplish this is to transfer responsibility for maintenance to the business improvement districts, special service districts, or neighborhood associations that help pay for the capital cost of installation. Another is to levy an annual surcharge on the real estate taxes paid by adjacent property owners.



Left: the Grand Concourse in the Bronx is an ideal opportunity for greening.

Greening Opportunities



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A final issue to consider is the effect of trees on retail shopping. In some cases, retail stores require visibility; lining the street with trees could potentially hurt businesses instead of promoting them. Consequently, the type, size, and location of trees must be carefully considered. For example, trees on 80-foot-wide Madison Avenue in Manhattan would undermine the visibility and marketing efforts of the stores. On the other hand, in the case of Banana Republic on Chicago's much wider Michigan Avenue (see photo at right), the trees create an attractive experience that draws pedestrian traffic and does not detract from business.

The list of recommended boulevards on page 64-65 is meant to be a starting point from which the city can select, prioritize, and implement. Some may be added, and some may be dropped. But any effort to green the boulevards will improve neighborhood landscapes, improve the public realm, and improve the quality of life in New York City.



Left: Flowers and trees protected by planter guards have enhanced the attractiveness of North Michigan Avenue as a retail destination.

Protected Bike Lanes

The on-street bike lanes in New York City—along with those in most U.S. cities—are failing to achieve their objective of providing a dedicated and safe lane for bicycle travel. Instead, New York City's on-street bike lanes serve as turning lanes for cars, increased margin of error for taxis and buses, and double parking lanes for trucks. When cars pull in or out of parallel parking spots, it only increases the danger imposed upon cyclists.

In 2005, 21 cyclists were killed in New York City. 20 were hit by motor vehicles—an alarming increase of 25% over the past 5 years. If New York City is to improve its safety record in regards to cyclists, it must not only improve enforcement of bike lanes and speed limits, it must also improve the conditions for cyclists.

New York City requires safer conditions to accommodate commuters biking to work, children biking to school, or families biking to the park. Transportation Alternatives, a non-profit advocate for walking and biking, estimates that 120,000 New Yorkers ride a bicycle on a daily basis, and up to 3 million residents ride at least once a year.

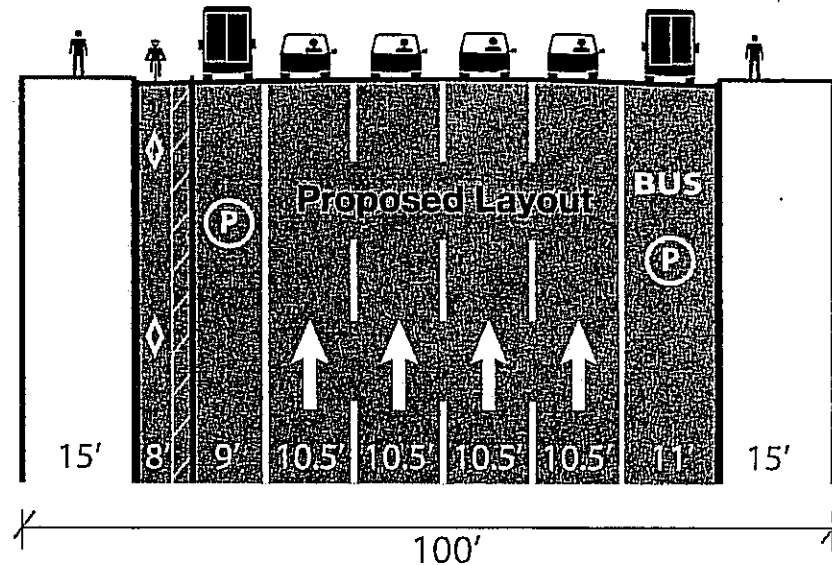
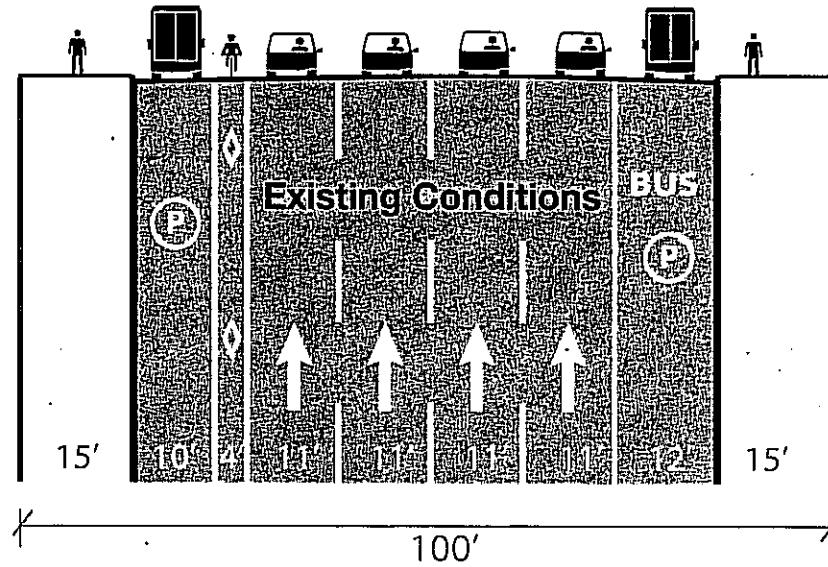


Right: Sixth Ave bike lane
in New York City.

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The percentage of residents participating in these activities on a regular daily basis is currently low (1.5% of the population). This is the case for logical reasons: of those who seek these qualities in a community, some have already moved to the suburbs or different cities, some find a safer means of transit, and some simply choose to bike under the existing hazardous conditions. A model already exists to turn the nominal bike lanes of today into legitimate, safe bike lanes of tomorrow. The model is called "protected" bike lanes.

Protected bike lanes use curbs, bollards, or other barriers to physically separate bicycles from motorized vehicles. Instead of simply reserving a portion of the roadway between parked cars and traffic, as is the case in most U.S. bike lanes, the parked cars are located between the bike lane and traffic, thereby "protecting" the cyclists. In addition, a curb or other barrier prevents the parked cars from intruding into the space of the bike lane (see diagram at right).





*Protected bike lanes
in Barcelona (left) and
Montreal (right).*



The benefits of protected bike lanes are very straightforward. Cars cannot enter the bike lane, trucks cannot double park in them, and buses cannot drive in them. Equally important, the row of parked cars creates a buffer between the cyclists and the fast-moving traffic that frequently move at speeds above 40 mph—a speed at which cyclist's chance of surviving an accident is greatly reduced.

The Europeans were first to use the protected bike lane model, with notable examples in Copenhagen and Amsterdam. The

model spread to Berlin, Barcelona, and as far as Melbourne, Australia. But perhaps the most relevant model for New York City is Montreal. Unlike many of the European examples, which use only striping to delineate the bike lane, Montreal uses a physical barrier between the bike lane and the street. Striping will simply not prevent parked cars from intruding into the lane in New York City.

There are abundant opportunities throughout the city for protected bike lanes. The easiest examples are those where on-

street bike lanes already exist —particularly on residential streets. Traffic lanes would not be altered at all; the bike lane would simply switch locations with the parking lane. The relatively low cost includes only re-striping the street and installing bollards or a raised curb between the relocated bike lane and parking lane.

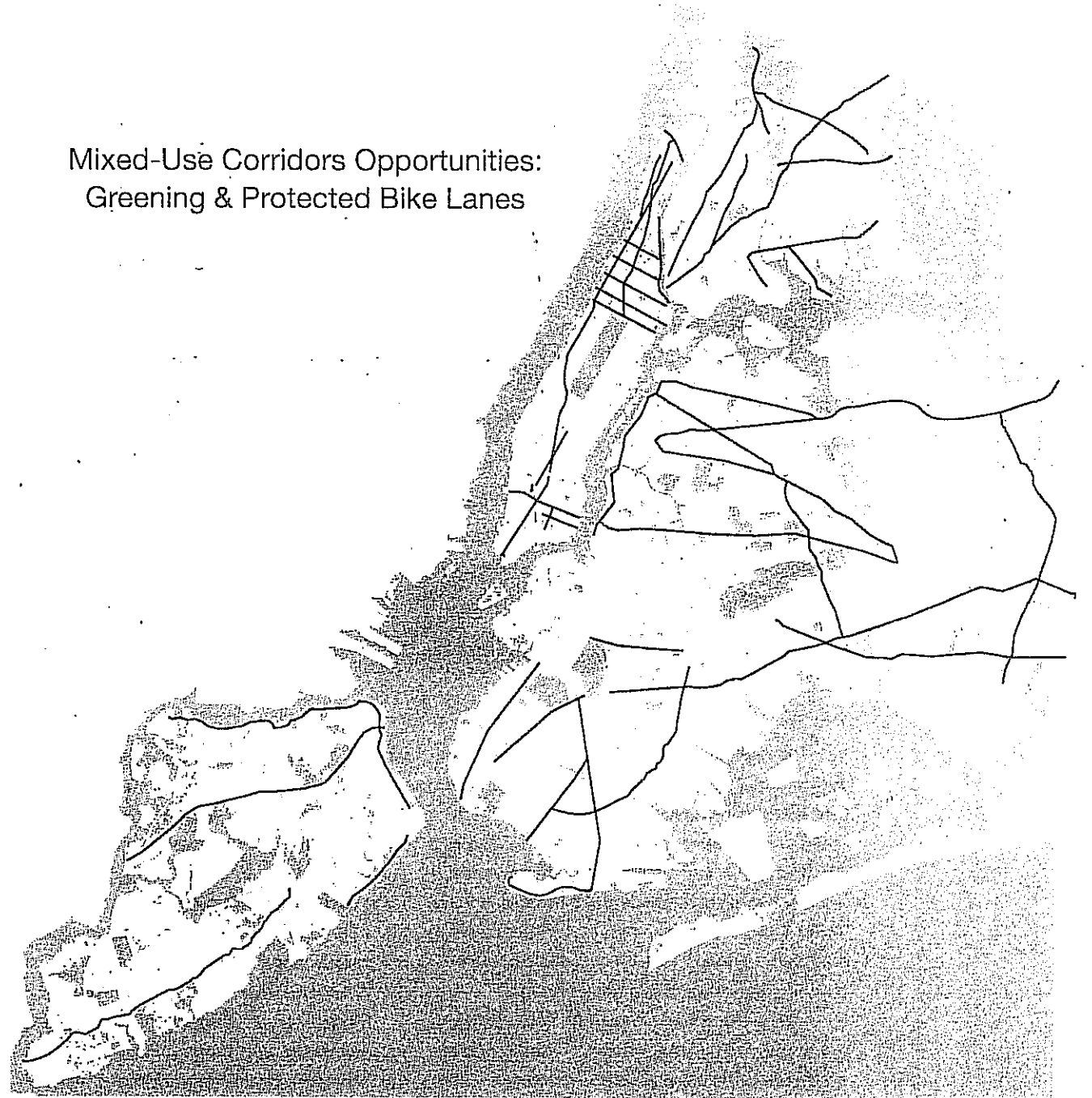
These changes may be difficult to implement in some commercial districts, especially in Manhattan, where sidewalks are overcrowded and trucks make frequent deliveries. In these cases, not only must the

Chapter 4

Mixed-Use Corridors Opportunities: Greening & Protected Bike Lanes

cars be physically prevented from entering the lanes, but so must pedestrians, who would use an adjacent bike lane as a widened sidewalk. The situation was perfectly illustrated in the 1980's, when the Koch Administration installed bollards along the Sixth Avenue bike lane. The bike lane was ineffective because pedestrians and deliverymen walked down its path. Eventually, it was removed.

Where necessary, various design solutions could limit pedestrian access, including elevated tree planters or attractive fences, with only limited crossing points for occupants of parked cars and deliverymen. Similar variations in design could be used for the separation between the bike lane and parked cars. In some areas, curbs may make sense, and in other areas, metal bollards. These issues are site specific, however, and will depend on local conditions.





Right: Existing protected bike lane in New York City on Tillary Street (left) and proposed at Sand Street (right), both in Brooklyn.



One challenge to the transformation of existing bike lanes is that the city would lose 1-2 parking spaces per block. The parking spot closest to the intersection must be removed to allow cyclists and drivers to see one another as they approach the intersection. Another drawback to this model is double-parking. Currently, double-parked cars and trucks block only the bike lane. Under the model of the protected bike lane, these vehicles would at least partially block one lane of traffic. Both challenges are worth overcoming, however, because the protected bike lanes would dramatically increase cyclists' safety, thus

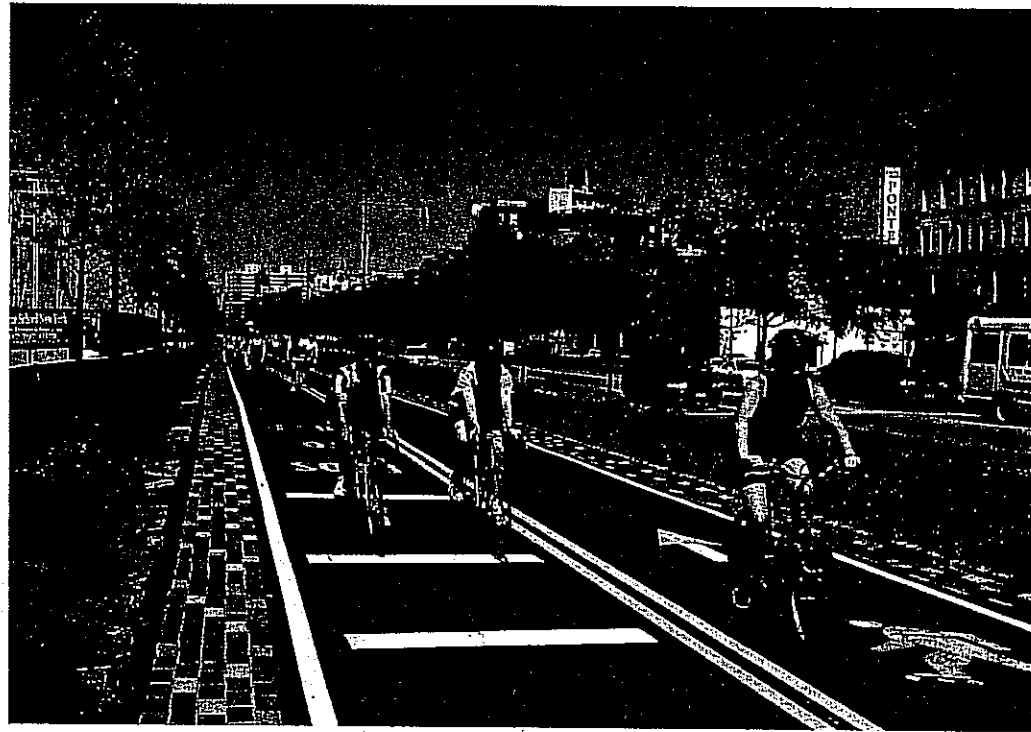
creating new and improved connections between homes, schools, workplaces, shopping, and recreational destinations.

In order to demonstrate the effectiveness, safety, and feasibility of protected bike lanes throughout New York City, the city should implement one or two demonstration projects—with at least one in Manhattan, where conditions are worst. Several business improvement districts, particularly along Broadway, have expressed interest in creating protected bike lanes within their district. Traffic studies will determine whether the best demonstration

projects should be on Broadway or Sixth Avenue, both of which already have bike lanes.

The DOT has taken small steps to create protected bike lanes on Tillary Street in downtown Brooklyn, in front of Waterside next to the FDR drive, and on Sands Street as it approaches the Manhattan Bridge in Brooklyn. These three examples, however, are each less than one-third of a mile long and impractical for use throughout the city. Instead, the city should pursue more effective protected bike lanes, as proposed earlier, to create a mixed-mode public realm along an entire corridor—a model

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Left: West Street and Hudson River Park combine to create a model mixed-use, mixed-mode public realm.

that can be implemented citywide.

Once a demonstration project has proven the proposed protected bicycle lane effective, it could become a model for all on-street bicycle lanes throughout the city. As Hudson River Park has successfully demonstrated, the key to a successful revitalization of neighborhoods and open space relies not only on a mix of uses, but also a mix of modes. West Street used to be strictly a vehicular corridor. Now, it is packed with runners, roller-bladers, and cyclists. The new West Street has increased the quality of life for

area residents, and, not coincidentally, has generated a dramatic increase in real estate development in the area, and hence, tax revenue for the entire city.

The mixed-mode model along Hudson River Park—with vehicles, bicycles, and pedestrians side-by-side—should be implemented on boulevards throughout the city. Just as car and truck drivers seek the arterial roads for the fastest and most direct route, so do cyclists. Not only would this mixed-mode, mixed-use public realm improve residents' ability to bicycle to parks,

work, and shopping, it would also improve the city's ability to compete with bicycle-friendly cities like Seattle, San Francisco, Denver, and Chicago.

Bronx's Grand Concourse, Queen's Northern Boulevard, or Brooklyn's Fourth Avenue could all offer the same mixed-mode transportation in the outer boroughs that West Street offers Manhattan. In fact, all of the boulevards listed earlier in the "Greening Boulevards" section should be considered for mixed-mode transportation with protected bike lanes. Instead of serving



Right: 4th Avenue in Brooklyn is an ideal candidate to become a mixed-use, mixed-mode public realm.

vehicular traffic only, these corridors could effectively serve as bicycle and pedestrian corridors as well, promoting economic development in the process.

There are several opportunities to build on the city's existing efforts (see pp. 74-75) to create mixed-use public realms. In lower Manhattan, both Houston and Delancey Streets are heavily used corridors that lack trees and safe bicycle access. Houston Street was the location of several well-publicized pedestrian and bicycle accidents. Delancey Street directly connects to the

Williamsburg Bridge, the most heavily used bridge on the East River for cyclists, but it offers no connections to nearby bike lanes or to East River Park. Both could become greener for pedestrians and safer for cyclists while maintaining the traffic flow.

Perhaps the two greatest opportunities to create mixed-use public realms are the entire corridors of the Grand Concourse in the Bronx and Broadway in Manhattan. The DOT is currently transforming one section of the Grand Concourse from 161st Street to 166th Street. Although their work could use

protected bicycle lanes and more greening, it is a strong step in the right direction. The city should continue the effort further north along the Grand Concourse.

Transforming Broadway is a more difficult undertaking, but as Manhattan's premier boulevard, Broadway could grow as a shopping and tourist destination not only at Times Square, but throughout Manhattan. North of 59th Street, the transformation is simpler. Despite the obstacles south of 59th Street, this transformation might well yield an even greater impact.

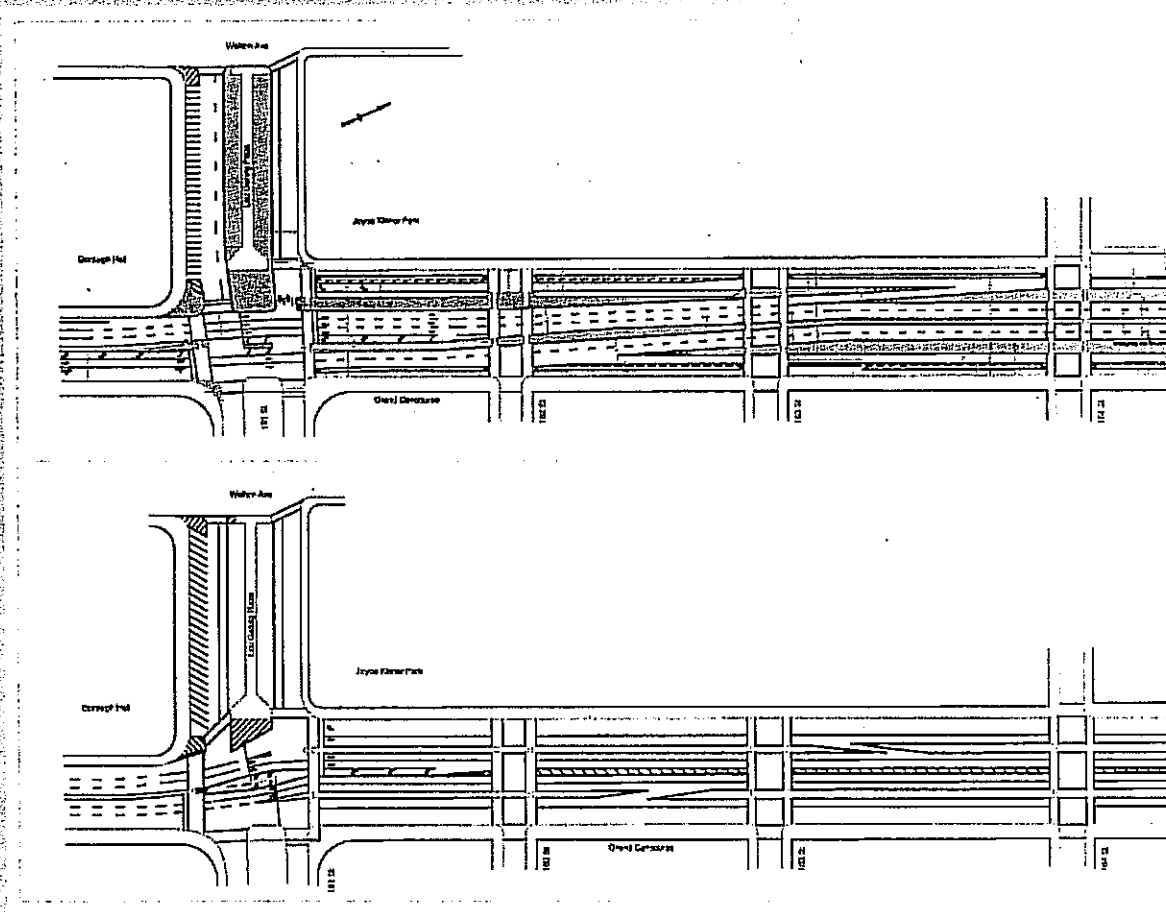
Chapter 4

Forthcoming Mixed-Use Public Realms

Two projects are underway that create mixed-use public realms with new bicycle lanes and streetscape improvements, including new trees and landscaping.

Grand Concourse: 161st-166th St.

The Grand Concourse is undergoing a transformation from E. 161st Street to E. 166th Street. The improvements include reducing the width of the service road, widening the median to include trees and landscaping, and adding a bicycle lane in both directions.





Hunts Point

Hunts Point Avenue in the Bronx is also being reconfigured, but the level of improvement goes even further with new trees on the median and on both sides of the sidewalk. As is visible in the rendering, Hunts Point Avenue will be much more attractive for residents of the community. Both here and at the Grand Concourse, protected bike lanes could further improve safety.

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Sunday Closings

Sunday Closings are another initiative already in place outside of New York City. Cambridge, MA and Washington, D.C. have two of the most successful Sunday Closing efforts. On the edge of Boston, Cambridge's Memorial Drive is a four-lane, heavily trafficked artery that runs parallel to the Charles River. On Sundays from April to mid-November, a one-mile section of the road is closed to traffic from 11 am to 7 pm, and accessible only to pedestrian recreation. Similar to Central Park's and Prospect Park's Park Drives on the weekends, Memorial Drive transforms into a popular destination for runners, walkers, rollerbladers, and cyclists.

The same transformation occurs on Washington, D.C.'s Rock Creek Parkway from 7 am Saturday to 7 pm Sunday every weekend. Although the parkway is also a heavily trafficked thoroughfare, the city's residents accept the minor inconvenience of a detour because of the remarkable recreational opportunities it provides.

Central Park and Prospect Park offer examples closer to home. Every weekend, they provide families, residents, and visitors the



Left: Memorial Drive in Cambridge, MA during a Sunday Closing

Courtesy of the Charles River Conservancy

liberating experience of running, walking, and biking on a wide road. However, not everyone lives near these parks, and not everyone is able to take advantage of their weekend Park Drive closings.

In New York City, dozens of streets are regularly closed throughout the year for parades, street festivals, the Marathon, city-wide bicycle tours, and numerous other special events. From Fifth Avenue to Eastern Parkway, the NYPD and DOT are highly skilled and practiced at safely closing streets. Now imagine if those large-scale (frequently citywide) closings were

implemented on a community scale—not on behalf of a single special interest, but on behalf of all residents in the community.

Instead of walking to the nearest park or recreation facility, the street becomes the park and recreation facility. Neighbors could mingle, children could safely learn to ride a bicycle, and the elderly could comfortably stroll without the pressures of heavy pedestrian and vehicular traffic.

To expand recreational opportunities to more residents, to promote exercise as a healthy habit, and to improve overall quality



Right: Central Park Drive during a Weekend Closing

of life, the City of New York should pursue recreational Sunday Closings throughout all five boroughs on a regular basis.

The map on the following page highlights potential roads for Sunday Closings. Several, including Pelham Parkway and Moshulu Parkway, could be implemented immediately. They have very few intersections, and parallel service roads could handle the minimal traffic displaced on a summer Sunday. Others, such as Ocean Parkway and Eastern Parkway, have many more intersections, and alternate routes may need to be considered for the displaced

traffic. Ideally, all intersections would be blocked for a continuous street closing. For a street as long as Ocean Parkway, though, one or two intersections may have to remain open.

Streets parallel to the waterfront do not have cross traffic, and therefore are easier to close. Some, including Kent Avenue in Brooklyn, Vernon Boulevard in Queens, and Harlem River Drive in Manhattan, could be closed on Sundays without causing major traffic disruptions. Finally, two major thoroughfares—Ocean Parkway in Brooklyn and the Grand Concourse in the Bronx—could

potentially serve multiple neighborhoods and become overwhelmingly successful, but will require careful planning. All Sunday Closings will require coordinating a variety of community stakeholders and city agencies.

In fact, a section of the Grand Concourse was closed for a day as a trial during the summer of 2005 at the behest of Borough President Adolfo Carrion, Jr. Working with the DOT, the NYPD, and Transportation Alternatives, the Borough President's Office is seeking to implement the same closing again this summer.

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The Grand Concourse Sunday Closing will be an effective demonstration project again this summer. Pelham and Moshulu Parkway Sunday closings can also serve as demonstration projects due to minimal traffic displacement. Any additional Sunday Closings should be required to meet stringent standards, and they should be selectively chosen to yield the greatest benefit.

Broadway in Manhattan is one street where certain sections may be appropriate for Sunday Closings. Other sections of Broadway may be appropriate for a one-time 24-hour closing, or possibly even recurring closings during peak pedestrian hours. Broadway through Times Square could serve as a test case for such a 24-hr closing during a summer weekend.

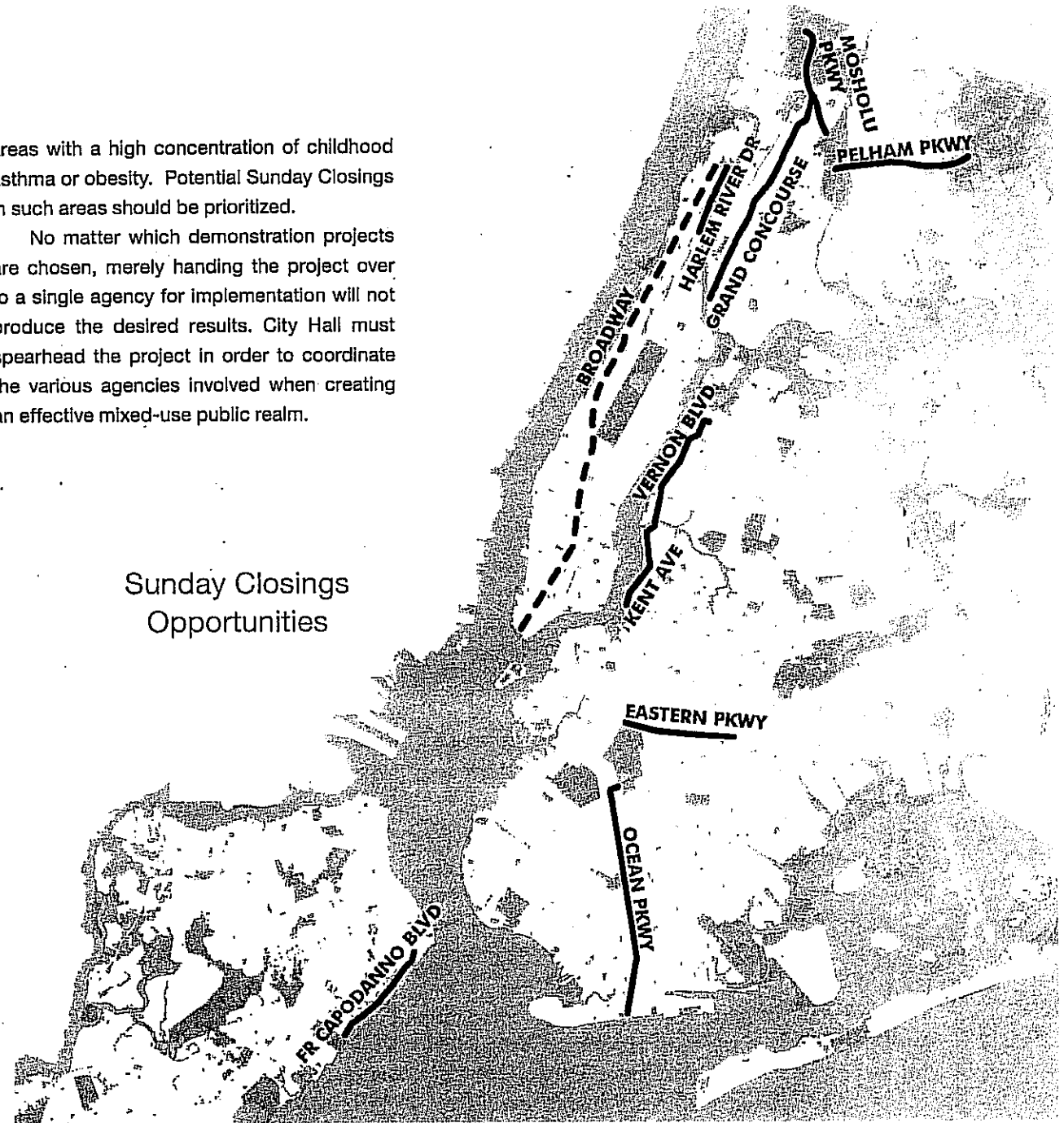
Potential Sunday Closings, especially along Broadway, highlight the ability for public streets to serve different modes of transportation at different hours of the day or different days of the year. During most times, cars and traffic should predominate, but at other times, carefully planned closings will enable pedestrian activity to stimulate economic development.

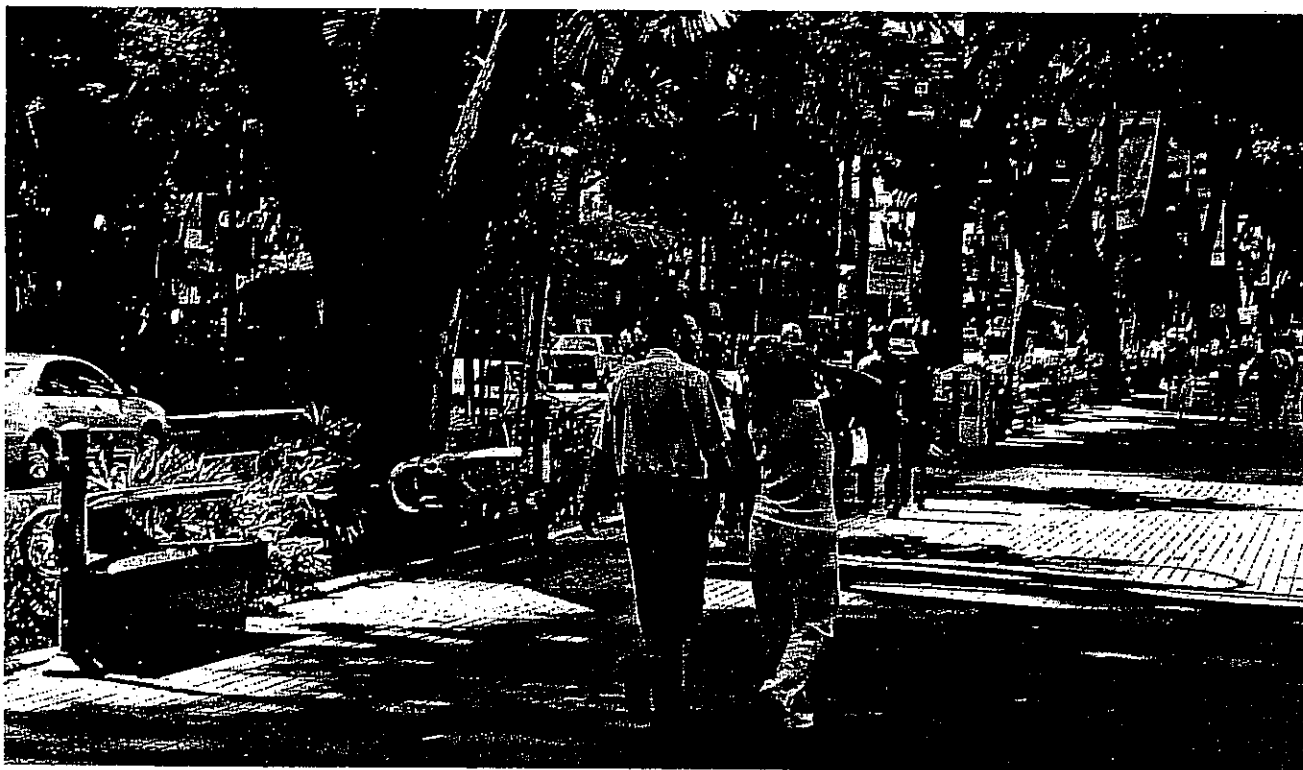
Several studies in different city agencies will help determine which Sunday Closings will have the greatest benefit. The Parks Department has identified target areas where residents are underserved by parkland, and the Department of Health has identified target

areas with a high concentration of childhood asthma or obesity. Potential Sunday Closings in such areas should be prioritized.

No matter which demonstration projects are chosen, merely handing the project over to a single agency for implementation will not produce the desired results. City Hall must spearhead the project in order to coordinate the various agencies involved when creating an effective mixed-use public realm.

Sunday Closings Opportunities





Above: A substantial portion of the right-of-way of Orchard Street in Singapore has been set aside for public use.

Pedestrian Reclamations

Pedestrian reclamations present a new and exciting way to improve the public realm for pedestrians and surrounding communities. A pedestrian reclamation is an improvement to the public realm in which redundant streets, frequently diagonal, are closed to vehicular traffic for the benefit of the community around them. Much of New York City is laid out on a rectilinear street grid. Diagonal streets that intersect the grid often produce redundancies in the vehicular traffic system. Traffic on those diagonal streets can sometimes be diverted to and absorbed by the adjacent avenues. Where appropriate, closing the street and eliminating the vehicular redundancy can create a whole new public realm for pedestrian use.

A pedestrian reclamation is different from wider sidewalks. New York City can and should widen sidewalks around the city, particularly in those areas where pedestrians regularly spill onto the street. There are many excellent initiatives to remedy these types of situations, and the city should continue to support these efforts.

Chapter 4

Forthcoming Pedestrian Reclamations

The Department of Transportation and Department of City Planning have several plans in place for Pedestrian Reclamations:

Astor Place

At Astor Place, cross-traffic will be redirected and the traffic island with the cube will be connected to the south sidewalk (see before and after at right). Just south of this intersection, Fourth Avenue at Cooper Square will also be reconfigured to create a second new public plaza. This \$5 million project is scheduled for FY 2007-2008.



Existing



Proposed

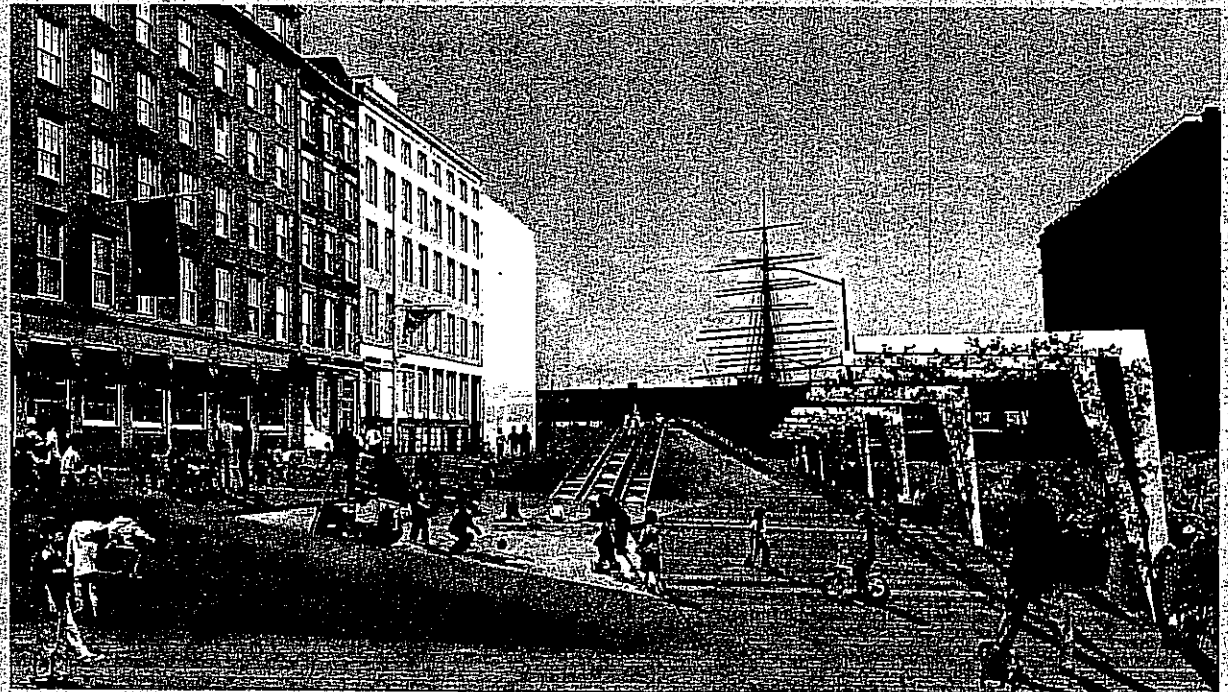
Images courtesy of Projects for Public Spaces



Courtesy of 34th Street Partnership

Herald Square

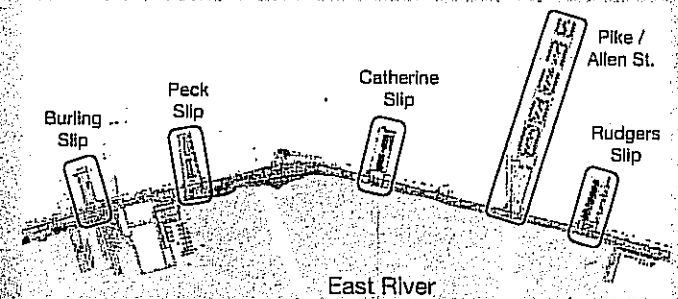
Herald and Greeley Squares, in Midtown Manhattan, are not closing the streets entirely to traffic, but they are reclaiming portions of the streets for pedestrian use. As visible in the rendering above, both triangle parks are widening their perimeter sidewalks to accommodate the high number of pedestrian users. The \$4.5 million pedestrian reclamation is scheduled for FY 2007.



Above: Rendering of Burling Slip. Below: Map of East River Slips.

East River Slips

As part of the Department of City Planning's East River Waterfront Plan, the agency has included five "slip projects" that reclaim former slips (now paved streets) for the public realm. These pedestrian reclamations will serve as gateways to draw people from the adjacent neighborhoods to the East River.



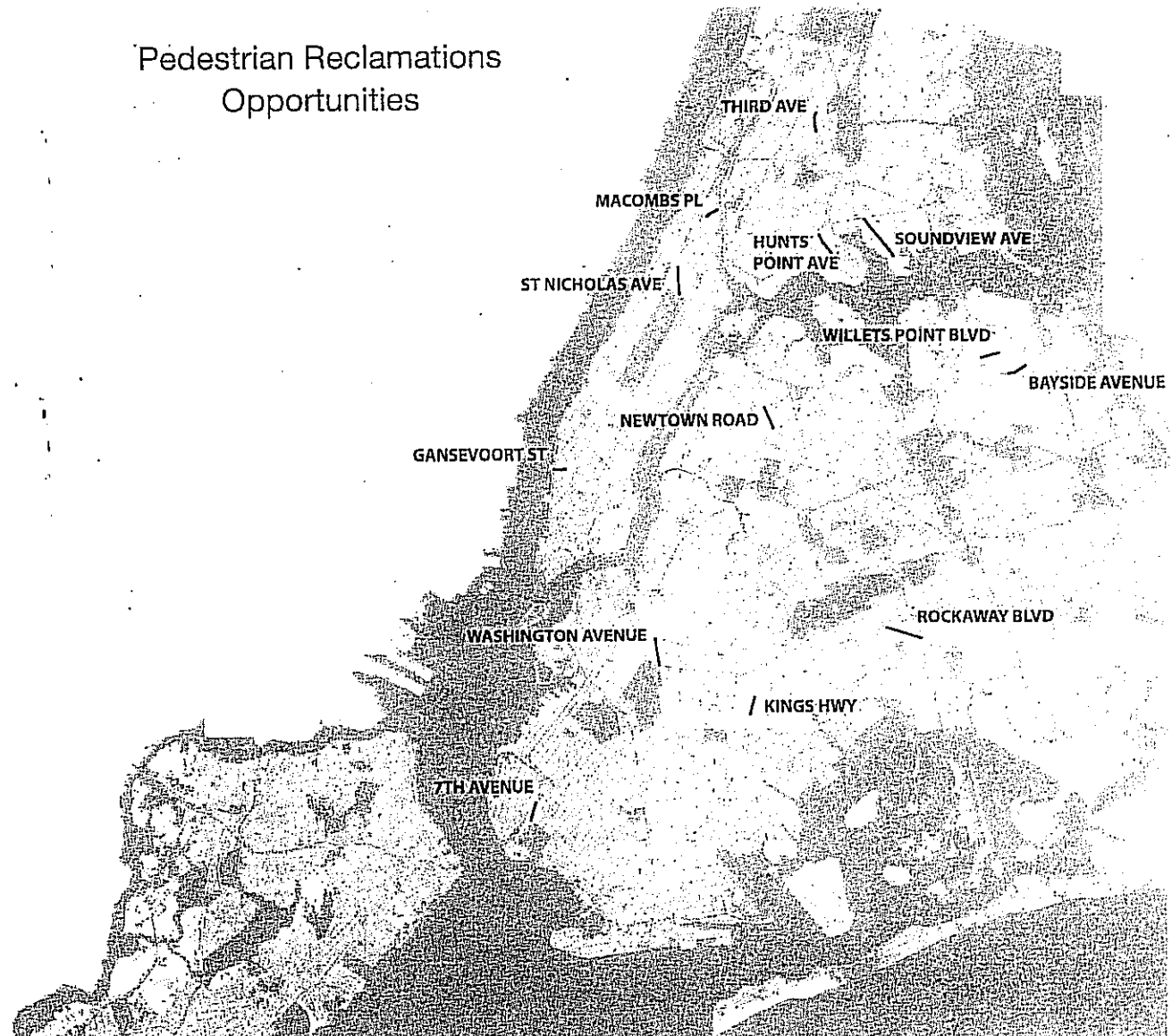
Map and rendering courtesy of New York City Planning Department

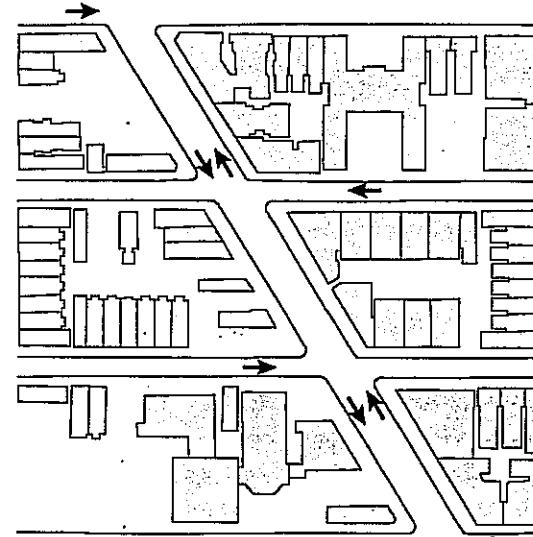
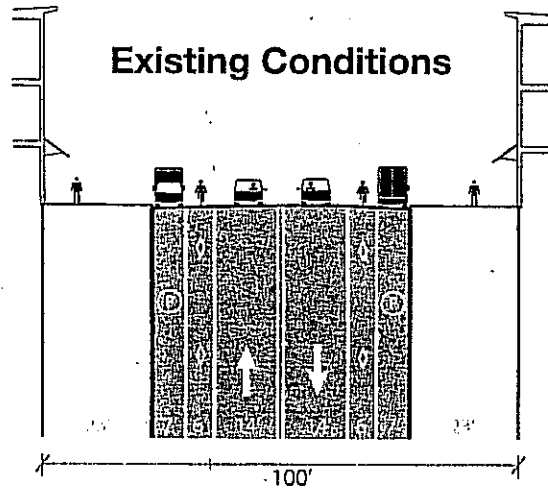
Chapter 4

A pedestrian reclamation goes far beyond wider sidewalks. Its purpose is to create a completely new experience and to generate an immediate and measurable private market reaction where market conditions are ripe. The model is similar to Sunday Closings—where the street becomes the park and lifeblood of the community—except now the scale is smaller, and the situation creates a permanent and landscaped pedestrian environment.

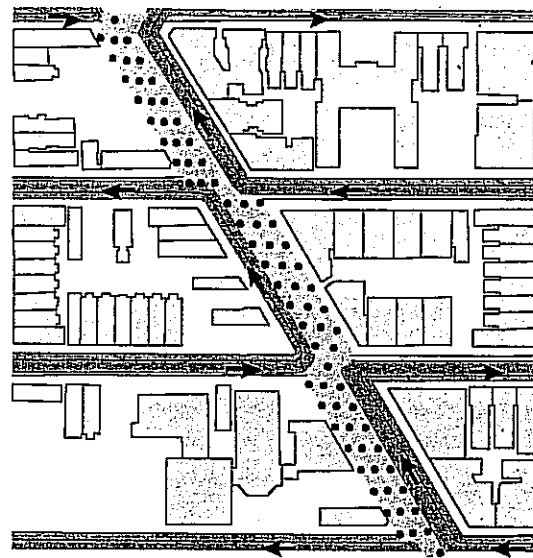
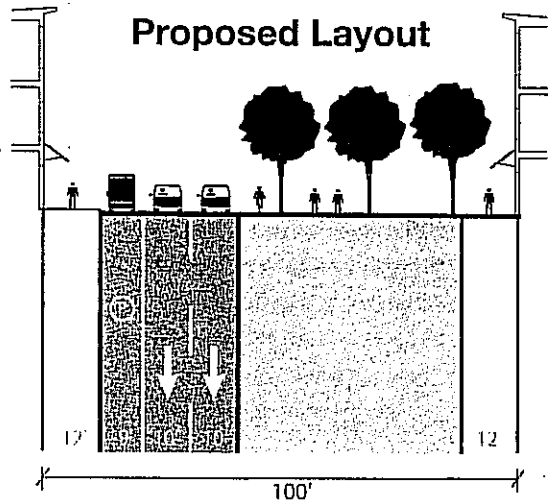
Potential opportunities for pedestrian reclamations exist throughout the city, as shown at right. St. Nicholas Avenue between 117th and 120th Streets in Harlem is a good example. Here, the diagonal street could be closed, and the cross streets could be rerouted in order to create a continuous pedestrian corridor. As shown in the diagrams on the opposite page, the route of the diverted traffic allows continued truck service and deliveries to the existing buildings. In essence, the design creates a modified version of a pedestrian mall.

Pedestrian Reclamations Opportunities





The existing street layout of St. Nicholas Avenue in Harlem.



The proposed pedestrian reclamation of St. Nicholas Avenue would create a continuous promenade with 59 feet of tree-covered pedestrian space on alternating sides of a 29-foot-wide service road.

The Nicholas Avenue Pedestrian Reclamation, along with the other opportunities throughout the city, requires further research to determine if traffic conditions are conducive, market conditions are ripe, and local property owners and businesses would support the changes. At a minimum, each project will require the support of adjacent property and business owners and the DOT. If effectively implemented, St. Nicholas Avenue, like the city's forthcoming projects (see pp. 80-91), could all become highly successful examples of Pedestrian Reclamations that stimulate economic development.

Next Steps

Many of the recommendations highlighted in this report are ready for implementation. Sunday Closings, for example, could begin as soon as this summer. Others opportunities appear feasible, but they will require further study before the city can begin to implement them. Many platform housing opportunities, for example, require easements (to allow construction over the rights-of-way). Still others require further planning, engineering, and financial feasibility analysis to determine whether public investment is justified.

Of those opportunities for further feasibility study, the following deserve the highest priority, with the first receiving top priority, and the rest in no particular order:

1. *Sunnyside Yards, Queens*: new mixed-use community around a regional intermodal transit station.
2. *Third Ave and 161st Street, Bronx*: improved mass transit.
3. *21st Street, Queens*: improved mass transit.
4. *Grand Concourse, Bronx*: mixed-use public realm with greening, protected bike lanes, and Sunday Closings along the entire corridor.
5. *Broadway, Manhattan*: mixed-use public realm with greening and protected bike lanes along the entire corridor, and potential pedestrian reclamations/closings in sections.
6. *BQE in Cobble Hill, Brooklyn*: new community built on platform over highway.
7. *North Shore Staten Island*: re-zoning with improvements to Richmond Terrace and SIRT light rail and/or greenway.

A plan to implement any one of these items would dramatically improve the City of New York, but the Sunnyside Yards offers by far the greatest opportunity because of its wide spectrum of benefits. This 21st century new-town-in-town would add tens of thousands of new housing units, connect existing communities, provide new jobs and retail shopping for the area, and improve transit connections for hundreds of thousands of commuters from Queens and Long Island on a daily basis.

The table on the facing page includes a summary of all potential housing opportunities from Chapter 1-3. Collectively, these opportunities include 3,500 acres of vacant or underutilized land that could add between 160,000 and 325,000 new units to the city's housing market.

These housing opportunities, as well as the public realm opportunities, each have different methods by which to proceed. Some methods can be generalized for the entire category and some are site specific.

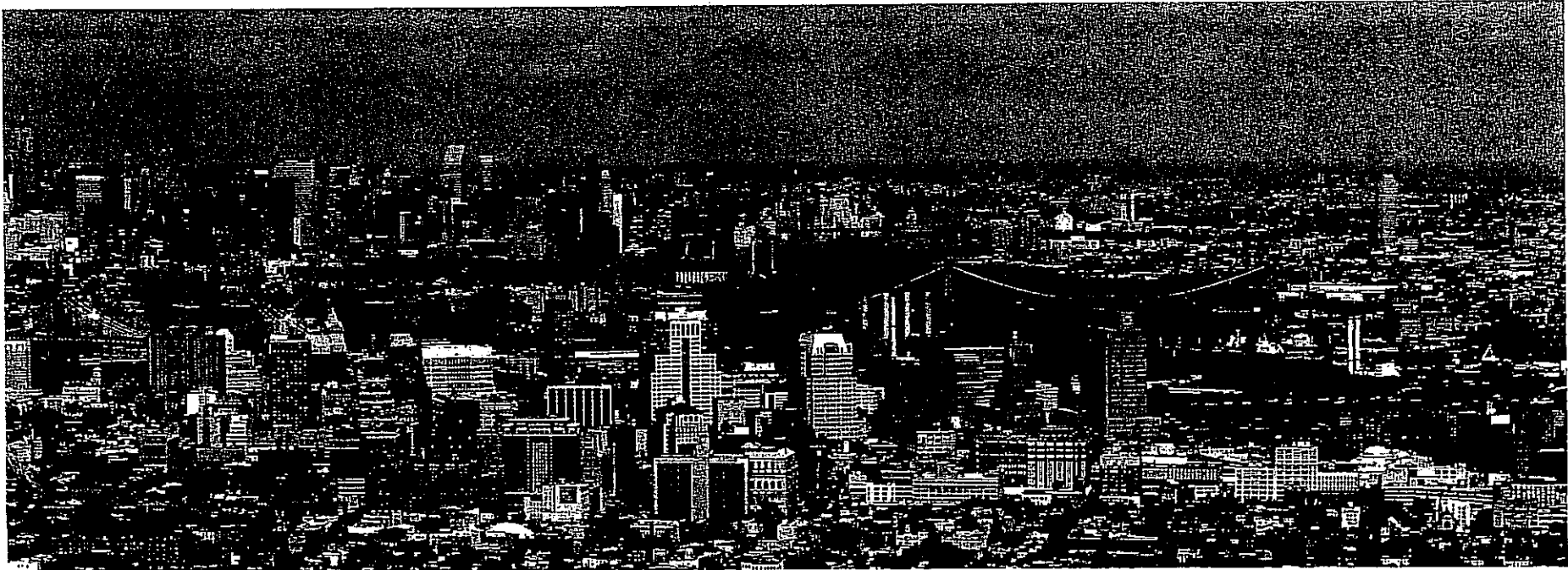
Platforms

Every potential site needs to be evaluated for physical, functional, financial, and political feasibility. Physical requirements include sufficient space to sink foundations in a way that does not disrupt the traffic below. Functional requirements include providing a means to ventilate the exhaust from automobiles and diesel trains. Financial and community demands will have to be carefully balanced to ensure that the site is developed at an appropriate scale and density to produce marketable prices for the area.

Summary Housing Opportunity Table

Opportunities	Area (acres)	Existing Housing	Gross Housing Units		Net Gain of Housing Units
			Min. Rezoning	Max Rezoning	
Platforms					
Sunnyside Yards	166	0	18,700	35,300	18,700 - 35,300
BQE Cobble Hill	4.6	0	200	1,500	200 - 1,500
Prospect Expressway	10.7	0	600	800	600 - 800
36th St Yards	23.1	0	2,400	6,000	2,400 - 6,000
Bay Ridge Line	20.2	0	800	1,300	800 - 1,300
Gowanus Expressway	28.4	0	3,000	5,000	3,000 - 5,000
BQE Williamsburg	2.3	0	400	600	400 - 600
Clearview Expressway	39.9	0	1,300	2,200	1,300 - 2,200
Cross Island Parkway	19.9	0	600	1,100	600 - 1,100
LIRR Flushing	5.7	0	900	1,000	900 - 1,000
LIRR Rego Park	29.3	0	1,600	3,100	1,600 - 3,100
Coney Island Creek + Yards	138	0	7,500	24,100	7,500 - 24,100
Jamaica IND yards	31.4	0	1,700	5,500	1,700 - 5,500
Sherman Creek Rail Yards	43.4	0	6,500	11,400	6,500 - 11,400
<i>Subtotal</i>	<i>563</i>	<i>0</i>	<i>46,200</i>	<i>98,800</i>	<i>46,200 - 98,800</i>
Waterfronts					
Bronx River Site I	5.6	0	500	1,200	500 - 1,200
Bronx River Site II	7.8	0	700	1,700	700 - 1,700
Bronx River Site III East	8.0	0	1,200	3,100	1,200 - 3,100
Bronx River Site III West	14.0	0	700	1,800	700 - 1,800
Harlem River, Bronx sites	16.9	0	2,500	4,700	2,500 - 4,700
Sunset Park Waterfront	133	0	13,800	27,400	13,800 - 27,400
Staten Island North Shore	1,300	8,900	21,100	29,600	12,200 - 20,700
<i>Subtotal</i>	<i>1,485</i>	<i>8,900</i>	<i>40,500</i>	<i>69,500</i>	<i>31,600 - 60,600</i>
Transit Oriented Development					
Bronx: 3rd Ave. & 161st St.	994	39,000	93,000	153,000	54,000 - 114,000
Queens: 21st St.	533	20,000	52,000	73,000	32,000 - 53,000
<i>Subtotal</i>	<i>1,527</i>	<i>59,000</i>	<i>145,000</i>	<i>226,000</i>	<i>86,000 - 167,000</i>
TOTAL	3,576	67,900	232,000	394,000	164,000 - 326,000

Next Steps



While each site must be analyzed independently, negotiating development rights individually would be expensive, time-consuming, and generate neighborhood pressures that can be avoided. Instead, the city should consider the sites collectively to identify consistent terms and conditions that make the platforms cost-effective. Thereafter, the city should negotiate with State and Federal DOT or with the MTA and Amtrak to determine a fair price for all development rights, and to establish the conditions for development. Only the Sunnyside Yards development is large enough in scale to justify independent, separate negotiations with the MTA and Amtrak.

Waterfronts

The waterfront opportunities on the Bronx and Harlem Rivers require the city government to acquire property, develop a plan for each area, sponsor re-zoning efforts, establish the ground rules for development,

and supervise housing production by the private real estate sector. These efforts, which require collaboration among the EDC, HPD, and the Parks Department, among others, should be managed from City Hall.

Currently, Sunset Park and Homeport are part of the city's efforts to retain industrial business. For housing to be built in these areas, the city must make a policy decision—as recommended by this report—that each site holds greater benefit to the city as a residential or mixed-use community than under its current uses. If and when such a decision is made, the city should develop a plan for each site that creates an appropriate balance between open space, waterfront access, new housing, commercial space, and various modes of transportation.

Future change on Staten Island's North Shore is contingent upon an economic study of the maritime businesses along the waterfront. If, as trends indicate, the study determines that the businesses along the pier are in decline, comprehensive planning should proceed for re-zoning the

manufacturing zones, for the expansion of the Richmond Terrace, and for the potential reuse of the SIRT right-of-way as a light rail transit line and/or greenway for pedestrian use. The Borough President should be involved with each of these steps, and, again, City Hall should lead these efforts.

Transit-Oriented Investments

A thorough feasibility study to determine whether a route justifies mass transit requires something quite different from the traditional transportation studies that consider only existing demand. Instead, a more appropriate study would determine future demand for development and, consequently, future transit demand based on that future level of development. The study would also compare different transit modes, their capacity, capital and operating costs, and their impact on pedestrian and vehicular traffic. Such work must consider the physical configuration of the mixed-use public realm—for pedestrians, motor vehicles, transit service, and recreational uses. Finally, the study must estimate the increase in tax revenue that would be generated by the transit investment. Initial conclusions from this report indicate that the development potential will justify such an investment for Third Ave/161st Street in the Bronx and 21st Street in Queens, and the city should proceed further study.

Public Realm Improvements

Four types of public realm improvements were highlighted in Chapter 5: boulevard greening, Sunday closings, protected bike lanes, and pedestrian reclamations. The first two require nothing more than targeted expansion of what the city is already doing. New protected bike lanes should be considered in combination with boulevard greening because trees, landscaping, and protected bike lanes collectively create

a mixed-use, mixed-mode public realm—the ideal configuration for most streets in New York City.

Such changes cannot all happen at once, but incremental change can begin on demonstration projects throughout the city. Full-length corridors along Grand Course in the Bronx, 4th Avenue in Brooklyn, and Broadway in Manhattan can become these demonstration projects. Doing so will require City Hall to coordinate efforts of the DOT, the Parks Department, and the appropriate business improvement districts and neighborhood associations along the routes. Collectively, these projects will build a wide spectrum of constituents and demonstrate the viability for such mixed-use public realm planning throughout the city.

Lastly, each pedestrian reclamation requires further evaluation that considers the balance among traffic demands (regional and local), conflicting agency policies, neighborhood impact, and economic benefit. The city should commission further study of all potential pedestrian reclamation opportunities to determine which should proceed before the end of the current Administration.

Conclusion

This report identifies actions the city can take right now to seize opportunities for financially sustainable investments by the private sector in new housing development and by government in the public realm. Collectively, these investments will make living in the city safer, more convenient, more attractive, and more desirable. They will improve the quality of life for residents, workers, and visitors, and in the process improve the city's competitive position within the global economy. As this report makes clear, a better New York is within reach. Now is the time to make it a reality.