PLANNING FOR JOBS

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Since the mid 1950s most of the nation's major cities have lost blue-collar jobs because of technological change and the movement of industrial firms to the suburbs. Between 1958 and 1967, the number of production jobs in New York City declined by 12 per cent. The decline in Philadelphia was also 12 per cent. The fall-off in some other northeastern cities was even more acute: Boston, 16 per cent; Newark, 17 per cent; Jersey City, 29 per cent.

While urban blue-collar jobs have declined in number, white-collar jobs have increased enormously. Nationally, white-collar employment was up 37 per cent in the 1958-1967 period. In New York City, the white-collar increase was a remarkable 84 per cent. But because available white-collar jobs require increasingly higher skills, they do not fully compensate for the loss of the manufacturing jobs offering the low-skilled worker his best opportunities for good pay and advancement.

In New York City, with its large proportion of low-skilled workers, the decline in the number of manufacturing jobs is serious. The failure of suburban communities to provide low-cost housing has prevented the low-skilled worker from following industry to the suburbs, cutting him off from the best possibility he has for increasing his income and skills.

The City's long-term goal is to raise the skills and educational level of its residents. Open enrollment at the City University, begun last fall, will help the City achieve this objective. The City also is continuing to push for changes in suburban zoning and housing policies to create a better match between jobs and workers throughout the region.

While the City works toward these long-range objectives, it is essential to provide better employment opportunities now for the City's low-skilled workers—particularly heads of households.

The industrial renewal programs outlined in this report can help provide these opportunities by reducing the difficulties in assembling expansion sites. These difficulties have caused some manufacturers to leave the City.

This report is a technical study for *Plan for New York City,* the City Planning Commission's draft comprehensive plan broadly outlining the City's future development. Some material in this report already has been used by the Economic Development Administration, which in the past three years has designated more than 290 acres of industrial land for redevelopment. The work is presented in this form to aid those concerned with the City's industrial development.

Donald H. Elliott, *Chairman*

March, 1971

John V. Lindsay, Mayor

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Foreword

This report draws a detailed profile of the City's blue-collar industries[1] and industrial land resources and proposes an expanded industrial renewal program for New York City. Based on a technical study by the City Planning Department, the report elaborates the general recommendations outlined in the Job Development chapter of *Plan for New York City*.

In 1967, the City began a program of industrial redevelopment to keep blue-collar industries in the City and provide more and better jobs for the City's low-skilled workers.

Studies had shown a shortage of good jobs for increasing numbers of untrained workers.[2] They also showed the supply of industrial sites in the City was dwindling and that manufacturing firms looking for more space were moving out. It was clear that the City must act to protect manufacturing jobs and, if possible, to increase the number of jobs.

A 1968 Urban Land Institute study,[3] commissioned by the Department, recommended that the City redevelop industrial land and compile data on sites and financing. It further recommended that the City identify sources of potential industrial space; inventory the amount and quality of land zoned and available for industrial use; and study the relationship of industrial sites to mass transportation.

The City Planning Department had already begun a survey to collect this information. Completed in 1969, the survey answers questions about the supply of and demand for industrial space. It shows accessibility of industrial space to the rapid transit system. It also describes the City's manufacturing workforce in terms of wages, age, race, sex and jobs.

The survey was conducted in three stages:

- A study of current land use, physical characteristics and availability of land in all manufacturing districts of the City outside Manhattan.
- A block-by-block inventory of all manufacturing and wholesaling firms in the industrial zones outside Manhattan to collect basic information on employment by type of industry. In Manhattan, the list of firms inventoried was compiled from New York State Department of Labor and Dun and Bradstreet data sources.
- More than 1,600 in-depth interviews with wholesaling and manufacturing firms to get a clear picture of the workforce, of space requirements, of moving and expansion plans and of transportation needs. Half these interviews were conducted in industrial zones of Brooklyn, Queens, the Bronx and Staten Island. The other half were in Manhattan, but not limited to industrial zones. The interviews covered 10 per cent of the companies with less than 250 workers and most companies with 250 or more.

County Business Patterns[4] (CBP) reports a total employment of 1.5 million workers in the City's blue-collar industries. Because the Planning Department excluded firms outside the industrial zones of Brooklyn, Queens, the Bronx and Staten Island and covered only a portion of the transportation, wholesaling and service establishments, the Department's total of blue-collar industry workers is less than the CBP total. The Department's total of 948,000 jobs was in the following standard industrial classifications (SICS): production (SICS 20, 22-28, 30-39); distribution (SICS 50-51); goods movement (SICS 40, 42, 44, 45 and 47); and miscellaneous services (SICS 721 and 734).

Table 1 compares the Planning Department's blue-collar universe with employment reported by County Business Patterns. The tables summarizing firm and workforce characteristics in the remainder of this report are based on the 948,000 jobs covered in the Department's survey.

Coinciding with the work of the survey and in response to recommendations of the Planning Department, the City, through the Land and

Table 1

Jobs in New York City blue-collar industries: Comparison of City Planning Department Industrial Survey universe with employment reported by County Business Patterns (CBP)

	County Business Patterns[1]	CPD Industrial Survey[2]	CBP Jobs Covered by Industrial Survey
Jobs in manufacturing (SICs 20, 22-28, 30-39)	902,000	794,000[4]	88%
Wholesale (SICs 50, 51)	329,000	42,000	12%
Transportation and air freight (SICs 40, 42, 44, 45, 47)	215,000	93,000	43%
Miscellaneous services (SICs 721, 734)	54,000	19,000	35%
Total jobs	1,500,000[3]	948,000[3]	63%

1 County Business Patterns, 1968, U. S. Dept. of Commerce.
2 Industrial Survey, N. Y. Dept. of City Planning, 1969.
3 The Planning Department's universe excluded firms covered by County Business Patterns outside the industrial zones of Brooklyn, Queens, the Bronx and Staten Island and covered only a portion of the transportation, wholesaling and service establishments.
4 This total includes 575,000 blue-collar jobs in Manhattan, central administrative offices, and 119,000 white-collar jobs at plant locations.

Development Committee representing nine City agencies,[5] pressed an active industrial renewal program. Using the City's urban renewal authority to assemble, clear, sell or lease industrial property and its power to commit capital funds, the committee determined that manufacturing companies could be helped to find and finance space. The committee also determined that the City must be selective of the firms accommodated through the program. A number of companies which had planned to move out already have found land for expansion through the program. The program works, but the Planning Department's survey shows development must be intensified to increase opportunities for underemployed workers, to reserve land for future industrial use and to make land available to vital manufacturing industries unable to find the space they need through normal market mechanisms. To expand its blue-collar job base, the City needs to redevelop its old industrial areas outside Manhattan to provide the needed space.

The expanded industrial renewal program is designed to reach these objectives.

The Planning Department recognizes that there are other solutions to the problem of raising the incomes of the underemployed. However, alternatives, such as subsidizing commuting to the suburbs or building low-cost housing in the suburbs, require broad regional support and the cooperation of suburban governments. This support and cooperation have not as yet been forthcoming. While the City continues to pursue these and other long-range solutions, including improved education and manpower training, it needs answers now. The Department's studies show industrial redevelopment can strengthen the City's economic base and make room for thousands of needed jobs in a relatively short time.

1 All industries contain some blue-collar occupations, but the manufacturing, wholesaling, trucking and miscellaneous service categories covered in this survey are predominantly blue-collar with more than two-thirds of the workforce employed in operative, laborer and craft occupations. In contrast, the service, retail trade and financial industries are composed prmarily of white-collar workers. See Tables 1 and 4 for precise standard classifications covered in the survey and identified in this report as "blue-collar industries."

2 *Labor Force Skills and Job Demands* (Community Renewal Program, 1967).

3 *A Review of Industrial Land Use Patterns and Practices in New York City.* (Urban Land Institute, Washington, D.C., August 1968.)

4 *County Business Patterns,* 1967, U.S. Department of Commerce.

5 Represented on the Committee are the City Planning Department, the Economic Development Administration (EDA), the Public Development Corporation (PDC), the Housing and Development Administration (HDA), the Transportation Administration (TA), the Manpower and Career Development Agency (MCDA), the Bureau of the Budget, the Department of Real Estate and the Mayor's office.

The need

The City lost an estimated 20,000 jobs a year in blue-collar industries between 1960 and 1965. The decline has tapered off during the past five years to an estimated 7,000 a year. These estimates are based on statistics for manufacturing jobs (SICS 20, 22-28, 30-39) compiled by the New York State Department of Labor (*see Table 2*).[1] Scarcity and high cost of land, which make assembling large sites for industrial expansion difficult, are important reasons for the exodus of industry.

Coincident with the drop in manufacturing jobs there has been a steady flow of unskilled workers with limited job mobility into the City's labor market. More than 10 per cent (220,000) of the City's 2 million families had incomes below the Federal poverty standard in 1968 (*see Table 3*). These figures are inclusive of families on welfare. Almost half these poor families were headed by men. An additional 375,000 households had incomes above the Federal poverty standards, but below the amount the Bureau of Labor Statistics (BLS) says is needed to maintain a minimum standard of living in New York City.[2] Three-fourths of these households were headed by men, many of whom are limited in their wage-earning capacity by undereducation, lack of skills and racial discrimination.

A major cause of family desertion and rising welfare costs to aid dependent children is the inability of men who head families to find jobs that pay adequate wages. The unskilled worker in a minimum wage job takes home $60 a week. The average welfare grant for a family of four in New York City is $75 a week.

The causes are familiar and complex. The educational process through which marketable skills should be acquired is not working for thousands of the City's residents. Half the City's labor force has not completed high school. While many of these undereducated residents are older workers who grew up before the era of universal high school education, they have experience, a salable skill and generally are not handicapped by the lack of a high school diploma. But new entrants into the labor force are. In both the expanding commercial sector of the City's economy and in blue-collar jobs, employers often require a new worker to have more formal schooling than an older experienced worker who holds the same kind of job. The problem is particularly acute for black and Puerto Rican youths doubly handicapped by low skills and discriminatory hiring practices.

Of students now in the City's high schools, 30 per cent receive general diplomas and frequently are equipped to fill only marginal jobs which offer no advancement. Many employers find the general high school diploma unacceptable evidence of basic skills.

Dropouts have even greater difficulties. Forty per cent of students now in City high schools will not graduate. One-third of eighth-graders in the City's public schools read two or more years below the national grade standards. Most of these low achievers drop out and can find work only in low-wage jobs. Dropout rates in some ghetto high schools run as high as 70 per cent. Black and Puerto Rican dropouts account for roughly 75 per cent of the low-skilled new entrants into the labor force. Until the City resolves the crisis in education, the high dropout rate will continue.

Obviously, education and effective vocational training are the best paths to better jobs with more income. However, upgrading education is a long-term solution and not easily achieved. Short-term answers are needed. The Planning Department's industrial redevelopment program provides one relatively quick solution to the immediate problem of finding space for manufacturing firms already operating in the City.

[1] Increases in Manhattan headquarters jobs in manufacturing (SICS 20, 22-28, 30-39) tend to conceal declines in production employment since the statistics count central office workers in Manhattan firms such as ALLIED CHEMICAL and GENERAL MOTORS. Thus it is difficult to get an accurate measure of the decline in production jobs.

[2] In 1968, a family of four in New York City needed an income of $6,000 to maintain a minimum adequate standard of living, according to BLS. Comparable levels computed on the basis of household size are shown in Table 3.

Table 2

Manufacturing jobs (SICs 20, 22-28, 30-39) in New York City (1959-1969) (Annual averages)

	Number of Jobs (SICs 20, 22-28, 30-39)	Annual Job Loss
1959	962,900	
1960	946,800	16,100
1961	914,000	32,800
1962	911,700	2,300
1963	878,700	33,000
1964	865,500	13,200
1965	865,100	400
1966	863,700	1,400
1967	849,700	14,000
1968	845,400	4,300
1969	829,500	15,900

This table covers only manufacturing jobs (SICs 20, 22-28, 30-39), approximately 83 per cent of the City Planning Department Industrial Survey's universe (see Table 3 for all classifications covered in Industrial Survey). The 1969 Employment Review figure above of 829,500 is 35,500 greater than the Industrial Survey's total of 794,000 jobs in standard industrial classifications 20, 22-28, 30-39.

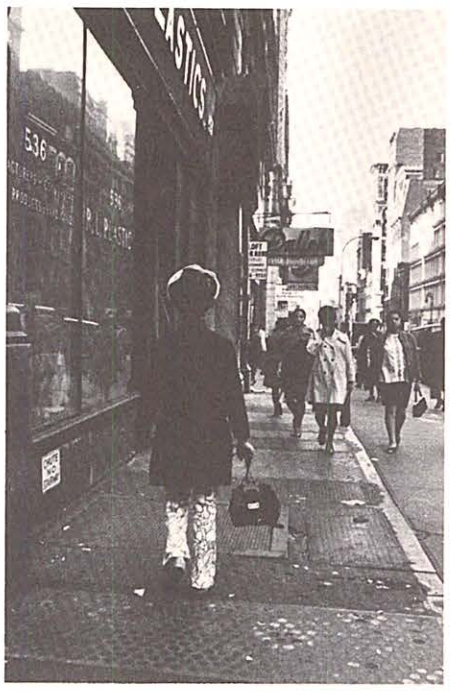
Source: Employment Review, N. Y. State Department of Labor.

Table 3

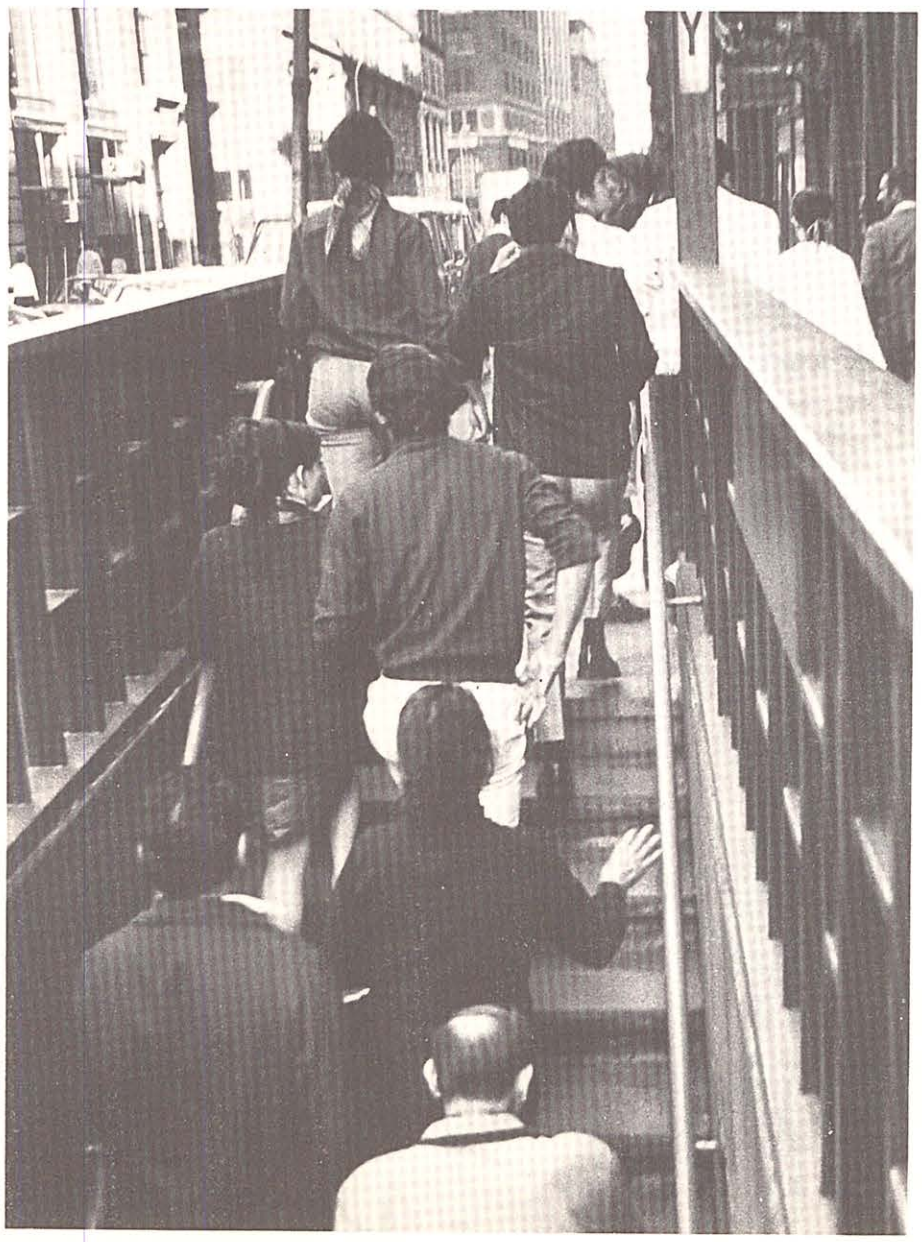
Low-income N.Y.C. households, 1968[1]

Household size	Federal poverty standard income for U.S.[2]	N.Y.C. households with incomes below Federal poverty standard: Male Headed	Female Headed	Total Households	Low-income budget standard for N.Y.C.[2]	N.Y.C. households with incomes above Federal poverty standard but below low-income budget standard for N.Y.C.: Male Headed	Female Headed	Total Households
2 person	$2,300	44,000	39,000	83,000	$4,400	121,000	38,000	159,000
3 person	2,800	17,000	20,000	37,000	5,500	47,000	24,000	71,000
4 person	3,500	10,000	31,000	41,000	6,000	51,000	20,000	71,000
5 person	4,200	11,000	13,000	24,000	6,800	31,000	5,000	36,000
6 person	4,700	18,000	17,000	35,000	8,000	37,000	1,000	38,000
Total		100,000	120,000	220,000		287,000	88,000	375,000

1 1968 Current Population Survey, U. S. Census Bureau.
2 U.S. Bureau of Labor Statistics, 1968.
Note: These statistics include welfare recipients and households with heads over 65. They exclude one-person households.



More than one-half of the City's manufacturing jobs are in Manhattan. Manufacturing job densities in Manhattan are high and show that where subway access is good concentrated use of industrial land works well.



PHOTOS: ADRIANA KLEIMAN

The survey findings

The Planning Department's survey shows that manufacturing industries can provide better jobs more quickly for undereducated male workers than any other sector of the City's economy. The findings also emphasize the difficulties of keeping growing blue-collar industries in the City.

Broadly, the findings of the survey fall into two categories: 1) the characteristics of blue-collar industries and their workforce and 2) patterns of land use.

Blue-collar industries and the workforce

The survey covered 29,200 manufacturing, wholesaling and distributing companies in 27 standard industrial classifications (SICS) shown in Table 4.

Seventeen per cent, or almost 5,000, of the firms surveyed indicated an intention to move during the subsequent three years. About half of these firms intending to relocate were seeking new space within the City while the rest planned to move out of New York (*see Table 5*).

Despite this movement, New York still has 948,000 manufacturing, wholesaling and trucking jobs in the areas surveyed—more than any other city in the nation. The survey shows that 550,000 or about 60 per cent of these jobs are in semi-skilled and unskilled operative and laborer occupations (*see Table 6*) which generally do not require a high school diploma.

Close to 87 per cent of the City's manufacturing jobs pay more than $75 a week (*see Table 7*), a wage which exceeds the average welfare grant in New York City for a family of four. The median wage for all manufacturing jobs is $3 an hour or $6,000 a year, the 1968 BLS minimum adequate income for a family of four in New York City.[3] One-third of the production and clerical workers in the manufacturing industries surveyed earned more than this amount. While large numbers of blue-collar jobs pay low wages, on the whole, wages in the blue-collar industries surveyed are substantially higher than wages for semi-skilled and unskilled work in some other sectors of the City's economy (*see Table 8*). Furthermore, in absolute terms, blue-collar industries provide more jobs than any other sector.

Because the City has many small firms in a wide range of industries it is relatively invulnerable to technological change and market fluctuations. Five large classifications—apparel, printing, transportation, miscellaneous manufacturing[4] and electrical machinery—provide more than half the jobs (*see Table 9*). Despite the concentration of small firms, almost one-third of the jobs are in less than 3 per cent of all the firms (*see Table 10*). A move out by one of these large firms can cause serious job displacement.

Manufacturing industry profiles vary widely. With a median wage of $7,750 for all workers, printing is the highest paying classification, followed by food and wholesaling (*see Table 11*). Employees in these high-wage industries are preponderantly white and male (*see Graph 1, page 28-29*). Apparel and miscellaneous manufacturing, two of the largest classifications, pay comparatively low wages and have the largest proportions of women and minority workers (*see Graph 2, page 28-29*). Almost two-thirds of the workers in all companies surveyed are male (*see Table 12*). Blacks and Puerto Ricans account for more than 45 per cent of the workforce[5] (*see Table 13*).

The situation is changing. Forty-four per cent of the workers are over 40 (*see Table 14*). Many workers in high-wage industries with a high proportion of white workers are aging and will be leaving the workforce in the near future. The Planning Department estimates that retirement of these older white workers could open up 75,000 high-wage jobs by 1980. Many of these jobs could go to workers now on the lower rungs of the job ladder—if the City can keep the jobs, if today's young unskilled workers are trained to move into the skilled jobs left and if unions admit more minority workers.

Lack of expansion space is a major reason why blue-collar firms leave New York. An inventory of land that could be available for industrial expansion within five years shows an enormous

Tables 4 through 19 referred to in this text appear on pages 10 and 11.

disparity between need and supply. Less than 10 per cent of the City's developed land is now zoned for industry (*see map, page 19*). Of this, only about 3 per cent is suitable for redevelopment.

Most expanding firms need large sites and good subway access. Two-thirds of all manufacturing employees rely on mass transit to get to work (*see Table 15*). More than half the City's firms occupy less than 10,000 square feet of floor space (*see Table 16*). When these firms expand, they usually need no more than 15,000 square feet and are able to find it in the City. Larger firms need help. The survey firms which were presumed to have moved out of New York City would require an average of 28,000 square feet of floor space (*see Table 17*). This usually means more than an acre of land for the kinds of one-story plants most manufacturing firms prefer and present zoning in accessible areas outside Manhattan requires. One-third of all companies wishing to expand need tracts larger than two acres.

New private construction is proceeding at a healthy rate on small sites. The median floor space in new buildings is 4,800 square feet (*see Table 18*). Small site development creates problems. It perpetuates random parcel-by-parcel industrial development, eats up prime land in small bites and makes it difficult to assemble sites near public transportation for large and growing companies, forcing them to move out.

Most of the City's vacant sites are not suitable for new or expanding firms because the sites are too small, too far from the subway or difficult to build on because of subsoil problems. At present there are approximately 200 industrial sites larger than one acre within one-half mile of a subway stop (*see map, page 15*). These sites total less than 530 acres.[6] Accommodating only one-half of those firms which can be expected to move out annually would exhaust the supply in four years. These firms need 4 million square feet of floor space annually. To accommodate all potential moveout firms would require 7 million square feet of floor space, or 250 acres annually. Even more space would be needed in the next five years if present proposals to move industry from Manhattan lofts materialize (*see discussion below*).

The problem is further complicated by the fact that floor space required per worker in manufacturing industries has been increasing at a rate of about 1 per cent annually.[7] This means the City needs 2 million square feet of new floor space each year just to maintain its existing job base in the boroughs outside Manhattan.

Ratios of floor space per worker range from less than 300 square feet per worker in some apparel and jewelry companies to more than 1,000 square feet per worker in wholesaling and trucking companies. The median density for all companies surveyed is 365 square feet per worker (*see Table 19*). This means 80 to 100 jobs per acre depending on site coverage if buildings are one-story. A two-story building on an acre site can almost double the job density. Buildings with six to ten stories would yield even greater returns. In some of the most accessible industrial areas of the City, however, present zoning precludes multi-story development (*see discussion on page 21*).

Land and redevelopment costs are prohibitive for many manufacturers even when satisfactory sites can be found. These sites are rarely vacant. Prime sites near good transportation, identified by the City Planning Department, are generally occupied by poor quality low-density housing and marginal uses such as junkyards and dilapidated and inefficient industrial buildings. In these cases, the

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[3] A substantial portion of the manufacturing jobs at the bottom of the wage scale are held by secondary wage-earners, such as women in the apparel industries, who contribute supplementary support to their families.

[4] Miscellaneous manufacturers are defined in Standard Industrial Classifications as makers of products not classified in any other major group. These products include jewelry, toys, buttons and costume novelties and morticians' goods.

[5] The ratio of whites to blacks and Puerto Ricans in manufacturing is consistent through all the boroughs with the exception of Staten Island (*see Graph III*).

[6] Some of these sites have been committed or developed since the Planning Department's initial field survey and mapping.

[7] Industrial Survey estimate, City Planning Department, 1969-70.

selling price includes land plus existing structures adding cost of relocation, demolition and redevelopment. The shortage of large undeveloped tracts with no assembly problems has pushed the asking price of the rare vacant land in some sections of the City to $7 a square foot. This price is out of range for most firms.

Not only is land scarce and costly, but competition for it is fierce. Often the City must choose between reserving a parcel of land for industry or using it for more lucrative office space or for housing, schools or other purposes. Pressures to build housing and community facilities on sites with limited residential relocation have chipped away at industrial land and displaced jobs. These pressures will continue. Unless industrial land is protected it will continue to dwindle and manufacturing jobs will disappear along with it. Every inroad into industrial space is excuse for a further one. A classic example is the construction of public housing projects in industrial zones because of resistance to them in middle-class neighborhoods. Each housing development generates demand for additional schools, recreation and other residential needs. Similiarly, locating a school or a hospital in an industrial area will result in pressures for housing nearby. Such facilities in old residential neighborhoods can be catalysts to new development. In industrial areas, they undermine the City's economic base.

Table 4

New York City blue-collar industrial firms & employment by standard industrial classification (SIC)

Category	SIC number	No. of *firms* in N.Y.C.	Number of *jobs* in N.Y.C.
Apparel	(23)	8,270	196,440
Printing	(27)	3,830	111,770
Rail & trucking	*(40, 42, 44, 47)*	*1,810*	*69,990*
Miscellaneous manufacturing*	(39)	3,070	65,730
Electrical machinery	(36)	790	58,120
Transportation	(35, 37)	1,040	55,660
Food	(20)	610	51,370
Metals	*(33, 34)*	*1,450*	*50,610*
Chemicals	(28)	920	42,530
Wholesale	(50, 51)	1,820	41,940
Textiles	(22)	1,510	39,000
Leather	*(31)*	*840*	*30,140*
Paper	(26)	530	29,900
Air freight	(45)	160	23,220
Instruments	(38)	480	22,130
Lumber	*(24, 25)*	*1,170*	*21,460*
Services	(721, 734)	160	13,140
Rubber	(30)	380	12,760
Stone	(32)	320	6,460
Other		*40*	*5,630*
Total		29,200	948,000

* Miscellaneous manufacturers are defined in Standard Industrial Classifications as makers of products not classified in any other major group. These products include jewelry, toys, buttons and costume novelties and morticians' goods.

City Planning Department Industrial Survey, 1969.

Table 5

Estimated moveout of industrial firms from New York City (1967-1968)*

	Number of firms presumed *moved out*	% of total *moveouts*	Number of jobs in moveout *firms*	% of all jobs in moveout *firms*
Manhattan	170	68.9	3,677	54.8
Brooklyn	23	9.3	1,698	25.3
Queens	22	8.9	585	8.7
Bronx	32	12.9	752	11.2
Richmond	—	—	—	—
Total	*247*	*100.0*	*6,712*	*100.0*

* Estimate, City Planning Department Industrial Survey, 1969.

The survey found that 247 firms, which in 1967 had indicated intention to move out of the City, had moved from their original locations a year later.

Table 6

Skill categories of employees in New York City blue-collar industrial firms

Occupation	Number of *employees*	% of *total employees*
Managerial	76,800	8.1
Professional, technical	28,500	3.0
Clerical, secretarial	67,300	7.1
Sales	28,400	3.0
High skilled (craft)	189,600	20.0
Semi-skilled[1]	384,900	40.6
Unskilled[1]	172,500	18.2
Total employees	948,000	100.0

1 Jobs generally not requiring high school diploma.

City Planning Department Industrial Survey, 1969.

Table 7

Weekly earnings of employees in industrial classifications surveyed[1]

Weekly Wages	% of total employees
Under $76	13
$76-$95	20
$96-$134	32
$135-$173	21
$174-$288	10
Over $288	4
Total	100

1 Manufacturing and wholesale, trucking, air freight, miscellaneous services.

City Planning Department Industrial Survey, 1969.

Table 8

Straight-time cash hourly earnings of workers[1] in some major New York City industries (1966)

Industry groups	Number of Workers	% earning more than $3 an hour
Industries surveyed:		
Manufacturing	745,000	28.7
Transportation and public utilities[2]	164,593	52.2
Wholesale trade	204,817	37.1
Other industries:		
Retail trade	267,570	14.6
Eating and drinking	113,871	6.6
Finance and insurance	220,981	30.3
Personal services	57,205	9.3
Business services	104,348	27.0
Medical and health services	83,157	11.2
Construction	88,811	78.2
Total, citywide	2,205,215	29.9

1 *Excludes the following exempt workers: executive, administrative, professional, outside workers.*

2 Public utilities workers who account for 79,500 of the 164,593 workers itemized here were not included in the Planning Department's survey.

Source: *Structure of Earning and Hours in New York State Industries, New York State Department of Labor, Division of Research and Statistics, 1968.*

Table 9

Employees in New York City's five largest blue-collar industries

Five largest blue-collar industries	*Number* of employees	*Standard* industrial category	*% of* total employees*
Apparel	196,440	(23)	20.7
Printing	*111,770*	*(27)*	*11.8*
Rail & trucking	69,990	(40, 42, 44, 47)	7.4
Miscellaneous	65,730	(39)	6.9
Electric	*58,120*	*(36)*	*6.1*
	502,050		52.9

* Total blue-collar industry employees—948,000, City Planning Department Industrial Survey, 1969.

Table 10

Firm size by number of employees in blue-collar industries[1] surveyed

Number of employees per firm	No. of firms	*% of* total firms	Total number *of blue-collar* industries employees	% of em*ployees* in all firms
1-19	14,100	48	142,200	15
20-49	8,120	28	161,160	17
50-99	4,070	14	170,640	18
100-249	2,180	7.5	189,600	20
250 and more	730	2.5	284,400	30
Total	29,200	100.0%	948,000	100%

1 This includes large central administrative offices of blue-collar industries in Manhattan. Thus, these figures include some white-collar workers in manufacturing industries.

City Planning Department Industrial Survey, 1969.

Table 11

New York City median wages by industry

Standard Industrial classification (SIC)	Industry	Median wage all employees
27	Printing and publishing	$7,750
20	Food	6,980
50, 51	Wholesale	6,650
35, 37	Transportation and non-electrical machinery	6,640
45	Air freight	6,420
33, 34	Metals	6,270
36	Electrical machinery	6,100
24, 25	Lumber and furniture	5,880
38	Instruments	5,770
32	Stone, glass and clay	5,630
22	Textile mill products	5,510
23	Apparel	5,190
26	Paper products	5,140
31	Leather	5,090
28	Chemicals	4,960
721, 734	Miscellaneous services	4,840
39	Miscellaneous manufacturing	4,800
30	Rubber and plastics	4,400
	All industries	$6,050

Note: The all-industry median wage for Manhattan is comparable to that of the other boroughs combined. An industry-by-industry comparison, however, shows some substantial differences in wage rates between Manhattan and the other boroughs. Median earnings in food, chemicals and instruments were lower in Manhattan, while earnings in leather, miscellaneous manufacturing and primary and fabricated metals were noticeably higher.

City Planning Department Industrial Survey, 1969.

Table 12

Composition of New York City blue-collar industries workforce by sex

	Number of employees	% of total employees
Male	622,800	65.7
Female	325,200	34.3
Total	948,000	100.0

City Planning Department Industrial Survey, 1969.

Table 13

Ethnic composition of workforce in New York City blue-collar industries

	Number of employees	% of total employees
White	516,600	54.5
Black	183,000	19.3
Puerto Rican	248,400	26.2
Total	948,000	100.0

City Planning Department Industrial Survey, 1969.

Table 14

Composition of New York City blue-collar industries workforce by age

	Number of employees	% of total employees
Under 25	122,600	12.9
25-40	407,000	42.9
Over 40	418,400	44.2
Total	948,000	100.0

Median age, all employees—38.

City Planning Department Industrial Survey, 1969.

Table 15

Mode of trip to work by New York City blue-collar industries employees

Mode of trip	Number of employees	% of total employees
Mass transit	645,900	68.2
Auto	198,400	20.9
Commute	59,900	6.3
Walk	43,800	4.6
Total	948,000	100.0

City Planning Department Industrial Survey, 1969.

Table 16

Floor space occupied by New York City blue-collar industry firms

	Total floor space in thousands of sq. ft.	% of total floor space	Number of firms	Median floor space per firm in sq. ft.
Manhattan	206,272	55.3	21,710	7,869
Brooklyn	77,789	20.9	3,700	16,970
Queens	54,155	14.5	2,390	16,430
Bronx	28,390	7.6	1,300	13,374
Richmond	6,469	1.7	100	9,666
City total	373,075	100.0	29,200	8,948

City Planning Department Industrial Survey, 1969.

Table 17

Estimated average floor space of blue-collar industry firms after presumed move out of City (1967-1968)[1]

	Firms presumed to have moved out of city	Floor space in sq. ft. before moving (avge.)	Floor space in sq. ft. after moving (avge.)	Expected average increase sq. ft. of floor space
Manhattan	170	12,100	20,200	8,100
Brooklyn	23	19,300	30,300	11,000
Queens	22	24,100	59,500	35,400
Bronx	32	22,900	42,600	20,700
New York City	247	15,200	28,300	13,100

1 Estimates based on responses to survey question asking firms indicating intention to move out of the City the amount of floor space required at new location. Empirical evidence from an earlier City Planning Department study, Industrial Moveouts: A Study in Depth (1966), which interviewed moveout firms at their new suburban plants, confirms these estimates.

City Planning Department Industrial Survey, 1969.

Table 18

Factory, loft, warehouse new construction 1959-1965 in New York City

Building size sq. ft. of floor space	Number of buildings	Total space in sq. ft.
Under 3,000	355	715,000
3,000-5,999	351	1,551,000
6,000-9,999	211	1,643,000
10,000-24,999	279	4,307,000
25,000 and over	147	10,011,000
Total	1,343	18,227,000

Average building size	13,600 sq. ft.
Median building size	4,800 sq. ft.
Average annual construction	2,604,000 sq. ft.

Source: N.Y.C. Department of Buildings.

Table 19

Median floor space per worker in New York City blue-collar industries

	Median floor space sq. ft. per worker
Manhattan	325
Brooklyn	530
Queens	530
Bronx	535
Richmond	NA*
New York City	365

* Not available.

City Planning Department Industrial Survey, 1969.

The land and its uses

Industrial land use in the City generally follows the density patterns of housing and commercial uses. Manhattan's manufacturing zones have the heaviest concentration of workers and there are no undeveloped zones. Concentration of workers is lightest in Staten Island with much of the industrially zoned land still vacant. In Brooklyn, Queens and the Bronx, industrial land is used less intensively than in Manhattan and there are some large pieces of underdeveloped land, such as College Point and Spring Creek (*see map, page 17*).

Manhattan

More than one-half of all the City's manufacturing jobs are in Manhattan. Two-thirds of the companies and 55 per cent of the jobs likely to move out of the City annually move from Manhattan (*see Table 5*). Housing and office expansion, especially the latter, are undermining Manhattan's vital blue-collar job base. These uses have eaten up more than 9 million square feet of loft space since 1957.

Market pressures are forcing a redistribution of economic activities in the borough. High land values make manufacturing uneconomical in the central business district (CBD). The median manufacturing rent in Manhattan is $1.50 a square foot, higher than in the other boroughs, but lower than rents for commercial and residential space in Manhattan. Manufacturing lofts in the heart of the garment district rent for $2 to $3 a square foot. In contrast, luxury housing rents for $6 a square foot, while returns on office buildings run as high as $15 a square foot.

The apparel and printing industries are feeling the pinch. The apparel industry employs more workers than any other single manufacturing industry in the City (*see Table 9*). Printing is second. Most of the City's apparel and printing jobs are housed in 150 million square feet of Manhattan loft space built before 1915.

It is crucial to the City's job development program that both these industries remain in New York: apparel,[8] because it offers so many jobs to unskilled workers, and printing, because it pays the highest manufacturing wage.

Apparel provides 28 per cent of Manhattan's jobs. While the high fashion sector of the industry and the hotels, restaurants and theaters in midtown Manhattan are commercially interdependent and must be near each other, the smaller contracting shops may not require proximity to midtown services. Generally, the smaller contracting firms pay low wages (the median in apparel is $5,194) and need low-cost space and workers willing to take seasonal jobs. They provide employment for unskilled workers—especially women—with few job options. If these firms are driven out of the City the resulting job dislocation could force thousands of people onto the welfare rolls.

The City is studying the complex problems of the Garment District and the possibilities of movings parts of it. The lower cost of land in Brooklyn, the Bronx and Queens could allow for more economical development of the kind of space needed.

Printing presents a different problem. It pays a high median wage of $7,750 a year and in one area surveyed[9] paid higher wages per square foot of floor space than did office activities. Eighty-seven per cent of the City's printing firms are in Manhattan. Most must remain because they are closely tied to financial, advertising, publishing and headquarters operations in Wall Street and midtown. Private developers are tearing down printing lofts, which rent for up to $4 a square foot in midtown, for more profitable development. The problem is how to build efficient space in Manhattan for the printing industry at rents the industry can afford. Financing techniques can be used to produce acceptable rents within the range of most printing firms (*see discussion, page 27*).

One-quarter of Manhattan's existing supply of

200 million square feet of loft space is being used for non-manufacturing purposes. In the South Houston (SOHO) industrial area, old loft buildings, particularly smaller ones, are being converted for artists in residence. Few jobs have been lost so far by this movement. The Planning Department is reviewing legislation which would permit more quarters for artists in this area and protect blue-collar jobs.

The larger more modern lofts in midtown already are being converted to office use for higher rents. There have been proposals for new private housing threatening the loft area between 14th and 23rd Streets. Because of the threat to industry, the Planning Commission decided against rezoning Avenue of the Americas north of 14th Street, which would have allowed developers to replace old loft buildings with new apartment houses. The requested rezoning would have been limited to strips along the avenue. Once granted, however, it could have encouraged developers to press for further demolition of lofts on the cross streets. Although new private housing is needed, residential construction between 17th and 23rd Streets would displace low-wage apparel jobs.

[8] The City Planning Department is studying present and projected needs of the apparel industry.

[9] City Planning Department, Study of printing firms in United Nations area, unpublished, 1968.

Staten Island

Although Staten Island has 4,000 acres of undeveloped land zoned for industry, a valuable resource for the future, it does not provide a practical immediate answer to the City's pressing need for industrial space. Much of the Staten Island land is marshy and difficult to build on. It is on the periphery of the City and not presently served by citywide mass transit.

Approximately 55 per cent of Staten Island's workers are employed on the island. Most of the others work in Manhattan. While off-island employment, especially in Manhattan, will remain significant, an increase in local blue-collar jobs can be expected as the borough's population grows and as industrial land in more accessible parts of the City becomes scarcer.

Staten Island has more than five times as much vacant land zoned for industry as the other four boroughs combined. This includes more than 1,100 acres in two proposed industrial parks, additional land along the West Shore, and well situated tracts along the north and east shores.

While as much as 100 acres in Staten Island could be immediately redeveloped, the rest is now either inaccessible, or without adequate utilities. The completion of expressways, sewer construction and the decreasing quantities of land elsewhere in the City will make this land much more attractive by the late 1970s.

The Bronx, Queens and Brooklyn

Sixty-three per cent of the City's industrially zoned land is located in the Bronx, Queens and Brooklyn—most of it in a wide band fronting on the East River stretching from the Bronx through Queens and Brooklyn (*see map, page 17*). The East River band's heaviest concentration of industry is along Newtown Creek—in Long Island City, Williamsburg and Greenpoint—and in Bush Terminal on the Brooklyn waterfront south of Gowanus Bay.

Outside the band, important industrial areas in the three boroughs are located along rail and trucking arteries such as Van Sinderen and Atlantic Avenues in Brooklyn and Metropolitan and Jamaica Avenues in Queens. There are smaller concentrations on Northern and Queens Boulevards in Queens, and along Third Avenue, the New England Thruway and the Sheridan Expressway in the Bronx.

Much of the industrial plant in these areas is obsolete. Many of the Bronx, Brooklyn and Queens industrial zones are in old sections where

housing and industry were built in a haphazard mixture before zoning controls. The use of land is often inefficient and wasteful. In Williamsburg, for example, housing walls off industry into closed pockets preventing expansion of manufacturing plants. The usefulness of schools and parks is diminished where they are surrounded by industry and separated from residential areas. A major problem for residents of mixed-use areas is noisy and dangerous truck traffic jamming the streets.

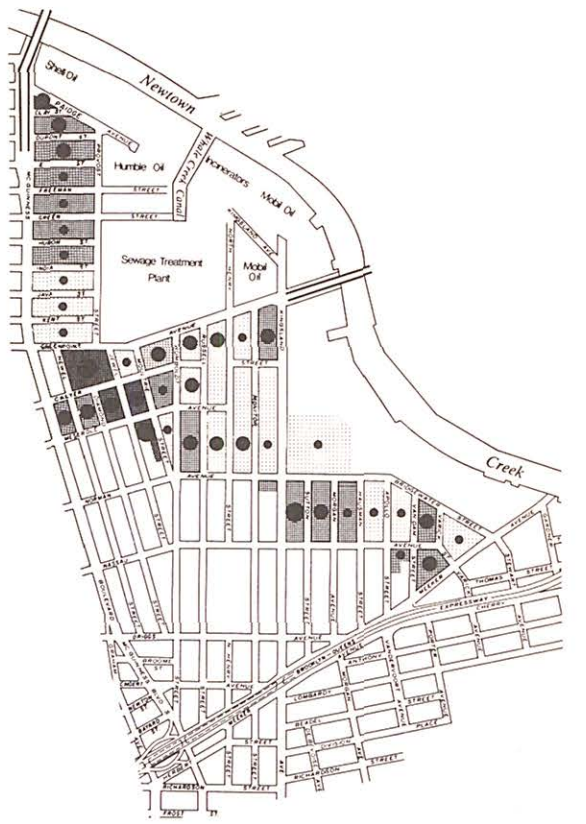
Because these industrial areas are continually changing, opportunity to acquire land is constantly arising. Both obsolete plants and sound buildings are abandoned by firms which move to expand. Deteriorating tenements are frequently destroyed by fire or vandals. Old factories are modernized and fire-gutted residences repaired and reoccupied. New buildings, frequently one-story buildings, go up on the few remaining small vacant sites.

This cycle perpetuates piecemeal small site development and makes land assembly without public intervention close to impossible. The City needs to act quickly to acquire these small sites in the middle of the cycle—before piecemeal renewal takes place—in order to put together the kinds of large sites most needed by blue-collar industries.

The initial survey work located more than 500 vacant or underused industrial parcels in the City with possibilities for immediate development. From this total, 200 prime sites of more than one acre and within one-half mile of a subway station were identified (*see map, page 15*). These sites were then ranked in order of their suitability, with size and convenience to subways given heaviest weight. Other considerations included job and residential relocation loads, assembly problems and subsoil conditions. As noted above, these 200 prime sites suitable for development total less than 530 acres. They are clustered mainly in the East River band around Westchester Creek in the Bronx, in Long Island City in Queens, along Newtown Creek in Queens and Brooklyn and in East New York and Bush Terminal in Brooklyn. (*See land use maps beginning on page 36 for details.*)

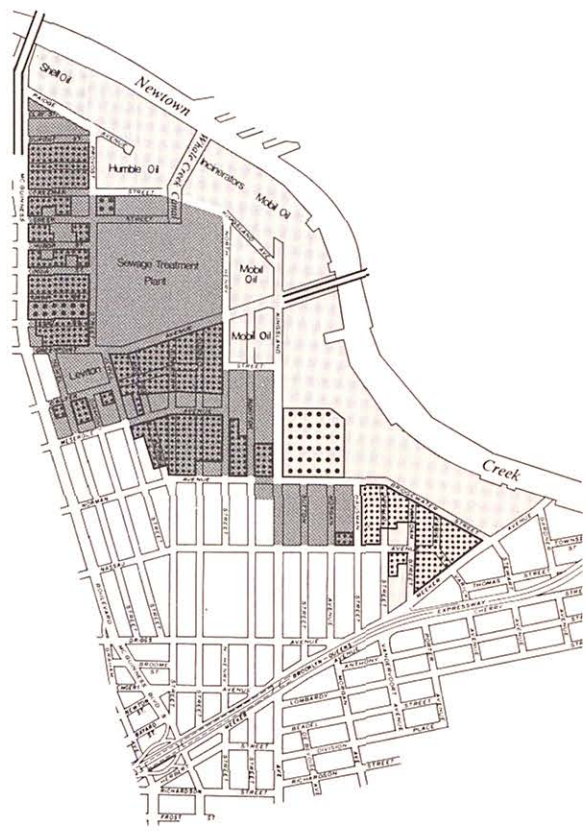
Analysis of job densities and market values in areas with concentrations of prime sites showed that many blocks adjacent to prime sites contain few jobs, little housing and have low land values (*see Greenpoint Map*). When these blocks are combined with the prime sites, often more than half the land in a district appears ripe for redevelopment. This makes it possible to tie the assembly of immediately available sites to redevelopment of a whole area.[10]

[10] The map section of this report beginning on page 36 shows existing land uses and rapid transit in relation to industrial districts in the Bronx, Brooklyn and Queens. Industrial profiles, including information on jobs, wages and ethnic makeup of each district mapped, also appear in the map section.



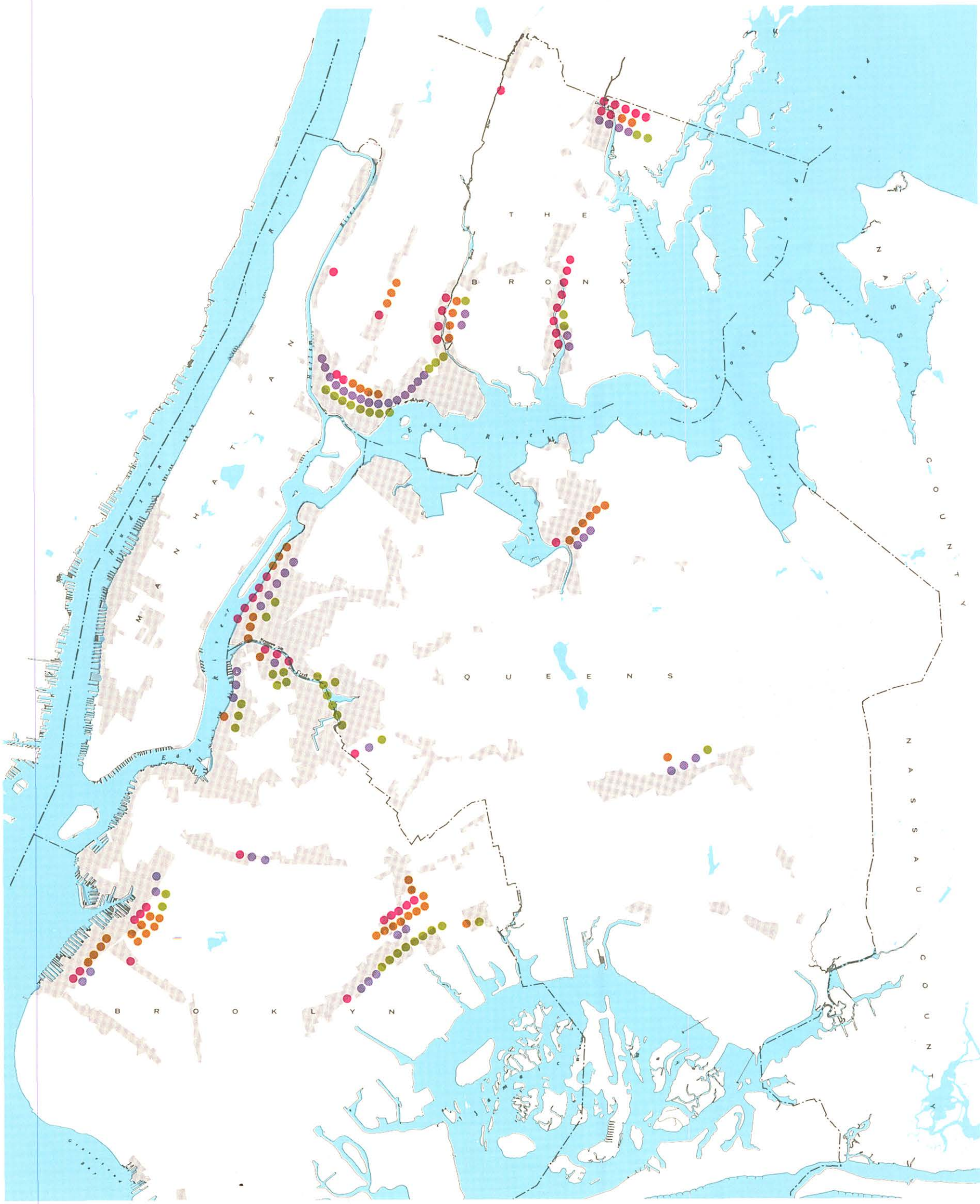
JOB DENSITY AND MARKET VALUE

JOB DENSITY JOBS PER ACRE		MARKET VALUE DOLLARS PER SQ. FOOT	
0-25	26-50	UNDER $ 5.00	
51-100		5.00 TO 10.00	
MORE THAN -100		10.00 AND OVER	



DEVELOPMENT PROPOSALS

HIGH JOB DENSITY	IMMEDIATELY AVAILABLE SITES
LOW JOB DENSITY	SHORT RANGE AVAILABILITY



PRIME INDUSTRIAL SITES

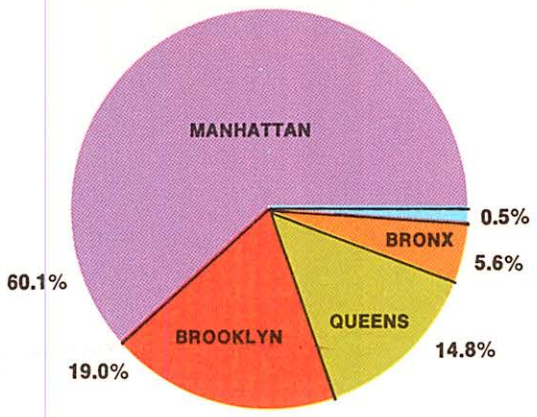
- First priority
- Second priority
- Third priority
- Fourth priority

Industrial zoning

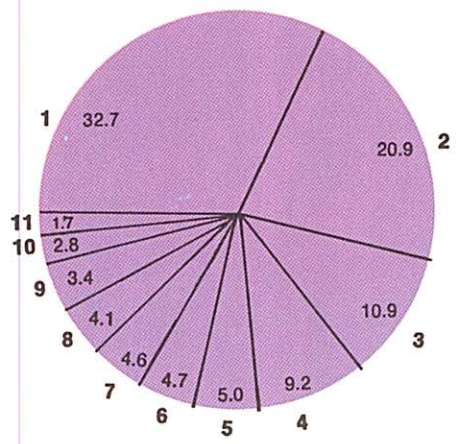
Selection of suitable sites based primarily on size of parcel, distance from subway; and upon residential and job relocation, assembly problems, and sub-soil conditions.

Percentage distribution of the 948,000 blue-collar industry jobs in New York City

NEW YORK CITY 948,000

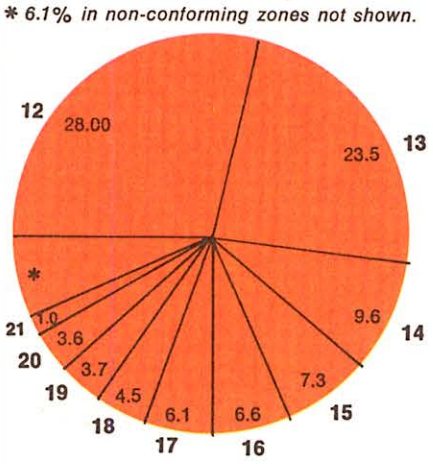


MANHATTAN 569,300



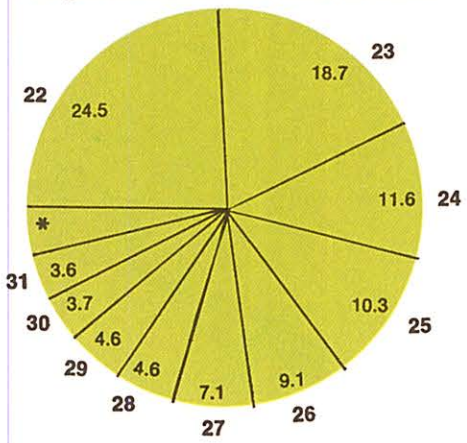
BROOKLYN 180,400

* 6.1% *in non-conforming zones not shown.*

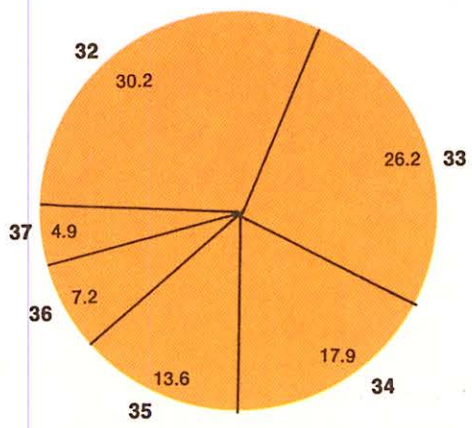


QUEENS 140,600

* 2.2% *miscellaneous small zones not shown.*



BRONX 53,000



Numbers inside pie chart segments show proportion of total borough blue collar industry jobs in each district by percentage.

INDUSTRIAL FLOOR SPACE DISTRIBUTION IN NEW YORK CITY

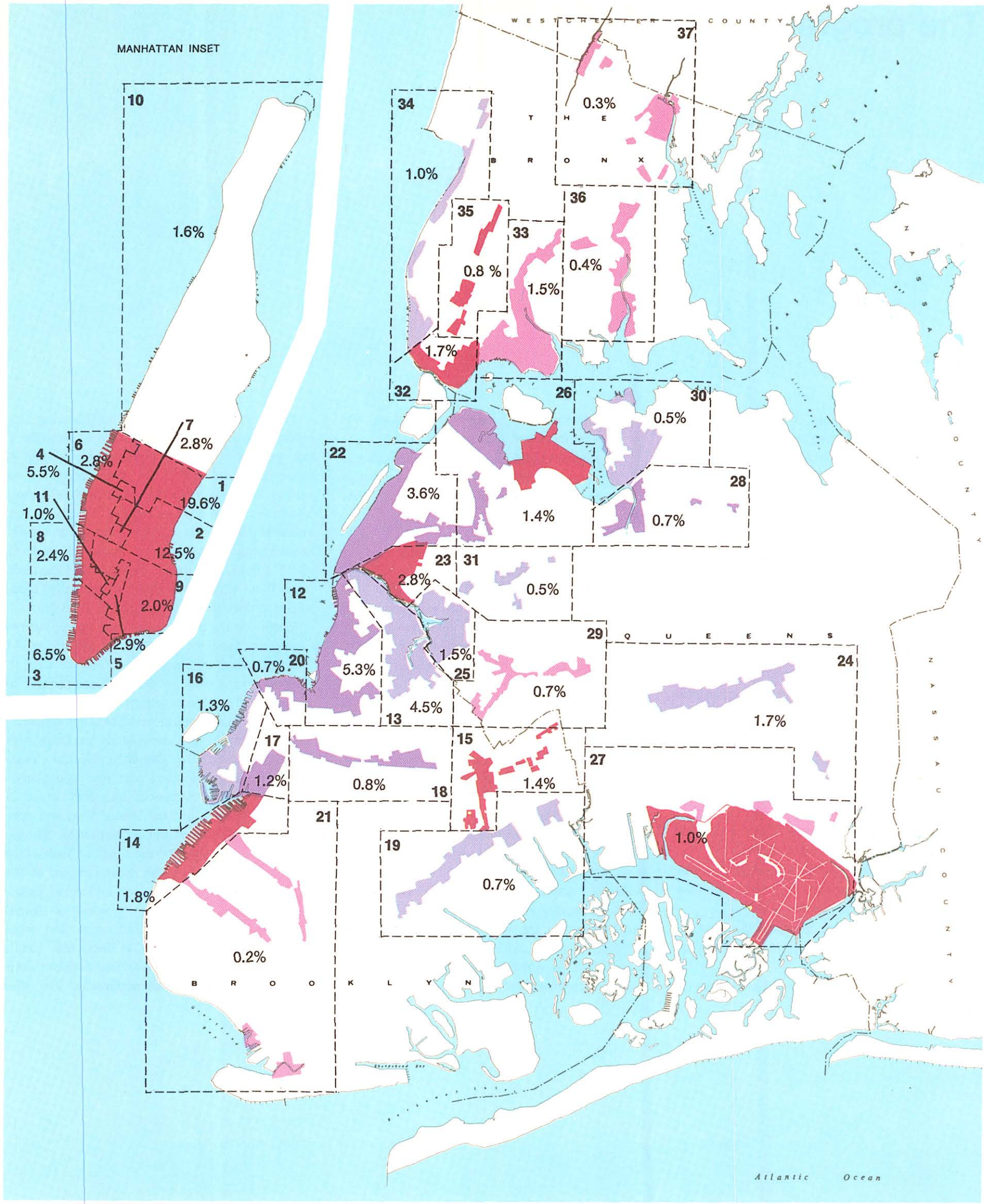
MANHATTAN	Floor Space in Sq. Ft.	% of Borough's Total Floor Space	Median Floor Space Per Worker in Sq. Ft.
1 Midtown	64,385,000	31.2	250
2 Penn Station, Union Square, Kipps Bay	32,971,000	16.0	340
3 Lower Manhattan	43,709,000	21.2	472
4 Garment District	14,846,000	7.2	250
5 Bowery	6,697,000	3.2	375
6 West Yards, North River	12,089,000	5.9	515
7 Sixth Avenue	8,793,000	4.3	375
8 North Canal, West Docks	7,083,000	3.4	530
9 Lower East Side, Greenwich Village	5,515,000	2.7	525
10 Manhattan, north of 60th St.	6,864,000	3.3	440
11 South Houston (SOHO)	1,854,000	0.9	485

BROOKLYN			
12 Williamsburg, Greenpoint	19,175,000	24.7	630
13 Newtown Creek	18,323,000	23.6	540
14 Bush Terminal	6,539,000	8.4	450
15 East New York	4,700,000	6.0	610
16 South Brooklyn (Red Hook)	10,235,000	13.2	530
17 Gowanus	3,677,000	4.7	NA
18 Atlantic Avenue	2,835,000	3.6	590
19 Spring Creek, Flatlands	2,500,000	3.2	470
20 Downtown Brooklyn	3,703,000	4.8	400
21 Sunset Park, Coney Island	734,000	0.9	600

QUEENS			
22 Long Island City	16,114,000	29.8	570
23 Woodside	9,754,000	18.0	620
24 Jamaica, St. Albans	5,509,000	10.2	440
25 Maspeth	4,667,000	8.6	510
26 La Guardia-Steinway	5,111,000	9.4	610
27 Springfied Gardens	2,301,000	4.3	440
28 Flushing	2,463,000	4.6	645
29 Ridgewood	4,465,000	8.2	610
30 College Point	1,224,000	2.3	340
31 Winfield	1,978,000	3.7	420

BRONX			
32 South Bronx	9,577,000	33.7	540
33 Hunts Point, Sheridan Expressway	9,371,000	33.0	610
34 Harlem River, Southwest Bronx	4,348,000	15.3	490
35 Webster-Third Ave. Corridor	2,567,000	9.0	420
36 Westchester Creek	1,709,000	6.0	600
37 Baychester, Wakefield	828,000	2.9	630

Numbers outside pie chart segments are keyed from 1 to 37 as in charts above to identify the city's industrial districts.



DISTRIBUTION OF EMPLOYMENT AND JOB DENSITY IN MANUFACTURING ZONES

8 Zone (see chart, page 16)

2.4 Percent of all jobs in City in this zone

Under 40 industrial jobs per acre

41-80 industrial jobs per acre

81-120 industrial jobs per acre

Over 120 industrial jobs per acre

The program

Based on the survey findings, the Planning Department recommends stepping up the industrial renewal program to provide 40 million square feet of new floor space for 100,000 jobs in the City by 1980. Through gradual redevelopment of the City's industrially zoned land, the program seeks to increase job density in areas convenient to rapid transit and to reserve land for future industrial use.

The nine point program is designed to increase manufacturing jobs by assembling land for growing firms and by planning use of scarce space.

These are the key points of the program:

- Protect the City's industrial land.
- Rebuild the City's older, accessible industrial districts through staged renewal.
- Maintain mixed-use areas where mixed uses are compatible.
- Use vest pocket renewal to assist manufacturers to expand on sites where they are now located.
- Develop new industrial parks on vacant land at the City's outer edges.
- Change zoning policy to encourage multi-story development in industrial areas where it is now discouraged.
- Use City financing to permit the construction of new multi-story buildings at rents most firms can afford.
- Encourage vertically zoned mixed-use development in suitable areas along the waterfront and over railroad cuts.
- Allocate space in industrial renewal areas to companies that can contribute most to the City in terms of more and better jobs and higher wages.

Protecting industrial land and rebuilding obsolete districts

The City must protect land for industrial uses. Industrially zoned land long has been considered prime land for new schools and public housing because it entails no residential relocation. While the City can no longer allow this kind of erosion, shifts in land use are possible. When adequate relocation for blue-collar industries is available, residential uses can be permitted in Manhattan's industrial areas on suitable land along the waterfront and in special mixed-use districts. Intensive development in multi-story industrial buildings can free land for alternate uses by providing more industrial space on less land area.

The City's first priority should be to rebuild the older, accessible industrial districts, particularly those in the East River band. Poor condition of buildings, underused land and environmental problems qualify most of the City's older industrial districts in the East River band for redevelopment under Article 15 of the General Municipal Law which allows the City to acquire and redevelop blighted areas.

The kind of redevelopment the Planning Department proposes for these areas is normally a slow process of clearing, building and moving. A block is cleared and a new plant built for an existing firm whose former plant is then demolished to create a new vacant site. To have a few available sites to start the process, it is usually necessary to designate large areas—at least 15 to 25 acres—as renewal districts. A large-scale project can then be carried out gradually, minimizing dislocation of businesses and residents.

Redeveloping on a large-scale opens opportunities for the City to replan and modernize old industrial areas efficiently. It allows the City to assemble large sites, to close off streets and to redesign traffic patterns to improve circulation and keep trucks out of nearby residential communities. The assembly of the immediately available sites identified in the survey should be tied into a comprehensive staged 10-year plan that would modernize the City's accessible industrial zones in Brooklyn, Queens and the Bronx. This will control small site development permitting the assembly of large sites for the kinds of multi-story buildings required to make maximum use of the City's scarce land. Obsolete or underused industrial buildings and poor housing would be cleared and their sites redeveloped for new and more intensive industrial use. Old inefficient plants would be gradually replaced. Sound older plants would be modernized where feasible. The plan

STATUS OF INDUSTRIAL RENEWAL PROJECTS

PROJECTS IN EXECUTION

	Total Industrial Acres to be Acquired (1)
1. Zerega Ave.	42
2. East New York	40
3. 149th St. - Bruckner Blvd.	13
4. Bedford Ave. - North 3rd St.	1
5. Coney Island	4
6. Flatlands	95
7. College Point	290
8. Williamsburg	6
9. Jamaica Ave. - 131st St.	1
10. JFK Industrial Park	1

DESIGNATED PROJECTS

11. South Zerega	30
12. South Brooklyn	25

(1) Excludes properties which will not be redeveloped or are already in public ownership.
(2) Phase I acquisition only.
(3) Preliminary estimates.

TO BE DESIGNATED IN 1970-1971

	Total Industrial Acres to be Acquired (1)
13. South Bronx	13 (2)
14. Greenpoint *	45
15. Gowanus *	62
16. Park Ave. - Nostrand Ave.	1

*Designated by Board of Estimate in early 1971.

FUTURE DESIGNATION

17. Hunts Point	75 (3)
18. Flatlands Extension	6 (3)
19. Willets Point	60 (3)
20. Rosedale - Spring Creek	95 (3)
21. Webster Ave.	16 (3)
22. Staten Island	not determined
23. Arverne	25 (3)

INDUSTRIAL ZONING

also allows the City to control the allocation of land among competing firms (*see firm selection process, page 26*).

The timing of development depends on the value and density of existing uses. The Planning Department recommends rebuilding the old areas according to the following time sequence:[11]

1. *Short-term development:* Blocks with vacant land, low-density housing or industry providing fewer than 25 jobs per acre with a market value under $6 a square foot. Acquisition and land clearance would take up to two years.

2. *Intermediate-term development:* Industrial sites including blocks with higher job and housing densities, that is 25 to 50 jobs or 25 to 50 housing units per acre. Acquisition and clearance would take up to five years.

3. *Long-term development:* Sites with decaying, aging housing with a limited life span or poor crowded housing. Housing with a limited life span would be retained for an interim period, but no long-term investments in community facilities or residential rehabilitation would be permitted. On sites with poor crowded housing, the Planning Department proposes that the City acquire buildings as they become vacant, designate limited areas for renewal to provide jobs and work out a policy that would gradually relocate present residents of these areas over five to ten years.

In general, well maintained housing in industrial zones would be protected. Rezoning to residential uses is recommended in some places. In other cases, a special kind of mixed-use district is needed to protect good housing and stable communities, and prevent further encroachment on industrial land.

Some districts have a stable residential core surrounded by industry which has been expanding piecemeal, lot by lot. The tightly knit residential communities near McCarren Park in Greenpoint are good examples. In these districts, a mixed-use designation would permit both industry and housing to finance improvements. In granting permits, the Planning Commission would set conditions that would improve traffic circulation and reduce noise and air pollution.

The decision to rezone for residential use would be determined by the age and type of construction of the housing. Masonry units, particularly small brick and brownstone buildings, can generally be rehabilitated while most frame buildings and Old Law tenements eventually will have to be replaced. The Planning Department also proposes that some existing low-density industrial areas be marked for residential redevelopment. Industry's declining dependence on water transportation can open up some waterfront industrial areas to new housing. One major example is the Astoria waterfront where a large-scale residential community could be created with limited job displacement. There is already substantial public investment in this area: a middle-income housing project, two low-income housing developments, schools and a waterfront park.

The Brooklyn, Bronx and Queens industrial development districts, mapped in the next section of this report, contain most of the City's immediately available sites. While these individual sites can be developed in two years or less, renewal of a whole district generally would be phased over five to ten years, as proposed for East New York (*see detailed plan, page 50*). This staged renewal will permit the City to accommodate firms within the renewal area and minimize residential displacement.

Vest pocket renewal

Vest pocket industrial renewal can assist qualified high-wage firms to assemble space to expand existing plants and avoid the expense of moving. This kind of help is particularly needed by large companies with heavy capital investment in plant and machinery. Because it costs almost as much to relocate five blocks away as it does to move out of the City altogether, large firms are likely

[11] This timed development plan is presented graphically on maps beginning on page 36.

to leave the City entirely if they cannot expand on their present sites.

Several of the City's largest firms cannot now acquire new space to expand on site without assistance from the City. Wherever possible, the City should assist these firms by assembling adjacent property or closing and eliminating unused streets. The City's first major on-site expansion project, the Bedford Avenue-North Third Street urban renewal project, is assisting one of the nation's largest manufacturers of corrugated box machinery employing more than 500 workers to expand on its present site. Without aid from the City, this company would have moved out, taking 500 jobs and the additional ones that will result from growth.

Industrial park development

Industrial parks in outlying areas are important reserves for the future. They provide large sites for companies which do not need more central locations. The 250-acre College Point Industrial Park will be expanded rapidly following the construction of the new Western Electric plant. Development of the 750 acres on the west shore of Staten Island will be furthered when the initial investments in sewers are made and the West Shore Highway is completed.

Flatlands, the City's first industrial park, is almost completed, with space for 7,500 workers. It has excellent subway links to areas of high underemployment.

Access to the Brooklyn Navy Yard also is good and a major industrial park is planned for this 260-acre site. Long-term plans call for multi-story development. The site currently contains more than 2.5 million square feet of rentable industrial loft space near downtown Brooklyn. A portion of the existing floor area is being rehabilitated for short-term occupancy.

Multi-story development

While much of the City's industry now operates in multi-story Manhattan loft buildings, most firms want one-story plants when they move or expand. One-story buildings have flexible interior space and provide ease in shipping and receiving goods. With single-story development, the City would need more than 800 acres of land in the next five years to accommodate the choice[12] firms that otherwise might move and to relocate companies displaced by redevelopment. As the supply of industrially zoned land with good subway access likely to be available through the five-year period is limited, the one-story factory building is clearly a luxury for most of New York City. Industry, like other business and housing, must expand upward.

A six-story structure with 700,000 square feet of floor space on a three-acre block can house 1,500 jobs. Comparable space in one-story buildings would require five times as much land. Multi-story buildings can be designed to provide the same flexibility, expansion room and ease in handling goods that most firms seek in one-story structures (*see illustration, pages 22-23*).

Recent design studies done for the Planning Department provide comparative cost data for different types of industrial buildings. One-story structures are the cheapest to build. Two-story buildings result in highest unit costs. Costs decline as building height increases up to six stories.

Rentals will vary with land costs. Conventionally financed six-story buildings in Manhattan will require rentals of $4.50 a square foot; rates outside Manhattan will be about a dollar less. These market rentals are too high for most manufacturing firms. The Industrial Survey shows the median rental in 1967-1968 for firms in Manhattan was $1.50 a square foot. Firms in Brooklyn, Queens and the Bronx paid a median rent of $1 a square foot. The highest rentals in Manhattan were under $4 a square foot in east midtown printing lofts. Outside Manhattan the best space rarely exceeds $2 a square foot.

Conventionally financed multi-story buildings will accommodate only those firms which can pay high rents. Because this would screen out many desirable companies, the City should consider a policy of subsidizing rents in order to make multi-story construction feasible. A rent level of $2 a square foot outside Manhattan is needed to accommodate the majority of New York City firms.

Design prototype for multi-story manufacturing building

The City is studying designs for multi-story buildings which could accommodate the many different kinds of manufacturing firms currently housed in one-story buildings in the outlying boroughs. Prototype buildings, such as the one shown in these renderings, are being designed.

Proposed zoning changes would permit high-rise industrial buildings near subway exits. This will make manufacturing jobs more accessible to low-income neighborhoods and discourage automobile use. Off-street truck loading facilities within the buildings, combined with decreased automobile use, would permit increased density without increasing congestion.

Site size

The larger the building, the lower the unit cost and the greater the flexibility: new industrial buildings should cover at least one city block and preferably two, (*see A*). The large floor areas thus permitted, approximately 200,000 square feet per floor in this design, would make it possible for growing firms to expand within the building. This building on a six-acre site with a floor area ratio of 5 would provide approximately 1.2 million square feet of floor space.

Building height

Design and cost are the controlling factors in determining building height. The cost per unit decreases as height increases from two stories to six stories. Six stories is probably the minimum height required to make multi-story buildings economically feasible. The major design problem is assuring ease and speed in vertical movement.

Ceiling heights

Ceiling heights must adapt to technological changes in handling and storage. The span of fork-lift trucks is an important determinant of ceiling height. A ceiling height of at least 20 feet is desirable. It is always possible to lower a ceiling, but difficult to raise one.

Floor load

Since most firms outside Manhattan operate in one-story space, floor loads, generally, are not a problem. A minimum floor load of 150 pounds per square foot is sufficient for most prospective tenants in a multi-story building. Greater floor loads are more costly, but would permit more diversified use. As ceiling heights increase, floor loads should increase proportionately.

Receiving, shipping and vertical flow

All loading and unloading must be off the street to avoid congestion. In this design (*see B*), trucks may enter and exit at either end of the building. Loading and unloading takes place in bays within easy access of elevators to the upper floors. The most desirable vertical movement within multi-story manufacturing buildings is directly by truck, using elevators or ramps. Relatively little use is made in New York of existing modern goods handling techniques. A major research effort is required to explore how they can be adapted to New York's special needs.

Bay width

Loading bays 30 feet wide are sufficient for most manufacturers. A 40-foot module is preferable if costs are not prohibitive.

Elevators

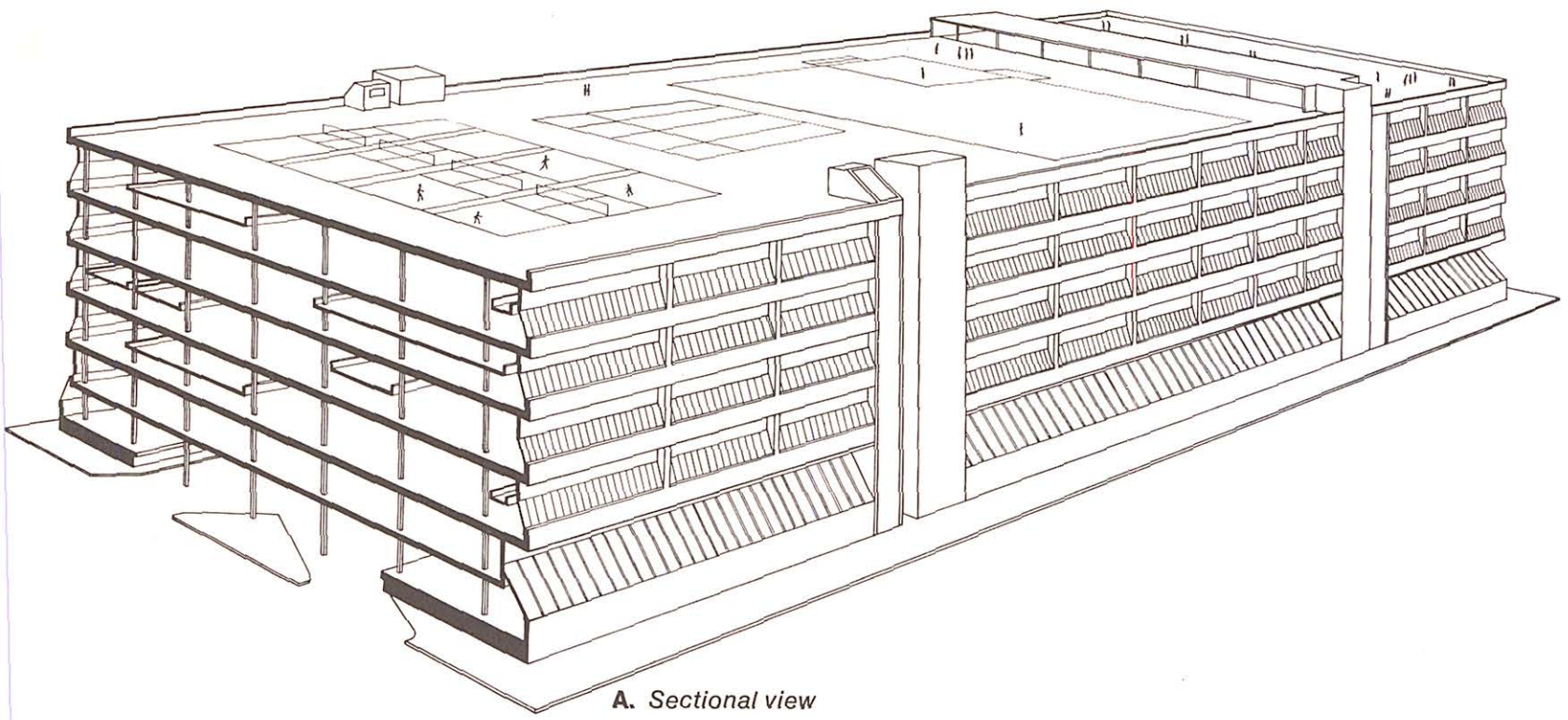
All elevator shafts should be built along exterior walls, as shown in these renderings, to permit clear floor space for production. Elevators located on two sides of the building permit production flow across the building. Cost must be weighed against convenience in determining the size and number of elevators.

Modular design

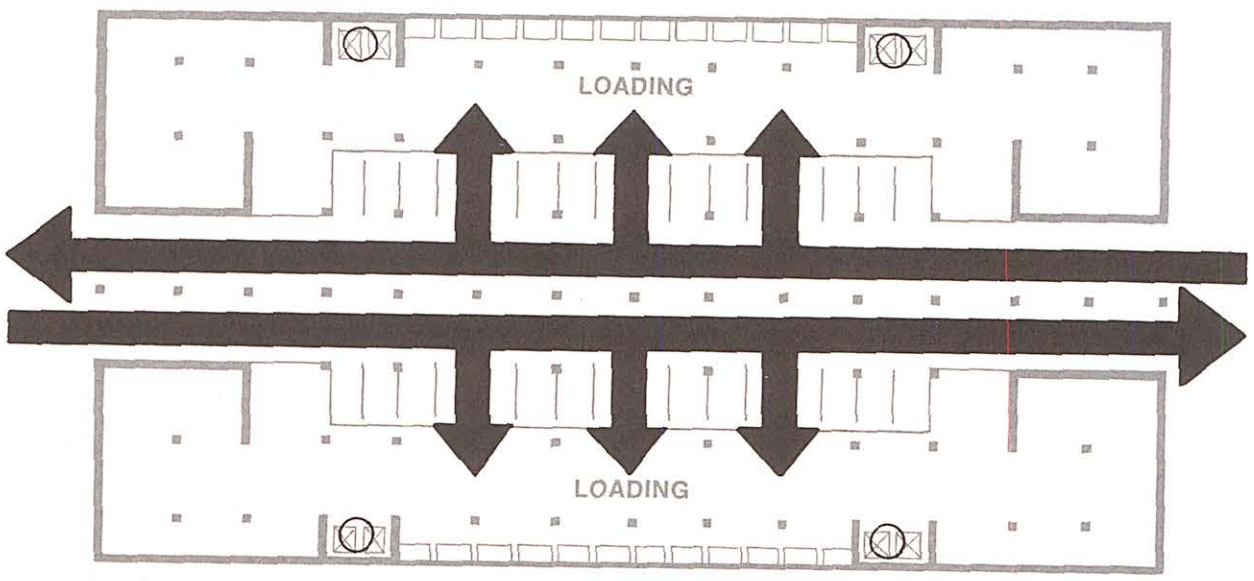
The majority of firms leaving the City need 40,000 square feet of floor space; small sites are available in the City for firms requiring less than 20,000 square feet. The standard module in these new building designs is about 40,000 square feet, although it is possible conveniently to produce a unit of 10,000 square feet. Rendering C shows how a floor could be divided to accommodate five firms with differing needs.

Environment

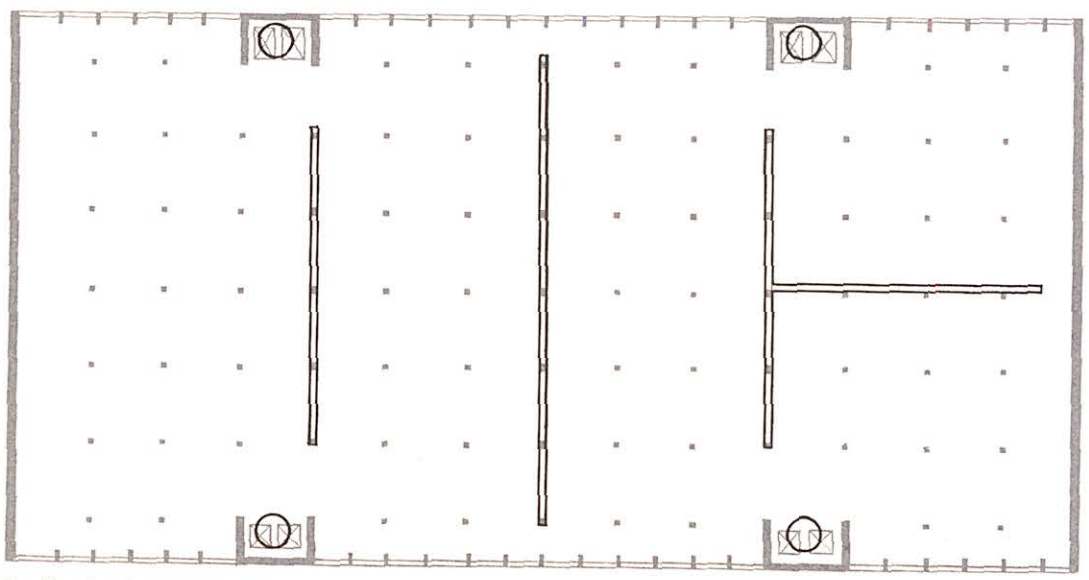
To insure that buildings with high employment density are pleasant to work in, air conditioning, day care facilities for children or working mothers and attractive, convenient eating places should be designed into the building. Recreation facilities for employees and nearby residents could be provided on the roof, as in A. The roof area here is large enough for several baseball fields.



A. *Sectional view*



B. *Ground floor*



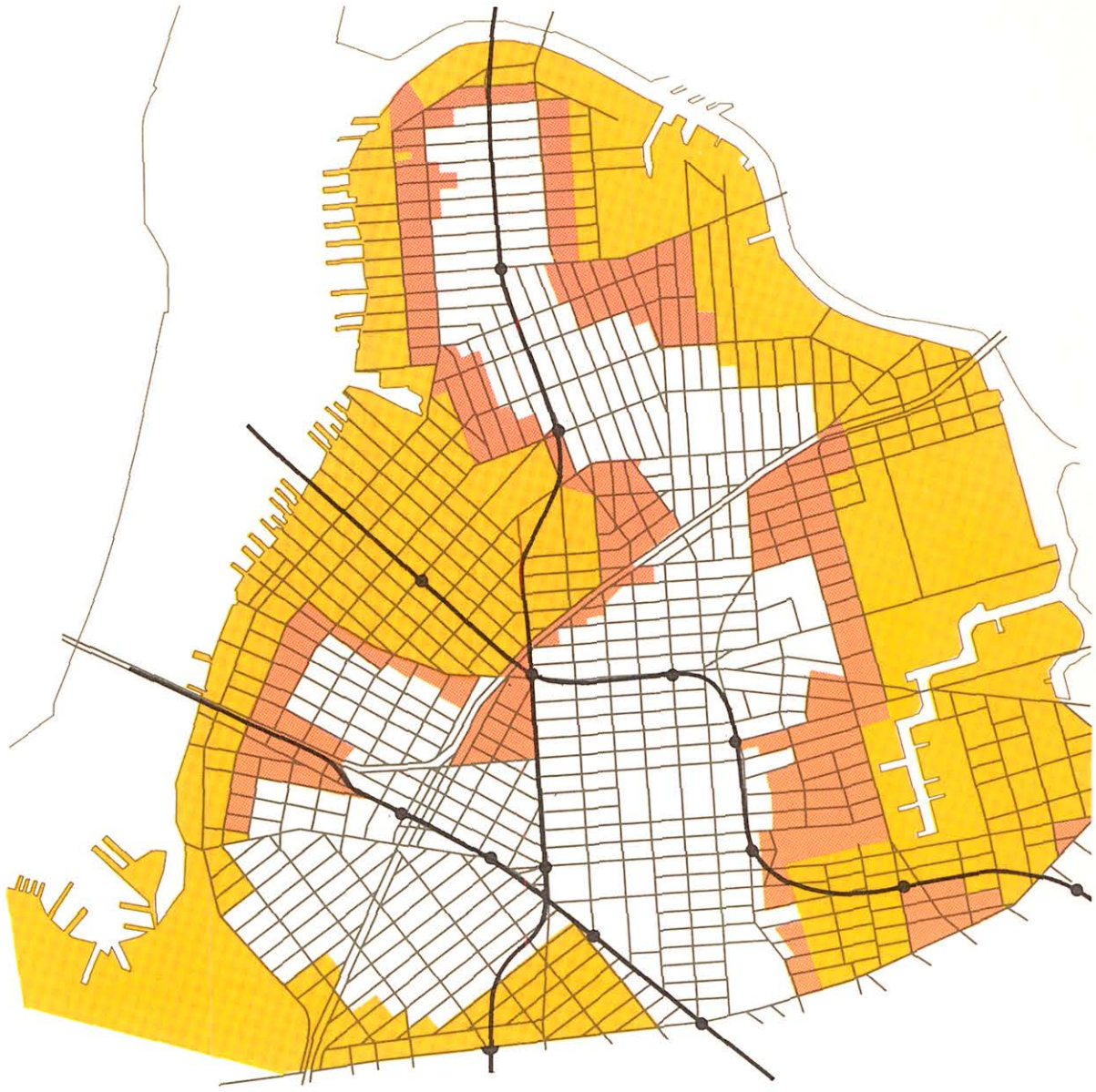
C. *Typical upper floor*

EXISTING MAXIMUM FLOOR AREA RATIOS (F.A.R.) AND PARKING REQUIREMENTS

F.A.R. 2.0 (building floor area equal to 2 times lot area)
Parking: 1 space per 3 workers or 1,000 square feet of floor area, whichever is less

F.A.R. 1.0 (building floor area equal to lot area)
Parking: 1 space per 3 workers or 1,000 square feet of floor area, whichever is less

Subway lines and stations



The City can employ a variety of financing techniques to achieve competitive rentals. City purchase and lease arrangements or turnkey construction, where a developer builds and sells to the City, may also permit the lowest rentals because of long-term municipal financing.

Zoning for multi-story development

Only Manhattan zoning is designed to achieve maximum use of scarce land. Bulk allowances and parking requirements in Brooklyn, Queens and the Bronx must be revised to permit higher floor area ratios (FAR's)[13] and thus higher job densities in areas with good access to mass transit or close to high concentrations of workers. Existing bulk allowances restrict developers to a floor area ratio of 1 in most industrial zones outside Manhattan. Even where a higher FAR is permitted, present minimum parking requirements make multi-story development impractical. A builder of a four-story industrial building containing 300,000 square feet of floor space on a two-acre site needs an additional two acres to meet present minimum parking requirements. This is costly for the builder and wastes accessible industrial land.

Existing bulk and parking requirements are not directly related to subway service. Current bulk allowances are based on proximity to residential areas: the closer an industrial zone is to a residential area, the lower its bulk allowance. Industrial districts with good subway access are generally next to residential communities and are zoned (M1-1) to protect the housing.[14] The areas where

PROPOSED MAXIMUM FLOOR AREA RATIOS (F.A.R.) AND PARKING REQUIREMENTS

F.A.R. 10.0 (building floor area equal to 10 times lot area)
Parking: 1 space per 10 workers or 4,000 square feet of floor area, whichever is less

F.A.R. 5.0 (building floor area equal to 5 times lot area)
Parking: 1 space per 5 workers or 2,000 square feet of floor area, whichever is less

F.A.R. 3.0 (building floor area equal to 3 times lot area)
Parking: 1 space per 3 workers or 1,000 square feet of floor area, whichever is less

Subway lines and stations

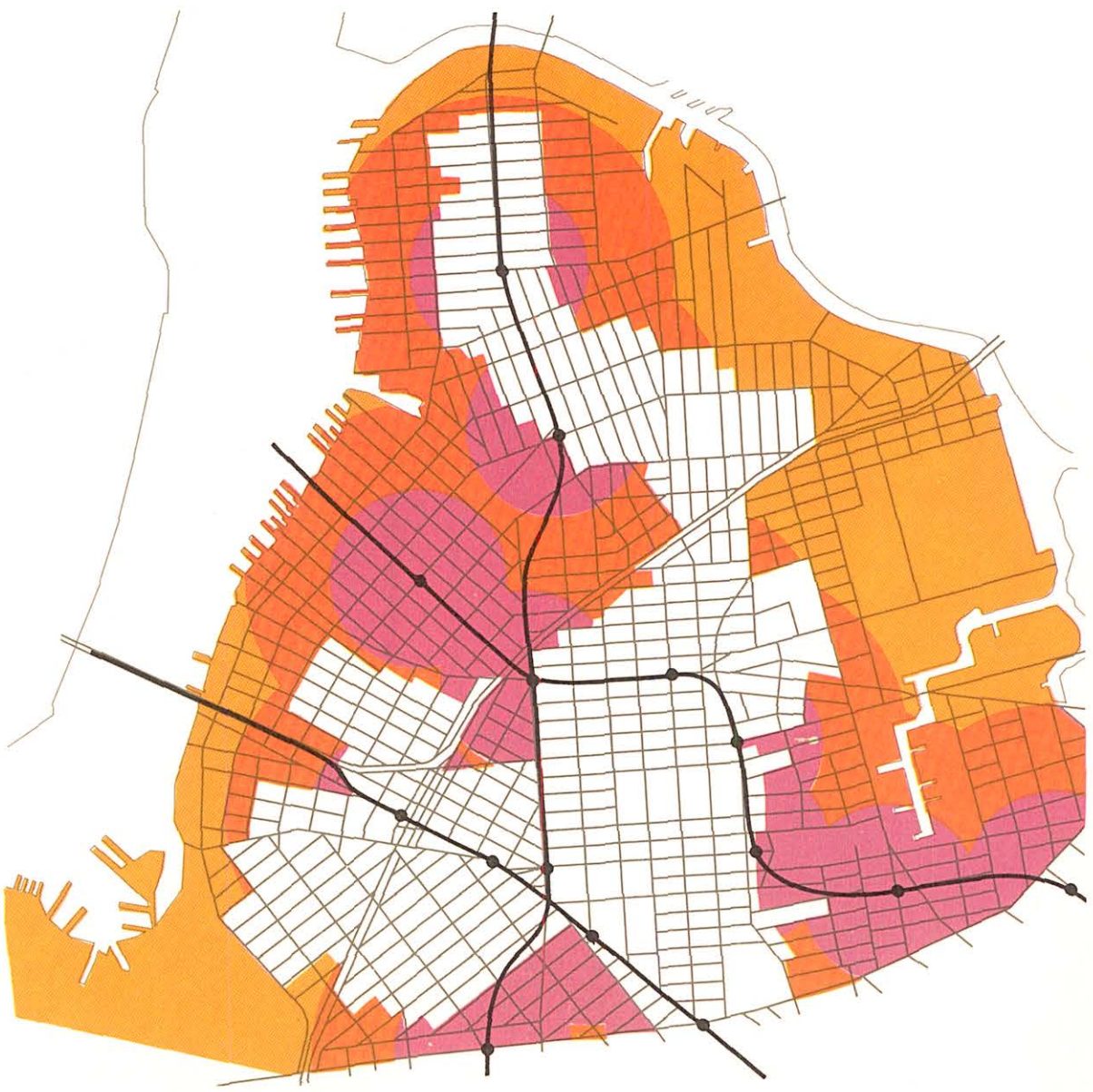


Table 20

Percentage of workforce driving to work compared with job density

Number of jobs per acre	% driving to work in zones with good subway access	% driving to work in zones with poor subway access
10	47	64
30	37	54
50	36	52
70	35	52
90	33	52

City Planning Department Industrial Survey, 1969.

multi-story construction is now permitted—along Newtown Creek, for example—are generally far from the subway (*see transportation maps, starting on page 36*).

Nor do parking requirements distinguish between areas with good and poor public transportation. Five industrial zones—M1-1, M1-2, M2-1, M2-2 and M3—have a uniform minimum parking requirement although they range widely in distance from subways. In each of these zones, manufacturing firms must provide one parking space for each 1,000 square feet of floor area, or for every three employees, whichever is greater; wholesalers must provide one parking space for every 2,000 square feet of floor area or for every three workers, whichever is less. The zoning ordinance includes six manufacturing districts with no parking requirements but these account for less than 1 per cent of the industrially zoned land outside Manhattan.

While parking requirements are not related to transit access, present drive-to-work patterns are. Proportionately fewer workers drive to work in good access zones than in poor access areas, but present parking standards encourage driving to work even in good access areas (*see Table 20*).

Present parking requirements are consistent with existing drive-to-work ratios in good access zones. These standards however are extremely wasteful. They reserve prime land near subways for parking, encouraging workers to come by auto.

Furthermore, existing job densities in Brooklyn, Queens and the Bronx are uniformly low.[15] New multi-story development would increase densities to as high as 500 jobs per acre. In Manhattan's Canal Street-Holland Tunnel district, which has good access and contains densities comparable to those contemplated in new multi-story developments, only 10 per cent of the workers come by auto.

The Planning Department recommends the following revisions in bulk and parking requirements to permit higher job densities in accessible industrial districts in Brooklyn, Queens and the Bronx:

- Base FAR allowances on a sliding scale related to distance from a transit stop. Highest FARs should be closest to stops, reversing the present rule. Land within a quarter-mile of a subway station should have a permissible FAR of 10.0.
- Base parking allowances on a sliding scale related to distance from a transit stop. The scale would range from one space for 10 employees in areas with good subway service to one for three in poor access zones (*see maps*).

This chart summarizes the recommendations:

Proposed bulk and parking allowances

Accessibility	Distance from subway	Maximum FAR	Maximum open space parking allowance
Good	Within ¼ mile of subway stop	10.0	1 space per 10 workers or per 4,000 sq. ft., whichever is less
Fair	Within ½ mile of subway stop	5.0	1 space per 5 workers or per 2,000 sq. ft., whichever is less
Poor	Over ½ mile from subway stop	3.0	1 space per 3 workers or per 1,000 sq. ft., whichever is less

It is essential to control new development in order to obtain maximum densities in industrial areas. The City is considering establishing a special zone for renewal areas which will require high density construction.

The sliding standards in the chart above provide general zoning guidelines for these areas. Specific bulk and parking requirements for each site will be based on design and circulation constraints.

Vertical zoning

In the cases where existing low-density industrial areas are proposed for residential redevelopment, especially on the waterfront, vertical zoning, which allows mixed uses in one structure, should be considered. Industrial firms generally prefer only the first 30 to 45 feet above ground level. Well designed high-rise buildings can accommodate industry on the lower floors and offices or housing above. Dual use development has been proposed for air rights over the Sunnyside yards in Queens. Industrial and residential mixtures are being studied for Red Hook, the Bush Terminal waterfront, the blocks adjacent to the Cross-Bronx Expressway, the Two Bridges Project on the Lower East Side and West Midtown.

Cost is the major obstacle to vertical mixed-use development. It is usually less expensive to build horizontally than to build a deck which will separate uses. However, as the supply of land diminishes and assembly costs rise, decking becomes more practical.

[12] See firm selection process, page 26.

[13] FAR describes the ratio of floor space to site area. An FAR of 1 means total enclosed floor area cannot exceed total site area; 2 means floor area can be double site area, and so on.

[14] Current bulk allowances:

Permissible FAR	Districts permitted
1.0	M1-1
2.0	M1-2, M1-4, M2-1, M2-3, M3
5.0	M1-3, M1-5, M2-2, M2-4
10.0	M1-6

[15] Small sub-areas, such as Bush Terminal, do have desirable densities. The drive-to-work rate in Bush Terminal is 10 per cent.

Firm selection process: screening firms for industrial renewal

Because the demand for industrial land exceeds the supply, the City must select the companies it aids through the industrial renewal program. The program will aid those companies most likely to provide jobs at decent wages for the City's low-skilled workers.

The City Planning Department developed a firm selection process to evaluate a company's current and potential value to the City. The ideal company is one that pays high wages, uses relatively little floor space per worker, provides seasonally stable employment and is willing to hire minority workers and provide training to upgrade the skills of the labor force. It should also be able to operate in a multi-story building and have strong growth potential.

To establish priorities, the program would rank each firm applying for assistance according to these guidelines. High wages and high job densities are the two most important criteria.

Using the firm selection criteria, the survey found one out of every four companies intending to move out of the City to be highly qualified for the industrial renewal program. Fifty per cent of the firms intending to move out meet the City's minimum criteria. A program to develop the four million square feet of floor space which these firms would require in the City would theoretically save 6,700 jobs a year at an average wage of $6,300 (*see Table 21*).

New York does, in fact, have a choice between manufacturing firms that are good or bad for the City. For example, in 1968, the quarter of the manufacturing workforce at the high end of the wage scale earned almost $4 an hour ($7,920 a year). The quarter at the low end earned less than $4,580 a year. By giving priority in the industrial renewal program to the firms at the high end of the wage scale, the program can help upgrade manufacturing wages.

The industrial renewal program assigns a high priority to firms requiring less than 500 feet of floor space per worker. Additional incentive will be given to companies which can operate in multi-story buildings increasing the number of jobs per acre.

A major goal of the industrial renewal program is to increase the number of good jobs for minority residents. Firms that currently hire large numbers of black and Puerto Rican workers tend to pay the lowest wages. The firm selection process evaluates a company's minority employment potential and favors those with open employment policies. The most desirable firms are those which pay high wages and provide in-house training for minority workers.

Cyclical job fluctuations resulting in periodic layoffs are a major cause of lower annual income. The program favors companies that will provide stable, year-round jobs.

If the land could be marketed to potential moveout companies in absolute order of their value according to the criteria, the first million square feet of floor space would yield the greatest return, making room for 2,700 jobs at an average annual wage of $8,300 (*see Table 21*). The second million square feet would provide space for only half as many jobs, since the floor space-worker ratio increases from 370 square feet per worker to 700 square feet per worker and the average wage falls to $7,100.[16]

The table also shows that on the absolute curve, wage rates continue to drop as additional land area is developed. There is a $4,000 difference in average earnings between firms at the top and bottom. Job density, however, shows a differ-

[16] Table 21 shows the cost benefit curve at intervals of one million square feet when space is marketed to moveout firms on the basis of desirability ratings. The demand curve is theoretical. It is based on the characteristics of survey firms who indicated an intention to move out of the City. Firms relocating to suburban areas generally show an increase in floor space per worker that would not be feasible in land-scarce New York. However, many firms who were not planning to move out have been expanding or consolidating their operations with the help of the City's industrial renewal program. These firms tend to use land more intensively than moveouts and provide more jobs per acre.

Table 21

Projected number of jobs which could be added to City's total by development of industrial floor space if firms selected in absolute order of desirability

Sq. ft. of floor space developed	Number of new jobs	Cumulative of jobs	Average wage (Non-cumulative)	Floor space per worker (in sq. ft.)
999,999	2,730	2,730	$8,300	370
1,000,000-1,999,999	1,430	4,160	7,100	700
2,000,000-2,999,999	1,380	5,540	6,900	730
3,000,000-3,999,999	1,180	6,720	6,300	850
4,000,000-4,999,999	1,020	7,740	6,000	980
5,000,000-5,999,999	1,360	9,100	5,200	740
6,000,000-6,999,999	3,720	12,820	4,000	270*

* This figure reflects high-density, low-wage apparel and miscellaneous manufacturing firms, mostly in Manhattan.

City Planning Department Industrial Survey, 1969.

ent pattern with highest job densities at top and bottom. The low wages, high job densities and seasonal employment in the apparel industry account for this.

The City must seek out the best firms. The Planning Department anticipates that as manufacturers recognize the City's commitment to renewal, they will compete for land permitting the City to become increasingly selective of the companies it aids.

The criteria outlined above will be used to evaluate expanding firms seeking large sites for new construction in industrial renewal districts. Less stringent standards will be applied to small firms which lease upper story space in new multi-story buildings. In addition, special consideration will be given to firms being relocated by public redevelopment.

Financing

Since 1967, the City has received from industrial firms commitments to three million square feet of floor space annually under the industrial renewal program. Under the expanded program outlined in this report, the City can develop four million square feet of floor space annually—the amount presently needed to keep the choice 50 per cent of the firms that could be expected to move out.

The City's capital budget for the industrial renewal program (ES-75) has increased substantially since 1968. The initial appropriation was $1.5 million and has since been increased to $23.7 million.

Industrial Renewal Program
Capital budget allocation (ES-75)

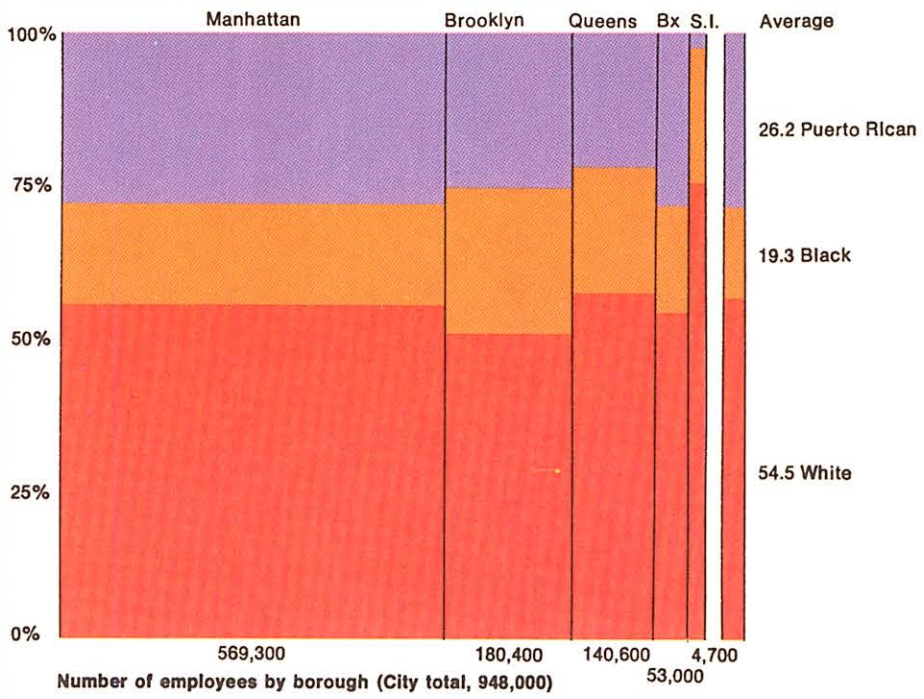
Fiscal Year	Total Allocation
1968-1969	$ 1,500,000
1969-1970	6,000,000
1970-1971	10,000,000
1971-1972	6,200,000

Funds have been used for land acquisition and site development. With privately financed construction, the program will pay for itself. The cost of land acquisition will be recouped by the City through a long-term lease. At the termination of the program, the land and improvements revert to the City.

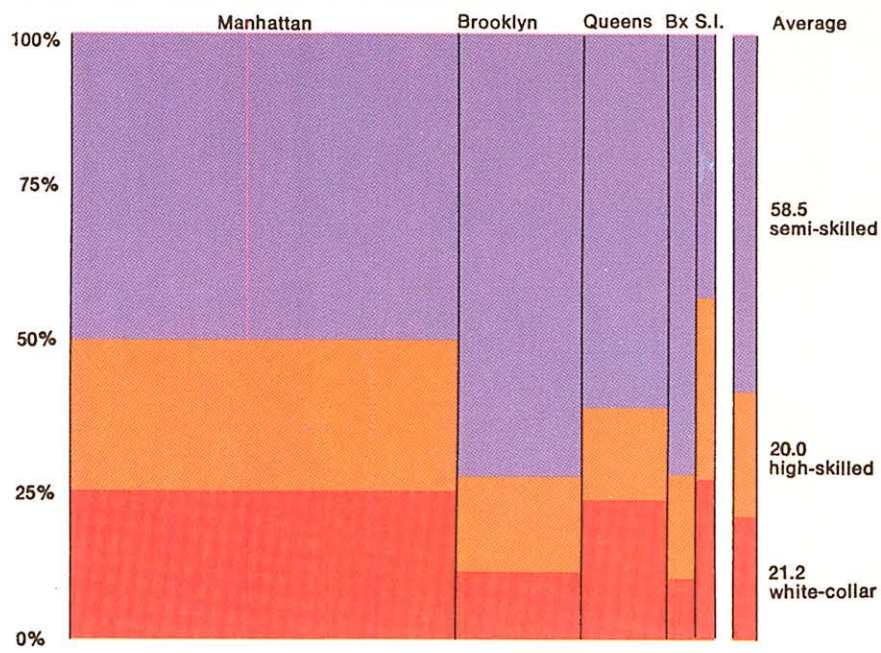
An expanded program to encourage multi-story construction will operate on a different basis. In addition to using City funds to acquire land, we recommend City money be used to purchase high-rise industrial buildings which could then be leased to desirable firms at competitive rents. These financing techniques have already been used in City housing programs to bring down rents.

The principal benefits of the program will be jobs and payrolls. The Planning Department's survey shows each acre of redeveloped land could make room for at least 100 jobs with a total wage income of $600,000 in one-story buildings. Even greater benefits would be derived with multi-story buildings. A six-story building with space for 550 jobs at an average wage of $6,000 a year, can generate a wage bill of $3.3 million per acre. Other benefits would include reduction in welfare rolls and increases in revenue to the City from personal income taxes.

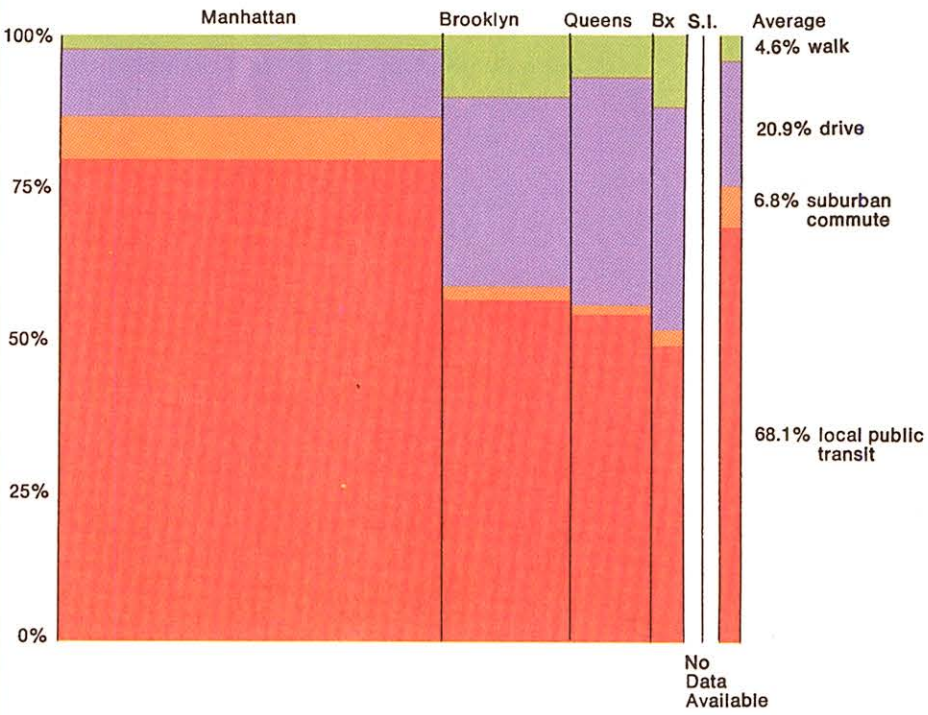
1 Ethnic composition of industrial workforce



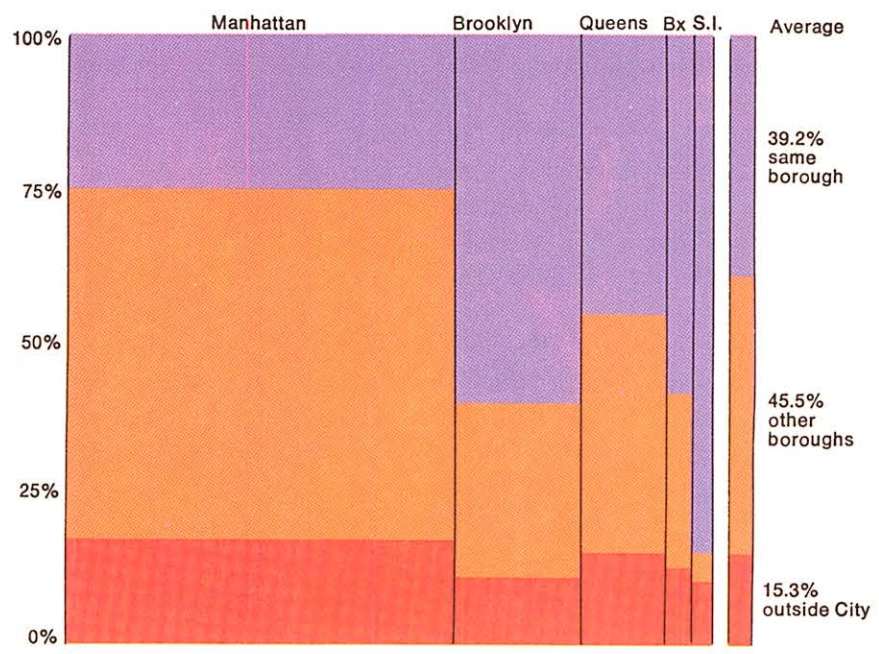
2 Degree of skill of industrial workforce



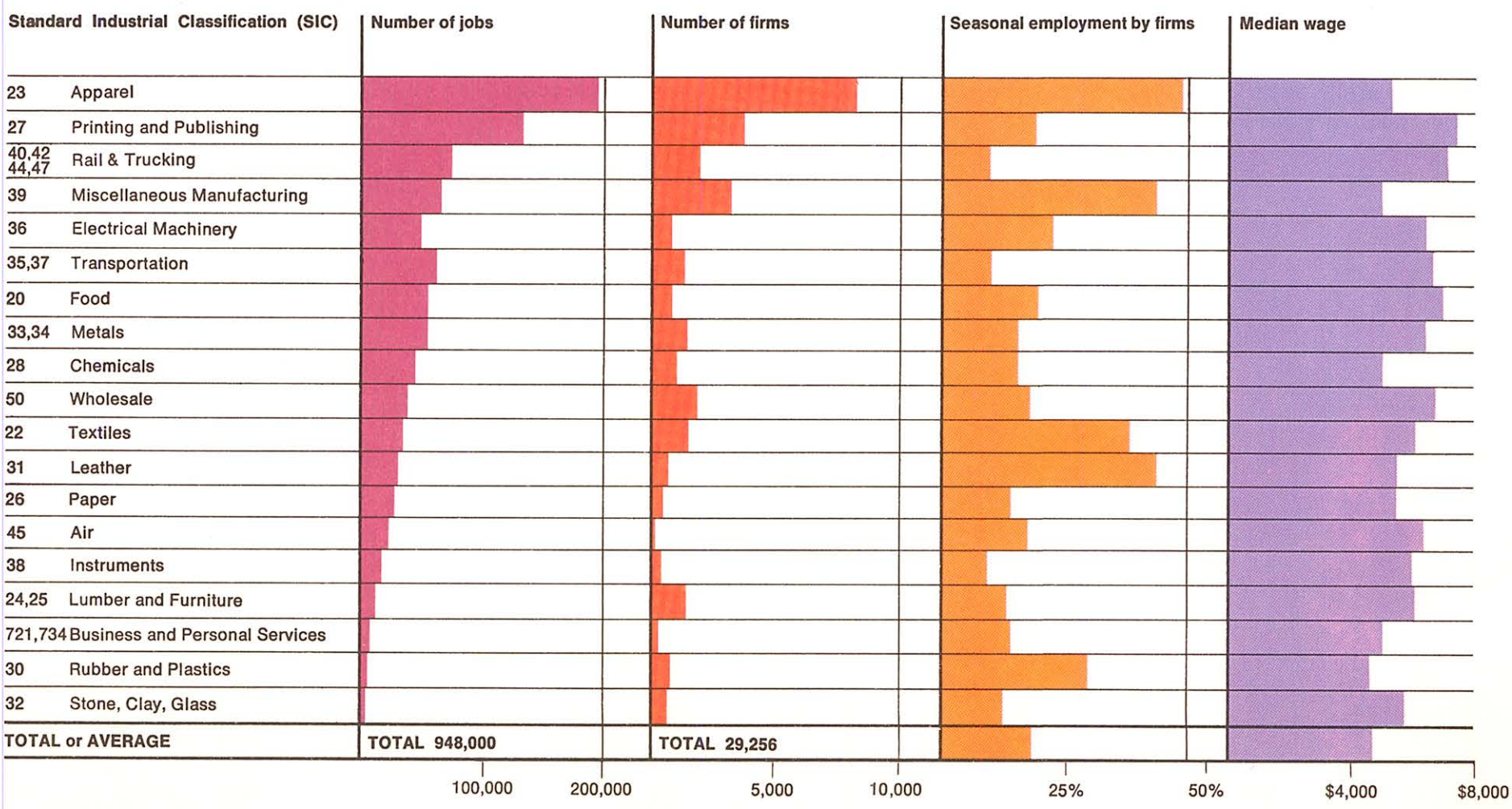
5 Mode of travel to work of industrial workforce



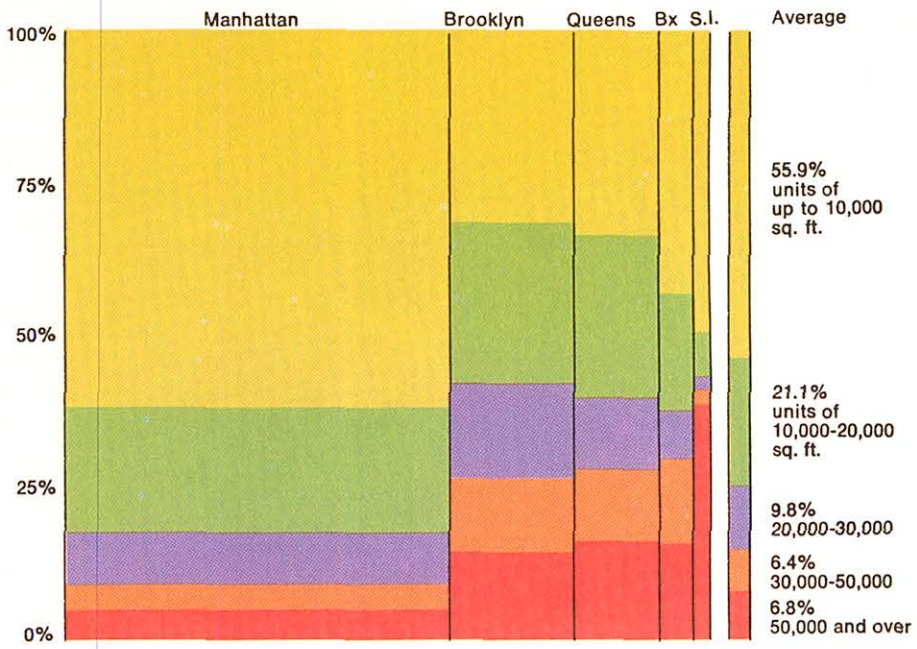
6 Place of residence of workers



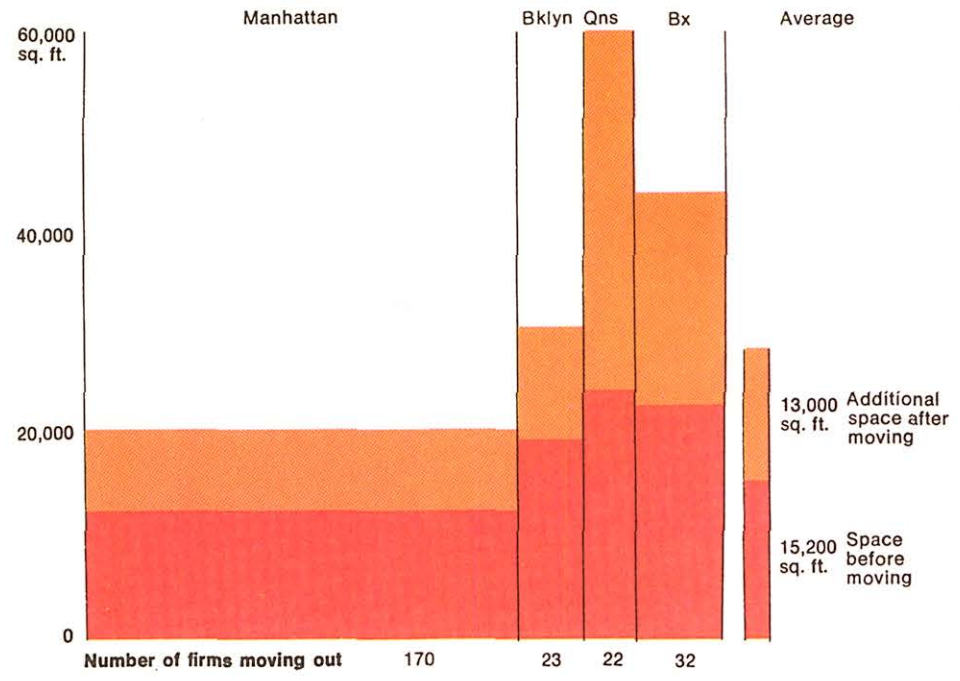
Profile of New York City blue-collar industries



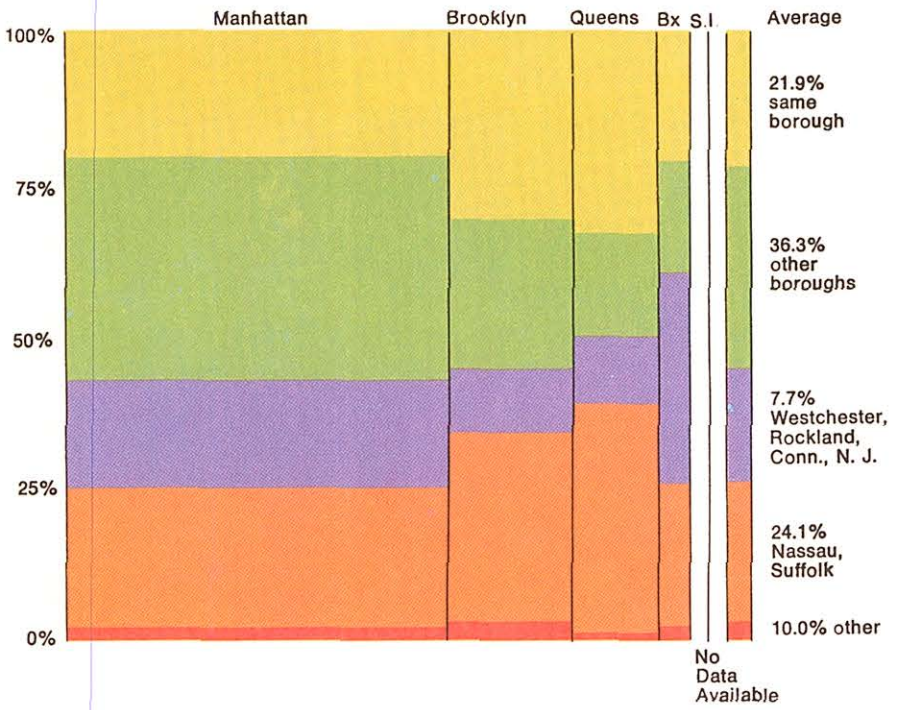
3 Apportionment of floor space



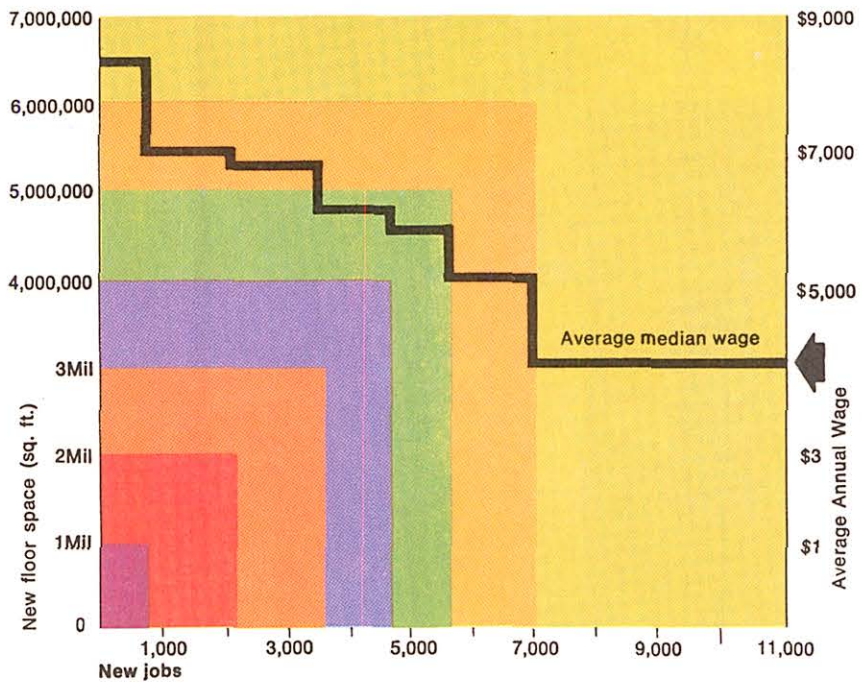
4 Floor space requirements of move-out firms

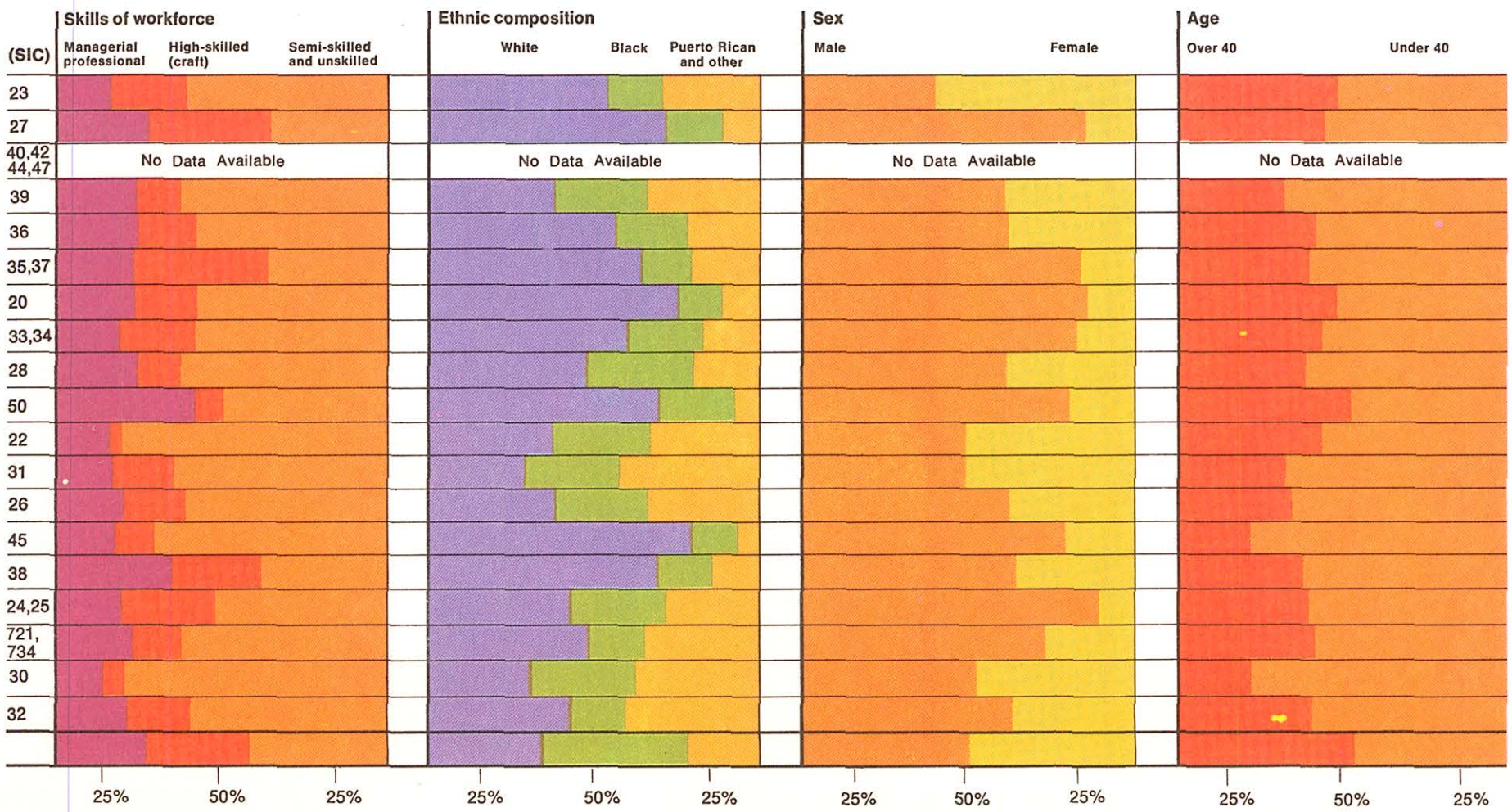


7 Place of residence of chief executives



8 Estimated new jobs and wages created by new industrial floor space



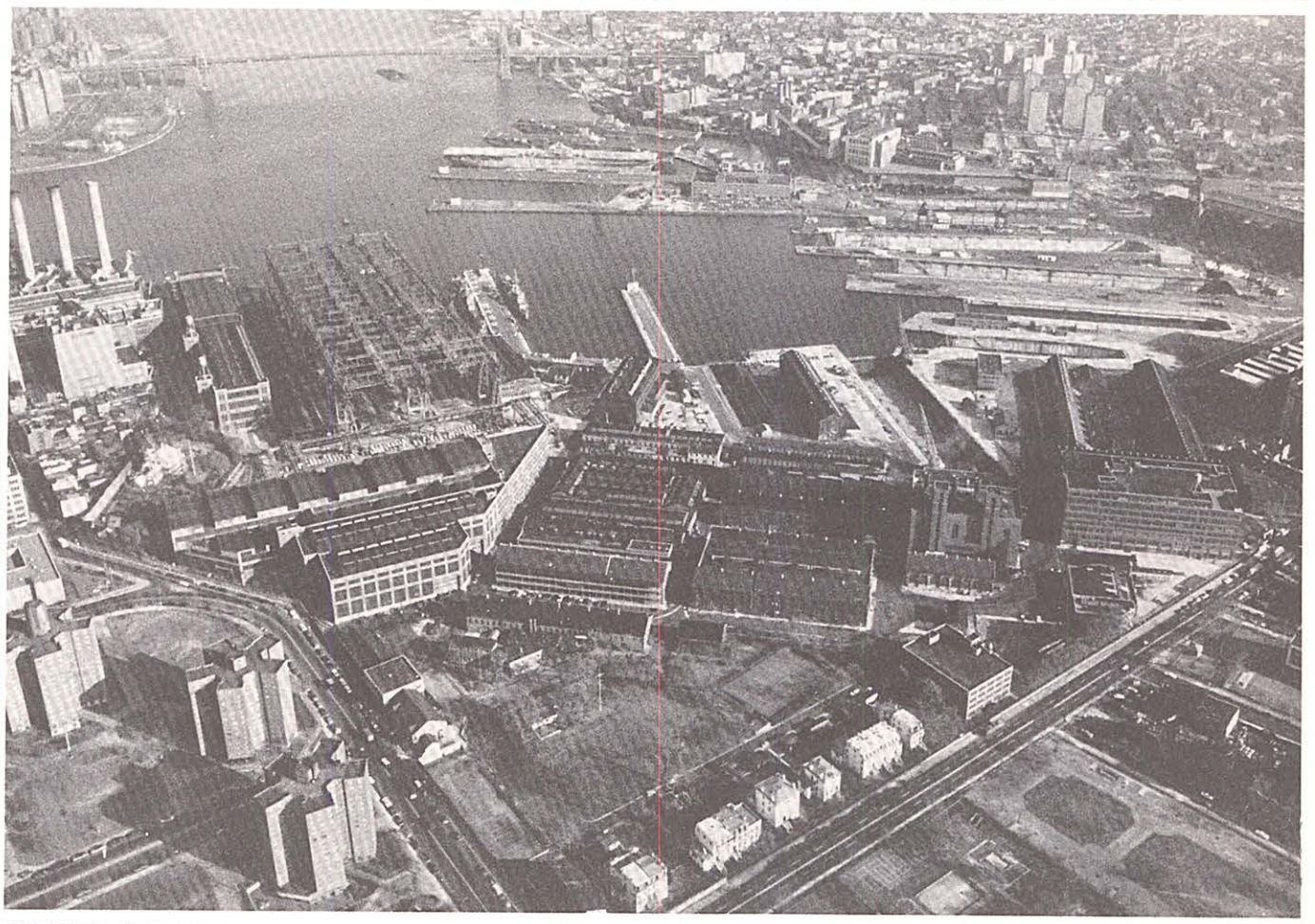


Reusable buildings

Some vacant multi-story buildings can be modernized for labor intensive light manufacturing use.

The Sunshine Biscuit Company plant in Queens (right), vacant for several years, recently has been rehabilitated and occupied by electronics assembly firms. Macy's old warehouse in Long Island City, the Brooklyn Army Terminal and Navy Yard offer similar potential.

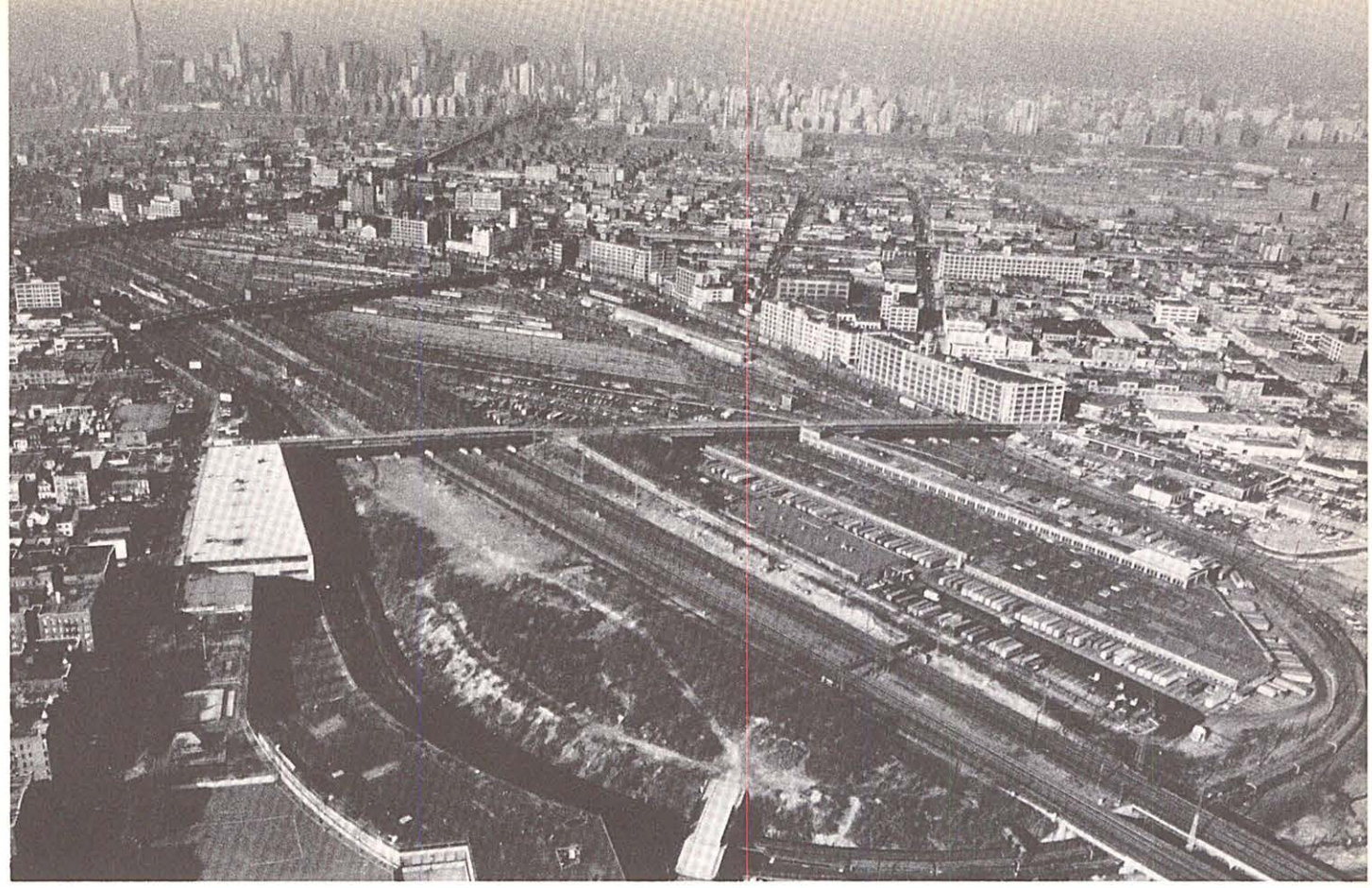
Top: Sunshine Biscuit Company.
Center: The Brooklyn Navy Yard.
Bottom: The Brooklyn Army Terminal.



PHOTOS: ADRIANA KLEIMAN AND HERMAN SIRLIN

Underutilized land

Underutilized land along railroad and expressway corridors offers opportunities for more intensive industrial development.

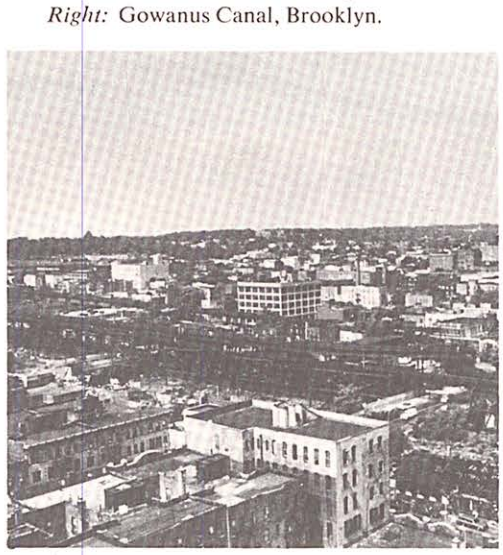


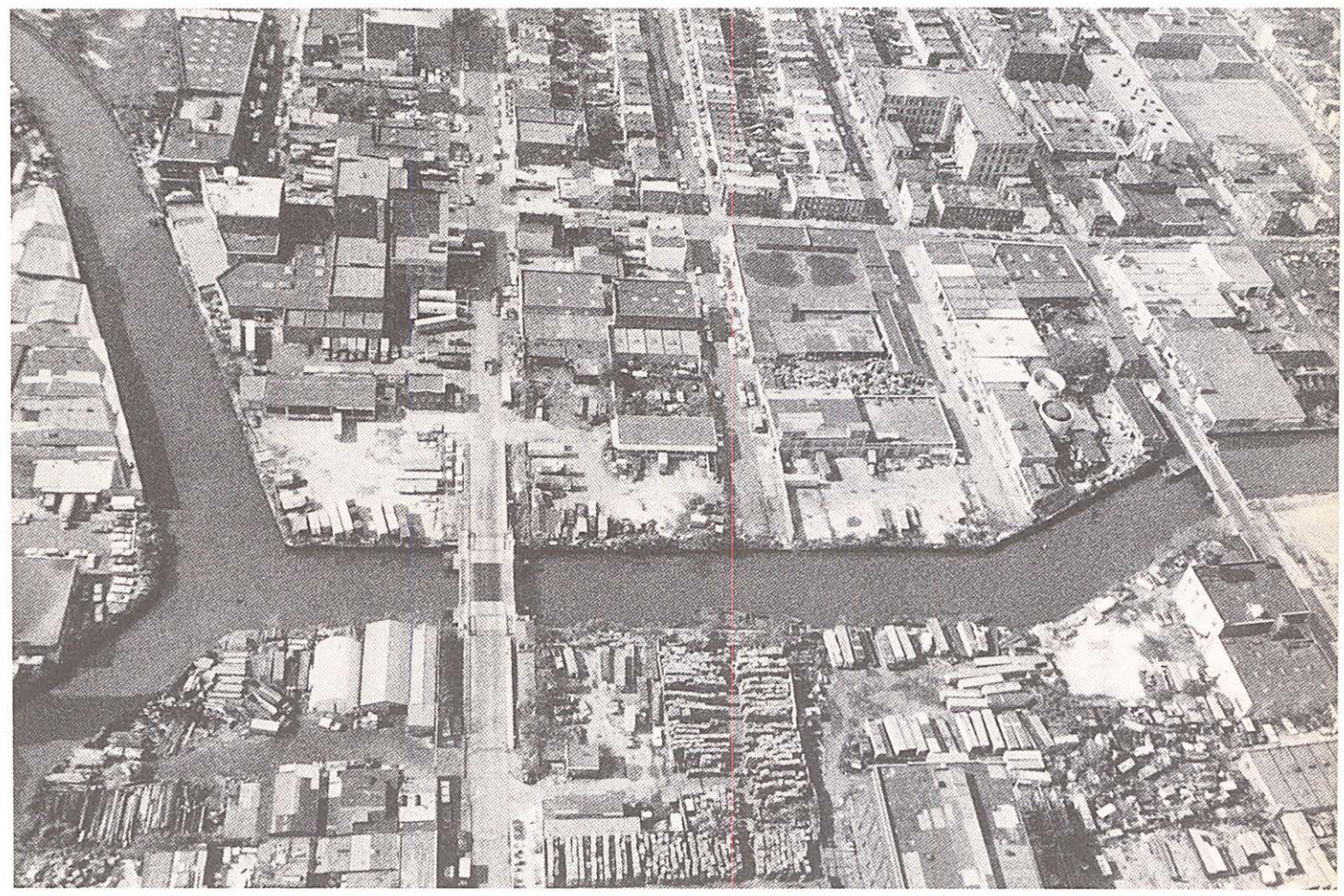
Above: Junkyards and truck terminals along the Brooklyn-Queens Expressway.
Right: Vacant land and rail spurs in the Sunnyside Yards, Queens.

Scattered Vacant Sites

Small vacant parcels, and scattered sites with junkyards and buildings where job densities are low provide good potential redevelopment sites in the Gowanus and East New York industrial districts.

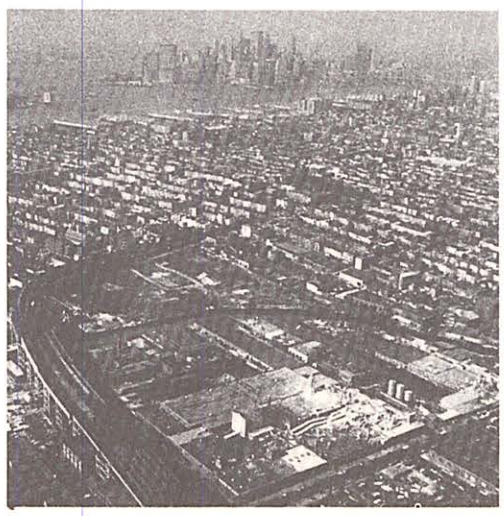
Below: East New York, Brooklyn.
Right: Gowanus Canal, Brooklyn.





Vacant Land

Right: A 600-acre containership terminal is now being developed on vacant land in Howland Hook, Staten Island.
Below: The 15-acre Gowanus Canal site, formerly occupied by the Brooklyn Union Gas Company, is under development.



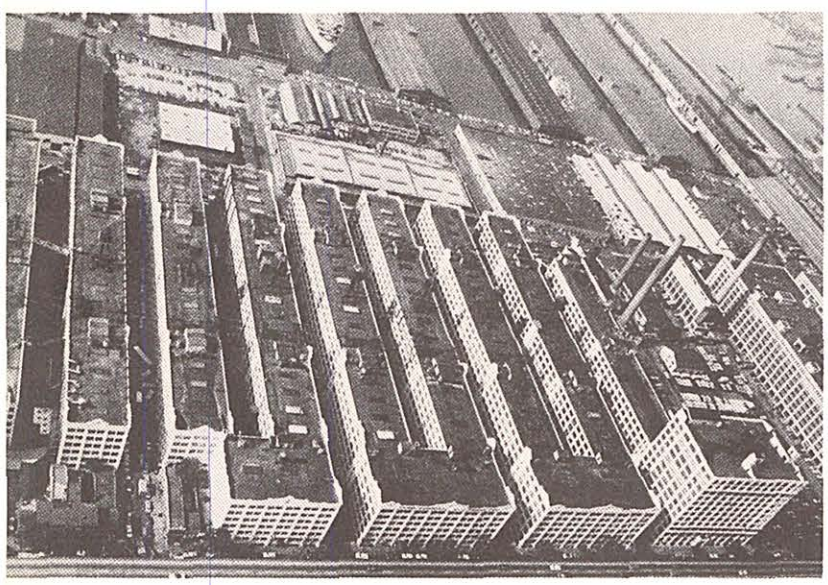
High Density

Existing multi-story industrial buildings with high job densities in West Midtown and the East River band.

Right: The Midtown Mart, at West 30th Street and Tenth Avenue (center rear with slanting facade), and the Starrett Lehigh building at West 27th Street and Twelfth Avenue, in center foreground, are on Manhattan's west side.

Below left: The Bush Terminal buildings, on the Brooklyn waterfront south of Gowanus Bay, make intensive use of this choice location.

Below right: Multi-story buildings located in the downtown Brooklyn industrial zone, between the Brooklyn and Manhattan bridges, are good examples of high job density land use.



Low Density

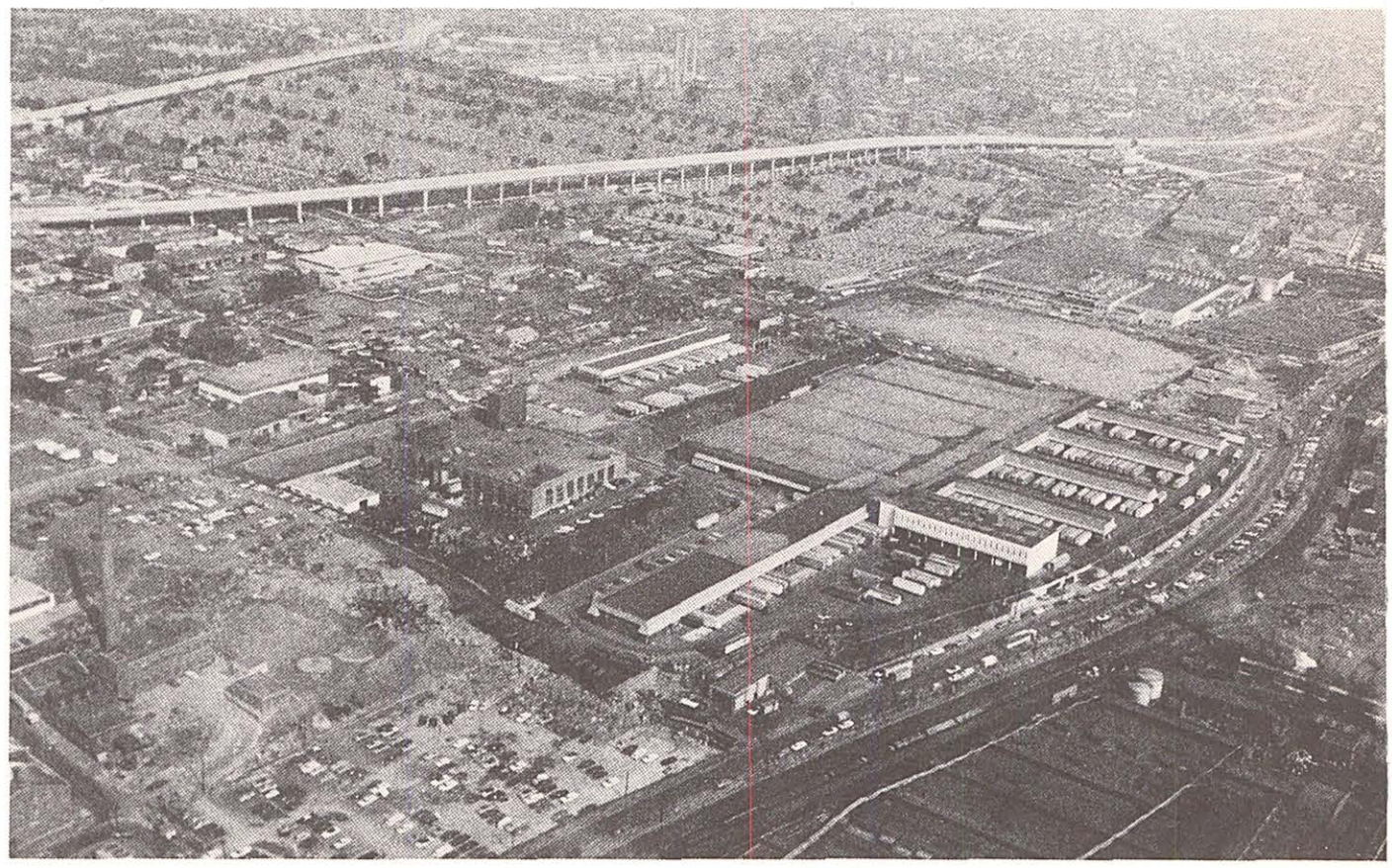
Low density one-story development and open storage uses are widespread in Brooklyn and Queens.

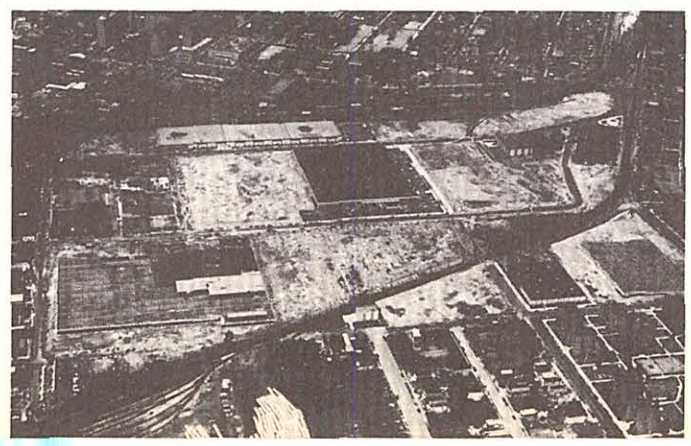
Right: A concentration of truck terminals with surface truck parking in a Maspeth zone with poor access to rapid transit.

Below left: The New York Lumber Exchange at Newtown Creek handles 90 per cent of the lumber coming into the City. PHOTO: HERMAN SIRLIN

Below center: Planned one-story development in the Flatlands industrial park. PHOTO: COURTESY OF RENTAR CORPORATION

Below right: The Brooklyn Union Gas Company's sprawling tank farm on the Brooklyn side of Newtown Creek.





High Density Example 1: The Starrett Lehigh Building

The Starrett Lehigh Building at 26th Street and 12th Avenue, Manhattan, is a good example of a multi-story building that works well for blue-collar industries. It has 20 floors, a truck terminal on the ground floor and truck elevators providing direct freight access to all levels. The building provides as much as 100,000 square feet of continuous space on some floors. Despite job density and truck traffic, the building causes no congestion in the area largely because of built-in off-street loading facilities. With more than 1.5 million square feet of floor space, the building accommodates 4,000 to 5,000 workers on a single city block.

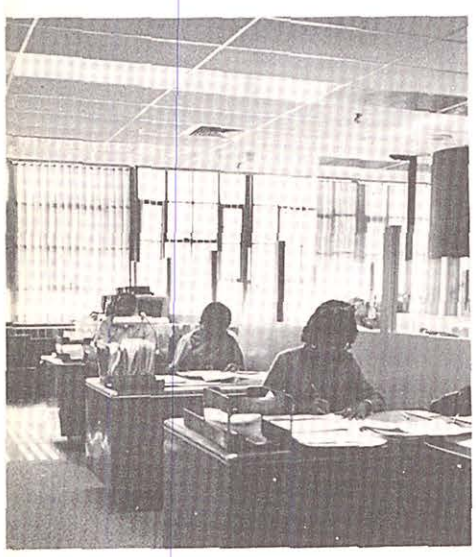
Tenant A: Printing plant (center bottom)

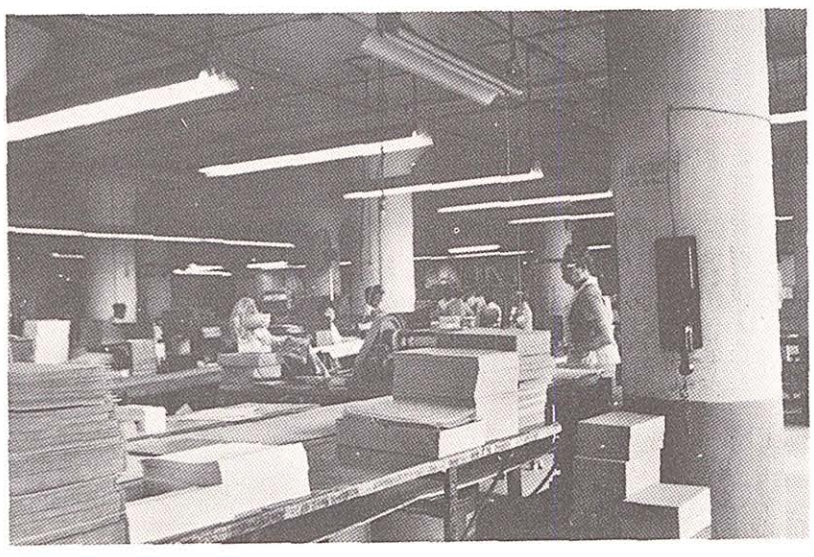
Left and Center: Horizontal layouts provide suitable space for bench and assembly work and for attractive offices.

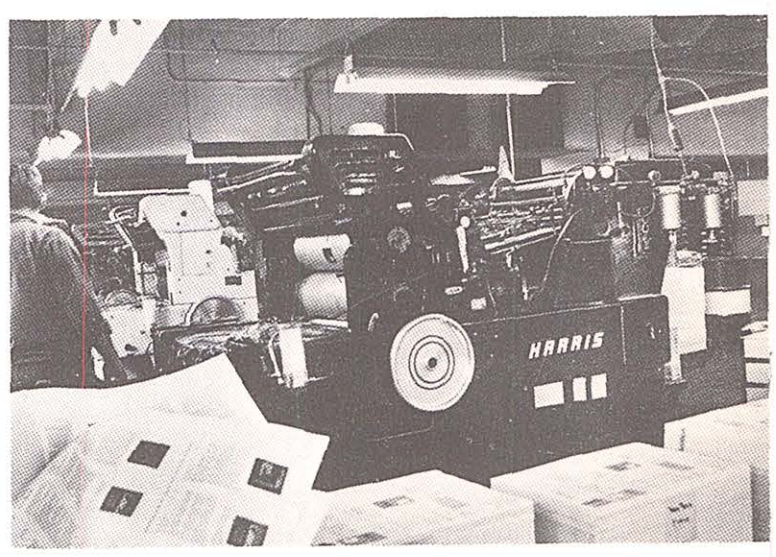
Right: Flexibility of interior space allows a wide range of uses, including printing and binding operations, which require heavy machinery.

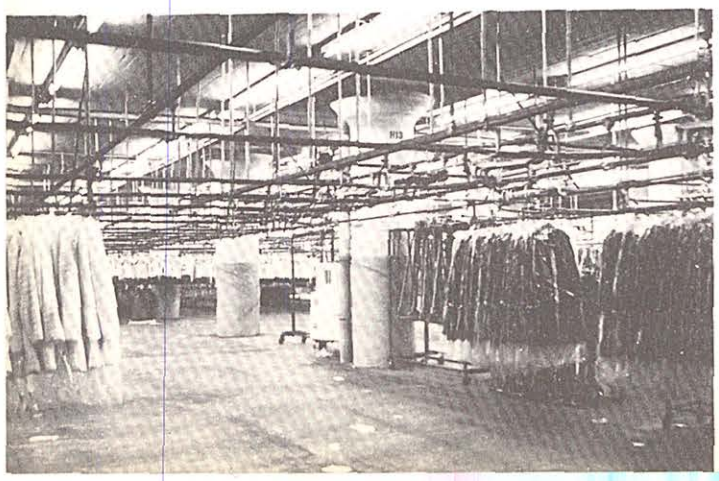
Tenant B: Apparel firm (bottom)

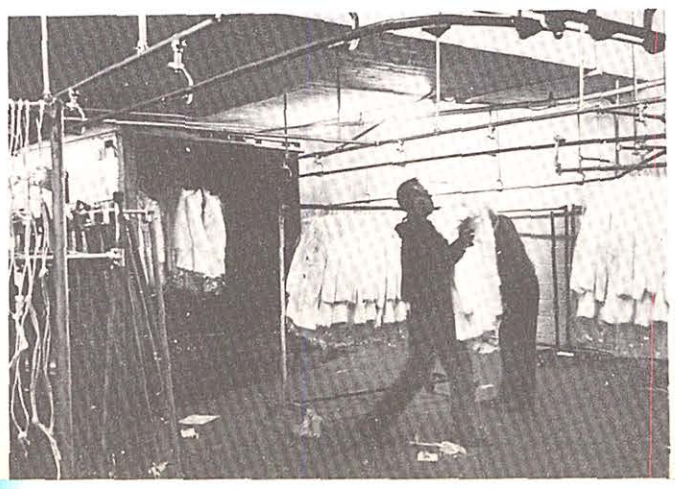
A large-scale coat distribution and whole saling firm is located on an upper floor o the Starrett Lehigh Building. Trucks enter ing on the ground floor of the building ar routed to truck elevators which lift then to the upper stories providing direct acces to the warehouse.

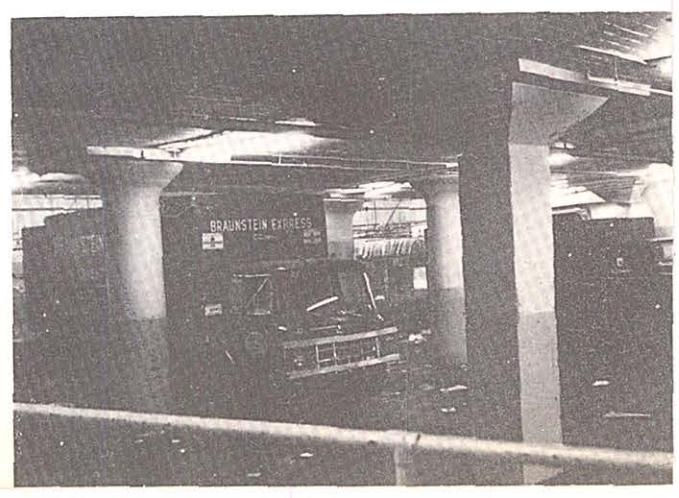












Mixed Land Use

Some industrial waterfront sites in the East River band are ideal for mixed-use development which will protect existing jobs and provide attractive sites for new housing.

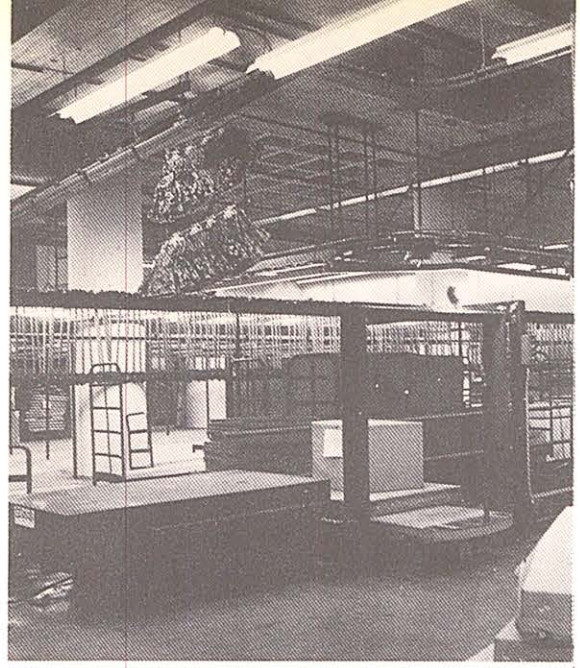
PHOTOS: ADRIANA KLEIMAN

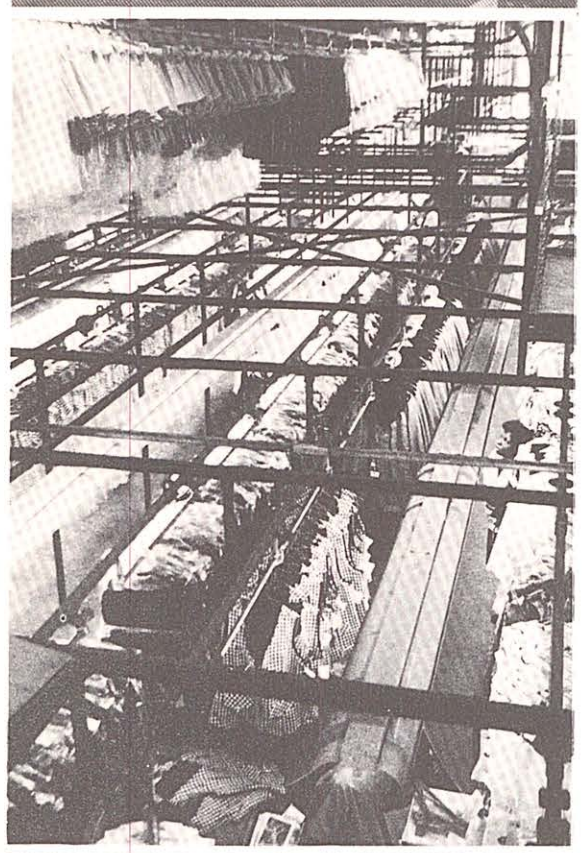
Top: With the exception of the Pepsi Cola Company, most Hunters Point industry no longer depends on water transportation. Much of the waterfront land (shown right) and low-density housing in this Queens area just north of Newtown Creek, are suitable for new mixed-use development. Construction of six-story industrial buildings in the first phase of a project would consolidate now scattered industry and free industrial land for housing.

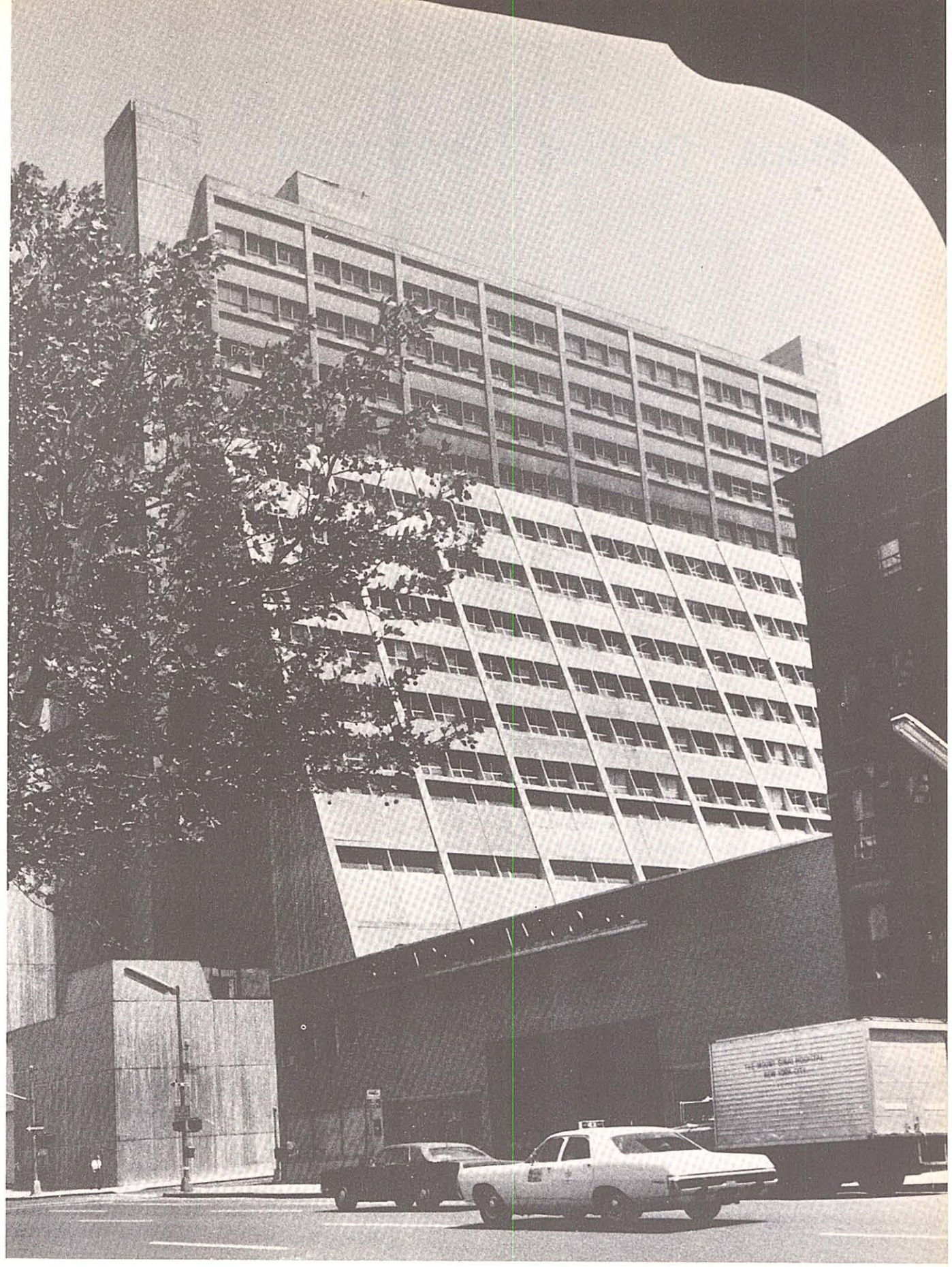
enter: Water-oriented industry in Astoria, north of the Ravenswood Station, also has declined. A mixed-use district here will encourage residential redevelopment of waterfront land linking it to the upland residential community while preserving existing industry.

ttom: With the exception of Red Hook houses (right center of photo), most of the Red Hook peninsula's interior blocks contain industry with low job density, poor housing and large open recreational space. Redevelopment of these areas with dual-use high-rise buildings, combining two or three floors of industrial space with apartments above, can open up the waterfront for housing while protecting industry.

PHOTO: HERMAN SIRLIN







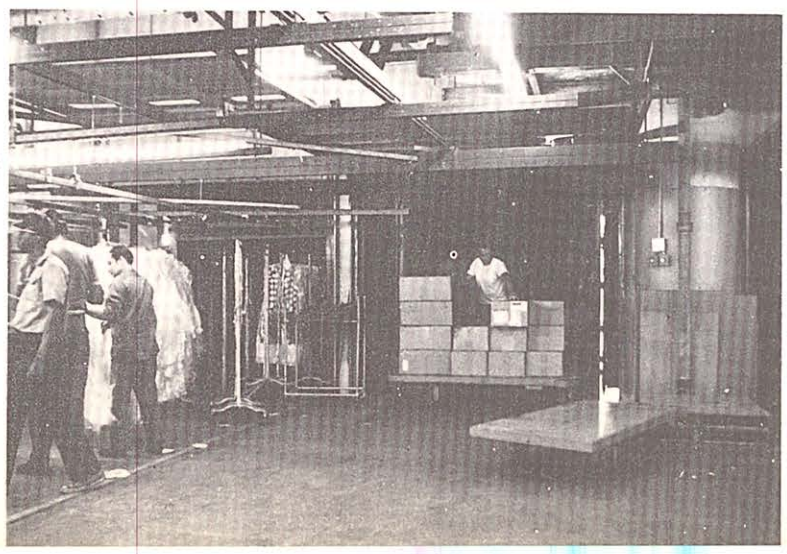
High Density Example 2: The Midtown Mart Building

The 14-story Midtown Mart, Manhattan's first new loft structure in 40 years, was recently completed in the West 30th Street yards. The poured concrete structure, with more than 1 million square feet of floor space, has off-street loading bays and freight elevators with direct service to individual firms.

Top left: An automated system, through five floors of the building, routes garments to storage racks where they can be easily inventoried and recalled. A similar automated conveyer system sorts and stores boxed goods.

Center left: High ceilings permit three levels of storage racks on a single floor.

Bottom left two photos: Racks and boxes of merchandise are automatically recalled from storage areas and loaded on trucks at street level.



Right: Office space, adjacent to storage area, is used for record-keeping. Half the building has been converted for office use.

PHOTOS: ADRIANA KLEIMAN

Maps | Profiles | Proposals

This section of the report contains maps and profiles of the industrial zones of the Bronx, Brooklyn and Queens. These boroughs can provide the best immediate solutions to the City's industrial space needs. Each district is described in two maps: (1) a color map showing existing land use and the Planning Department's general re-use recommendations; (2) a transit map showing the industrial zones in relation to subway stops. A statistical profile shows survey findings for each borough and for each district mapped.

In addition, a detailed plan for East New York shows in seven maps the step-by-step re-planning of a built-up industrial district.

Brooklyn

With one-fifth of the City's manufacturing, trucking and warehousing jobs, Brooklyn provides the best opportunities in the City for industrial renewal. Three industrial districts—Greenpoint, East New York and Gowanus—are within easy reach by subway of Brooklyn Model Cities where underemployment is high. These districts have more than 140 acres of land suitable for redevelopment which could increase the borough's industrial floor space by 20 per cent providing room for more than 30,000 jobs.

Profile: Brooklyn

Total blue-collar industry jobs	180,400[1]			
Percent of City blue-collar industry jobs	19%			
Percent of workforce in largest industries	Apparel: 14%	Food: 12%	Metals: 11%	
Median wage	$6,012			
Ethnic makeup of workforce	53% W[2]	22% B	25% PR	
Skill makeup of workforce	10% WC	17% H	73% SU	
Mode of trip to work	56% MT	32% A	10% F	2% C
Total blue-collar industries floor space	77.8 million sq. ft.			
Median sq. ft. per worker	530			
Median rent per sq. ft.	$1.01			

1 Job and floor space totals include a non-conforming zone in central Brooklyn which is not included in the individual zone profiles on the following pages.

2 Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

City Planning Department Industrial Survey, 1969.

Williamsburg-Greenpoint, Newtown Creek

The Williamsburg-Newtown Creek peninsula is a classic example of land use conflicts. Industry occupies almost half the land. It surrounds and is mixed with housing. With more than 90,000 jobs and almost 40 million square feet of industrial floor space, it is the major manufacturing center of Brooklyn and draws workers from the whole city. Pressure for new housing and community facilities threatens the area's jobs. Housing projects in the interior prevent expansion of neighboring industrial plants.

The residential community in Williamsburg is surrounded by a solid band of industry stretching along the East River and Newtown Creek. The industrial character of the Williamsburg waterfront is fixed. Domino Sugars, the F&M Schaefer Brewing Company and Lumber Exchange Terminal Incorporated are tied to the East River. The waterfront will not be available for housing in the foreseeable future. Distributors and warehouses are concentrated along Newtown Creek which has poor subway access and is suitable for these low-density goods handling firms.

The key planning problem in Williamsburg is to protect and strengthen the area's industrial base while providing for additional housing and community facilities. This requires a clearer separation of industry and housing.

There are numerous recent examples where new community facilities have blocked industrial expansion and created conflicts. North of the Williamsburg Bridge, Domino Sugars contributes to the heavy truck traffic along Wythe and Kent Avenues. While the mixture of small firms and deteriorating housing east of Wythe Avenue provides an opportunity to assemble large sites, the construction of P. S. 84 on these blocks limits industrial expansion.

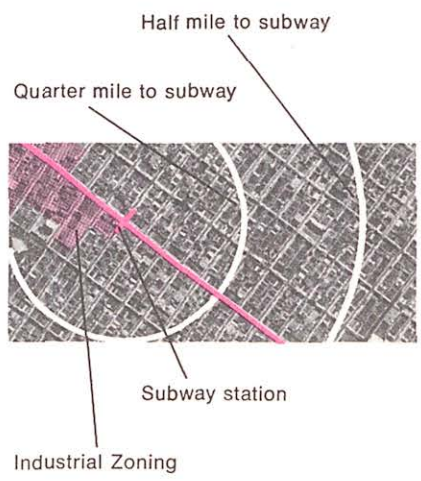
The massive Charles Pfizer and Company complex with more than 2,000 high-wage jobs is located north of Flushing Avenue. Plant activity and chemical fumes are unpleasant for residents. A pocket of 800 deteriorated and dilapidated housing units is being squeezed out by piecemeal industrial expansion. A new intermediate school, built in the midst of this heavy industrial area to serve the population on the other side of Broadway, has created community pressure for new vest pocket housing.

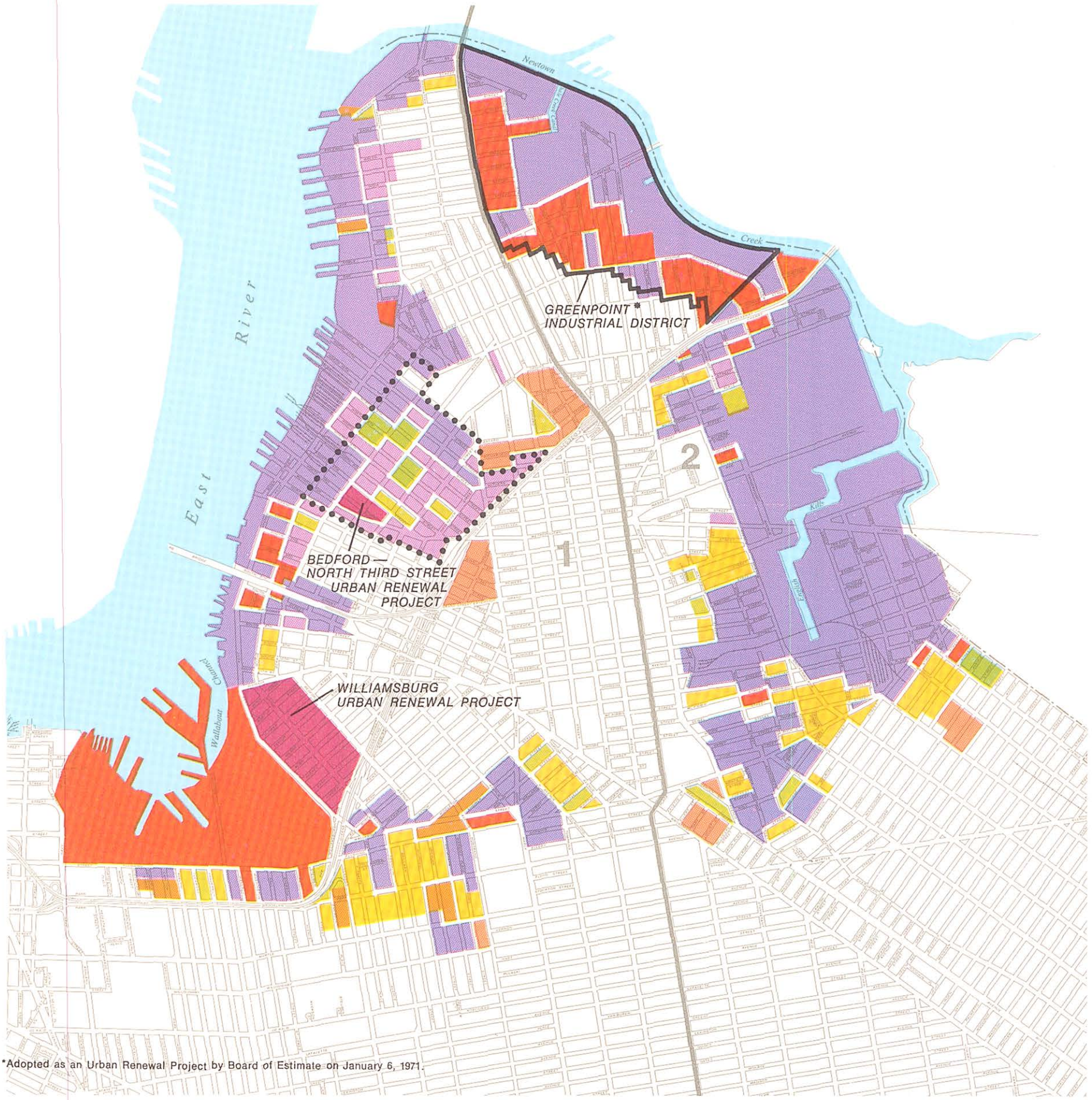
Bushwick Avenue divides industry and housing. To minimize residential relocation, the Northeast Brooklyn High School was built on the site of the former St. Catherine Hospital east of Bushwick Avenue. The school is surrounded by industry including a heavy concentration of lofts along Morgan Avenue. The decline of residential use has been accelerated by frequent fires and piecemeal industrial expansion. In the past, the Housing and Development Administration (HDA) municipal loan funds have been used to rehabilitate fire-gutted residences. Recent requests for zoning changes to allow additional residential improvements, however, have been denied. The remaining deteriorating housing is slated for long-term industrial redevelopment. New investments for housing and community facilities will be restricted to the major action area west of Bushwick Avenue.

Industry scattered throughout the resi-

continued on page 78

ACCESS TO SUBWAY





*Adopted as an Urban Renewal Project by Board of Estimate on January 6, 1971.

Williamsburg-Greenpoint (1)

Total blue-collar industry jobs	50,400		
Percent of Brooklyn blue-collar industry jobs	27%		
Percent of workforce in largest industries	Food: 16%	Apparel: 12%	Chemical: 12%
Median wage	$5,950		
Ethnic makeup of workforce	53% W	19% B	28% PR
Skill makeup of workforce	7% WC	16% H	77% SU
Mode of trip to work	61% MT	26% A	12% F 1% C
Total blue-collar industries floor space	19.1 million sq. ft.		
Median sq. ft. per worker	630		
Median rent per sq. ft.	$0.89		

Newtown Creek (2)

Total blue-collar industry jobs	42,300		
Percent of Brooklyn blue-collar industry jobs	24%		
Percent of workforce in largest industries	Food: 19%	Apparel: 14%	Metals: 13%
Median wage	$6,295		
Ethnic makeup of workforce	57% W	22% B	21% PR
Skill makeup of workforce	7% WC	22% H	71% SU
Mode of trip to work	49% MT	44% A	7% F
Total blue-collar industries floor space	18.3 million sq. ft.		
Median sq. ft. per worker	540		
Median rent per sq. ft.	$1.13		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

City Planning Department Industrial Survey, 1969.

LAND USE

Industrial

- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

Residential

- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential

- Retain existing industrial-residential uses
- • • • Industrial-residential district

Other Areas

- Areas under study
- Urban Renewal Areas

- Analysis area
- 4 Analysis area number *(Keyed to text and profile)*

Downtown Brooklyn (1)[1]

Downtown Brooklyn, near a major mass transit hub, has the lowest drive-to-work rate of any industrial area outside Manhattan. Blacks and Puerto Ricans account for three-quarters of the area's workers. The median wage is low, $4,500. The area has a mixture of old and new loft buildings with paper, printing and miscellaneous manufacturing firms.

The special study district between Flushing and Myrtle Avenues is an integral part of the Brooklyn Central Business District (CBD). Removal of the elevated subway along Myrtle Avenue will tie these blocks more closely to the commercial core of downtown Brooklyn and enhance their redevelopment potential. Several substantial loft structures including the Howard Clothes loft will be retained. Expansion of Long Island University and Brooklyn Hospital is being studied.

Between the Brooklyn and Manhattan Bridges a core of modern lofts is dominated by the Gair building and the Jehovah's Witnesses printing operation. Warehouses and vacant land along the waterfront are available for redevelopment. Proposals to locate the Brooklyn Meat Market on this site were defeated by Brooklyn Heights residents who favor new waterfront housing. The waterfront site, separated from Brooklyn Heights by the bridge approach, surrounded by industrial lofts and plagued by truck traffic, is not suitable for present residential use.

South Brooklyn (2)

The South Brooklyn waterfront, stretching from the Brooklyn Bridge to Gowanus Bay, contains 12,000 jobs, 7 per cent of the borough's total. Subway access is poor. Half the workers go to work by car compared to only 15 per cent in downtown Brooklyn and 24 per cent in Gowanus. Job density is lower than in any other Brooklyn industrial area.

The former Squibb buildings, now occupied by Jehovah's Witnesses, in the northern portion adjoin the high-density lofts of downtown Brooklyn. The Port Authority piers form a narrow band along the waterfront below. Port activity has been declining in the South Brooklyn urban renewal project. Wholesalers and distributors are appropriately located here where highway access is good and subway access poor.

Although the short-term future of the area is industrial, a reserve of City-owned land will be available for residential development if Port Authority activity is phased out along the waterfront.

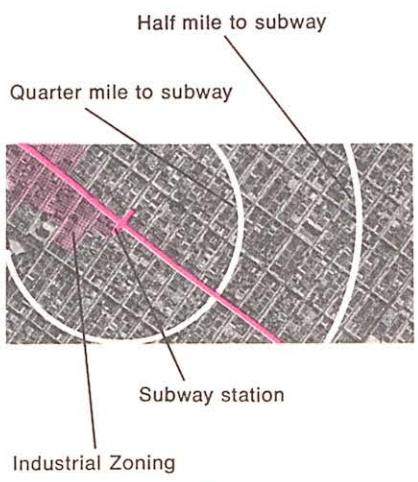
Red Hook suffers from many problems of unplanned development. Red Hook Houses, a large recreation area and a new school form the core of a low-income community cut off from the rest of Brooklyn by the Gowanus Expressway. The interior blocks of good and poor industrial buildings and generally deteriorated tenements and homes are hemmed in by flourishing industry—including Todd Shipyards Corporation and SuCrest Sugar Corporation—on the south and east along Erie Basin and Gowanus Bay.

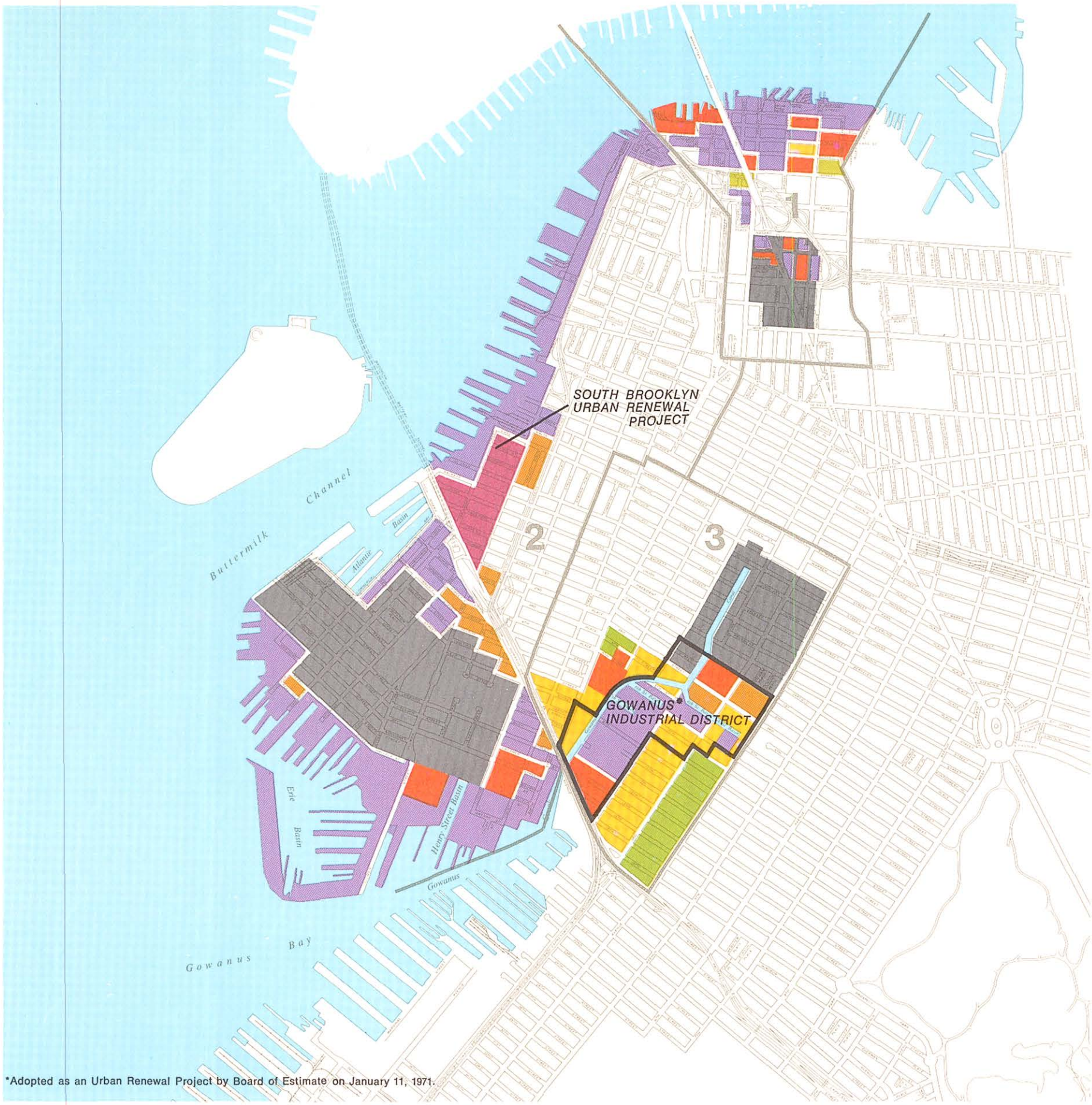
Industry and port activity east of Clinton Street and south of Halleck, Beard and

continued on page 79

[1] Number in parentheses shows district's location on map.

ACCESS TO SUBWAY





*Adopted as an Urban Renewal Project by Board of Estimate on January 11, 1971.

Downtown Brooklyn (1)

Total blue-collar industry jobs	6,500		
Percent of Brooklyn blue-collar industry jobs	4%		
Percent of workforce in largest industries	Paper: 14%	Misc. mfg.: 14%	Printing: 10%
Median wage	$4,530		
Ethnic makeup of workforce	26% W	30% B	44% PR
Skill makeup of workforce	20% WC	7% H	73% SU
Mode of trip to work	75% MT	15% A	8% F 2% C
Total blue-collar industries floor space	3.7 million sq. ft.		
Median sq. ft. per worker	400		
Median rent per sq. ft.	$1.00		

South Brooklyn (2)

12,000		
7%		
Non-elec. mach.: 27%	Rail & truck: 8%	Food: 7%
$6,330		
56% W	20% B	24% PR
6% WC	14% H	80% SU
38% MT	50% A	10% F 2% C
10.2 million sq. ft.		
530		
$0.78		

Gowanus (3)

11,100		
6%		
Apparel: 25%	Wholesale: 9%	Metals: 7%
$6,490		
75% W	6% B	19% PR
5% WC	14% H	81% SU
70% MT	24% A	6% F
3.6 million sq. ft.		
not available		
$0.92		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

City Planning Department Industrial Survey, 1969.

LAND USE

Industrial

- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

Residential

- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential

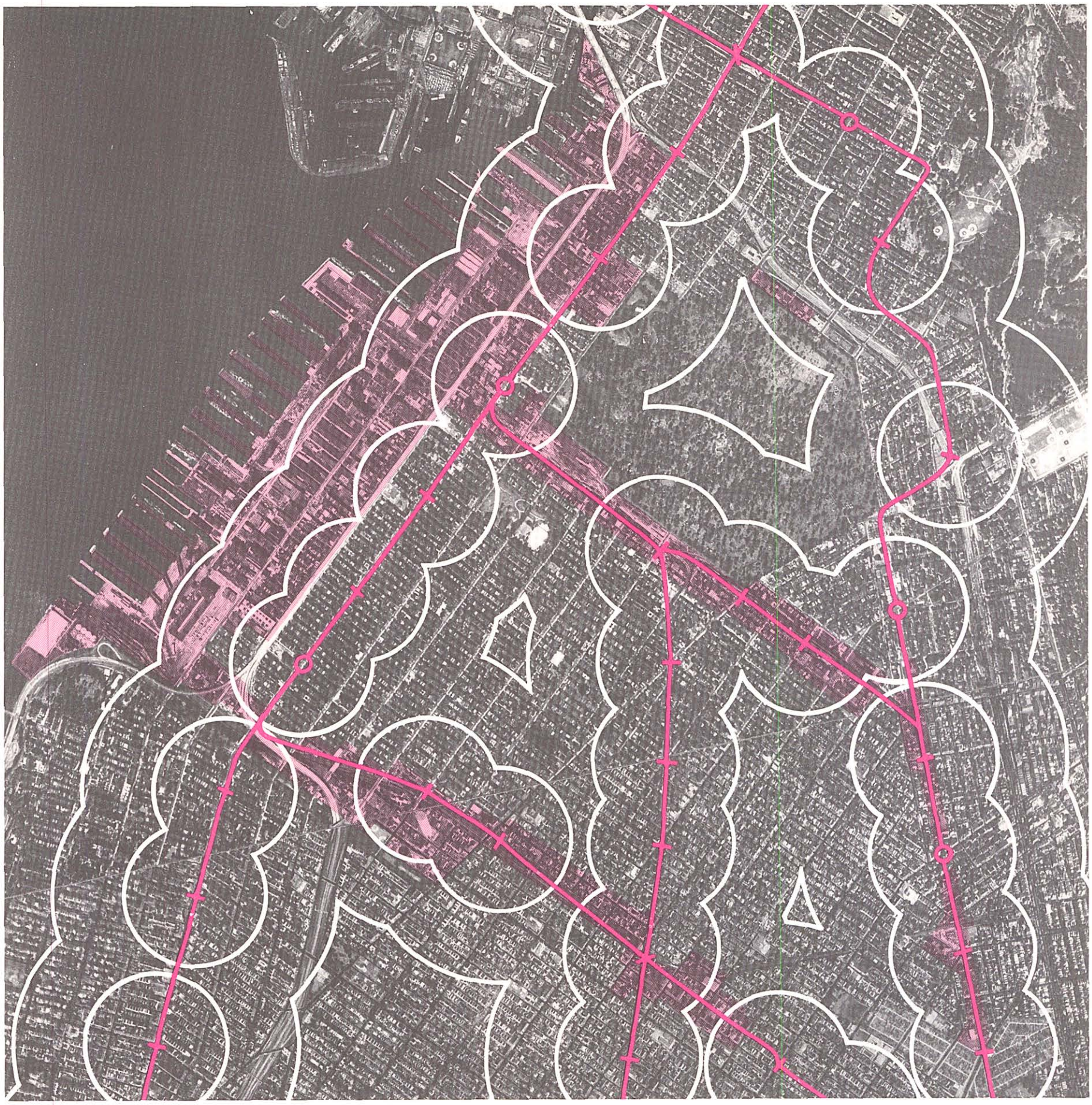
- Retain existing industrial-residential uses
- Industrial-residential district

Other Areas

- Areas under study
- Urban Renewal Areas

- Analysis area
- 4 Analysis area number *(Keyed to text and profile)*

Bush Terminal, Sunset Park, Coney Island



Bush Terminal (1)
Bush Terminal, on the Brooklyn waterfront south of 37th Street, has the largest concentration of loft space and industrial jobs outside of Manhattan. The multi-story terminal has 6 million square feet of floor space and houses apparel and miscellaneous manufacturing firms. Because wholesalers in the area were not sampled in the survey, floor space and employment totals are underestimated.

The abandoned Bethlehem Steel Yards in the special study district will house the new Brooklyn Meat Market, relocated from the Atlantic Terminal renewal area. The Brooklyn Army Terminal buildings, with 2 million square feet of floor space, are located at the southern tip of the industrial band. Waterfront piers and a portion of Building 1 are being renovated for shipping. Building 2, now occupied by the Federal post office, will be vacated shortly.

Heavy truck traffic already clogs the study district and is expected to double if rail service to the Bush Terminal buildings is eliminated. Increased traffic creates an intolerable situation for the residential community wedged between the Gowanus Expressway and Second Avenue.

The site of the vacant American Machine and Foundry building, adjacent to the new meat market site, is being considered for the consolidated Lutheran Hospital. Rezoning blocks in the immediate vicinity of the hospital would help make this proposal work.

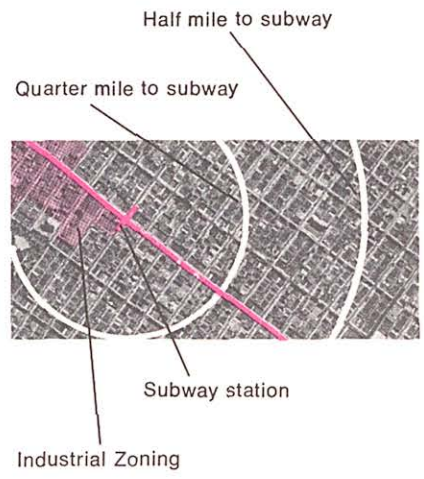
Sunset Park (2)
Sunset Park consists of three industrial bands surrounded by stable, generally well-maintained residential communities. While no major industrial expansion is proposed, a special mixed-use district allowing both industry and housing to improve is recommended. Decking the transit yards west of Ninth Avenue for new housing and community facilities is being studied.

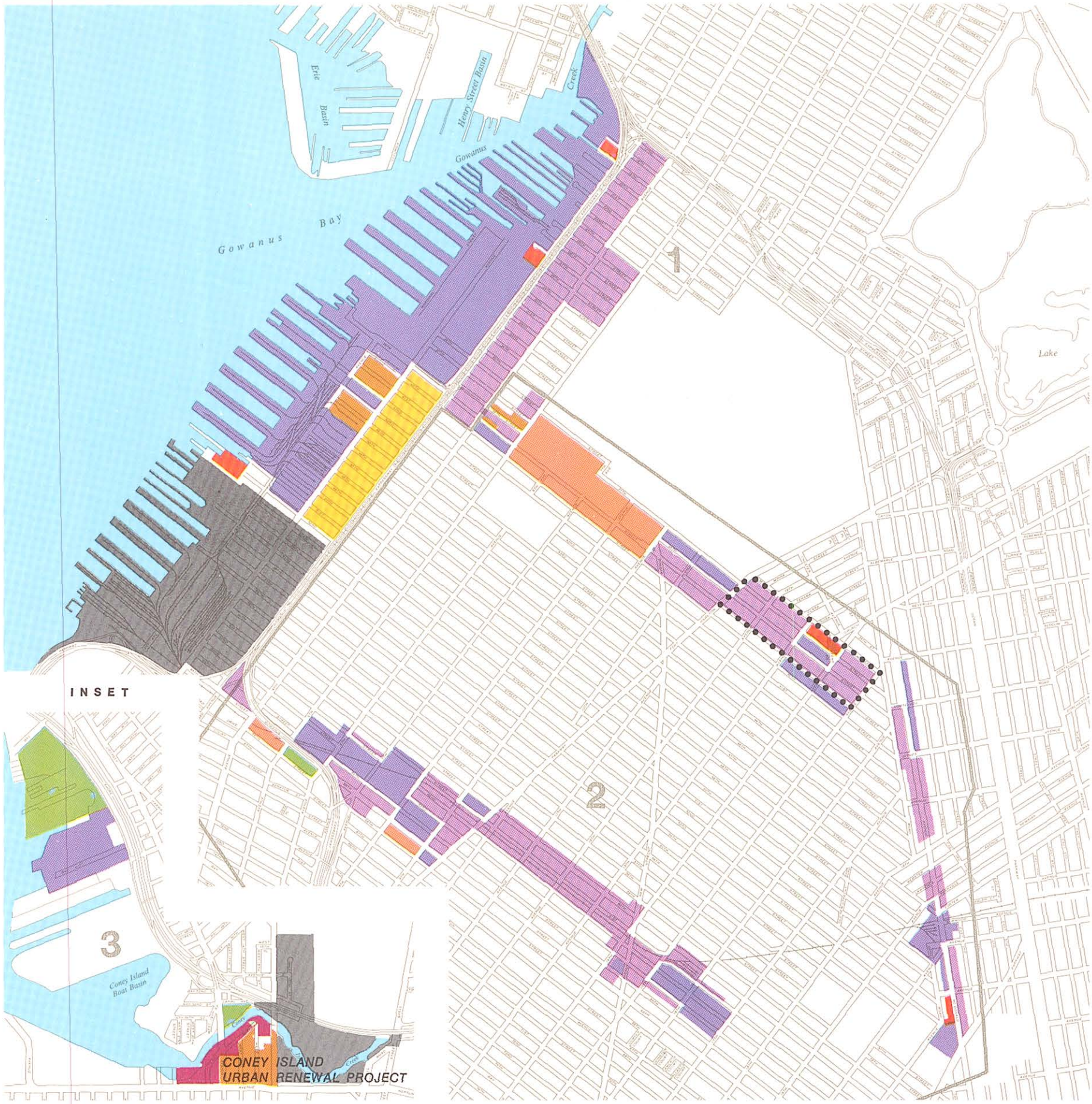
The McDonald Avenue strip, under the elevated subway trestle, contains a mixture of industrial, residential and commercial uses. While the existing land use pattern is weak, no immediate action is proposed.

The lower industrial arm, extending east from the Brooklyn Army Terminal, follows the Long Island Railroad (LIR) right-of-way. The present mixture of attractive housing with apparel and miscellaneous manufacturing firms employing local women should be retained.

Coney Island (3)
The Coney Island Creek urban renewal project will provide relocation space for firms being displaced by the adjacent vest pocket housing project. South of Hart Place next to the urban renewal project, poor housing is mixed with expanding industry. A shopping center has been proposed for the Coney Island special study district. A supermarket is under construction north of the creek.

ACCESS TO SUBWAY





Bush Terminal (1)

Total blue-collar industry jobs	17,200		
Percent of Brooklyn blue-collar industry jobs	9%		
Percent of workforce in largest industries	Misc. mfg.: 15%	Metals: 11%	Apparel: 9%
Median wage	$6,300		
Ethnic makeup of workforce	64% W	16% B	20% PR
Skill makeup of workforce	19% WC	14% H	67% SU
Mode of trip to work	62% MT	24% A	6% F 8% C
Total blue-collar industries floor space	6.5 million sq. ft.[1]		
Median sq. ft. per worker	450		
Median rent per sq. ft.	$0.70		

Sunset Park-Coney Island (2) (3)

Total blue-collar industry jobs	1,800		
Percent of Brooklyn blue-collar industry jobs	2%		
Percent of workforce in largest industries	Apparel: 17%	Misc. mfg.: 11%	Metals: 10%
Median wage	$5,190 (28% under $4,000)		
Ethnic makeup of workforce	40% W	25% B	35% PR
Skill makeup of workforce	29% WC	36% H	35% SU
Mode of trip to work	71% MT	25% A	4% F
Total blue-collar industries floor space	.7 million sq. ft.		
Median sq. ft. per worker	600		
Median rent per sq. ft.	not available		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

1 Excludes wholesale establishments.

City Planning Department Industrial Survey, 1969.

LAND USE

Industrial

- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

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- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential

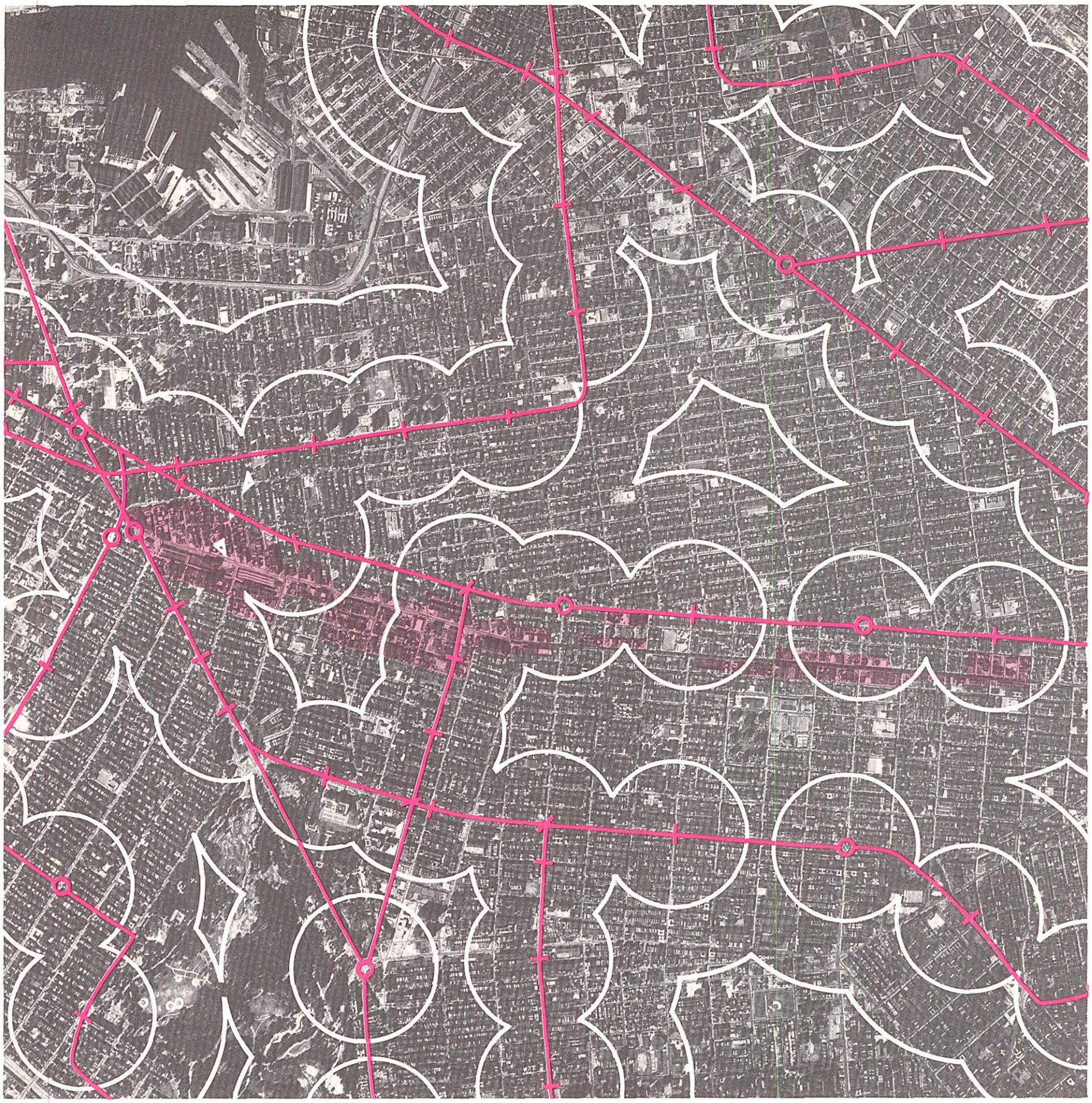
- Retain existing industrial-residential uses
- Industrial-residential district

Other Areas

- Areas under study
- Urban Renewal Areas

- Analysis area
- 4 Analysis area number *(Keyed to text and profile)*

Atlantic Avenue



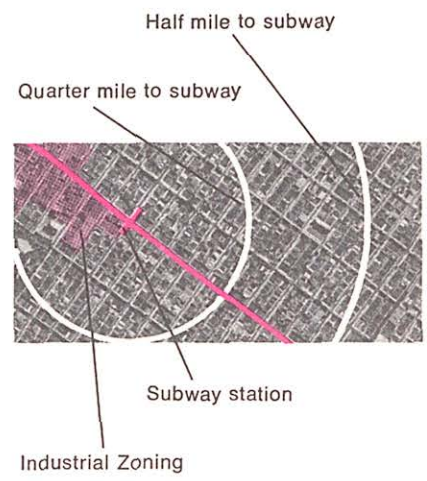
The Atlantic Avenue industrial corridor stretches from Brownsville through Bedford-Stuyvesant to the Brooklyn central business district. The Long Island Railroad (LIR), elevated between Howard and Bedford Avenues, crosses the area providing transportation for the 15 per cent of the area's workforce which lives in the suburbs. Twenty-seven per cent of the area's employees live within walking distance of their jobs. The Daily News plant accounts for almost 40 per cent of the 8,100 jobs; high-wage food and rail trucking firms, for an additional 25 per cent.

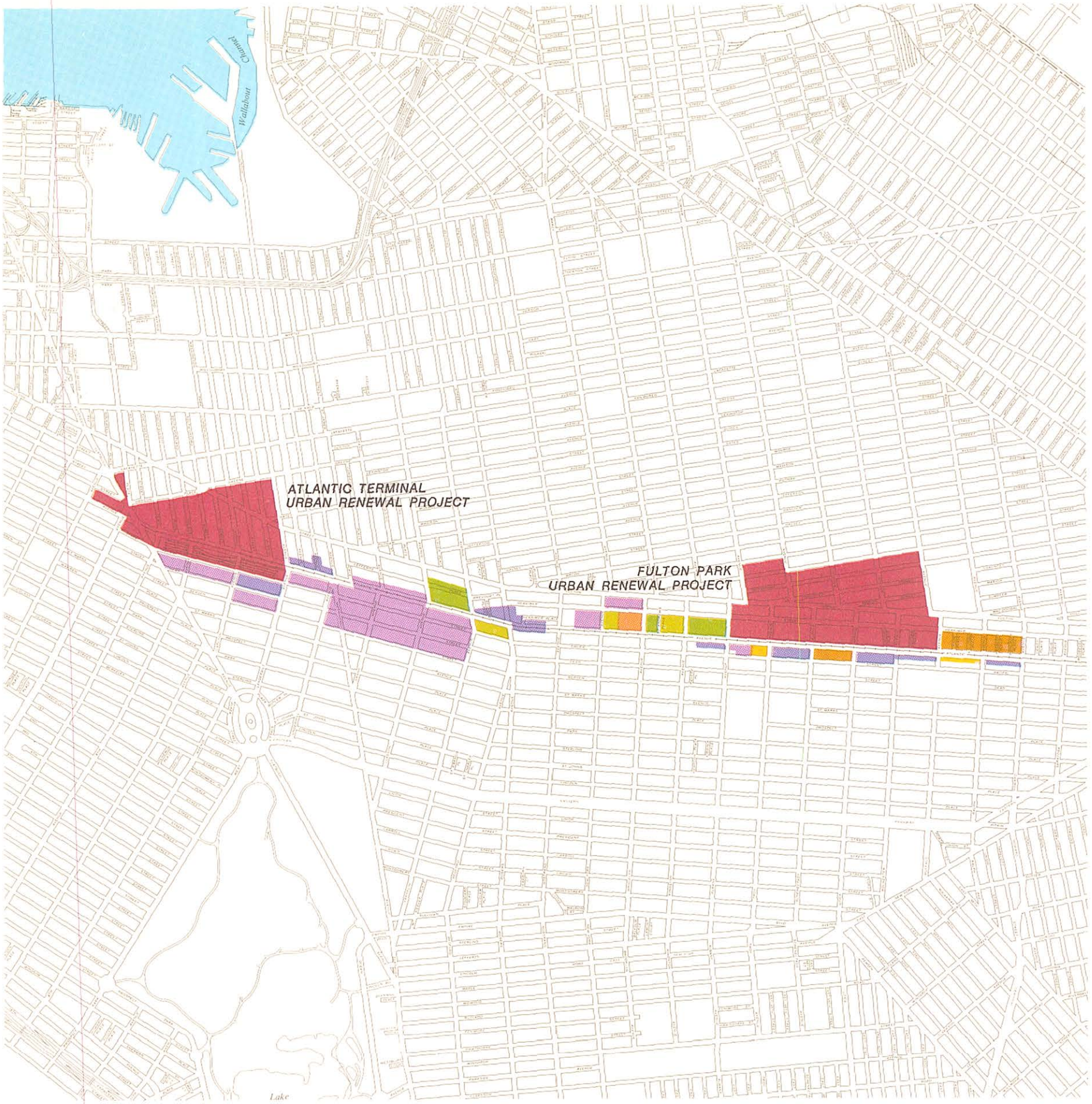
Urban renewal projects in the eastern and western ends of the zone foreclose industrial expansion.

Commercial redevelopment has been proposed south of Atlantic Avenue next to the Fulton Park project. The Brooklyn Local Economic Development Corporation (BLEDCO) proposal for these blocks near the expanding downtown Brooklyn commercial area, calls for housing and a regional shopping center. The site lacks direct subway and highway access. The Broadway Junction area is more suitable for new commercial development.

The anticipated relocation of the Daily News plant to Long Island City will remove more than 3,000 jobs. The remaining land, however, offers little opportunity for industrial expansion. While a mixed-use area between Washington and Franklin Avenues offers some potential for industrial redevelopment, the existing housing will be preserved as long as possible.

ACCESS TO SUBWAY





Atlantic Avenue

Total blue-collar industry jobs	8,100		
Percent of Brooklyn blue-collar industry jobs	4%		
Percent of workforce in largest industries	Printing: 37%	Food: 12%	Rail & truck: 8%
Median wage	$6,820		
Ethnic makeup of workforce	51% W	36% B	13% PR
Skill makeup of workforce	16% WC	23% H	61% SU
Mode of trip to work	55% MT	23% A	10% F 12% C
Total blue-collar industries floor space	2.8 million sq. ft.		
Median sq. ft. per worker	590		
Median rent per sq. ft.	$1.14		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

City Planning Department Industrial Survey, 1969.

LAND USE

Industrial

- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

Residential

- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

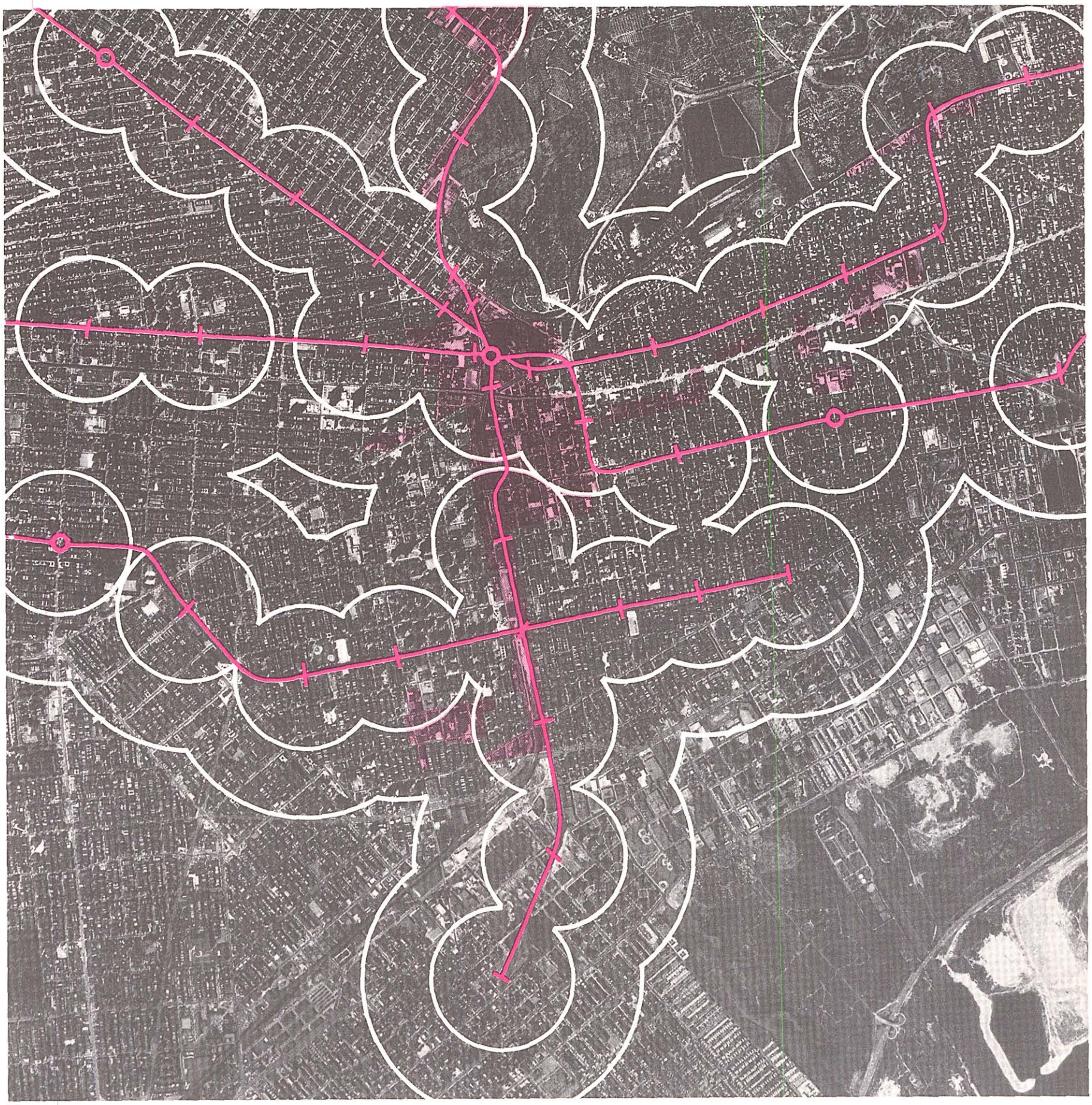
Mixed Industrial-Residential

- Retain existing industrial-residential uses
- Industrial-residential district

Other Areas

- Areas under study
- Urban Renewal Areas

- Analysis area
- 4 Analysis area number *(Keyed to text and profile)*



The East New York-Spring Creek industrial strip lies along the Bay Ridge Division of the Long Island Railroad (LIR). South of Linden Boulevard, industry separates Canarsie from the Model Cities neighborhoods. The Junius-Van Sinderen Avenue industrial spine provides jobs for the generally low-skilled local labor force. One-fifth of the employees in the East New York industrial district walk to work.

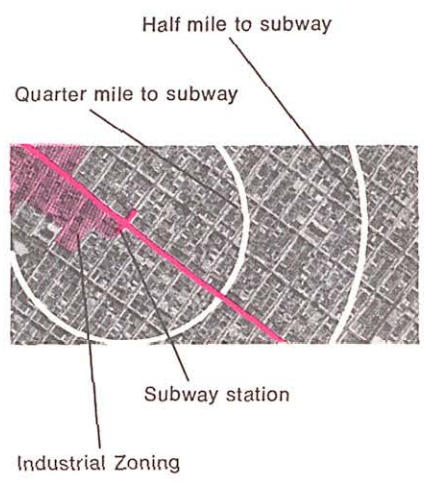
The proposed Queens Interborough Expressway for eastern Brooklyn will follow the railroad right-of-way, minimizing residential relocation, but dislocating 1,800 jobs. Model Cities vest pocket housing programs already have knocked out an estimated 2,000 blue-collar jobs. The Brownsville urban renewal area also is displacing jobs.

East New York

The East New York industrial district, 35 blocks bounded by Sutter, Pennsylvania, Atlantic and Van Sinderen Avenues, offers the only opportunity to provide new manufacturing jobs in the Model Cities area. Four blocks already have been designated for urban renewal. The 8,000 jobs to be created in this project can only offset the losses resulting from other public actions; but no net gains in jobs will be realized *(see detailed plan)*.

The special study district north of Linden Boulevard follows the proposed route of the Queens Interborough Expressway extension. Commercial and institutional redevelopment is being considered for the Broadway Junction area, a hub for the Canarsie, BMT, Jamaica and Eighth Avenue lines.

ACCESS TO SUBWAY



East New York

Total blue-collar industry jobs	13,100		
Peroent of Brooklyn blue-collar industry jobs	7%		
Percent of workforce in largest industries	Apparel: 23%	Metals: 18%	Food: 11%
Median wage	$5,940		
Ethnic makeup of workforce	48% W	27% B	25% PR
Skill makeup of workforce	12% WC	12% H	76% SU
Mode of trip to work	44% MT	33% A	22% F 1% C
Total blue-collar industries floor space	4.7 million sq. ft.		
Median sq. ft. per worker	610		
Median rent per sq. ft.	$0.94		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

1 Employment data for Flatlands Industrial Park not included.

City Planning Department Industrial Survey, 1969.

LAND USE

Industrial

- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

Residential

- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential

- Retain existing industrial-residential uses
- Industrial-residential district

Other Areas

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- Urban Renewal Areas

- Analysis area
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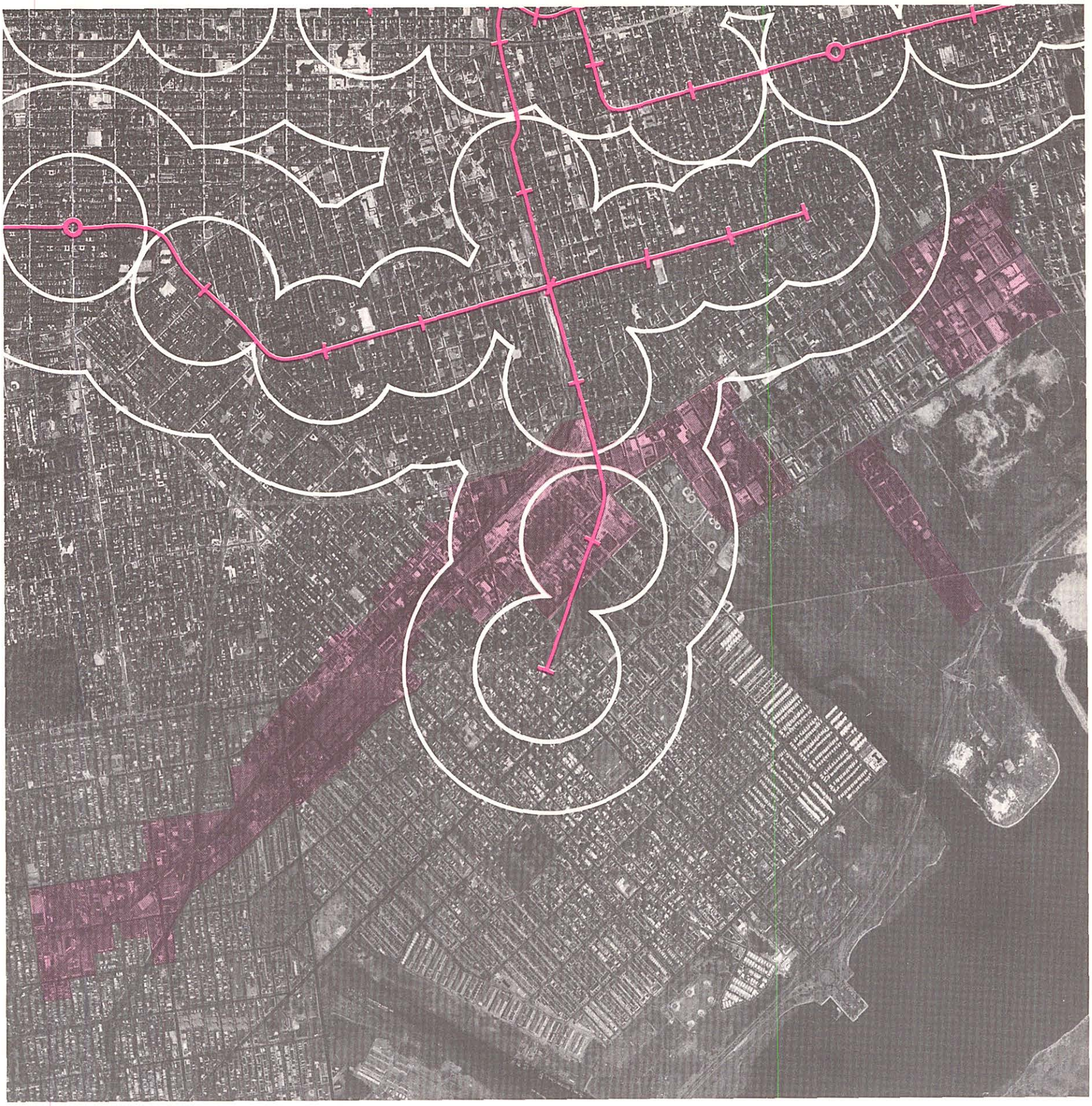


Flatlands, Spring Creek

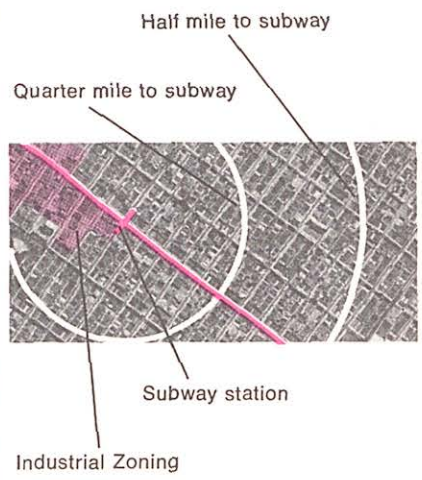
South of Linden Boulevard, the newly opened Flatlands Industrial Park will provide space for 8,000 jobs by the end of 1972. Seventy per cent of the jobs now in the Flatlands project are held by central Brooklyn residents. Flatlands, conceived in 1958 before the development of a unified industrial renewal policy, has modern one-story plants with less than 80 jobs per acre. Space for multi-story buildings in the industrial park can be provided by rezoning the vacant blocks south of Farragut Road.

The Economic Development Administration (EDA) has proposed an extension of the Flatlands Industrial Park in the special study district west along the railroad right-of-way to Kings Highway. New development here is frozen until truck access and other circulation problems are resolved. Relocation of the Brooklyn Terminal Market, presently being studied by EDA, would create additional opportunities for industrial development.

Private development has been rapid in two industrial zones east of Flatlands. The proposed extension of the Interborough Expressway will follow Louisiana Avenue, cutting through the special study district bounded by New Jersey, Flatlands and Louisiana Avenues and Linden Boulevard. Rerouting the highway along vacant blocks to preserve existing jobs is being studied. There is also pressure for commercial development related to the 6,000-unit Twin Pines project planned for Spring Creek.

The blocks bounded by Fountain Avenue, Linden Boulevard, Elton Street and Flatlands Avenue are almost fully developed. In the southeastern section of Spring Creek, 226 acres have been reserved for industrial development. Poor subsoil conditions preclude high-density multi-story buildings, but the land could provide room for 15,000 jobs in low-density manufacturing and wholesaling industries. If the BMT Canarsie line is extended to Spring Creek, the area will be accessible to low-income residents of central Brooklyn.

ACCESS TO SUBWAY



Flatlands-Spring Creek[1]

Total blue-collar industry jobs	6,700		
Percent of Brooklyn blue-collar industry jobs	4%		
Percent of workforce in largest industries	Elec. mach.: 21%	Metals: 17%	Lumber, furniture: 12%
Median wage	$5,220		
Ethnic makeup of workforce	38% W	35% B	27% PR
Skill makeup of workforce	19% WC	14% H	67% SU
Mode of trip to work	45% MT	48% A	6% F 1% C
Total blue-collar industries floor space	2.5 million sq. ft.		
Median sq. ft. per worker	470		
Median rent per sq. ft.	$1.37		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

1 Employment data for Flatlands Industrial Park not included.

City Planning Department Industrial Survey, 1969.

LAND USE

Industrial

- Retain existing use
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- Retain existing community facilities
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Mixed Industrial-Residential

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- Industrial-residential district

Other Areas

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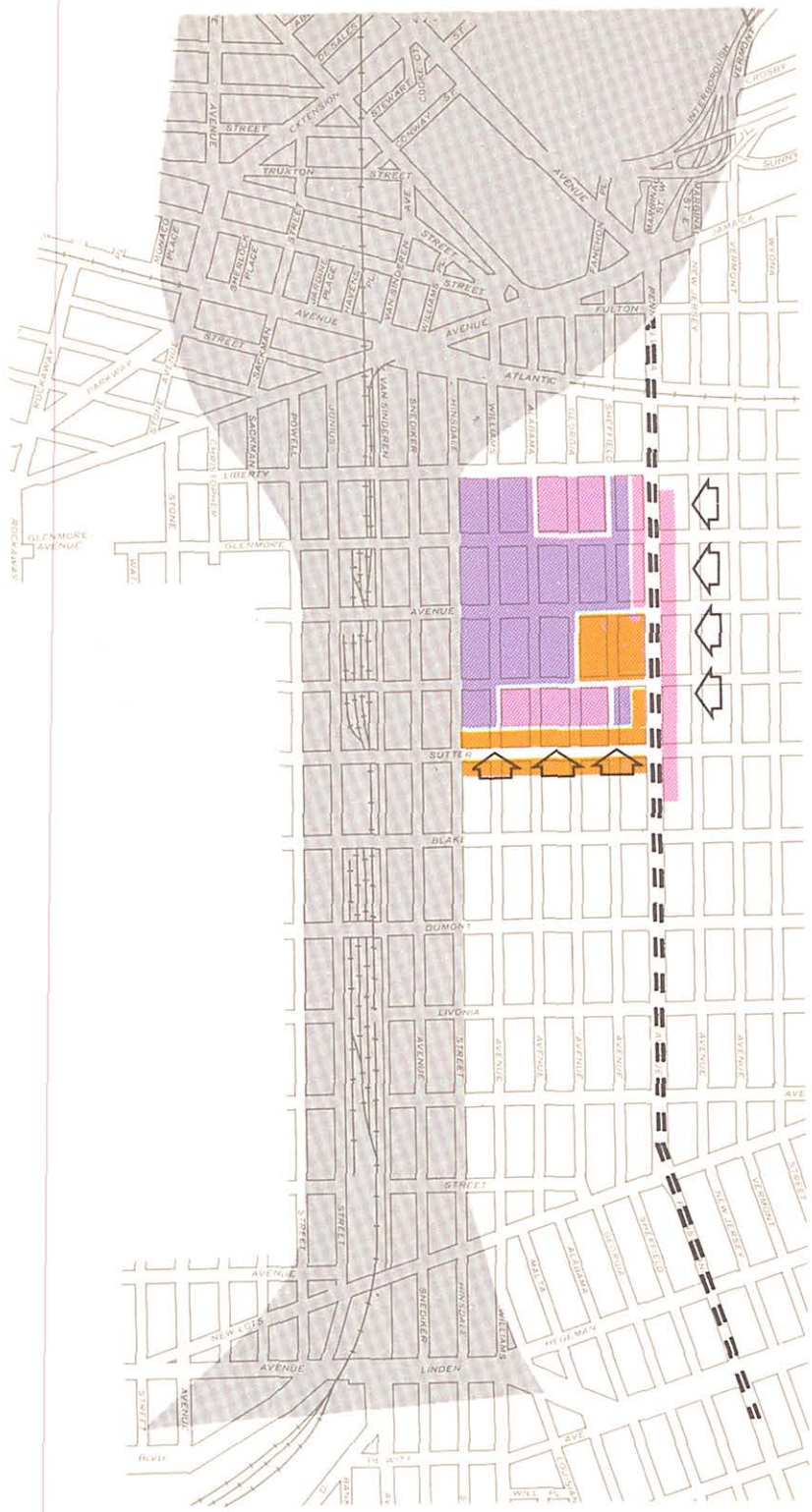
- Urban Renewal Areas

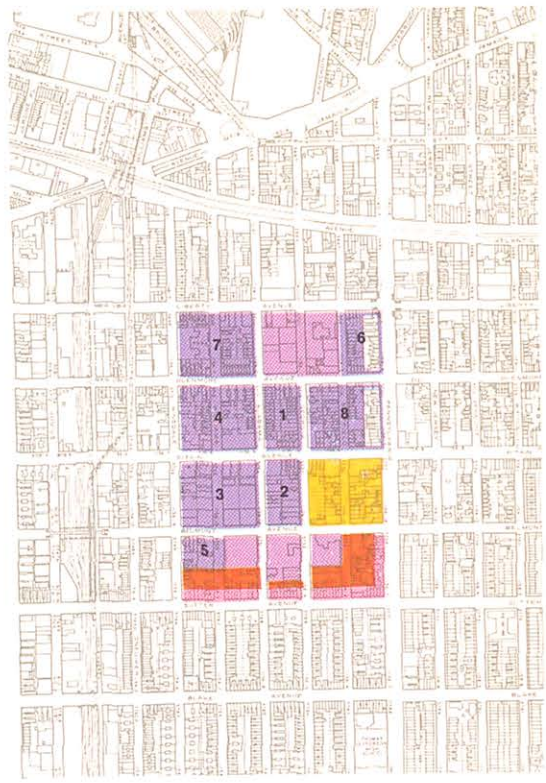
- Analysis area
- 4 Analysis area number *(Keyed to text and profile)*

Detailed Plan: East New York



PROPOSED REUSE

- Housing Sites
- Redevelop Residential
- Retain Industrial
- Redevelop Industrial
- Redevelop Commercial



PLANNING CONSTRAINTS

- Transportation Planning Area
- Pennsylvania Avenue
- Residential Pressure
- Solid Industrial
- Future Housing Sites
- Office and Institutional
- Available for Industrial Development

OPPORTUNITY AREAS

Planning for industrial renewal begins with a sorting out of land uses to determine which sites in an industrial zone are most easily and quickly available. Vacant and low-cost land, and sites with old inefficient plants employing relatively few workers offer the best possibilities. The process of identifying such sites is illustrated in the Greenpoint maps on page 14.

The rest of the process is illustrated on these pages. Scattered sites are assembled into parcels of between six and nine acres suitable for multi-story buildings. A study of traffic patterns determines where streets can be closed and circulation redesigned. Residential densities and the location of major firms are analyzed to develop a staging plan that would cause least disruption to the community. Employers and community groups are consulted on plans to coordinate redevelopment.

Similar detailed plans are being developed for the Greenpoint, Gowanus and South Bronx industrial districts.

Overview

East New York is predominantly residential. Job expansion possibilities are limited. The East New York industrial district has approximately 6,000 manufacturing jobs on less than 8 per cent of the district's land. It is the only central Brooklyn location where space for new manufacturing jobs can be created. In this area, multi-story buildings can provide space for 150 jobs on every acre allocated for industry.

Planning Constraints

Forty-five acres of land are suitable for redevelopment. Twenty acres of this land are being held until plans for highway interchange work are completed. The highway will make adjacent areas less attractive for housing, but better for industry.

Residential redevelopment east of Pennsylvania Avenue and south of Sutter Avenue creates pressure to build housing and community facilities in the industrial zone.

Building Conditions

Most housing is in deteriorated frame buildings. Approximately 3,500 units have been abandoned since 1960. Vacant and fire-gutted residences are scattered throughout the industrial section. Value of industrial buildings is low but they are generally of better quality than the housing.

Major Firms

The Phase I area contains 56 firms employing 3,000 workers at an average density of 65 jobs per acre. Half the firms hire more than 25 workers. Each of the area's chief employers—Piel Brothers, Ferndale Farms Incorporated, Henry Spen and Company Incorporated and Belmont Smelting and Refining Works Incorporated — occupies more than one building and is expanding.

Opportunity Areas

Opportunity areas—with low job density and low assessed valuation—contain marginal industrial firms, vacant land, abandoned buildings and poor housing. These 24 small sites would provide 31 acres of land at an average cost of $5 per square foot. They are scattered throughout the area. Piecemeal redevelopment would result in scattered single-story construction providing space for only 2,000 jobs and prevent the assembly of needed large sites.

Traffic Volume

Street closings and redesign of circulation patterns would increase the amount of land available for industry. East-west traffic flows easily, but Pennsylvania Avenue is the only north-south traffic route. The Atlantic Avenue overpass blocks northerly movement. Many local streets could be closed if a new north-south arterial is built along Van Sinderen Avenue. Trucking would move primarily east-west and would not be permitted to enter the residential neighborhood south of Sutter Avenue.

Re-Use and Staging

This plan would increase available land, create large sites, improve traffic circulation and reduce industrial-residential conflicts. Although a large portion of total land is developable, it would be necessary to displace some good buildings and firms to assemble sites and close streets.

Superblocks would be created east and west of Alabama Avenue by closing Georgia, Sheffield and Williams Streets. Alabama Avenue would be widened and used for interior north-south traffic.

ENVIRONMENTAL CONDITIONS

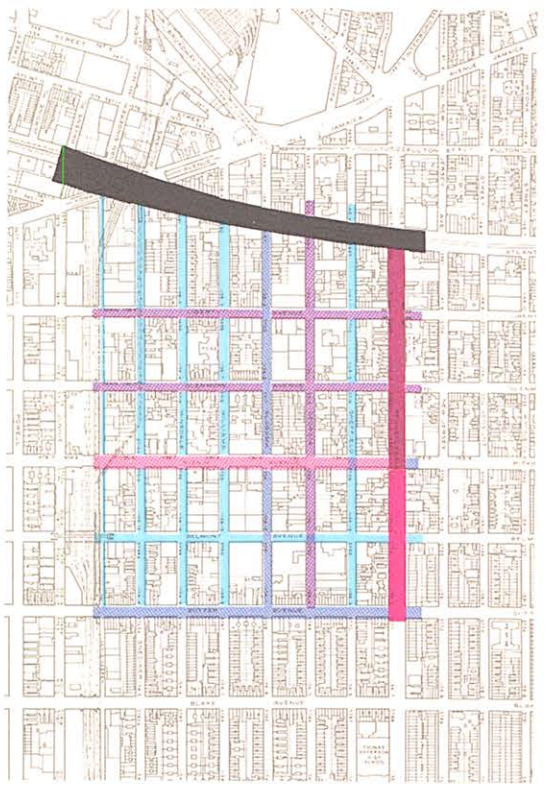
- Good
- Fair
- Poor
- Very Poor

MAJOR EMPLOYERS

- Single Buildings
- Multi-Building Firms
- Main Office

VOLUME OF TRAFFIC

- Less than 2,000 Vehicles/Day
- 2,000 to 4,900
- 5,000 to 9,000
- 10,000 to 14,000
- 15,000 to 24,000
- 25,000 to 34,000
- Over 35,000



Redevelopment in the Phase I area would be staged over five to ten years. Renewal should proceed simultaneously on sites 1 and 2. Sites 3 and 4 are more heavily industrial and could not be redeveloped immediately without severe job displacement.

Sites 1 and 2 will provide four acres to relocate firms from sites 3 and 4. Construction can then proceed on site 3, permitting staged development until the project is completed.

Phase I would provide 25 acres of industrial land, space for 3,500 jobs. Plans for development of the approximately 20 acres west of Hinsdale Street must wait on highway alignment decision.

Proposed staging: East New York Industrial District, Phase I

Sites	Occupied dwelling units	Firms on Sites (1970)	Present jobs	Area* '000's sq. ft. of land	Estimated acquisition cost $'000	Estimated acquisition cost $/sq. ft. of land
1	70	0	0	76	420	5.50
2	5	5	136	76	472	6.20
3	0	9	533	152	1,083	7.15
4	129	2	65	152	912	6.00
5	3	2	50	38	188	4.95
6	99	0	0	76	493	6.50
7	55	3	215	152	684	4.50
8	123	2	62	152	844	5.50
Total	484	23	1,061	874	$5,096	Average $5.79

*Excludes street closings.

Queens

Although Queens has the highest drive-to-work rate of any borough, subway connections are excellent between the East River-Newtown Creek waterfront and the low-income neighborhoods of central Brooklyn, Harlem in Manhattan and the South Bronx.

Industrial redevelopment of the Queens waterfront, where the bulk of the borough's 140,000 jobs are located, presents difficult problems. In Long Island City, there is pressure to redevelop the waterfront where job densities are low for residential use. The decline of industry's dependence on water transportation and the attractiveness of the riverfront for housing open up the possibility for major shifts in land use. Multi-story industrial buildings could resolve many of the land use conflicts by providing more industrial floor space on less land. A privately sponsored multi-story industrial building on Northern Boulevard is being planned.

Buildings combining space for both industry and housing would reduce job displacement by new housing, but are more costly to build than one-use structures. Such vertical mixed-use development is being considered for the waterfront and the Sunnyside yards.

Profile: Queens

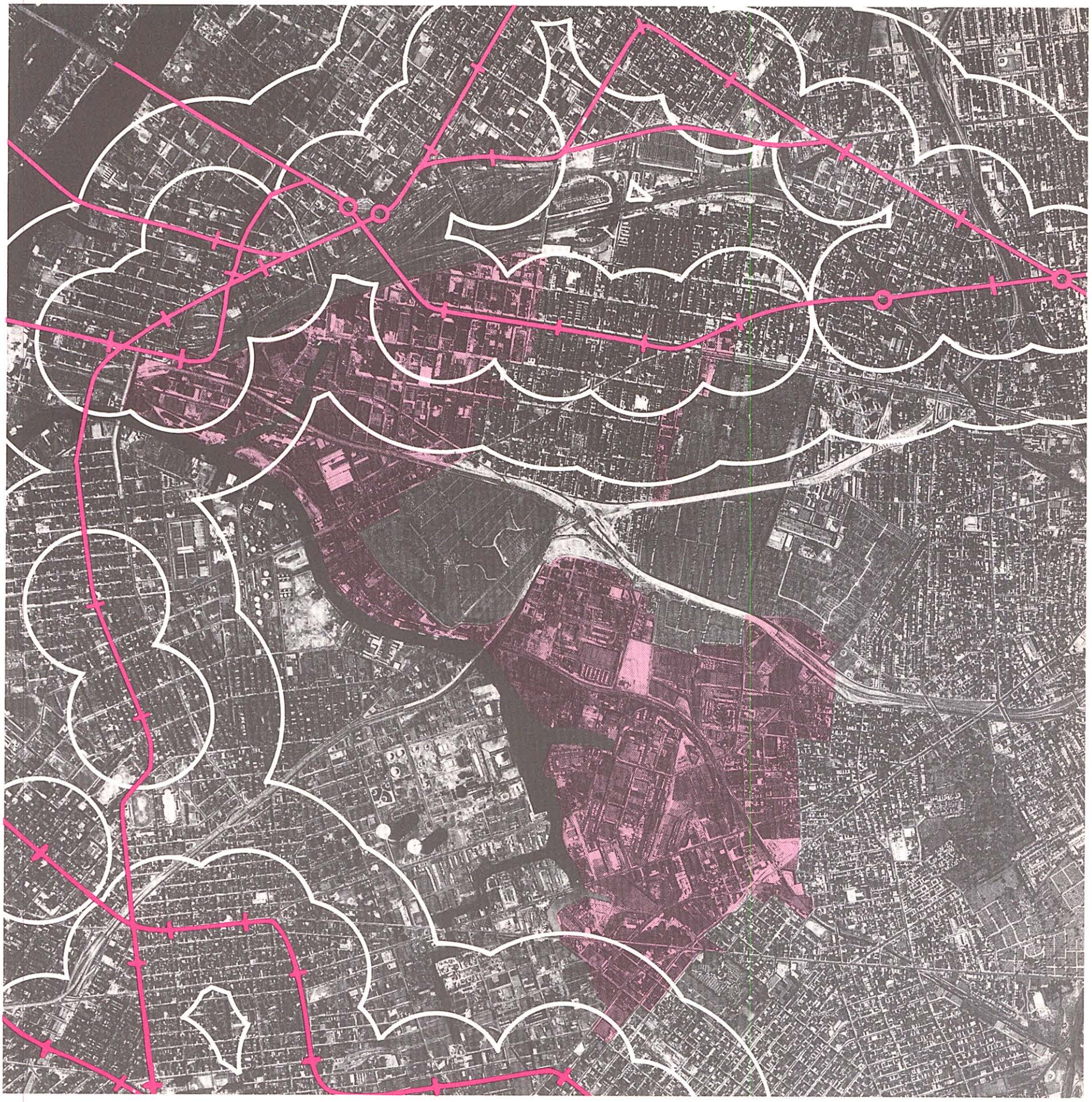
Total blue-collar industry jobs	140,600[1]		
Percent of City blue-collar industry jobs	15%		
Percent of workforce in largest industries	Metals: 11%	Wholesale: 10%	Elec. mach.: 10%
Median wage	$6,249		
Ethnic makeup of workforce	59% W	20% B	21% PR
Skill makeup of workforce	23% WC	16% H	61% SU
Mode of trip to work	46% MT	46% A	6% F 2% C
Total blue-collar industries floor space	54.2 million sq. ft.		
Median sq. ft. per worker	530		
Median rent per sq. ft.	$1.18		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

1 A few small industrial zones in Queens included in this figure are not profiled in the sections which follow.

City Planning Department Industrial Survey, 1969.

Maspeth, Sunnyside



Almost 90,000 jobs, approximately two-thirds of the borough's employment, are located on the East River-Newtown Creek waterfront. Twenty-seven per cent of the City's manufacturing jobs outside Manhattan are concentrated here. High-density loft buildings are located on both sides of the Sunnyside railyards.

In South Maspeth, jobs are fewer but pay better. There is no subway service and employers rely on people who drive to work.

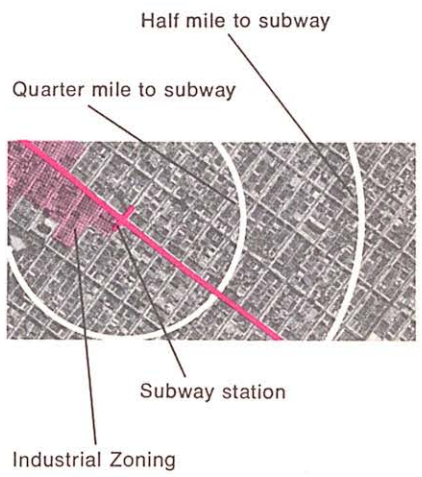
South Maspeth (1)
Because of its location at the geographic center of the City, South Maspeth is an important trucking hub. Job densities are low in the truck terminals occupying large pieces of land along Newtown Creek. The area has been developed rapidly in recent years, primarily with one-story buildings, appropriate where no subway serves.

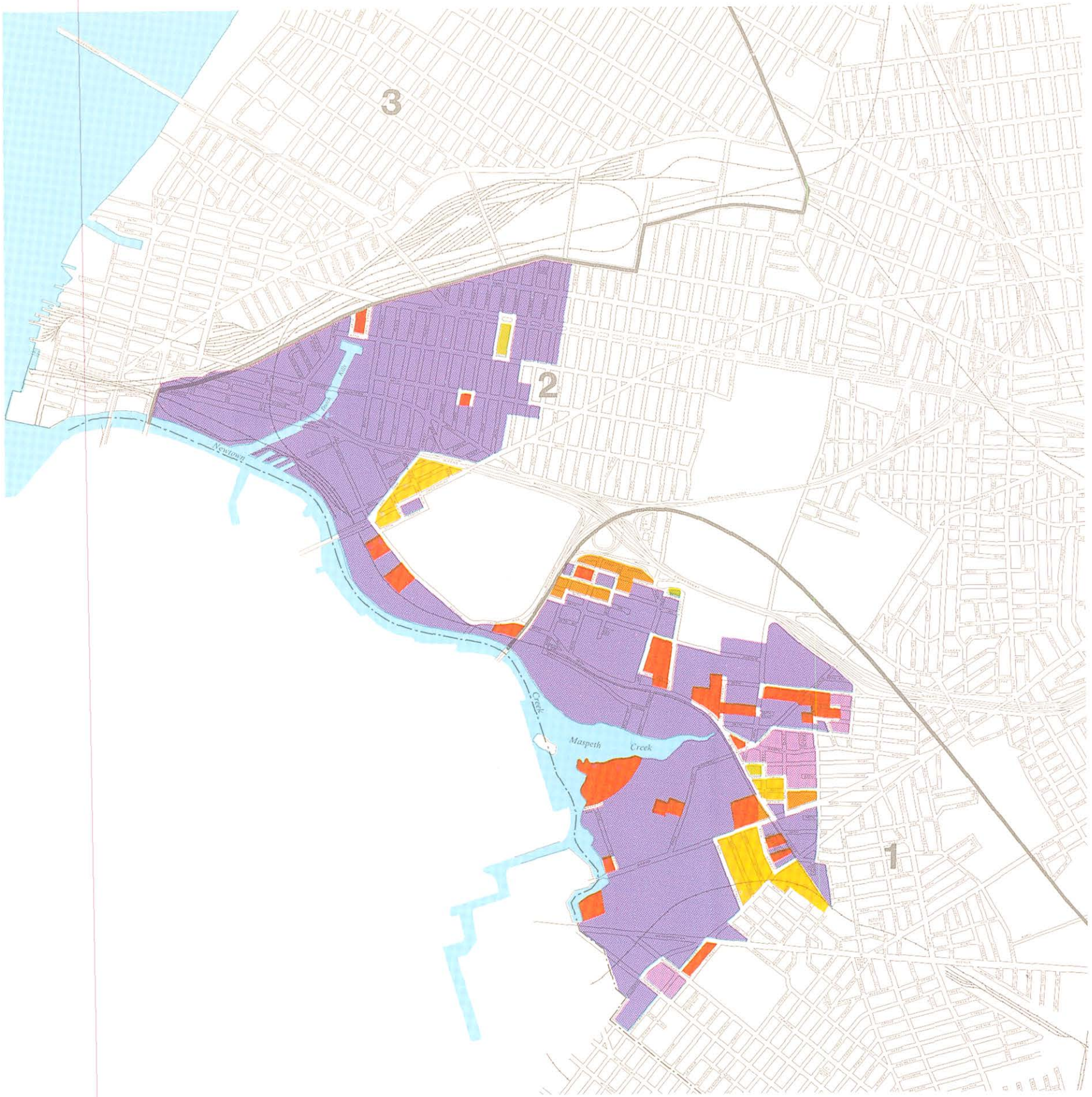
The new United Parcel terminal, between the Long Island Expressway and the tracks of the Montauk Division of the Long Island Railroad (LIR), was designed to take advantage of a grade separation providing two stories of warehouse space with roof and basement parking. Inflated land costs ($7 a square foot for vacant land) have prevented new private development on several large vacant sites north of 56th Road.

West of the LIR, truck terminals are clustered in a well-designed industrial park between Grand Avenue and Maspeth Creek. Several scattered sites for possible redevelopment include 14 acres on Maspeth Creek now used for radio transmission.

Sunnyside (2)
Distributors and truckers are also located south of the Sunnyside yards along Newtown Creek. Distribution activities here work well in older multi-story buildings. The area has warehouses for many department stores. Little opportunity exists for redevelopment.

ACCESS TO SUBWAY





Maspeth (1)

Total blue-collar industry jobs	14,500		
Percent of Queens blue-collar industry jobs	11%		
Percent of workforce in largest industries	Rail & truck: 20%	Metals: 18%	Food: 13%
Median wage	$6,890		
Ethnic makeup of workforce	59% W	20% B	21% PR
Skill makeup of workforce	31% WC	7% H	62% SU
Mode of trip to work	36% MT	59% A	5% F
Total blue-collar industries floor space	4.6 million sq. ft.		
Median sq. ft. per worker	510		
Median rent per sq. ft.	$1.12		

Sunnyside (2)

Total blue-collar industry jobs	26,300				
Percent of Queens blue-collar industry jobs	19%				
Percent of workforce in largest industries	Elec. mach.: 13%	Wholesale: 12%		Metals: 11%	Food: 11%
Median wage	$6,000				
Ethnic makeup of workforce	59% W	19% B	22% PR		
Skill makeup of workforce	35% WC	17% H		48% SU	
Mode of trip to work	61% MT	35% A		2% F	2% C
Total blue-collar industries floor space	9.7 million sq. ft.				
Median sq. ft. per worker	620				
Median rent per sq. ft.	$1.19				

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

City Planning Department Industrial Survey, 1969.

LAND USE

Industrial

- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

Residential

- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential

- Retain existing industrial-residential uses
- Industrial-residential district

Other Areas

- Areas under study
- Urban Renewal Areas

- Analysis area
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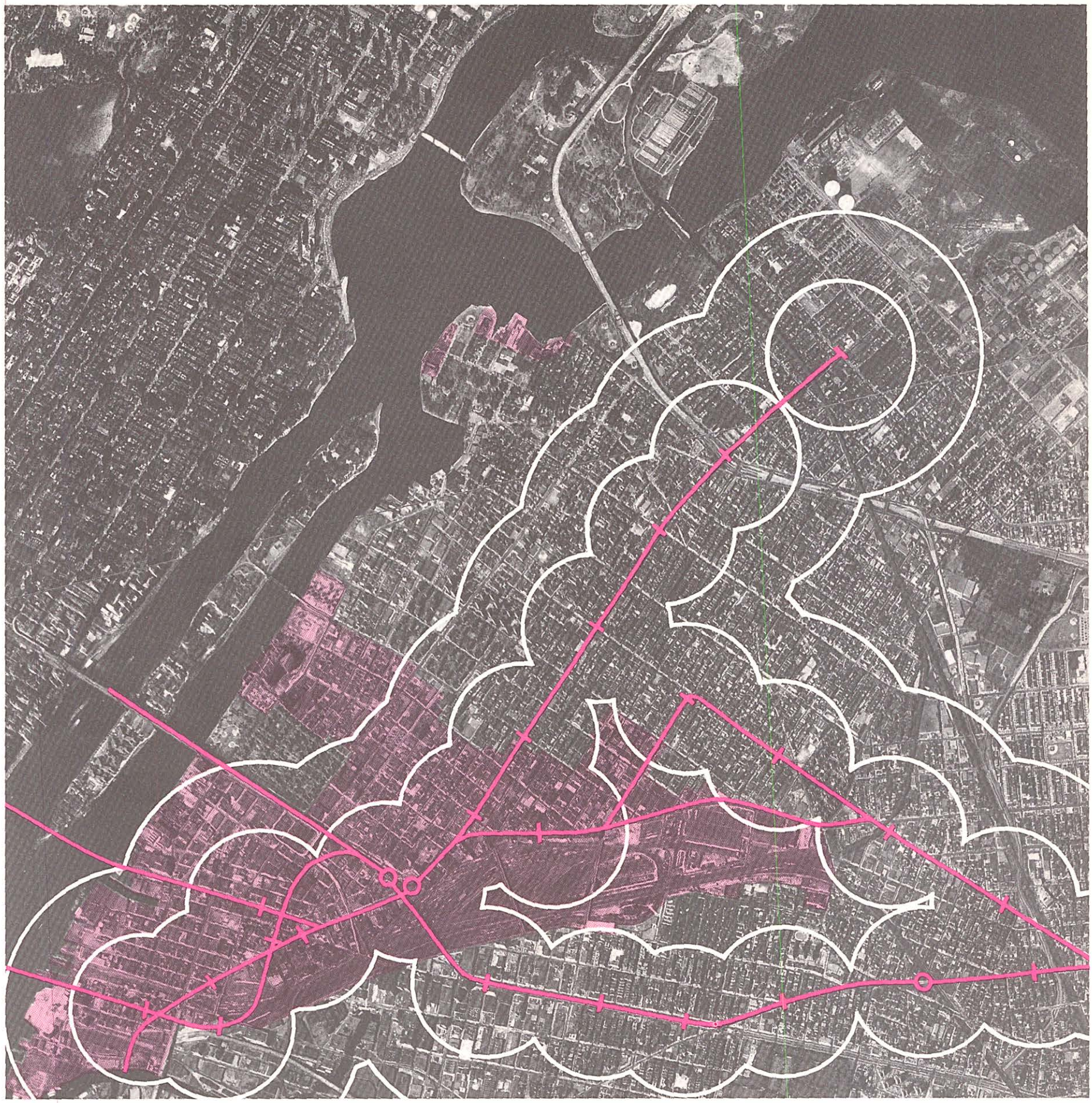


Long Island City-Astoria

Industry has declined along the Long Island City-Astoria waterfront. Pepsico and National Can Corporation are the important waterfront users south of the Queensboro Bridge. The new Daily News printing and distribution complex is going up on the site of a former sugar refinery south of 54th Avenue. In addition, Fink Baking Corporation and Better Brands of New York Incorporated have built new plants along Newtown Creek. F. O. Pierce Company has expanded.

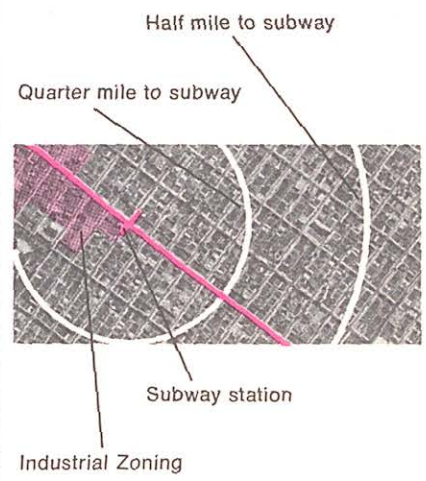
Over the years, private developers have made various proposals for redeveloping the Hunters Point waterfront for housing. To be feasible, plans must protect the industry. Construction of multi-story industrial buildings could allow developers to compensate for loss of industrial land to housing and accommodate displaced firms on less land without reducing the area's total jobs.

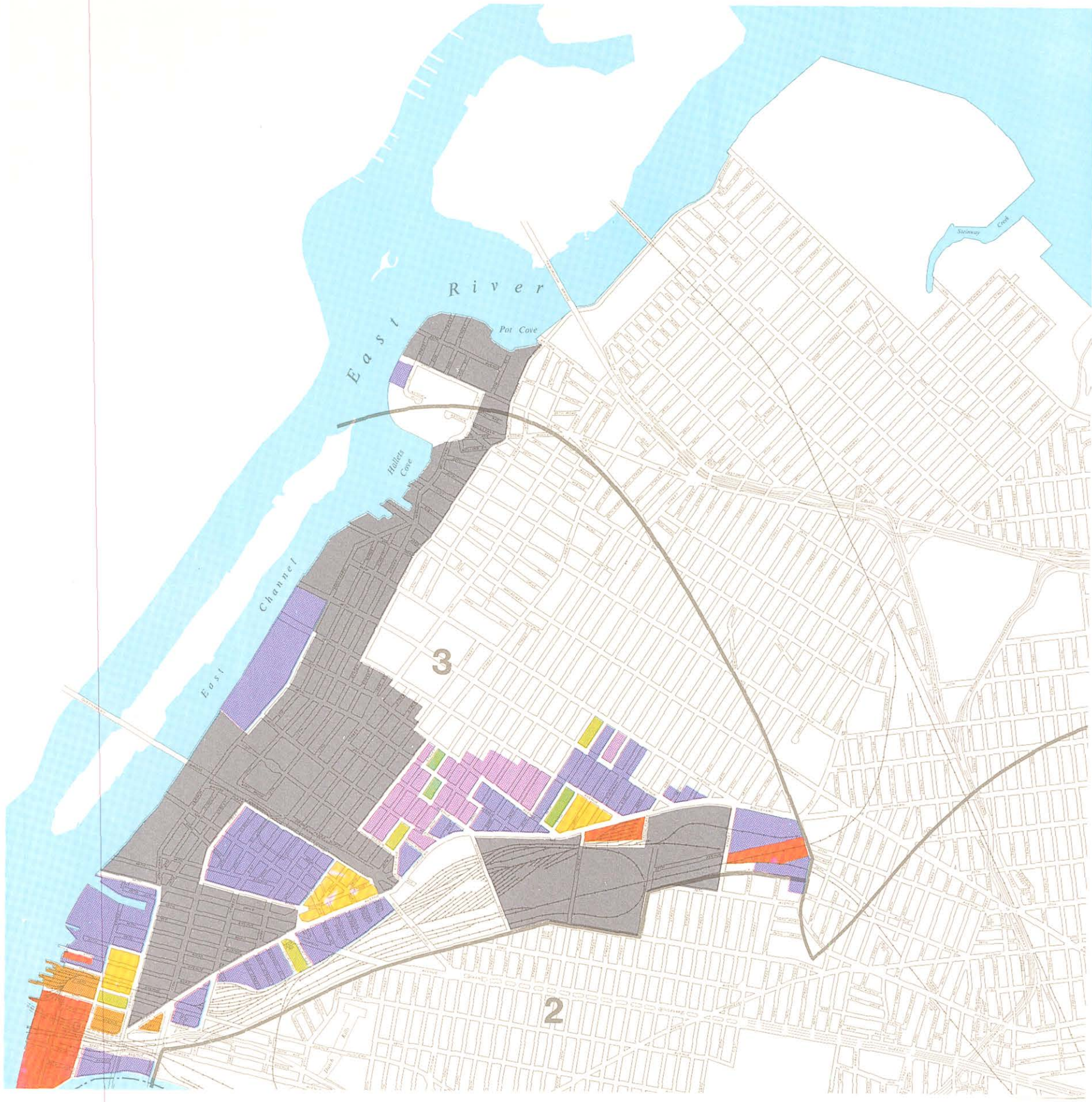
The predominantly industrial waterfront and the adjacent upland north of the Queensboro Bridge should be redeveloped for housing where feasible. Much of the area north of the bridge already has a strong residential character with three large public housing projects, a middle-income development and numerous schools and churches. The City is committed to opening up this riverfront for housing and recreation and has rezoned a portion of Astoria from industrial to residential. Rezoning has not been sufficient to bring about change and has aggravated conflicts. While the Consolidated Edison Company's Ravenswood Station, which occupies a large waterfront site, prevents full realization of the broad goal, many possibilities exist. The Queens Office of the City Planning Department is studying them in cooperation with local groups. While residential and related development will be supported, the City will assist existing industries to expand or new ones to locate in the area when job development and training opportunities are high and consistent with overall physical development plans to be formulated.

The industrially zoned area north of Hallets Cove is dominated by Pearl-Wick Hamper. Expansion of existing industries will preclude new waterfront housing.

The high job density lofts on both sides of Northern Boulevard will be strengthened by a new multi-story loft on the edge of the Sunnyside yards at 42nd Place. The first important new multi-story industrial building outside Manhattan, it will provide about 750,000 square feet of floor space on a three-acre site. The Planning Commission recently approved a rezoning for this development. A proposal for multi-story buildings combining industrial and residential or office uses in the Sunnyside yards is being studied.

ACCESS TO SUBWAY





Long Island City-Astoria

Total blue-collar industry jobs	34,500		
Percent of Queens blue-collar industry jobs	25%		
Percent of workforce in largest industries	Elec. mach.: 12%	Food: 11%	Wholesale: 10%
Median wage	$5,970		
Ethnic makeup of workforce	54% W	21% B	25% PR
Skill makeup of workforce	14% WC	15% H	73% SU
Mode of trip to work	68% MT	25% A	5% F 2% C
Total blue-collar industries floor space	16.1 million sq. ft.		
Median sq. ft. per worker	570		
Median rent per sq. ft.	$1.19		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

City Planning Department Industrial Survey, 1969.

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Industrial

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- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

Residential

- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential

- Retain existing industrial-residential uses
- Industrial-residential district

Other Areas

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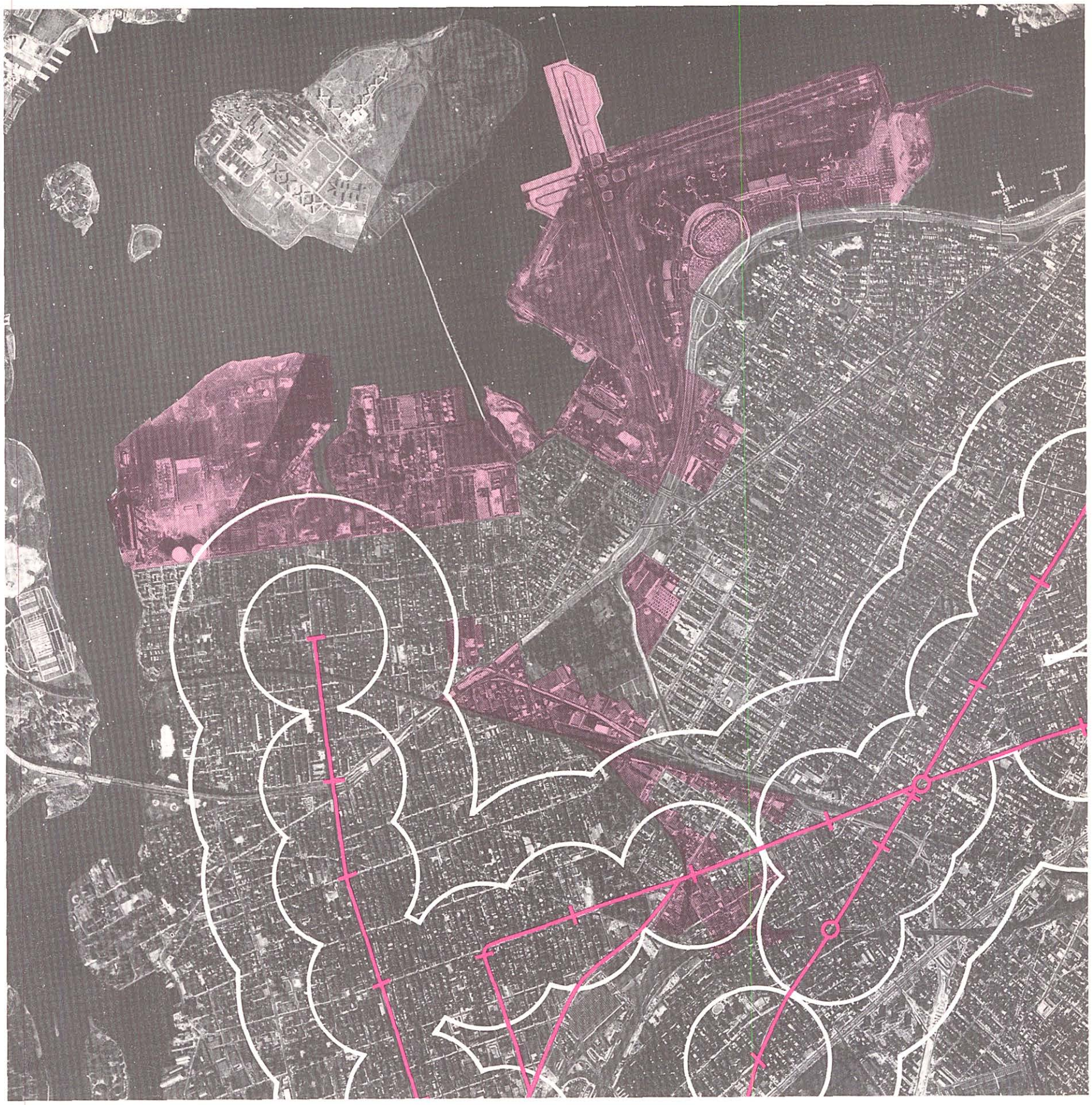
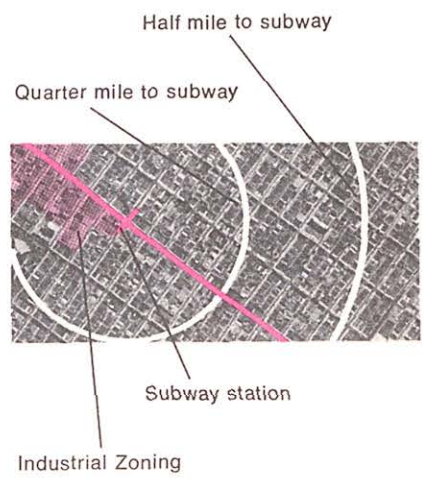
LaGuardia-Steinway



The LaGuardia-Steinway area is physically dominated by LaGuardia Airport. Steinway Music Capitol and Bulova Watch Company Incorporated account for the bulk of the area's 13,000 jobs. This number excludes airport employees. The area offers no important opportunities for public action. Hallets Cove, shown on Maps 6A and 6B, is included in this zone's statistical profile.

ACCESS TO SUBWAY



La Guardia-Steinway

Total blue-collar industry jobs	12,800		
Percent of Queens blue-collar industry jobs	9%		
Percent of workforce in largest industries	Instruments: 28%	Misc. mfg.: 15%	Elec. mach.: 10%
Median wage	$6,990		
Ethnic makeup of workforce	64% W	14% B	22% PR
Skill makeup of workforce	17% WC	31% H	52% SU
Mode of trip to work	32% MT	64% A	3% F 1% C
Total blue-collar industries floor space	5.1 million sq. ft.		
Median sq. ft. per worker	610		
Median rent per sq. ft.	$1.25		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

City Planning Department Industrial Survey, 1969.

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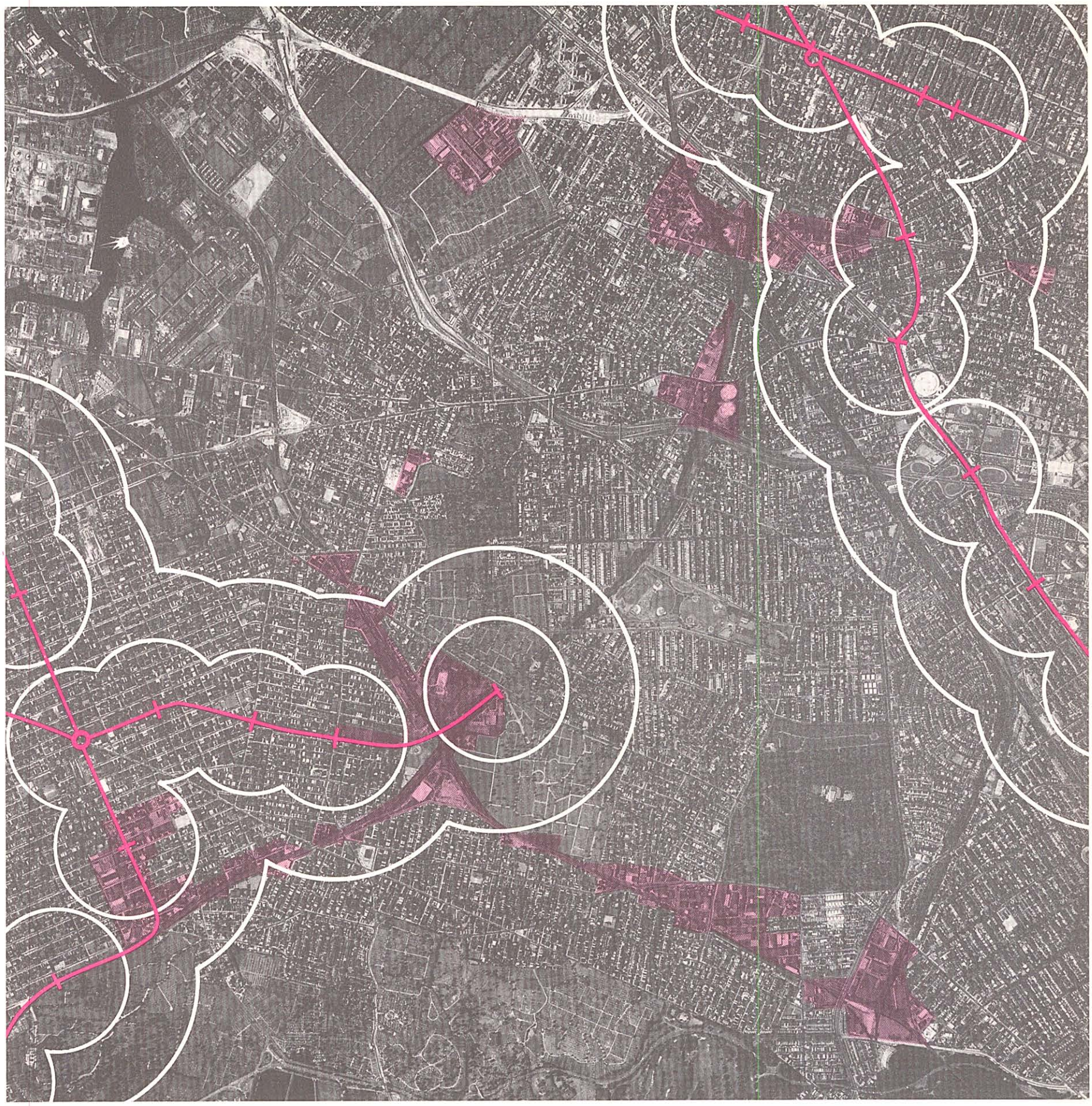


Ridgewood (1)

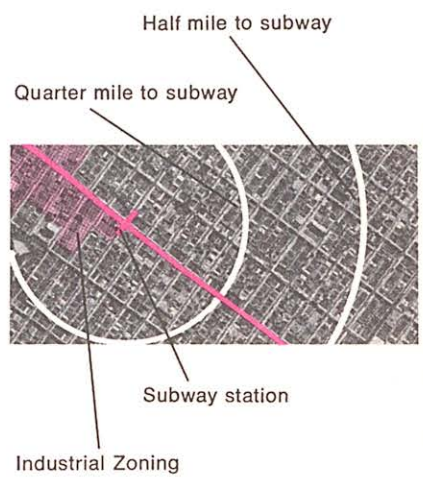
Ridgewood, an industrial strip along the Long Island and New York Connecting Railroads, is a low-density area with 6,500 jobs in 4.5 million square feet of floor space. Textiles employ 20 per cent of the area's workers and account for the lower than average wages. Wholesaling, a large space user, employs an additional 17 per cent of the workforce. Almost half the workers use mass transit. Service on the Brooklyn portion of the Myrtle Avenue line, which ran through the low-income neighborhoods of central Brooklyn, has been discontinued.

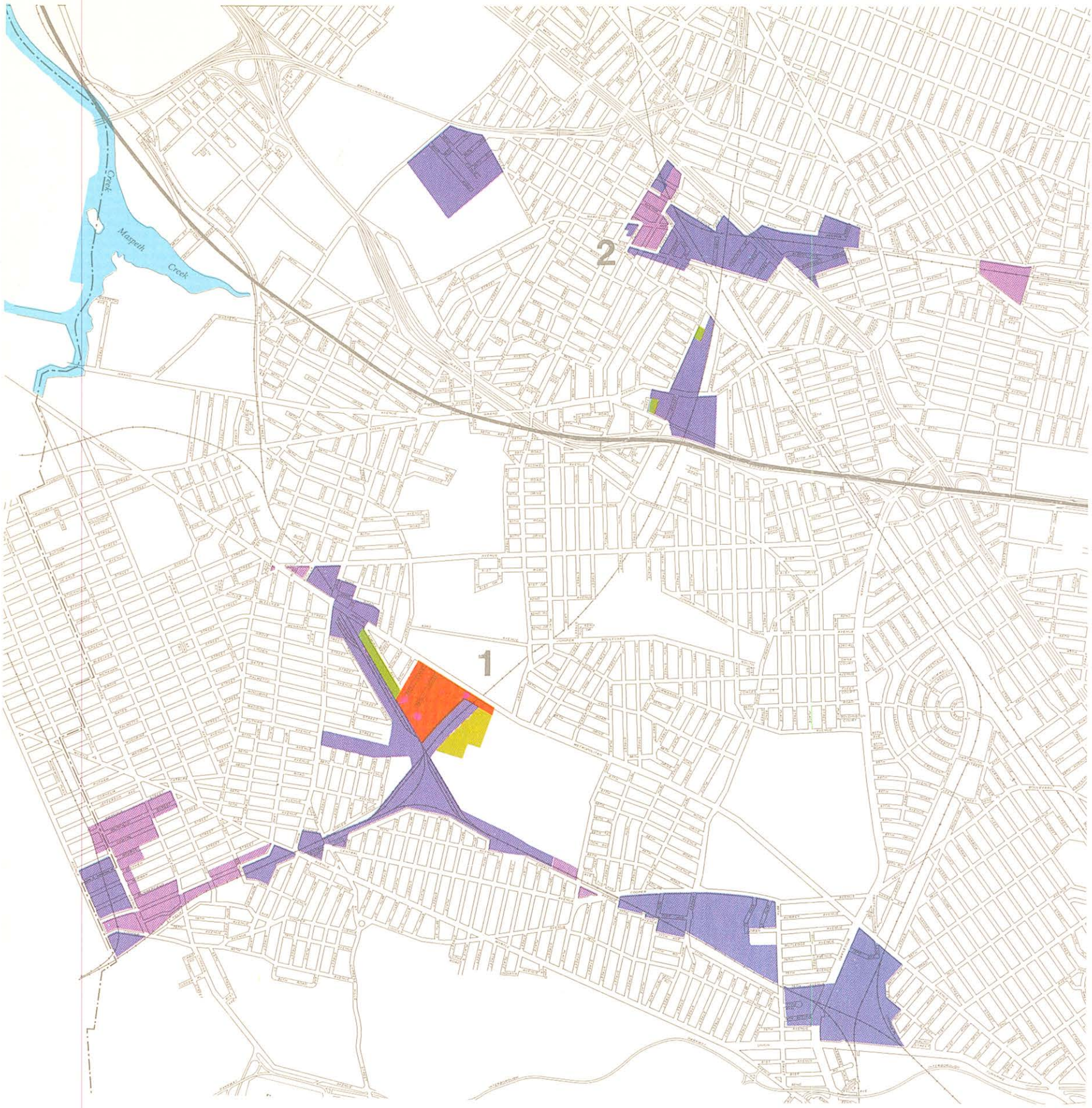
A cluster of manufacturing firms is located in Atlas Terminal between Cooper Avenue and St. John's Cemetery. Twenty-five acres on Metropolitan Avenue, near Lutheran Cemetery, will be developed for Macy's new warehouse and office complex which will have approximately 1.5 million square feet of floor space and employ 1,000 people. The right-of-way of the New York Connecting Railroad next to the Macy's site may be used for an arterial highway.

Winfield (2)

No important redevelopment opportunities exist in Winfield. It is a small industrial zone with 4 per cent of the borough's employment. The largest employer, an instrument manufacturer with about 2,000 workers, is located north of Queens Boulevard in Elmhurst.

ACCESS TO SUBWAY





Ridgewood (1)

Total blue-collar industry jobs	6,500		
Percent of Queens blue-collar industry jobs	5%		
Percent of workforce in largest industries	Textiles: 21%	Wholesale: 17%	Paper: 10%
Median wage	$5,490		
Ethnic makeup of workforce	59% W	23% B	18% PR
Skill makeup of workforce	25% WC	10% H	65% SU
Mode of trip to work	46% MT	47% A	7% F
Total blue-collar industries floor space	4.4 million sq. ft.		
Median sq. ft. per worker	610		
Median rent per sq. ft.	$1.17		

Winfield (2)

Total blue-collar industry jobs	5,100		
Percent of Queens blue-collar industry jobs	4%		
Percent of workforce in largest industries	Paper: 25%	Metals: 15%	Wholesale: 6%
Median wage	$6,450		
Ethnic makeup of workforce	54% W	20% B	26% PR
Skill makeup of workforce	25% WC	13% H	53% SU
Mode of trip to work	26% MT	69% A	5% F
Total blue-collar industries floor space	1.9 million sq. ft.		
Median sq. ft. per worker	420		
Median rent per sq. ft.	$1.50		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

City Planning Department Industrial Survey, 1969.

LAND USE

Industrial

- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

Residential

- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential

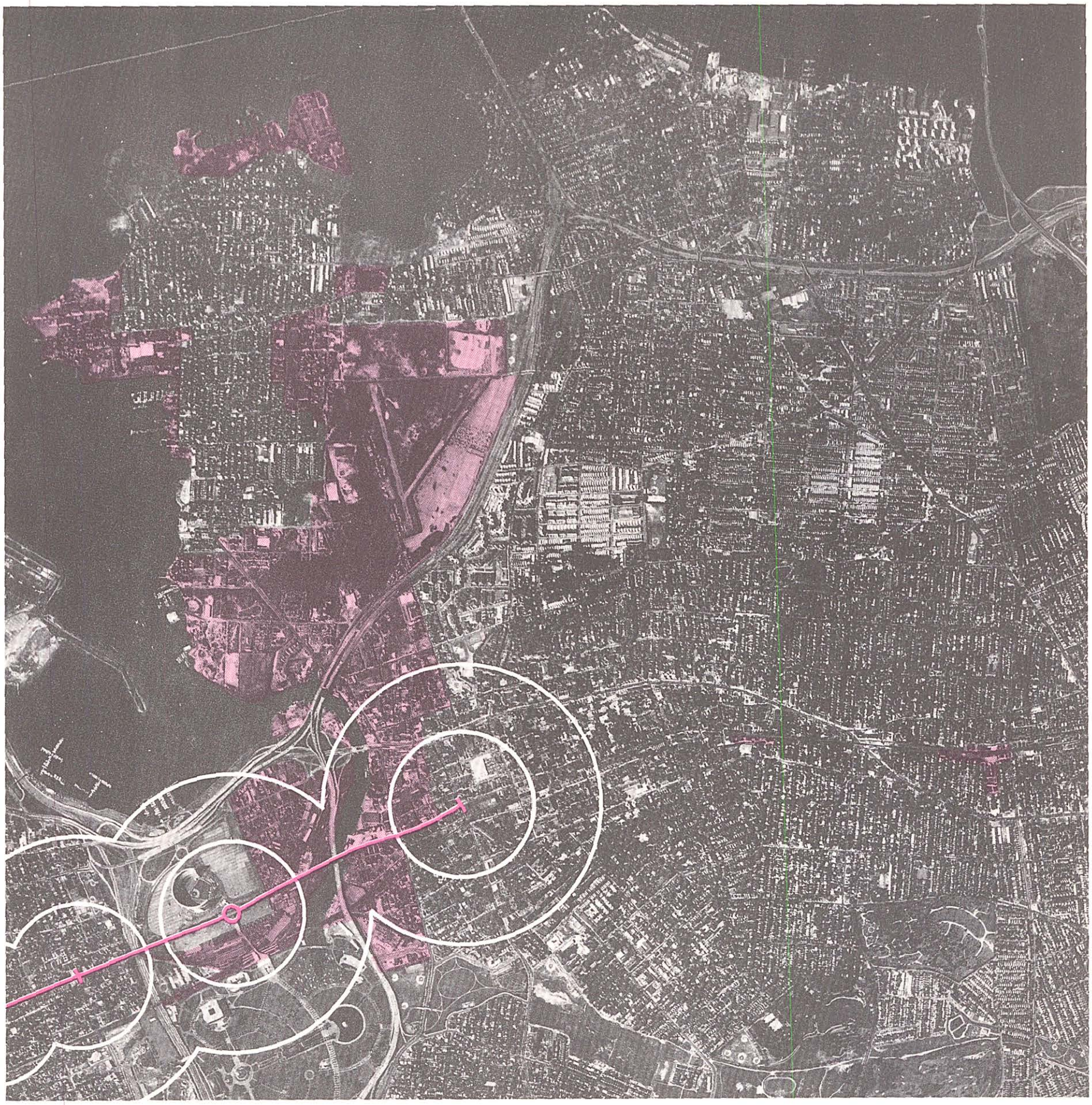
- Retain existing industrial-residential uses
- Industrial-residential district

Other Areas

- Areas under study
- Urban Renewal Areas

- Analysis area
- 4 Analysis area number *(Keyed to text and profile)*

College Point, Flushing, Whitestone



College Point (1)

More than 75 per cent of the 5,000 workers in College Point manufacturing firms are white. High wages, averaging $6,400 a year, reflect the high proportion of white-collar workers, 40 per cent, in the local labor force. Despite poor subway access, 45 per cent of the workers come by mass transit.

The College Point Industrial Park will provide 250 acres of land with space for 12,000 to 15,000 new jobs by 1976. The first phase is expected to bring 3,000 new jobs into the area. A portion of the park will be used for recreation.

Flushing (2)

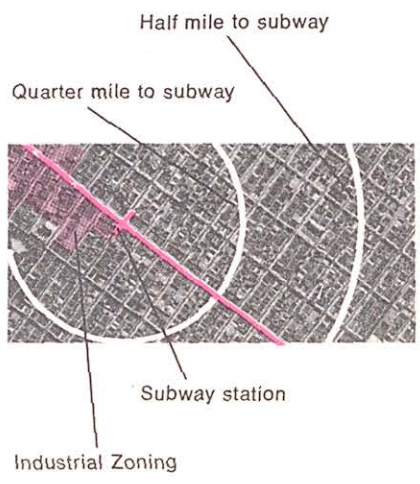
Flushing, with 6,500 jobs, has a lower than average median wage because of a heavy concentration of junkyards. Despite excellent subway access, more than half the workers drive. West of the Flushing River in Willets Point, scrap metal and open storage yards between Roosevelt and 34th Avenues occupy 60 acres of land which could be redeveloped for industry if the City can find a way to relocate junkyards and solve subsoil problems. The main function of the junkyards, currently occupying 200 acres of the City's industrial land, is disposing of automobiles abandoned on City streets.

Industrially zoned land in the Flushing central business district is being studied for housing, retail and office development.

Whitestone

Though surrounded by attractive one-family and two-family homes, most of the small Whitestone waterfront industrial zone, with 600 jobs, is occupied by asphalt, sand and gravel contractors. They operate day and night, disrupting the residential community with noise and truck traffic. These low job density heavy uses predate the 1961 zoning ordinance and are considered non-conforming in an M1 district. Since Citrus Bowl Incorporated, the other large waterfront user, is planning to move, the City is studying relocating the contractors to free land for other uses. Until relocation sites are available, present uses will be retained in the special study district. For the short term, the Planning Department proposes to restrict truck traffic to Clintonville Street and 154th Road and prohibit all commercial vehicles between 11 p.m. and 7 a.m.

ACCESS TO SUBWAY



College Point (1)

Total blue-collar industry jobs	5,200		
Percent of Queens blue-collar industry jobs	4%		
Percent of workforce in largest industries	Elec. mach.: 40%	Rubber: 17%	Non-elec. mach.: 9%
Median wage	$6,390		
Ethnic makeup of workforce	77% W	11% B	12% PR
Skill makeup of workforce	37% WC	11% H	52% SU
Mode of trip to work	45% MT	45% A	10% F
Total blue-collar industries floor space	1.2 million sq. ft.		
Median sq. ft. per worker	340		
Median rent per sq. ft.	$1.07		

Flushing[1] (2)

Total blue-collar industry jobs	6,500		
Percent of Queens blue-collar industry jobs	5%		
Percent of workforce in largest industries	Metals: 17%	Instruments: 11%	Wholesale: 11%
Median wage	$5,270		
Ethnic makeup of workforce	42% W	30% B	28% PR
Skill makeup of workforce	27% WC	16% H	62% SU
Mode of trip to work	42% MT	55% A	3% F
Total blue-collar industries floor space	2.4 million sq. ft.		
Median sq. ft. per worker	643		
Median rent per sq. ft.	$1.08		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

[1] Whitestone, with 600 jobs, is not included in this profile.

City Planning Department Industrial Survey, 1969.

LAND USE

Industrial

- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

Residential

- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential

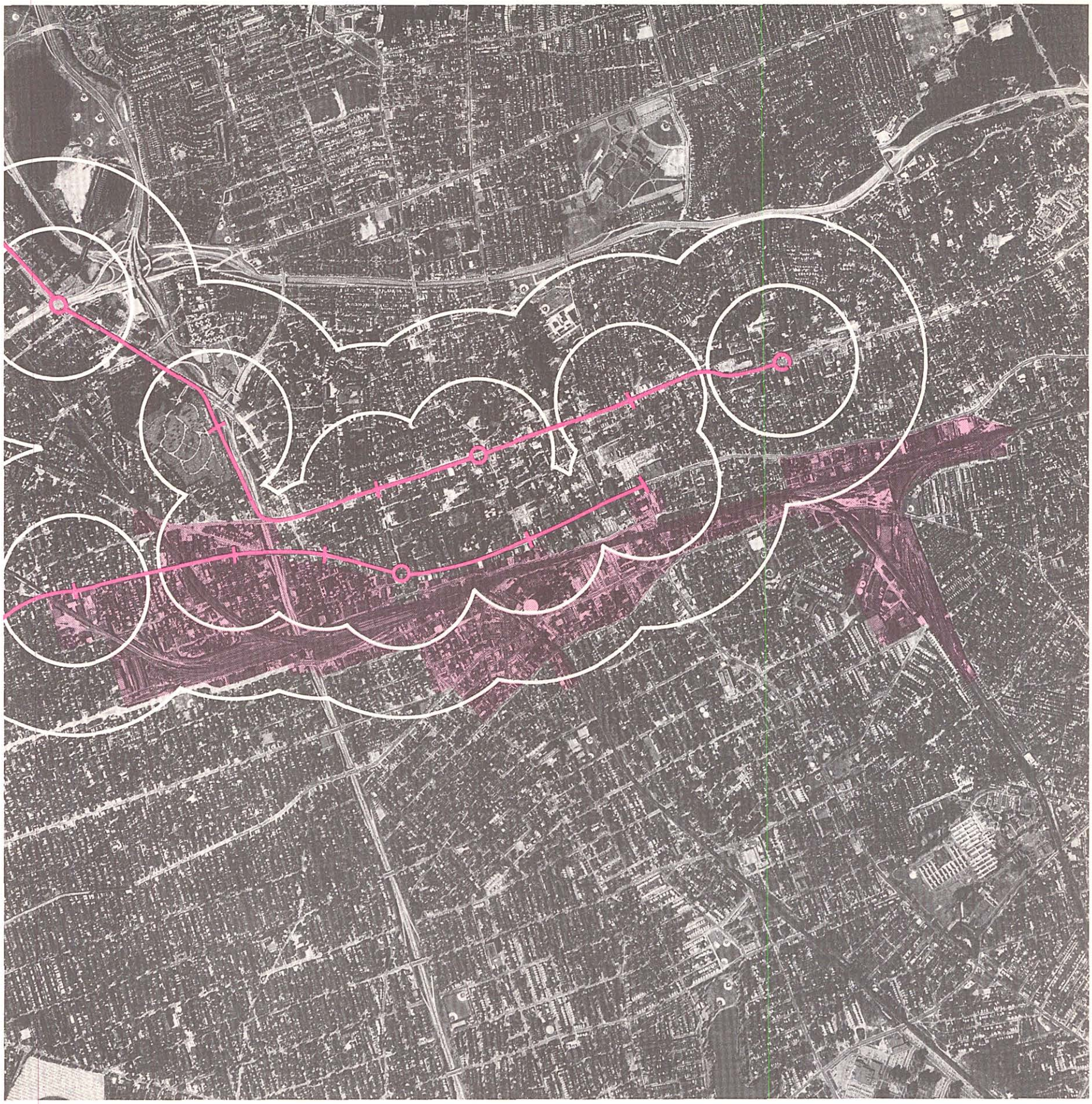
- Retain existing industrial-residential uses
- Industrial-residential district

Other Areas

- Areas under study
- Urban Renewal Areas

- Analysis area
- 4 Analysis area number *(Keyed to text and profile)*

Jamaica-St. Albans



Sixteen per cent of Jamaica's 16,000 jobs are in the seasonal low-wage toy industry. While almost 40 per cent of the workers earn less than $5,000 a year, rail, trucking, food and wholesaling account for an additional 42 per cent of the area's jobs raising the median wage to $6,100 a year.

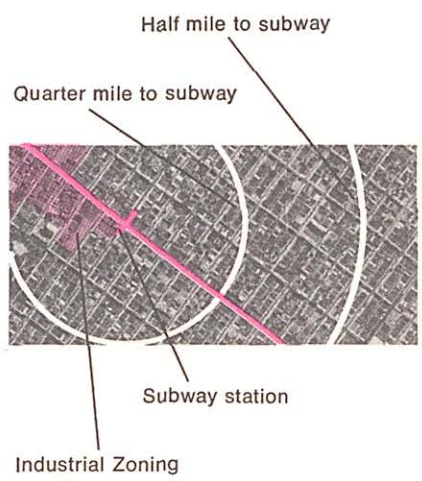
Subway service is excellent connecting Jamaica with the low-skilled labor pool in central Brooklyn. The Metropolitan Transportation Authority (MTA) plans to eliminate the elevated BMT line on Jamaica Avenue east of the Van Wyck Expressway and run a new line along the Long Island Railroad (LIR) right-of-way from South Road to Springfield Gardens.

Major institutional and commercial redevelopment is planned. Work on the York College urban renewal area is under way. A new medical center and other educational facilities are being considered for the special study district west of the college. Office development, proposed for the blocks between Jamaica and Archer Avenues in the special study district, will strengthen the existing commercial subcenter.

The mixture of industrial and residential uses south of Jamaica Avenue on both sides of the Van Wyck Expressway functions well. Blockfronts of housing are isolated from surrounding industry and free from truck traffic. Several sections along Jamaica and Hillside Avenues are recommended for residential rezoning. Existing mixed-use blocks with industry and solid housing should be maintained.

The St. Albans industrial area runs along the LIR midway between Jamaica and Kennedy airport. It is dominated by Western Electric Company Incorporated in a large modern building on Springfield Boulevard and by Esquire Shoe Polish on Merrick Boulevard.

ACCESS TO SUBWAY



Jamaica-St. Albans

Total blue-collar industry jobs	16,100		
Percent of Queens blue-collar industry jobs	12%		
Percent of workforce in largest industries	Rail & truck: 19%	Misc. mfg.: 16%	Wholesale: 12%
Median wage	$6,120		
Ethnic makeup of workforce	53% W	27% B	20% PR
Skill makeup of workforce	18% WC	23% H	59% SU
Mode of trip to work	38% MT	43% A	9% F 10% C
Total blue-collar industries floor space	5.5 million sq. ft.		
Median sq. ft. per worker	440		
Median rent per sq. ft.	$1.15		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

City Planning Department Industrial Survey, 1969.

LAND USE

Industrial

- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

Residential

- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential

- Retain existing industrial-residential uses
- Industrial-residential district

Other Areas

- Areas under study
- Urban Renewal Areas

- Analysis area
- 4 Analysis area number *(Keyed to text and profile)*

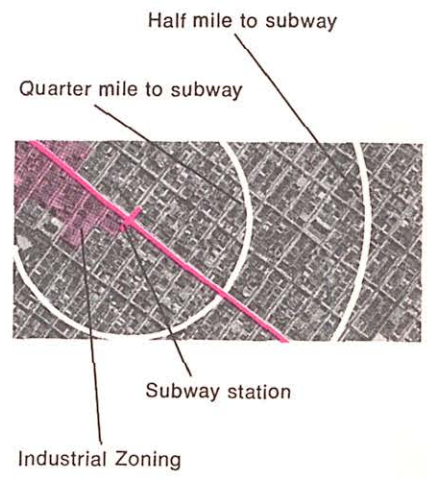
John F. Kennedy International Airport Vicinity (Springfield Gardens, Rosedale)

The growth of the air freight industry and the changing nature of air cargo handling will have an impact upon the land adjacent to John F. Kennedy International Airport. The existing terminal facilities at the airport will not be able to handle routing and loading operations required by projected increases in air cargo. There is not enough industrially zoned land next to the airport to meet the industry's expansion needs. Continued rapid growth puts heavy pressure on the Springfield Gardens community, largely young black families and older Italian-American residents living in small well maintained one-family frame houses. There are scattered pockets of deteriorating housing.

Truck traffic to and from the airport, already heavy, is expected to increase tenfold in the next decade. Air freight firms have been obtaining zoning variances and assembling entire blocks in the residential community. This has slowed rehabilitation and replacement of older housing. The variances have been granted by the Board of Standards and Appeals. The Planning Commission has urged the board not to grant such variances. Recently the board has been complying.

Short-term plans to accommodate air freight expansion include upgrading existing airport facilities and building new terminals on vacant land next to the airport. The Springfield Boulevard urban renewal project, with 10 acres of backup space for air cargo and other airport industrial services, is the forerunner of a 100-acre planned air services industrial park to be developed by the Public Development Corporation on vacant City-owned land in Rosedale. At the present rate of air freight growth, this land is expected to be absorbed in five years. Long-range solutions, including intermodal freight handling systems, are being studied.

ACCESS TO SUBWAY



John F. Kennedy Airport Vicinity (Springfield Gardens, Rosedale)

Total blue-collar industry jobs	9,900		
Percent of Queens blue-collar industry jobs	5%		
Percent of workforce in largest industries	Air freight: 78%	Rail & truck: 11%	
Median wage	$6,850		
Ethnic makeup of workforce	79% W	13% B	8% PR
Skill makeup of workforce	12% WC	17% H	71% SU
Mode of trip to work	3% MT	97% A	
Total blue-collar industries floor space	2.3 million sq. ft.		
Median sq. ft. per worker	440		
Median rent per sq. ft.	not available.		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

City Planning Department Industrial Survey, 1969.

LAND USE

Industrial

- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

Residential

- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential

- Retain existing industrial-residential uses
- • • • Industrial-residential district

Other Areas

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The Bronx

While the Bronx has more than 300,000 low-income residents, it has less than 5 per cent of the City's production and distribution jobs. The median wage is $200 below the citywide average. Excellent job development opportunities exist in three areas. Redevelopment of 60 acres in the Zerega Avenue urban renewal project will provide space for 5,000 jobs. Two large sites in the South Bronx industrial district next to the Model Cities neighborhood also are slated for renewal and could provide space for as many as 5,000 new jobs. The less accessible Hunts Point peninsula also offers opportunities to meet the job needs of low-income residents.

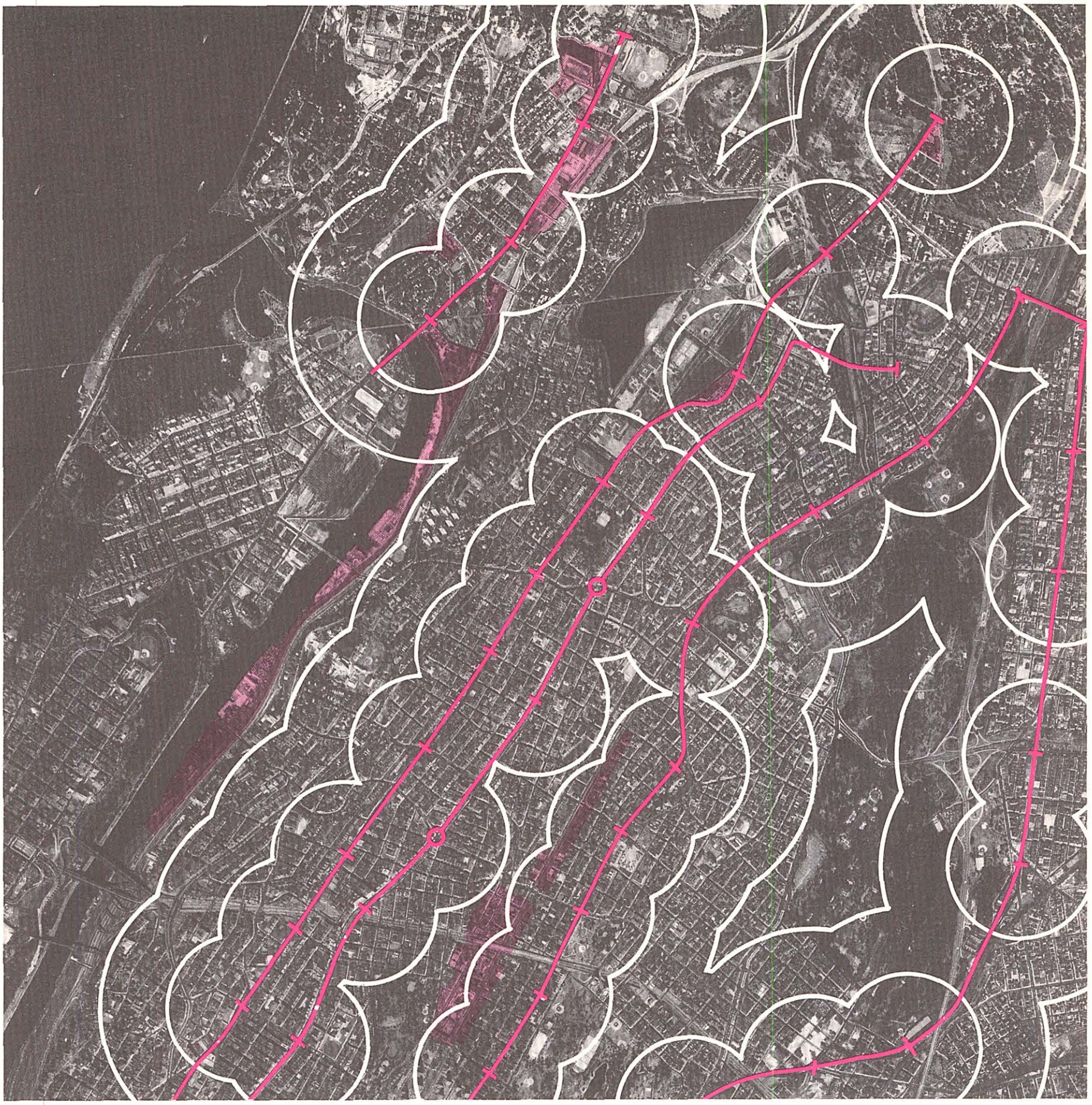
Profile: The Bronx

Total blue-collar industry jobs	53,000		
Percent of City blue-collar industry jobs	6%		
Percent of workforce in largest industries	Wholesale: 18%	Metals: 9%	Food: 8%
Median wage	$5,810		
Ethnic makeup of workforce	51% W	20% B	29% PR
Skill makeup of workforce	9% WC	16% H	75% SU
Mode of trip to work	49% MT	38% A	12% F 1% C
Total blue-collar industries floor space	28.4 million sq. ft.		
Median sq. ft. per worker	535		
Median rent per sq. ft.	$1.11		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

City Planning Department Industrial Survey, 1969.

Harlem River, South Bronx, Hunts Point-Sheridan Expressway, Webster Avenue-Third Avenue Corridor
(Northern Section)



Three-quarters of the manufacturing and wholesaling jobs in the Bronx are concentrated in a wide horseshoe along the Harlem, East and Bronx Rivers. An additional 14 per cent are along the Webster Avenue-Third Avenue industrial corridor.

Harlem River (1)
Most of the 9,000 jobs in the Harlem River band are located south of 158th Street. The State Urban Development Corporation (UDC) plans new housing and recreation in the special study district on the riverfront north of 161st Street. Similar residential development may be extended into the Fordham Road special study district to the north. Below 158th Street, the City will explore coordinating new development in housing, industry and facilities serving Yankee Stadium.

The new Lincoln Hospital is being built on industrially zoned land north of 144th Street next to a large public housing project.

Two adjacent blocks in the industrial zone have recently been committed to Intermediate School 183.

South Bronx (2)
Approximately 30 per cent of the borough's jobs are located in the South Bronx industrial district, south of 149th Street. It is a distribution center with wholesaling, rail and trucking firms tied to the expressway system and the railyards.

The tier of blocks south of the Major Deegan Expressway has good potential for eventual redevelopment, but high land cost (about $10 a square a foot) and heavy residential relocation loads (averaging 85 families per acre) prevent assembling large tracts now. Immediate redevelopment opportunities are limited to a mostly vacant 13-acre site on the Harlem River and about two acres of underused park space.

The area is changing. Older firms are pulling out or moving to new quarters within the area. Tenements are gutted by frequent fires. These changes open opportunities for the City to assemble and develop large sites.

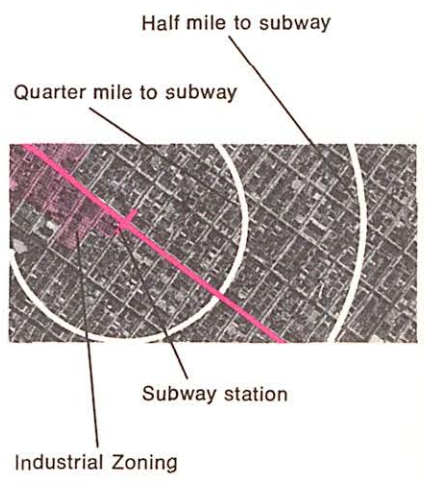
The Planning Department recommends the area be designated for renewal as part of a larger redevelopment district. This will permit the City to assemble immediately available sites, to acquire scattered small vacant sites and sites with empty or gutted buildings and to phase out residential uses by acquiring buildings as they are vacated.

Despite poor subway access, large multi-story industrial buildings are concentrated east of Bruckner Boulevard. Staged renewal in this part of the district is being studied. A 13-acre site in the Morris Point yards has been designated for renewal. A three-story warehouse and production complex is planned. A small enclave of housing near the expressway should be cleared for long-term industrial development.

West of the Bruckner Expressway, sound industrial plants, including several multi-story buildings, are mixed with deteriorating plants suitable for redevelopment. The old Lincoln Hospital building, for example, could be rehabilitated for industry.

Hunts Point—Sheridan Expressway (3)
Isolated by the Bruckner Expressway from the residential neighborhoods to the west, most of the Hunts Point peninsula is inaccessible by subway. Yet more than

ACCESS TO SUBWAY



14,000 jobs, one-quarter of the borough's employment, are located here. Most of the workers live outside the peninsula. More than 60 per cent drive to work; 59 per cent are white. The median wage of $6,500 is almost $800 above the median for the whole borough. Although there is a direct bus link with the South Bronx, additional routes are needed to make Hunts Point jobs accessible to South Bronx Model Cities residents.

The peninsula owes its importance as a wholesaling and distribution center to excellent road and rail access. A large food distribution complex is being developed on 270 acres along the Bronx River. The new Hunts Point Produce Terminal provides modern efficient distribution space for fruit and vegetable wholesalers displaced from the Washington Street urban renewal area in Lower Manhattan. Future plans call for the relocation of the New York Fruit Auction, the Fulton Fish Market and the Brook Avenue Meat Market to Hunts Point. Additional space will be provided to rehouse other obsolete wholesale markets now in Manhattan and the Bronx, freeing their present sites for new development. Staged renewal of numerous small sites in Hunts Point, occupied by junkyards and obsolete buildings, could provide large sites for food processors, help to maintain high wage rates in the area and insure that new jobs are open to Model Cities residents. Sponsorship by Bronx Model Cities of new construction could assure local ownership of profitable industrial buildings.

The industrial spine along the Sheridan Expressway has better subway access than Hunts Point, but offers few industrial renewal opportunities. The Bronx Park South urban renewal project will create a new residential core at the intersection of the Boston Post Road and West Farms Road. An adjacent industrially zoned site, presently used for truck storage by the City, has been approved for a new school.

Webster Avenue-Third Avenue Corridor (4)

The Webster Avenue-Third Avenue corridor follows the Penn Central Railroad right-of-way along Park and Brook Ave-

continued on page 72

LAND USE

Industrial
- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

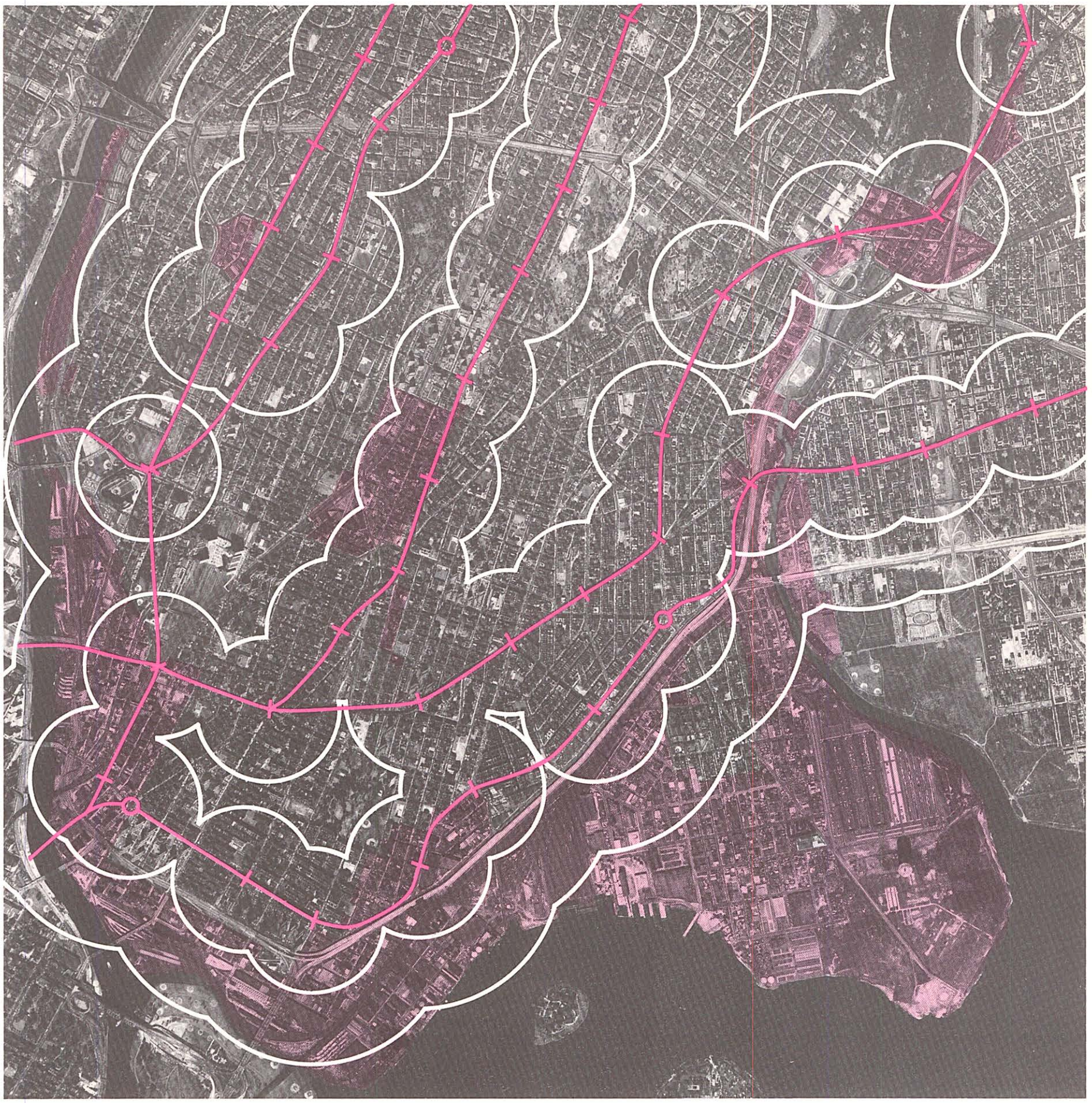
Residential
- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential
- Retain existing industrial-residential uses
- Industrial-residential district

Other Areas
- Areas under study
- Urban Renewal Areas

- Analysis area
- 4 Analysis area number *(Keyed to text and profile)*

Harlem River, South Bronx, Hunts Point-Sheridan Expressway, Webster Avenue-Third Avenue Corridor
(Southern Section)



nues cutting through the black and Puerto Rican community in the South Bronx. Local industry provides a mixture of high-wage food and wholesaling jobs, held mostly by whites, and low-wage apparel jobs, held mostly by local women. Twenty-two per cent of the area's employees walk to work. This is almost twice the borough average.

In the Bronxchester urban renewal project, housing will displace approximately 1,500 jobs, mostly to be relocated at Hunts Point. Many of these firms will move to the Hunts Point Meat Cooperative.

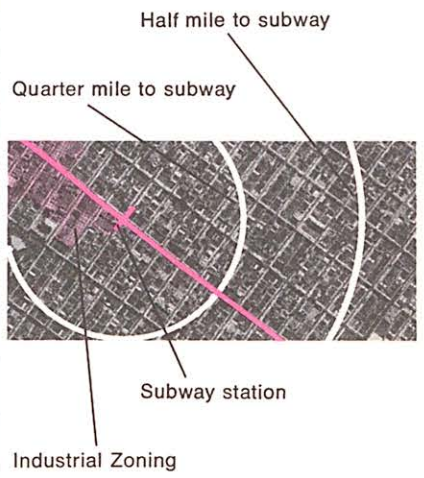
The industrial strip along Webster and Brook Avenues contains 3,500 jobs. One-third of these are in food and wholesaling. The special study district next to the strip has a mixture of industry and Old Law tenements. The Planning Department is studying redevelopment of this area.

The special study district south of the Cross-Bronx Expressway between Claremont and Crotona Park contains 1,400 jobs. Multi-use buildings for housing and industry next to the expressway are being studied.

Harlem River (1)			
Total blue-collar industry jobs	9,500		
Percent of Bronx blue-collar industry jobs	18%		
Percent of workforce in largest industries	Wholesale:16%	Printing:12%	Apparel:11%
Median wage	$5,190		
Ethnic makeup of workforce	48% W	20% B	32% PR
Skill makeup of workforce	8% WC	11% H	81% SU
Mode of trip to work	63% MT	27% A	10% F
Total blue-collar industries floor space	4.3 million sq. ft.		
Median sq. ft. per worker	490		
Median rent per sq. ft.	$1.12		
South Bronx (2)			
Total blue-collar industry jobs	16,000		
Percent of Bronx blue-collar industry jobs	30%		
Percent of workforce in largest industries	Wholesale:15%	Mach.:14%	Rail & truck:14%
Median wage	$5,584		
Ethnic makeup of workforce	45% W	20% B	35% PR
Skill makeup of workforce	5% WC	21% H	74% SU
Mode of trip to work	53% MT	32% A	15% F
Total blue-collar industries floor space	9.5 million sq. ft.		
Median sq. ft. per worker	540		
Median rent per sq. ft.	$1.34		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.
City Planning Department Industrial Survey, 1969.

ACCESS TO SUBWAY



Hunts Point-Sheridan Expressway (3)

Total blue-collar industry jobs	13,900		
Percent of Bronx blue-collar industry jobs	26%		
Percent of workforce in largest industries	Wholesale: 27%	Metals: 17%	Elec. mach.: 9%
Median wage	$6,570		
Ethnic makeup of workforce	59% W	21% B	21% PR
Skill makeup of workforce	8% WC	15% H	77% SU
Mode of trip to work	33% MT	62% A	4% F 1% C
Total blue-collar industries floor space	9.3 million sq. ft.		
Median sq. ft. per worker	610		
Median rent per sq. ft.	$1.21		

Webster Avenue-Third Avenue Corridor (4)

Total blue-collar industry jobs	7,200		
Percent of Bronx blue-collar industry jobs	14%		
Percent of workforce in largest industries	Wholesale: 22%	Food: 13%	Apparel: 13%
Median wage	$5,735		
Ethnic makeup of workforce	44% W	19% B	37% PR
Skill makeup of workforce	10% WC	11% H	79% SU
Mode of trip to work	54% MT	22% A	22% F 2% C
Total blue-collar industries floor space	2.5 million sq. ft.		
Median sq. ft. per worker	420		
Median rent per sq. ft.	$0.99		

LAND USE

Industrial

- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

Residential

- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential

- Retain existing industrial-residential uses
- • • • Industrial-residential district

Other Areas

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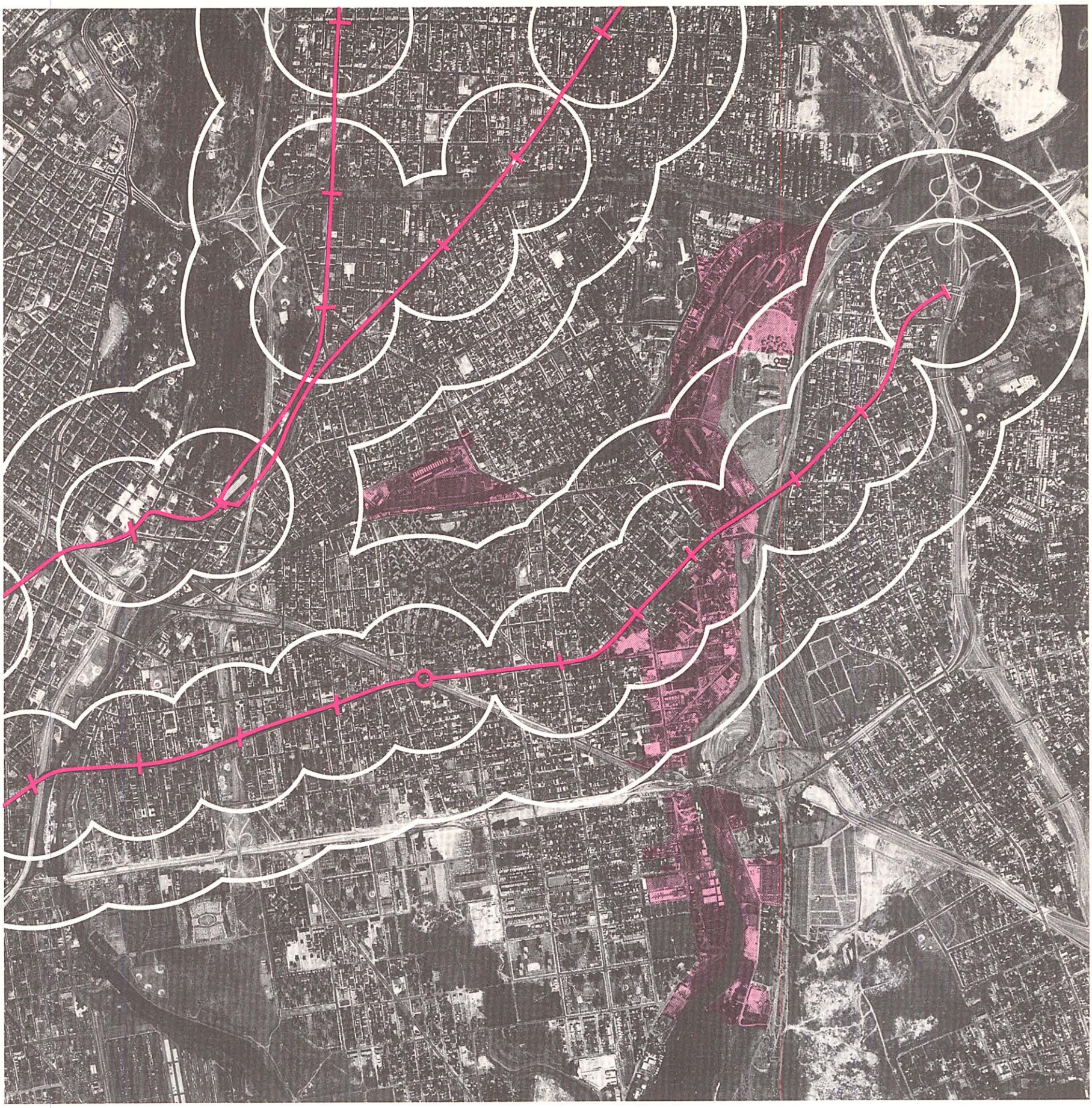
Westchester Creek



The Westchester Creek area has approximately 70 acres of vacant or marginal industrial land. Junkyards along the creek employ few people and blight the area. Poor subsoil conditions and inadequate street and sewer systems have prevented private redevelopment. The district now has only 3,800 jobs, 7 per cent of the borough's total. With a direct subway line to Bronx Model Cities, Westchester Creek can provide space for more jobs at higher wages for Model Cities residents.

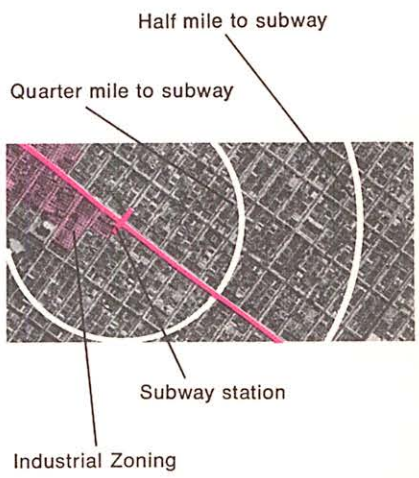
In 1968, the Zerega Avenue district, 60 acres along the creek between Westchester Avenue and the Bruckner Expressway, became the City's first large-scale industrial redevelopment project after Flatlands. The tract contained large sites with good subway access, two vacant industrial buildings, 30 acres of land suitable for redevelopment and required little residential or industrial relocation. Most of the Zerega Avenue sites were committed in less than a year to firms building one-story plants. More intensive development will be sought in future industrial renewal projects where good mass transit exists. Demand for land in the Zerega Avenue project continues. Industrial Acoustics International Incorporated is expanding on site to consolidate operations now scattered. Two vacant buildings have been renovated and occupied by Alexander's and Ranger Plastics Corporation. To meet the demand for space in the project, the urban renewal plan was amended to add eight acres fronting on Westchester Avenue. This parcel, next to the subway, is appropriate for multi-story development. Full development of the Zerega Avenue urban renewal project should provide space for a minimum of 3,000 jobs, almost double the number now in the Westchester Creek area.

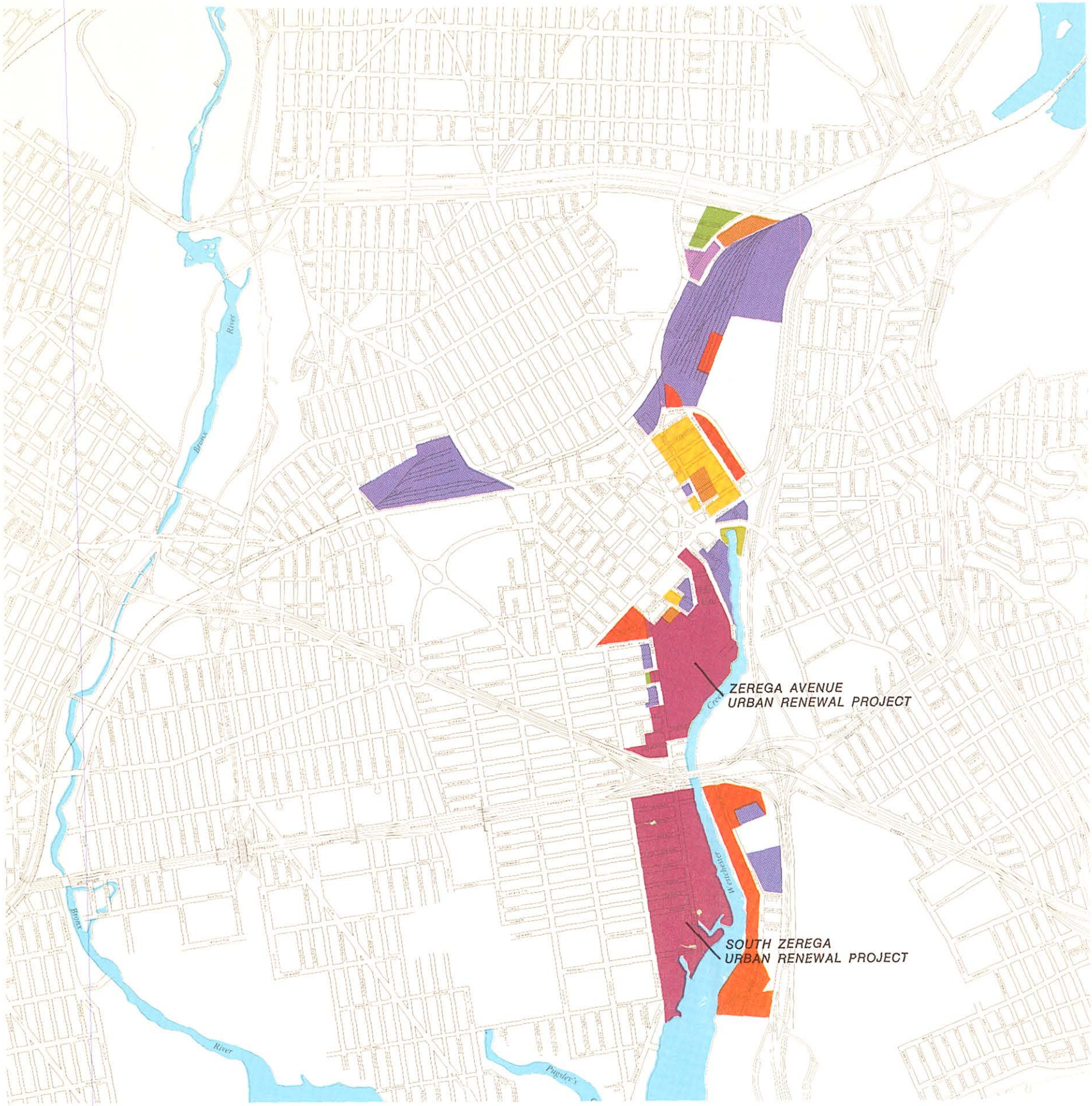
Development of an additional 30 acres of land in the South Zerega industrial project[1] should bring in more jobs. Poor subway access makes it appropriate for low-density warehousing.

Two large firms—Old London Foods and American Cystoscope Makers Incorporated—operate in an industrial park setting behind the Bronx State Hospital. Because the site has poor subway access, the present low-density development, with off-street loading and ample open parking, is appropriate.

[1] James J. Lyons project.

ACCESS TO SUBWAY





Westchester Creek

Total blue-collar industry jobs	3,800		
Percent of Bronx blue-collar industry jobs	7%		
Percent of workforce in largest industries	Wholesale: 14%	Instruments: 13%	Paper: 12%
Median wage	$4,840		
Ethnic makeup of workforce	48% W	24% B	28% PR
Skill makeup of workforce	14% WC	17% H	69% SU
Mode of trip to work	56% MT	34% A	10% F
Total blue-collar industries floor space	1.7 million sq. ft.		
Median sq. ft. per worker	600		
Median rent per sq. ft.	$0.90		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

City Planning Department Industrial Survey, 1969.

LAND USE

Industrial

- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

Residential

- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential

- Retain existing industrial-residential uses
- Industrial-residential district

Other Areas

- Areas under study
- Urban Renewal Areas

- Analysis area
- 4 Analysis area number *(Keyed to text and profile)*

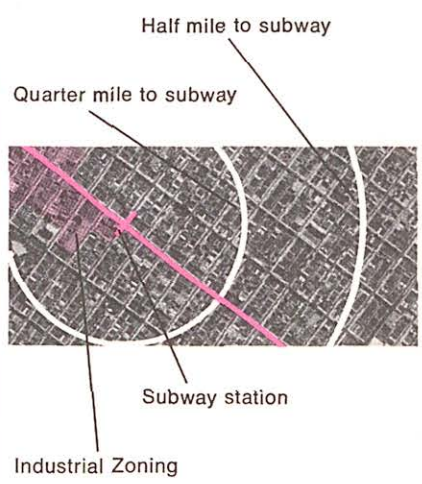
Baychester,, Wakefield

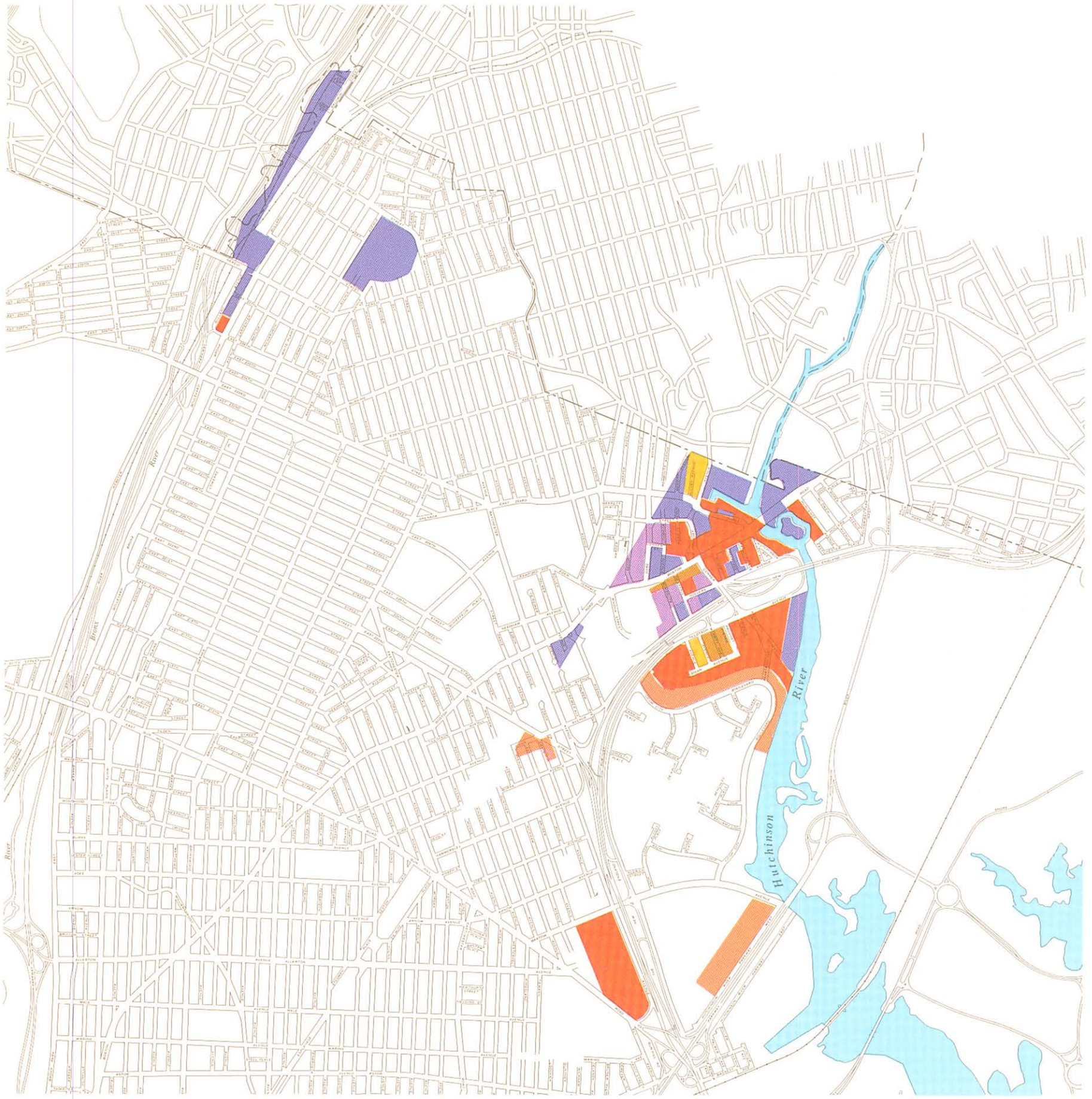
Although the Dyre Avenue and White Plains Road subway lines link the industry of the northern Bronx to the poorer areas in the south, few south Bronx residents now work here. Almost two-thirds of the area's employees drive to work. More than 70 per cent are white. Approximately 20 per cent live in the suburbs; 10 per cent live nearby and walk to work.

The major job concentration is in Baychester on both sides of the New England Thruway. A 22-acre industrial tract east of the throughway is being privately developed. West of the throughway, industry is mixed with housing. Improvements on the Boston Post Road provide access across the Hutchinson River and ease internal circulation in the western portion. The Planning Department recommends that junkyards along the Boston Post Road be redeveloped for industry and that existing sound housing be retained. As close-in sites disappear, undeveloped parcels here will become more marketable.

A vacant industrial (M1) tract of approximately 25 acres bounded by the New England Thruway, Bartow Avenue and Gun Hill Road provides space for extension of a new industrial band along Westchester Creek and the Hutchinson River Parkway now being developed. Rezoning for industry has been proposed for an additional 30 acres of residentially zoned land, directly to the north, already containing some industry. The entire 55-acre tract is being considered for renewal. Subway access is poor but an extension of the Pelham Bay line through the area is planned by 1980.

ACCESS TO SUBWAY





Baychester, Wakefield

Total blue-collar industry jobs	2,600		
Percent of Bronx blue-collar industry jobs	5%		
Percent of workforce in largest industries	Wholesale: 17%	Instruments: 16%	Non-elec. mach.: 11%
Median wage	$6,470		
Ethnic makeup of workforce	72% W	15% B	13% PR
Skill makeup of workforce	14% WC	25% H	61% SU
Mode of trip to work	24% MT	64% A	10% F
Total blue-collar industries floor space	.8 million sq. ft.		
Median sq. ft. per worker	630		
Median rent per sq. ft.	$0.97		

Abbreviations: W-white; B-black; PR-Puerto Rican and other; WC-white collar; H-high-skilled (craft); SU-semi-skilled, unskilled; MT-mass transit; A-auto; F-walk; C-commute.

City Planning Department Industrial Survey, 1969.

LAND USE

Industrial

- Retain existing use
- Industrial Renewal Districts
- Short term industrial redevelopment
- Intermediate term industrial redevelopment
- Long term industrial redevelopment

Residential

- Retain existing residential uses
- Retain existing community facilities
- Residential redevelopment

Mixed Industrial-Residential

- Retain existing industrial-residential uses
- • • • Industrial-residential district

Other Areas

- Areas under study
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dential zones creates additional conflicts. For example, small firms now in the deteriorated residential community, bordered by Lindsay Park Houses, Williamsburg Houses and Bushwick Houses, will be relocated to make room for large-scale residential redevelopment. Another example is the small concentration of scrap metal firms near Cooper Park which could be relocated to create several attractive sites for vest pocket housing.

Half the industrially zoned land between Grand Avenue and McCarren Park is given over to residential uses. The blocks around the park are predominantly industrial. A Slavic-American community in the interior is separated from the park by expanding industry. While much of the frame housing has a limited life span, the neighborhood is sufficiently sound to warrant protection. A mixed-use district would protect the residential neighborhood for an interim period and prevent piecemeal industrial development which intensifies conflicts and destroys redevelopment potential.

No major residential or institutional redevelopment should be permitted west of Union Avenue in the proposed mixed-use district. Industrial expansion will be permitted in the Bedford Avenue-North Third Street urban renewal project which will clear housing to provide space for S & S Corrugated Paper Machinery Company Incorporated. Vest pocket housing should be permitted south and east of McCarren Park—along Bayard Street and Manhattan Avenue. This could house elderly residents now living in the mixed industrial area. A new intermediate school on the edge of the park provides a focus for new residential development on these blocks.

Three large industrial redevelopment projects slated for the Williamsburg-Newtown Creek peninsula will increase jobs and provide relocation space for firms now in residential areas.

The City and the Commerce, Labor and Industry Corporation of Kings (CLICK), a local non-profit corporation, plan to develop an industrial park in the Brooklyn Navy Yard. The closing of the yard in 1966 resulted in the loss of 9,000 blue-collar jobs. CLICK plans a two-stage development with 15,000 new jobs by 1980. In the first stage, usable space in existing buildings will be rented to companies on a five-year lease, quickly opening up jobs. The second stage calls for replacing some existing floor space and dry docks with modern, multi-story buildings.

Development of the navy yard has been delayed for several years while the City has been negotiating with the Federal government for title to the property. The City has now taken title. The City's Economic Development Administration (EDA) is studying the cost and staging of redevelopment.

East of the navy yard, the Williamsburg urban renewal project will provide 13 acres of land for industry. Realignment of Wythe Avenue, below Division Street, will separate new industrial and residential developments.

EDA is preparing a staged renewal plan for the Greenpoint industrial district along Newtown Creek north of the Brooklyn-Queens Expressway. The district has 70 acres of vacant land or marginal industrial land.

Developed shortly after the Civil War, this area has more dilapidated buildings than any other industrial zone in the City. Most of these are one-story with a density of less than 25 jobs per acre. Over the past 30 years, the area has emerged as a distribution center because of its good access to the regional highway network. While warehouses and modern truck terminals have relieved some of the blight, they contribute little to the area's overall employment density.

The western part of the district has good subway access and is suitable for high job density manufacturing. Problems of land assembly have prevented industrial expansion. Leviton Manufacturing Company Incorporated, which accounts for almost one-third of the area's 6,000 jobs, has been unable to acquire suitable space to expand.

The blocks east of Kingsland Avenue and North Henry Street have poor subway access and are appropriate for warehousing and trucking firms with low job densities. Scattered distributing businesses in the west of the district should be relocated east of Kingsland Avenue to reserve land near the subway for high job density manufacturing.

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Coffey Streets should be retained. An underused park, surrounded by industry, should be made available for industry. The decline of port activity in lower Buttermilk Channel will be accelerated when the Daily News moves its warehouse to Long Island City.

In the Red Hook special study district, the City will attempt to link the waterfront to the residential core. Cost and design problems of creating a large new community on the Red Hook peninsula with mixed-use buildings are being studied. One possibility is buildings with two or three stories of warehouse or industrial space capped by residential towers commanding a view of the bay.

Gowanus (3)

The Gowanus industrial district is one of the few zones in the City with opportunities for large-scale industrial development. No site is far from a subway stop. It contains 12,000 jobs and 3,000 families. Industrial redevelopment could double the number of jobs.

The zone is cut by the Gowanus Canal which is no longer an important transportation artery. Today, only seven of the 35 firms adjacent to the canal use it. Goods are now carried in trucks along Third and Fourth Streets. The firms next to the canal north of Third Street provide few jobs and require the City to maintain three costly bridges.

Families in several residential communities surrounding the industrial area have remodeled the attractive row houses. These improvements tend to obscure the fact that many low-income families live here in poor housing. Housing quality generally declines with proximity to the canal. The canal is polluted and unattractive. Scheduled new sewers will reduce but not eliminate the pollution. Within the industrial zone, one well-maintained tier of housing in the southeast should be rezoned residential. Much of the rest of the housing, which is mixed with industry, gradually should be replaced. An estimated 20,000 people in Gowanus and the surrounding communities are unemployed or working at minimum wages. Industrial redevelopment could provide more and better jobs for these workers.

The South Brooklyn Development Council, representing 80 community groups and 25,000 residents in Red Hook, Columbia Street, Windsor Terrace, Gowanus, Boerum Hill, Brooklyn Heights and Park Slope, has been participating in the planning of the Gowanus district and is expected to remain active in South Brooklyn.

A housing study is required to determine whether the residential uses can be preserved or expanded. No final decision for the northern portion has been made.

The major industrial concentrations and development opportunities in the Gowanus industrial district are located south of First Street. The Planning Department's development guidelines focus on bringing in new jobs in a way that will least disrupt residential areas within and next to the industrial zone.

Sites of low value with low job density would be assembled and redeveloped first. Residential uses within the industrial zone would be phased out gradually and relocation housing built on appropriate sites at the earliest possible date. Industrial traffic would be channeled away from residential communities onto truck routes.

Assembled parcels should be ample enough to permit large modular construction. Buildings should be at least two stories high. Since mass transit access is excellent, parking requirements should be reduced to increase job density.

First phase of redevelopment would include three sites totaling about 25 acres with 103 jobs and three occupied housing units. Developing these sites could provide space for 2,500 jobs. The second phase, concentrated primarily in the low-density industrial areas, would result in redevelopment of 24 acres and space for 3,600 jobs. The long-term redevelopment of the remaining sites could add space for 3,100 jobs.

One of the most active industrial areas is in a pocket north of the Gowanus special study district. Once zoned for industry, it was rezoned residential to build Wyckoff Gardens. Rezoning of sound, non-conforming industry here would preserve a mixed land use pattern that works. The Ulano Company on Bergen Street and Third Avenue, now occupying several buildings, is expanding.

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PLANNING FOR JOBS