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The Future of Open Spaces on the Upper West Side

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The Future of Open Spaces on the Upper West Side

**Produced for:
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Introduction

Parks and open spaces on Manhattan's Upper West Side are an important resource for people from all parts of New York City. Central Park and Riverside Park -- which are neighborhood amenities for Upper West Siders -- are two of the city's greatest treasures. These parks, both designed by Frederick Law Olmsted, provide a natural setting against the backdrop of the city; they are places where people can take refuge from high-density living conditions to relax or play.

More and more people are living or working on the Upper West Side, and the number is likely to increase. Around Lincoln Center and along Broadway several high-rise apartment buildings have been built in the past few years; more are proposed. In the district near the southwest edge of Central Park, developers have a number of high-rise office and residential structures on the drawing boards, including 58- and 68-story towers for the Coliseum site at Columbus Circle. If completed, these projects would continue the midtown skyline into an area that today consists of much lower buildings. The largest development will take place along the Hudson River on the old Penn Central Railyard between 59th and 72nd Streets.

What will the impact of these projects be on Central Park, Riverside Park, and the other open spaces of the Upper West Side?

On the one hand, these open spaces will be increasingly vital resources as the population grows. On the other, it is likely that the projects, individually and cumulatively, will adversely affect neighborhood open spaces, streets, and parkland.

Previous studies have focused on the quality and distribution of open spaces in the Upper West Side in relation to the characteristics of the population of the area.¹ This study focuses on urban design issues, chiefly on people's need for comfort, sunlight and air in open spaces and the impact of new development on these aspects of the Upper West Side's microclimate.

This study was prepared on behalf of the Parks Council of New York City. The study area is bounded by 58th Street in the south to 81st Street in the north, and from 5th Avenue in the east to the Hudson River in the west. The photographs, diagrams and analysis contained in this report were displayed at the Urban Center during December 1987 and January 1988 in an exhibit called "The Future of Open Spaces on the Upper West Side."

The first half of this report consists of a summary of the exhibit. The second half reviews the issues and makes recommendations about the shape of future development on the Upper West Side and how sunlight and wind considerations can be built into the planning process to protect parks and open spaces throughout the city.

The Future of Open Spaces on the Upper West Side

A Walk Through The Upper West Side

Over the next ten years the southern portion of the Upper West Side will experience a new building boom. Counting developments already approved and those still on the drawing boards, 28 high rises with 21 million square feet of space—the equivalent of 10 Empire State Buildings—will be built below 72nd Street.

What will the West Side be like if all these projects are built? What will happen to the sun and wind in the parks and public spaces? What will the skyline look like?

This exhibit will take you on a walk through familiar places—the parks, streets and open spaces that give the Upper West Side its character. Along this walk you will be able to stop and look at the changes that will take place if all these buildings are completed. You will see that new development as proposed today may render some of these places unfamiliar indeed.

The Model

The centerpiece of the exhibit is a scale model of the study area, Central Park to the Hudson River from 59th to 81st Streets including all existing buildings and projects that have been approved or proposed.

The model was the primary research tool for this study, conducted at the Environmental Simulation Laboratory at the University of California at Berkeley. The visual simulations, which compare the scale of these proposed buildings to what already exists, were made by superimposing photographs of the model over photographs of existing views. Sun and wind studies were done by placing the model in simulated weather conditions typical for New York City.

Development Patterns, Then And Now

Changes that are taking place today are rooted in events of nearly half a century ago.

The Upper West Side of the 1940's was characterized by tenement housing and brownstones. There were some taller, more grandiose buildings—apartment houses and hotels that lined Central and Riverside Parks, Broadway, and the Avenues.

By the end of World War II, the West Side had become an economically depressed area, populated by Puerto Rican, Black, and European communities. During this period, federal urban redevelopment efforts made possible the wholesale clearance of inner city neighborhoods, in the spirit of “urban renewal.”¹

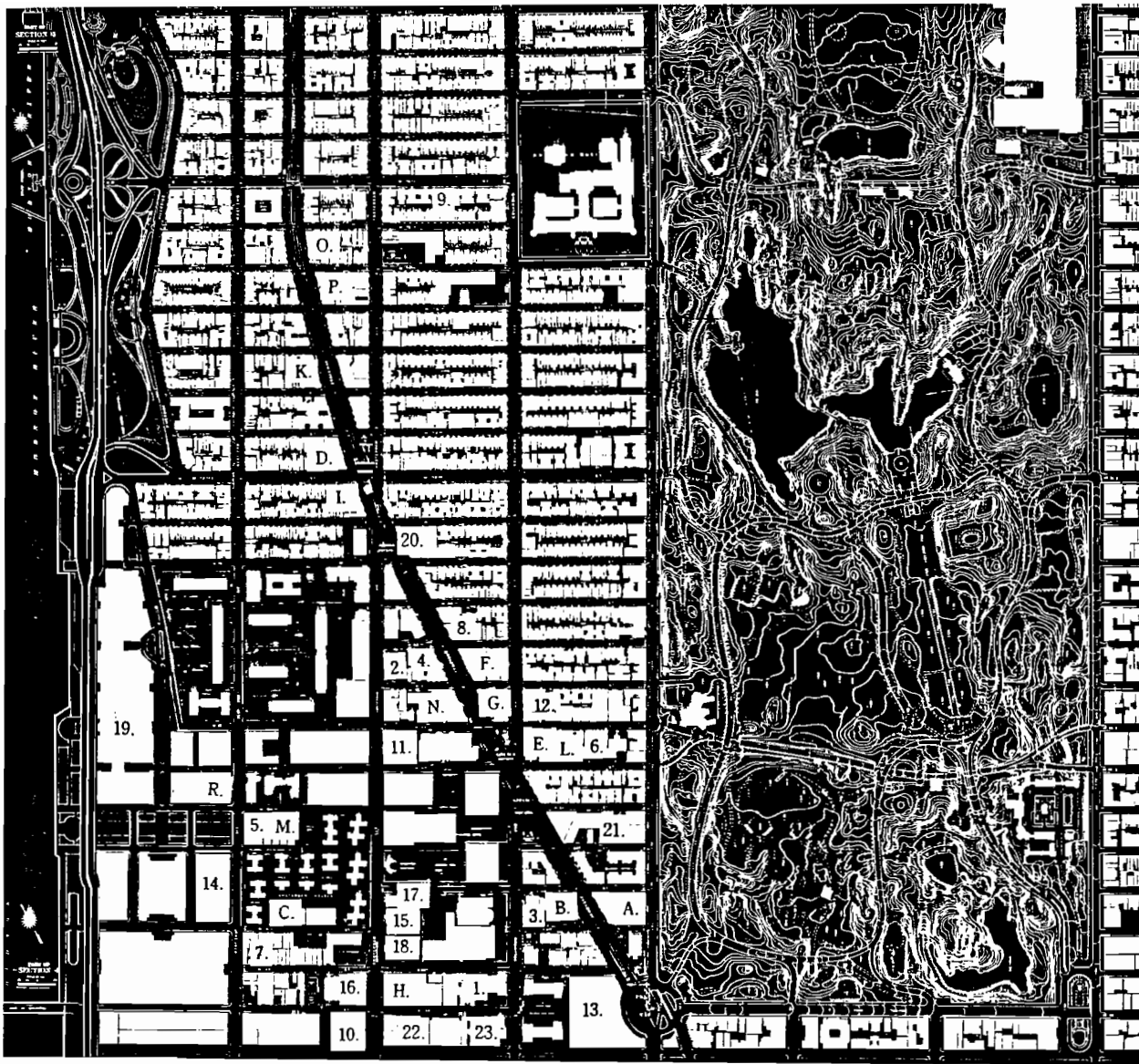
Robert Moses amassed large tracts of land through condemnation and demolition, allowing superblock projects larger than any that had ever been built on the West Side. Development started with the Coliseum at Columbus Circle, Lincoln Center, the Lincoln Towers, and Fordham University; other projects followed.

If urban renewal were not enough incentive for redevelopment of the Upper West Side, rezoning of the Lincoln Square neighborhood was. When the city began giving zoning bonuses to developers who provided public amenities, the Lincoln Square area received more than its share of development. Developers could receive special bonuses not only for plazas, but also for arcades and other improvements. The results were larger projects: buildings up to 40 stories tall began to line Broadway.²

Recently the tide has turned against such projects. The scale and character of Upper West Side neighborhoods yet untouched by redevelopment have come to be much appreciated. Most of these were built under New York's original zoning, which related building height to street width and required “ziggurat”-type setbacks so sunlight could reach the street. This created a consistency and human scale of building heights and massing, which gives the area a strong identity.

The scale and character of the area might have been lost as new residential towers moved north up the avenues, as on the East Side. But recent “contextual” rezoning seeks to reaffirm and preserve the scale and character of the neighborhoods north of Lincoln Center. Even in the Lincoln Center area, where the City feared public services could not support new development, many zoning bonuses were eliminated.³

Today, though, development of an unprecedented scale is poised to start on the Upper West Side. This year alone, 1,700 luxury apartments have been added. The proposed Coliseum project, Television City, and 19 additional highrises will go far beyond Robert Moses's vision.⁴



**Known
Development Sites**

Development Projects Completed in 1987

1. Park South Tower 60th/Columbus	52 floors
2. Tower 67 67th/Amsterdam	47 floors
3. Sofia Tower 61st/Columbus	26 floors
4. Bel Canto 68th/Broadway	27 floors
5. 64th/West End	6 floors
6. Handman Tower 66th Street	27 floors
7. McBurney School 60th/West End	4 floors
8. 2000 Broadway 68th/Broadway	28 floors
9. Austin Tower 79th Street	17 floors

Development Projects Projected to be Completed by 1989

10. Haaren High School 59th/Amsterdam	6 floors
11. Lincoln Center North 65th/Amsterdam	59 floors
12. ABC Headquarters 66th Street	23 floors
13. Columbus Circle	58 & 68 floors
14. Manhattan West 61st/West End	39 & 33 floors
15. Alfred I 61st/Amsterdam	38 floors
16. Brodsky West 59th/Amsterdam	37 floors
17. Alfred II 62nd/Amsterdam	49 floors
18. Fordham Dormitory 60th/Amsterdam	20 floors

Development Projects Projected to be Completed After 1990

19. Television City 59th to 72nd Street	
20. Katz Tower 70th/Broadway	21 floors
21. McBurney School YMCA Tower	41 floors
22. Roosevelt Hospital	13 floors
23. Brodsky—East 59th/Columbus	26 & 49 floors

Building Sites Currently Considered for Development by the Real Estate Industry

A. Mayflower 62nd/Broadway	265 apartments plus office & retail
B. Broadway and 62nd St.	105 apartments plus office & retail
C. Glauber at 61st.	135 apartments
D. Broadway and 72nd	152 apartments
E. ABC at 66th St.	150 apartments
F. Ansonia Post Office 67th/Broadway	388 apartments
G. ABC & Bank Leumi 66th/Broadway	198 apartments plus office & retail
H. John Jay 59th Street	456 apartments plus school
I. 72nd/Broadway	59 apartments plus retail
K. 74th/Broadway	170 apartments plus retail
L. 65th/Broadway	176 apartments plus office & retail
M. Phipps Houses 63rd/West End	242 apartments plus office & retail
N. Penthouse/Tower Records 60th/Broadway	249 apartments plus retail
O. 77th and Broadway	170 apartments plus retail
P. 75th and Amsterdam	133 apartments plus retail
R. ABC at West End Ave.	500 apartments plus retail

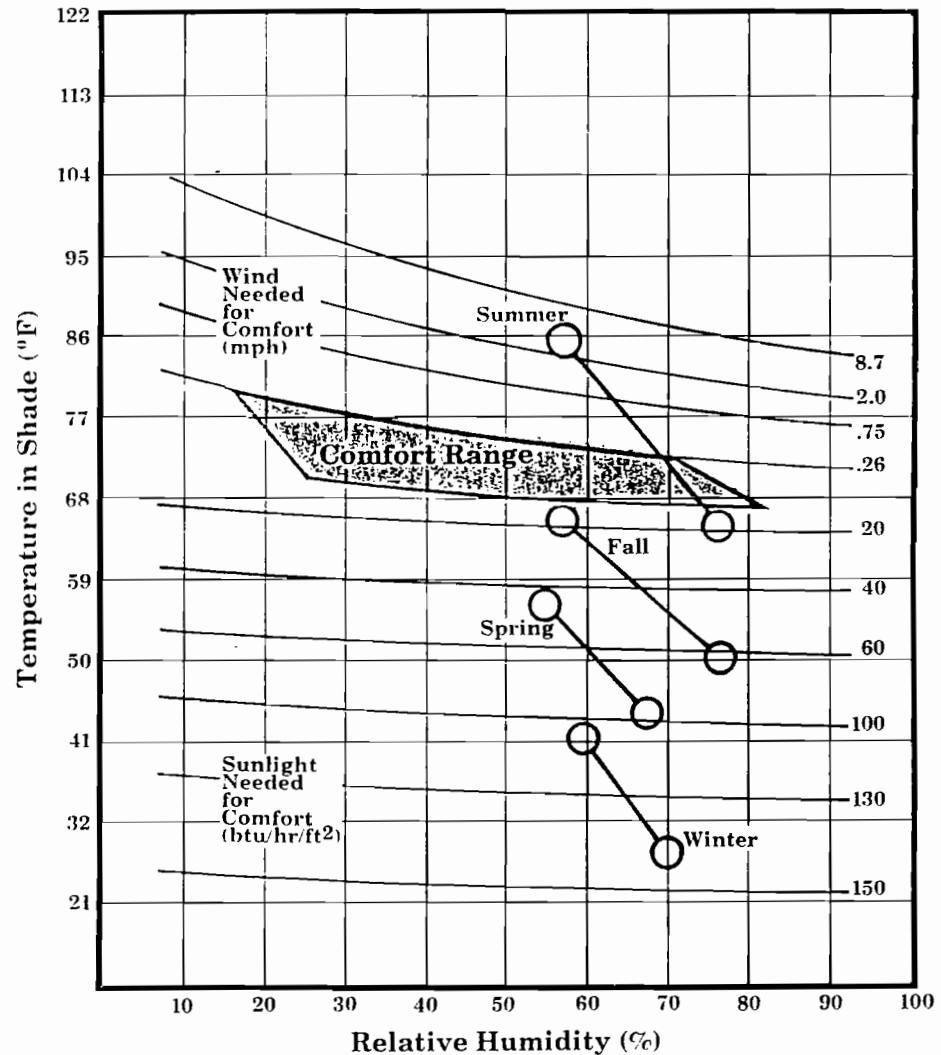
Upon arriving in Manhattan in the late 1930s, folksinger Woody Guthrie remarked, "New York sure is a funny place . . . The buildings are so high the sun don't come out until one-thirty in the afternoon, and then it's visible for seven minutes between the Empire State Building and the shoe shine over there."

Sun, Wind and Climate

Sun and wind affect the relative comfort of outdoor life. Tall buildings cast shadows and often create gusty winds; sidewalks and parks that were once sunny and sheltered often turn colder and windier with each new highrise in the neighborhood.⁵

In New York's moderate climate, fall and spring days are usually cool and windy. People sitting on benches in parks and gathering spots need sunlight to stay warm. Areas shaded during the fall and spring are uncomfortable for leisurely activities such as sitting, strolling and playing. Even during the hot summer months, when many New Yorkers seek the shade and prefer a light breeze to help stay cool, large crowds go to Central and Riverside Parks to sun bathe or sit under the trees in filtered sunlight.

Climate Chart for New York City



Source: U.S. Bureau of Standards, Dept. of Commerce, Central Park Weather Station.

The chart (to the left) illustrates New York City's climate. It includes four variables: average temperatures in the shade and humidity during each of the seasons, and sun and wind. The average seasonal ranges of temperature and humidity are marked by diagonal lines.

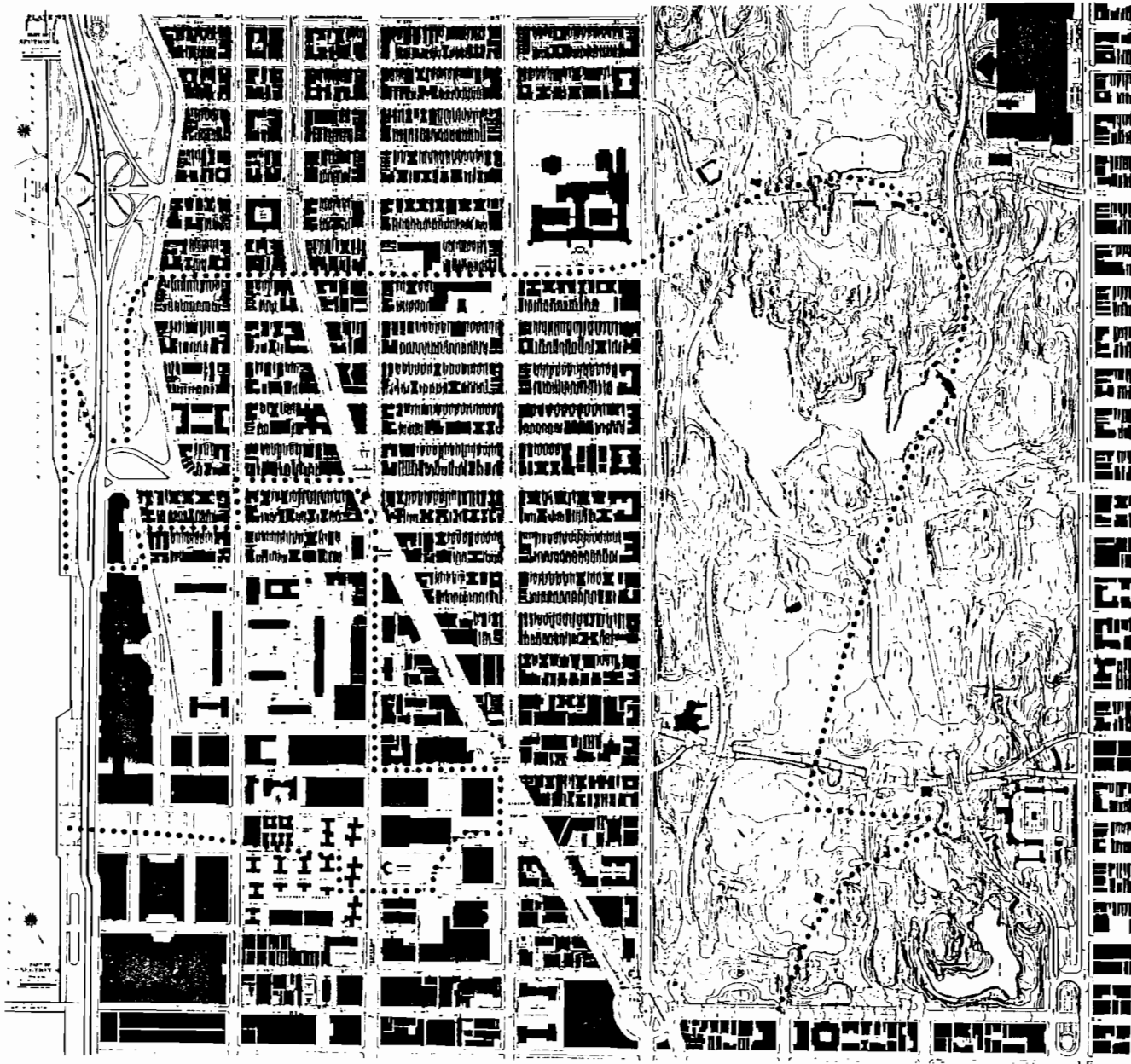
For each season, the amount of sunlight and wind the average person needs to be comfortable outdoors is charted. If the combined effect of temperature and humidity is too cold for the average person, sunlight in the amounts shown in the lower portion of the right-hand column is needed. If the weather is too hot, winds shown in the upper portion of the same column are needed.

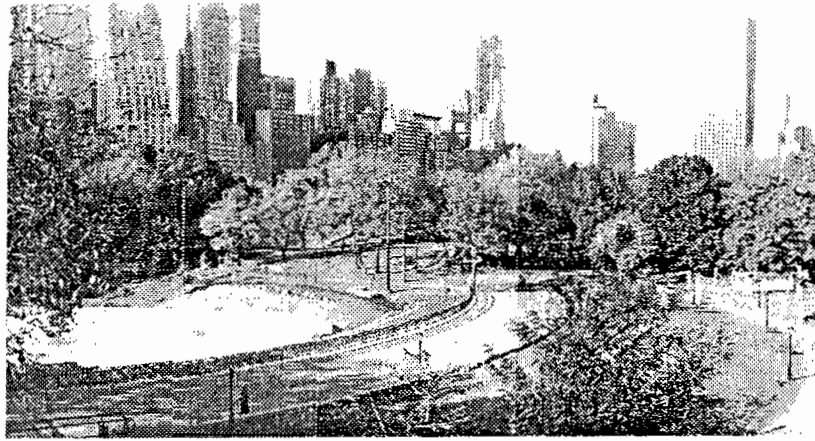
For example, average daily temperature during the Spring ranges between forty-five and fifty degrees, and humidity is approximately fifty to sixty percent. A person sitting on a bench will not be comfortable without full exposure to the sun (expressed in British thermal units). During the summer, when temperatures often reach the nineties, shade and a light breeze (expressed in miles per hour) make the outdoors more comfortable.

The loss of sunlight that would result from future development is mapped here and the duration of shadowing is shown in the photographs.

Wind. Tall buildings disturb wind patterns, often forcing gusts at nearby sidewalks and street corners.

Winds that would be generated in the vicinities of proposed development projects were measured by placing the model in a wind tunnel. The results are shown on color-coded maps.





The Route

We begin at the southern edge of Central Park and walk to Heckscher Playground, the Sheep Meadow, the Boathouse, and Belvedere Castle. We then leave the Park near the Museum of Natural History and move across the Upper West Side along 77th Street, stopping briefly at a public school playground on Amsterdam Avenue and continue on the Riverside Park. We enter the Park at 76th Street and walk across the South Lawn to the running track near the Hudson River esplanade.

From there we walk east to Verdi Square at 72nd Street and Broadway. On our way to Lincoln Center we follow Amsterdam Avenue, pausing to look west at each cross street. Arriving at Lincoln Center we cross the Plaza and walk between the Opera House and the State Theater to Damrosch Park and the Guggenheim Bandshell. From there we take 62nd Street through the Amsterdam Houses and past the neighborhood playground and enter the proposed Television City park between 63rd and 64th Streets, ending our walk at the Hudson.

Central Park

Heckscher Fields

"The time will come when New York will be built up, when all the grading and filling will be done, and when the picturesquely varied, rocky formations of the Island will have been converted into formations for rows of monotonous straight streets, and piles of erect buildings. . . . Then the priceless value of the picturesque outline of Central Park will be perceived. . . ." Frederick Law Olmsted ⁶

Central Park is one of the world's great public parks. It reflects New York's changing appreciation for its open spaces: recently, after too many years of neglect, the Park has re-emerged as a central recreation area for millions of New Yorkers.

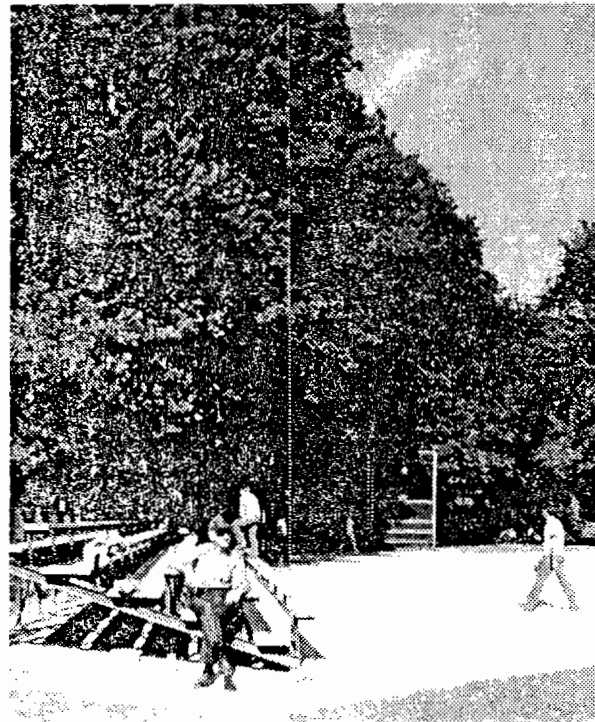
By the mid-19th century, Manhattan had grown so fast as to cause concern among city dwellers who foresaw the years ahead when all available open space would be developed. Advocates for public parks, chief among them Andrew Jackson Downing, editor of the popular monthly *Horticulturalist*, agitated for the purchase a large parcel of land for a centrally located public park. Downing was joined by other influential figures, including the well-known poet and journalist, William Cullen Bryant. ⁷

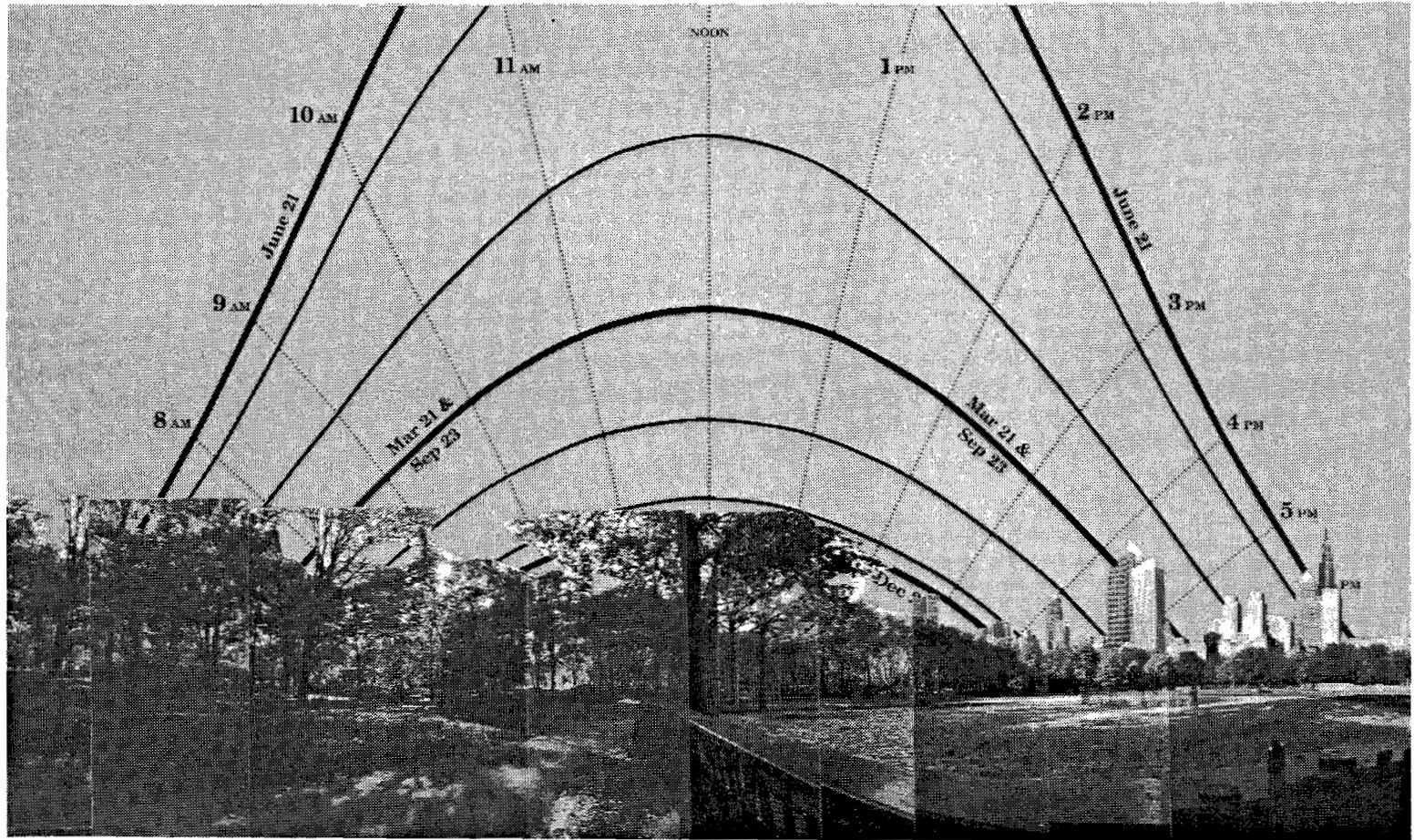
The Legislature originally proposed purchase of Jones Wood, a 153-acre riverfront site on the Upper East Side. Downing attacked the proposal; nothing less than 800 acres was sufficient, he argued. ⁸

Years of effort paid off in 1856 when the City purchased 834 acres of marshy swamp in the middle of the Island. Downing himself would have designed Central Park had it not been for his accidental death in 1852. ⁹

Calvert Vaux, a young English architect recruited by Downing a few years earlier, picked up where Downing left off. Vaux was joined by a relatively unknown landscape gardener, Frederick Olmsted, who had recently been hired as Central Park's superintendent of labor. The City held a contest for the Park's design. Olmsted's entry, the Greensward Plan, took first place. With the aide of a large crew, Olmsted and Vaux turned the swamp into what would become Manhattan's verdant jewel, prized by all sectors of New York's population. ¹⁰

Heckscher Playground is one of Robert Moses' alterations of Central Park. It is among the many City playgrounds Moses built during his first year as Park Commissioner. The Playground was named for August Heckscher, Sr. who provided funds for its construction, and covers seventeen acres of what had formerly been part of the Ball Ground in the Greensward design. ^{11 12}

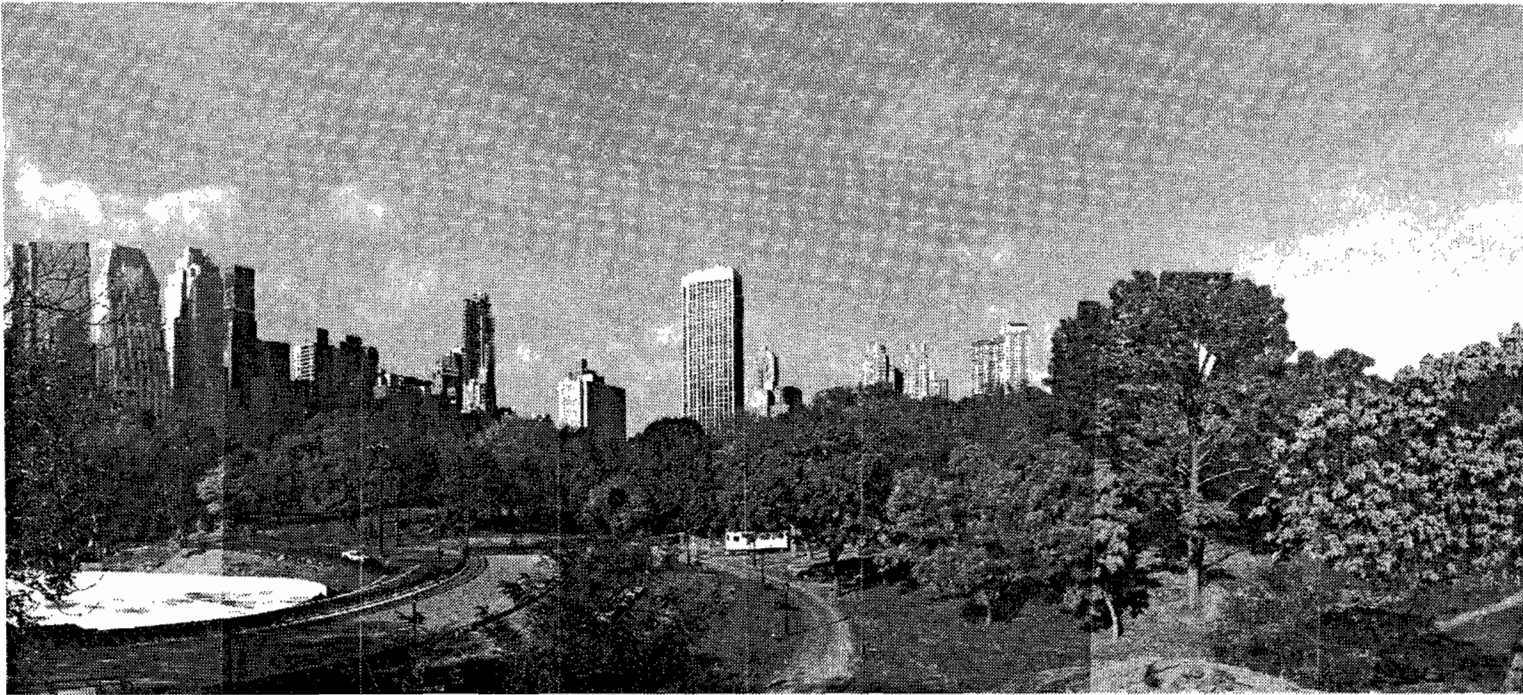




How to Read the Sun Path Diagrams:

The photographs shown on each of these panels present an arc of 240 degrees. South is the center of the view, east on the right, and west on the left. The black lines show the path of the sun as it traverses the sky from morning to evening. The highest curve is the path of the sun at the Summer Solstice, June 21st, and each curve below represents a pair of months (May 21st and July 21st, April 21st and August 21st, and so on) until the Winter Solstice on December 21st, when the path is lowest above the horizon. The dotted lines indicate the time of day.

The Heckscher Playfields would be shaded by the Coliseum Circle towers after 4:00 p.m. from February to the middle of April and from the end of August to the end of September. The shadow from Television City will reach Heckscher Playfields only at 6:00 p.m. near the Summer Solstice. At that time, the YMCA tower would shade the playfield as well.



Existing

Wollman Ice Rink

How to Read the View Simulations Shown in this Exhibit:

The pictures shown here have been taken with a normal lens. Each photo panel is made from several photographs representing the entire view you can take without moving your head. To “place yourself into the view” as an observer, step up close to these pictures and look at them from a distance of approximately ten inches. If you are positioned correctly the red horizontal line will show the upper limits of vision without head movement. In order to see the area above the red line, you will have to tilt your head up.

Of the 27 views in this exhibit, you will find that in order to fully see the proposed highrises, you will have to look up.



With Future Development

Columbus Circle, 58 & 68 floors
Coliseum

YMCA—Tower, 41 floors
63rd Street

Television City

Sheep Meadow

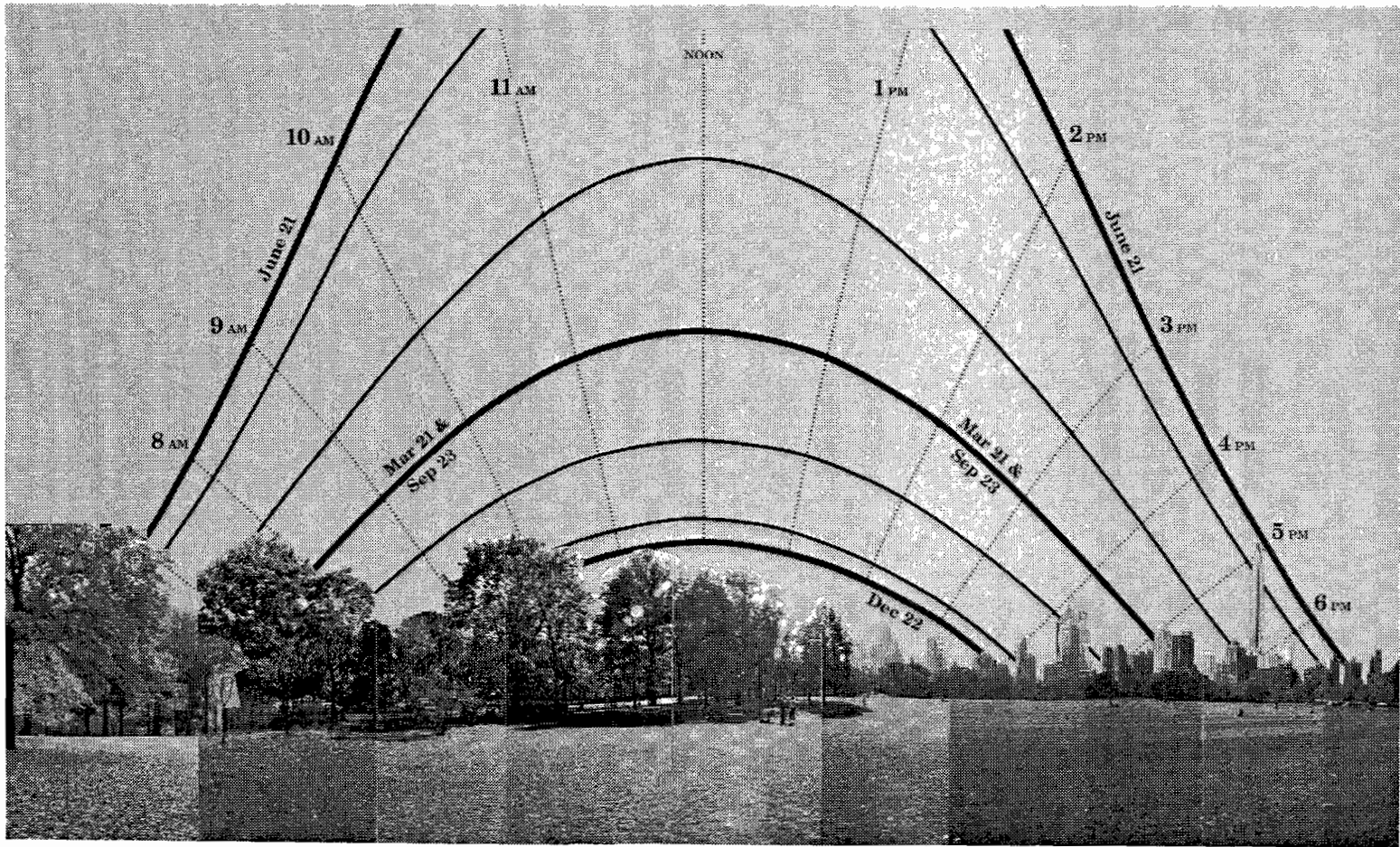
The **Sheep Meadow** is the largest of the Park's original lawns, covering 12 acres in the southwestern portion. The Meadow was originally called the Parade Ground in the Greensward Plan, and later the Green. ¹³

The Meadow's contemporary name is taken from the introduction of Southdown sheep in 1870. For more than 60 years, the sheep and their keeper could be seen crossing the road, to and from the Sheepfold. One 19th century friend of the Park wrote, "The broad, lawn-like expanse of green, with its flock of one hundred and sixty three Southdown sheep, with their keeper, presenting an appearance of pastoral simplicity as he wanders, crook in hand, after his nibbling charge, and carrying the mind far enough away from the sights and sounds of the enviroing city." ¹⁴

In 1934, the new Park Commissioner, Robert Moses, declared the sheep deformed from years of inbreeding and banished them. Shortly thereafter, Moses turned the Sheepfold into the Tavern-on-the-Green restaurant. ¹⁵

In the past decade, New York has come to respect the ecological needs of Central Park. After many years of overuse, the Sheep Meadow has been restored to its original grandeur by the Department of Parks and Recreation.



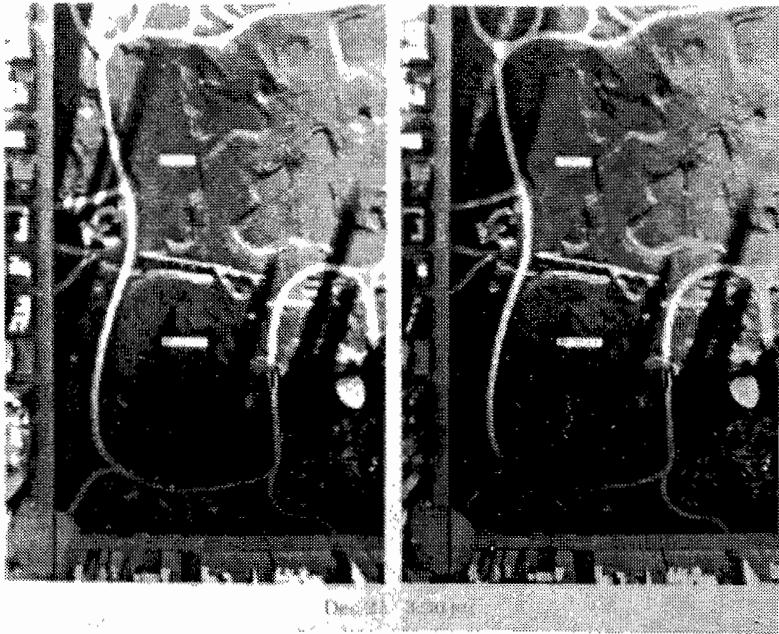


Parts of the Sheep Meadow would be shaded by the proposed Coliseum Circle at 4:00 p.m. during February-March and September-October. The YMCA tower, Alfred II tower, TV City and Lincoln Center North would all contribute to late-afternoon shading of the Meadow on summer afternoons.

Shadows on Central Park

Existing

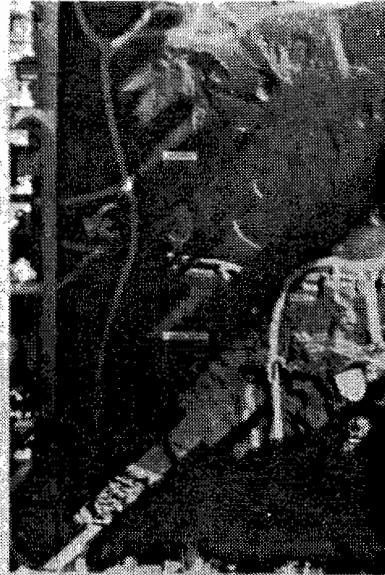
With Future Development



Existing



With Future Development



Map 21 6140 PM

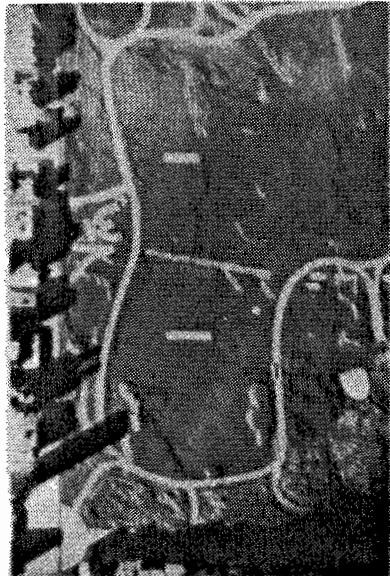
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With Future Development



Map 21 6140 PM



Map 21 6140 PM



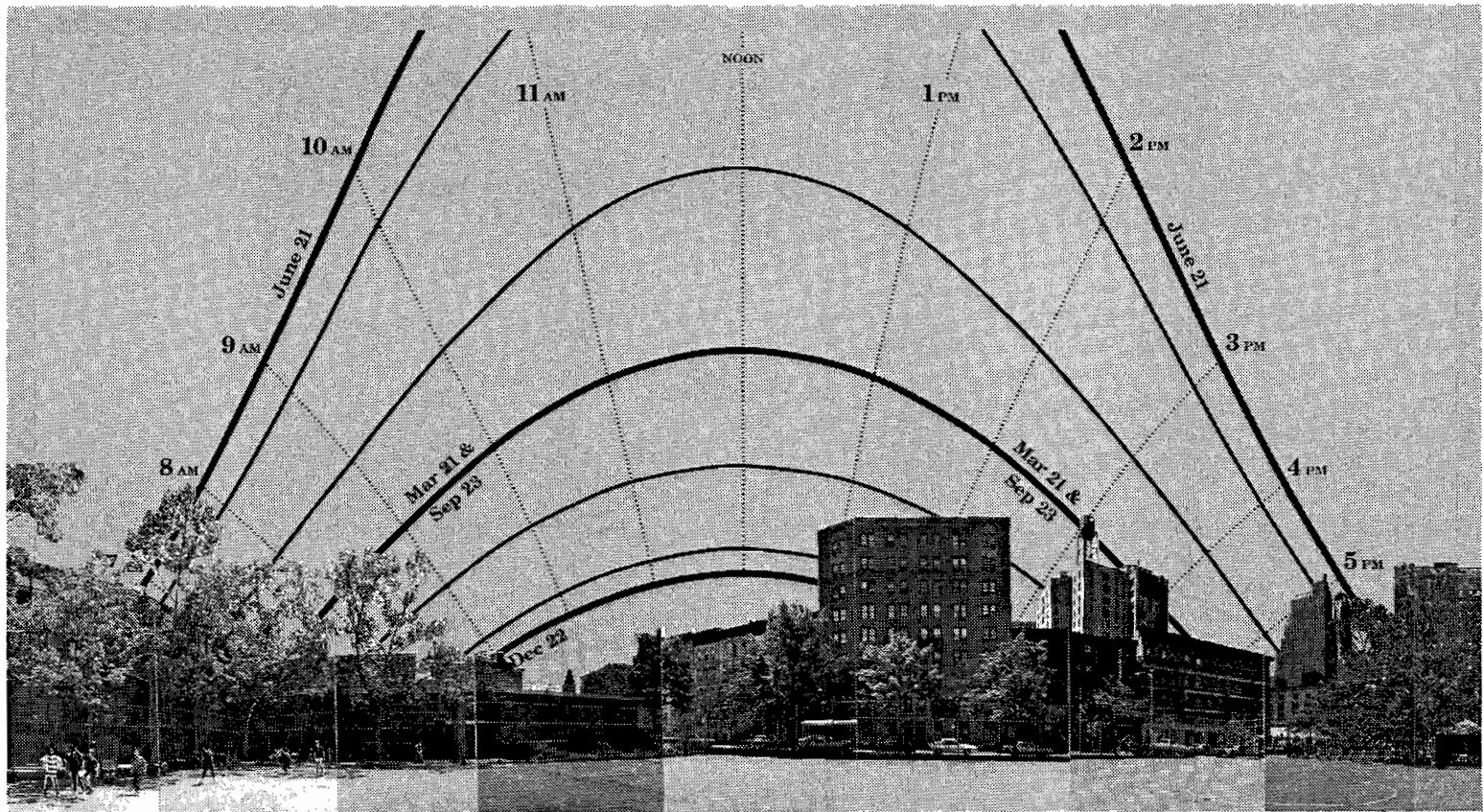
Map 21 6140 PM

Public School 87

Public School 87, located at the corner of Amsterdam Avenue and 77th Street, has two play areas: a large yard and an adventure playground for young children. The playground, completed last May, was funded by the Parents' Association.

The children had a hand in designing and building it. "Everyone is very proud of it," according to one P.S. 87 teacher. "The kids worked on it themselves. People from the community helped also." ¹⁶





The playground will not be shaded by any new development. TV City's shadows fall as far as the playground at 2:30 p.m. in November and January. Only an extreme corner of the adventure playground is affected by this shadow. At this time, the schoolyard and the rest of the playground are already shaded by existing buildings on Amsterdam.

Riverside Park

Across the street from the proposed Television City site is the southern entrance of Riverside Park, a long strip of green that runs from 72nd Street to 123 Street. Riverside Park covers 266 acres of riverfront along the Hudson, making it the second largest park in Manhattan.

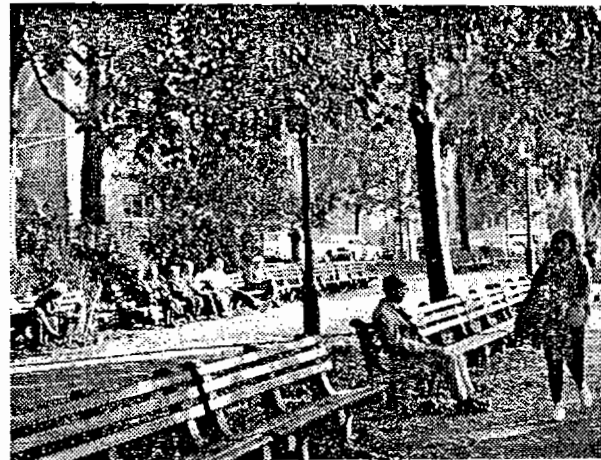
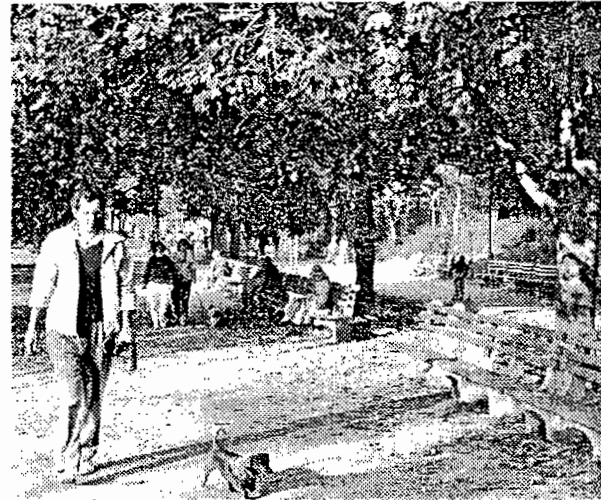
Today, Riverside Park serves 250,000 City residents who live within walking distance and countless others who come to stroll along the esplanade. The south end of the Park serves a large elderly population (according to recent census data, the greatest concentration of West Side residents over 60 live near the south end of the Park) and provides recreational facilities for children and adults.

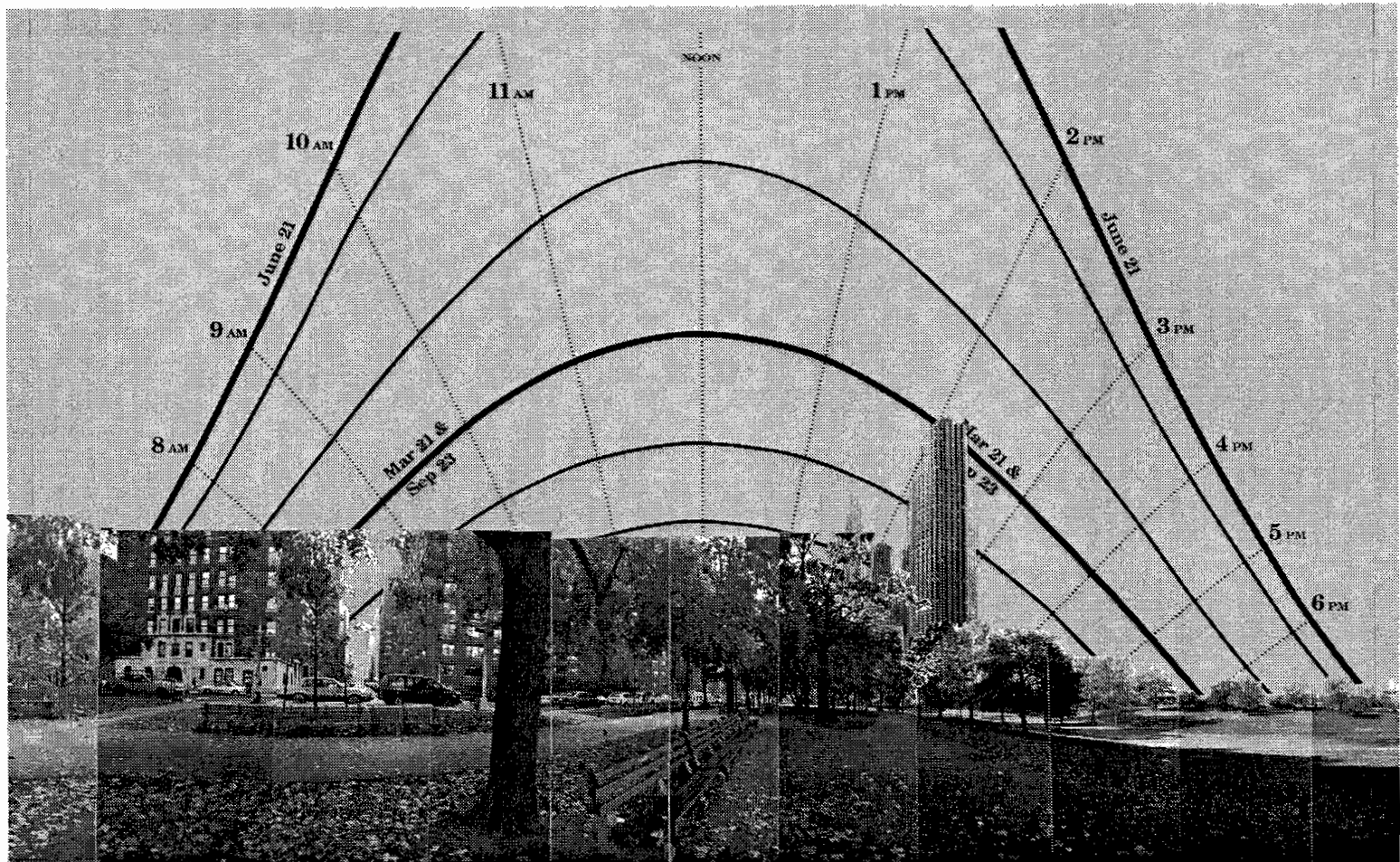
The south lawn is a popular sunbathing spot. During the warm months, the lawn is covered with West Side residents complete with chairs and picnic lunches.

Children use the playground adjacent to the lawn and play under the sprinklers to stay cool in the summer. Last summer, for the first time the Parks Department ran an organized recreation program for youths in Riverside Park.

Among its many uses, the playgrounds, fields and the 72nd Street track serve local schools that use the facilities for physical education classes and after-school athletic programs. ¹⁷

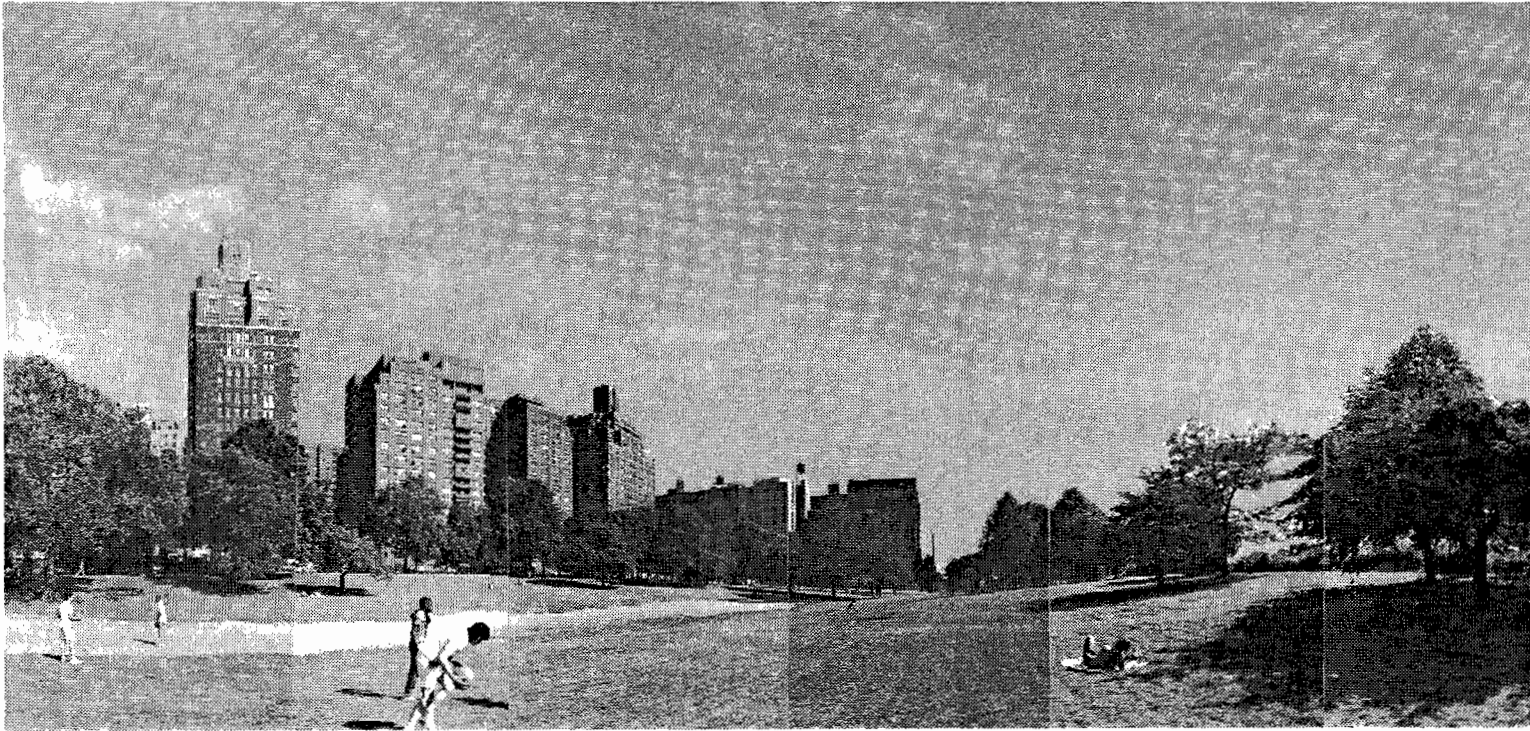
Riverside Park was originally designed by Frederick Law Olmsted and Calvert Vaux in the mid-1870s, but was radically altered by Robert Moses during his tenure as New York City Parks Commissioner. In the 1930s, Moses transformed the Park from a heavily wooded riverbank escarpment to a flatter, recreation-oriented open space, paving the way for construction of the Henry Hudson Parkway. ¹⁸





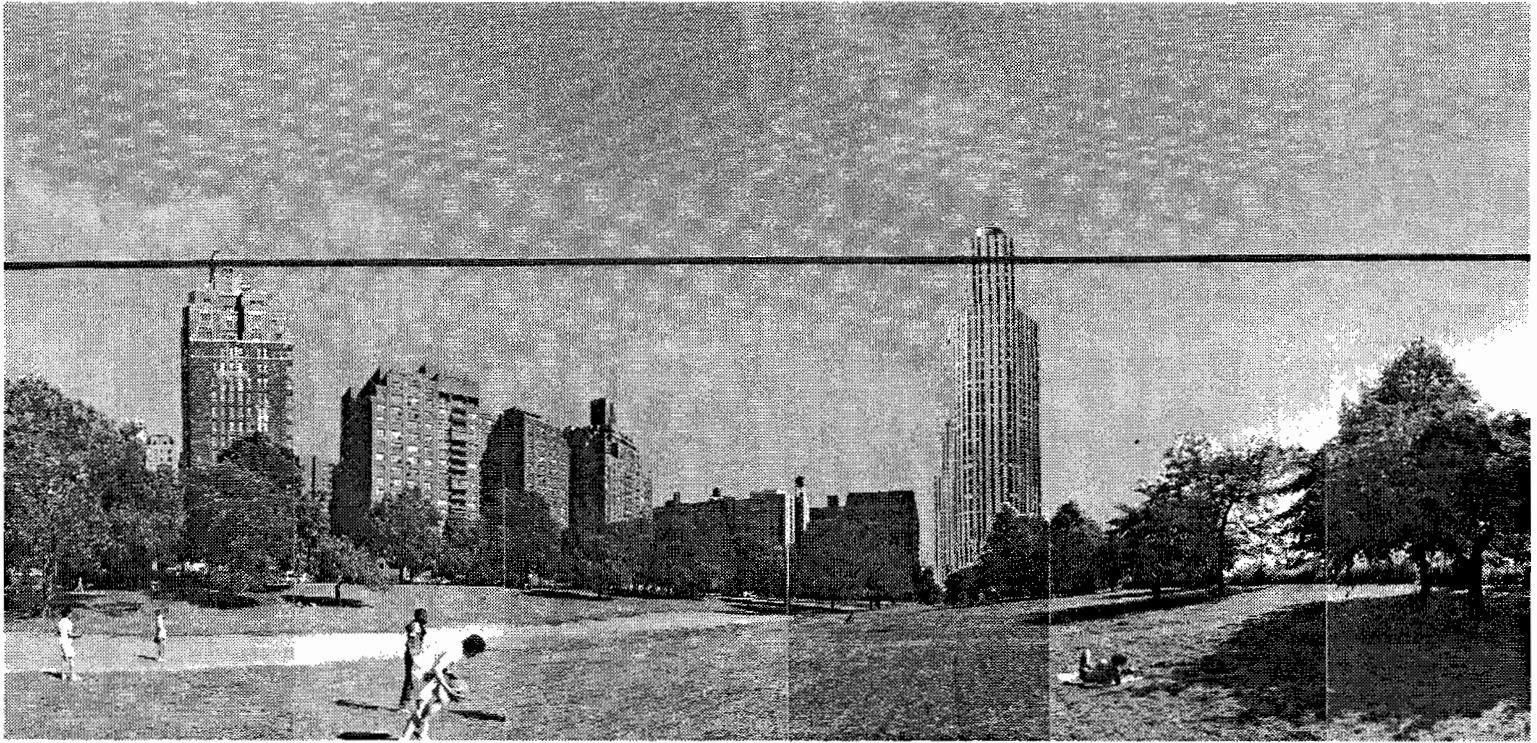
74th Street Entrance

The northernmost TV City tower would shade the walks and benches near 84th Street between 1:00 and 2:00 p.m. every afternoon from late September to early March. The south lawn's sunlight would be blocked beginning at 1:00 p.m.



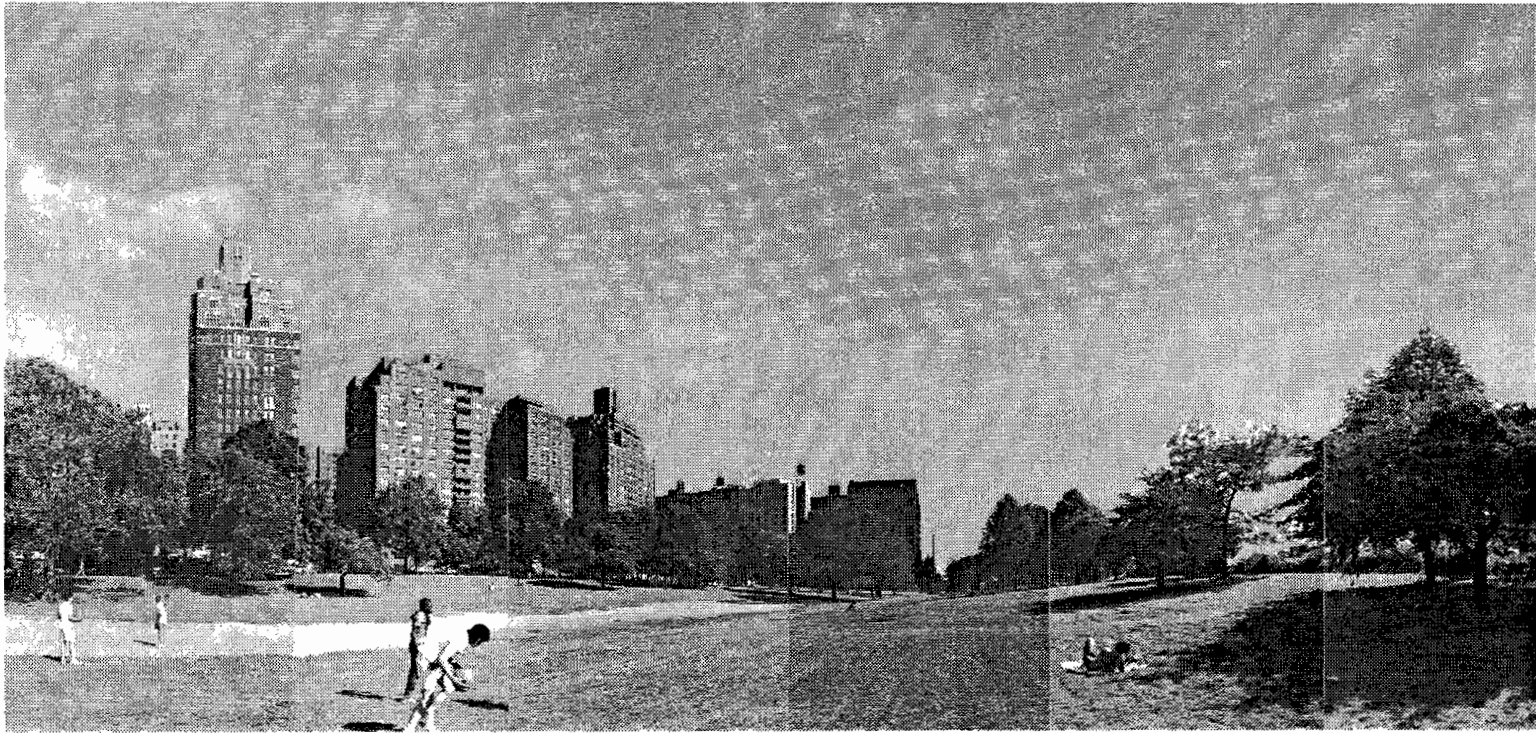
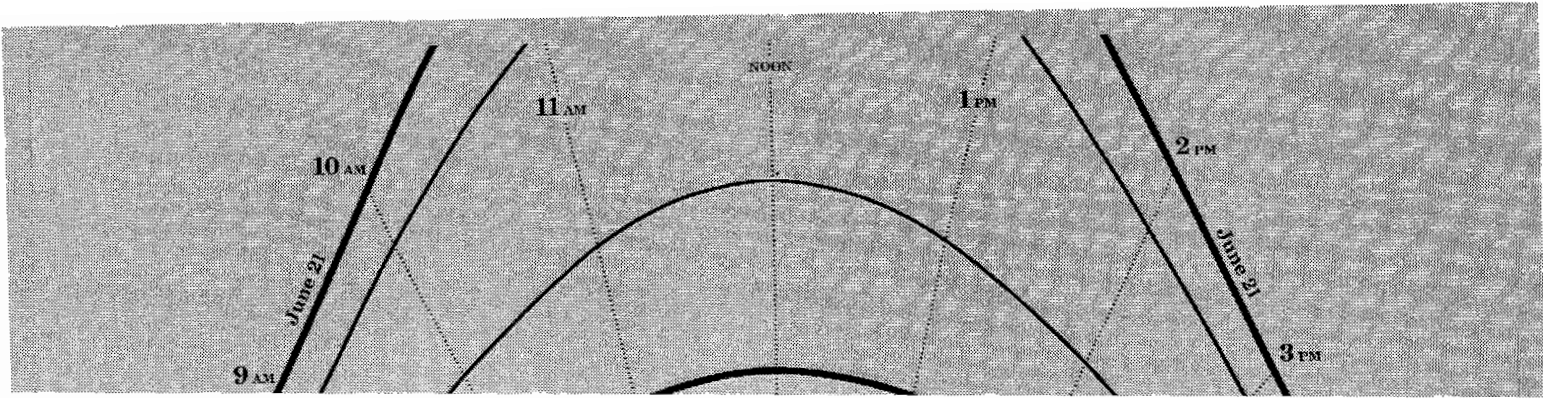
Existing

South Lawn



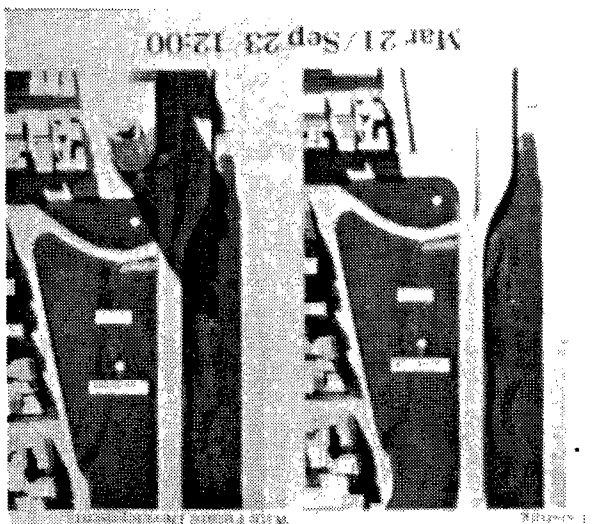
With Future Development

Television City

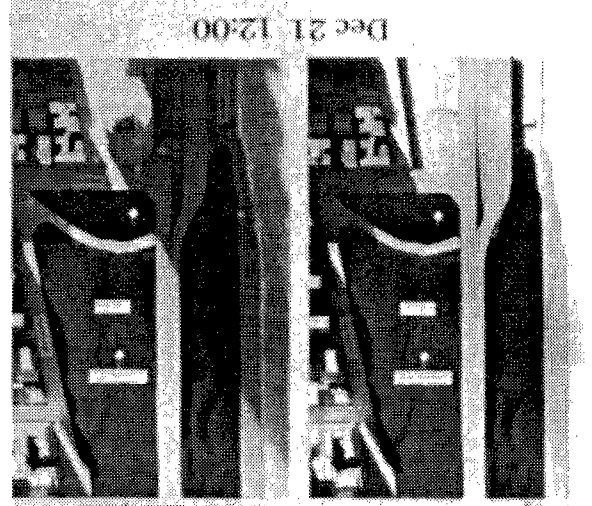


Existing

South Lawn

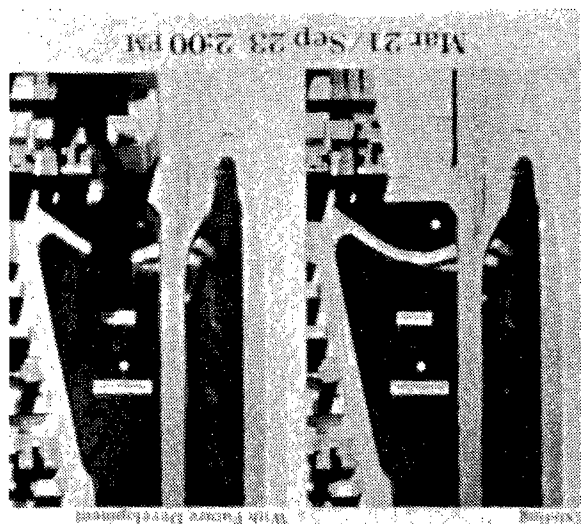


With Future Development

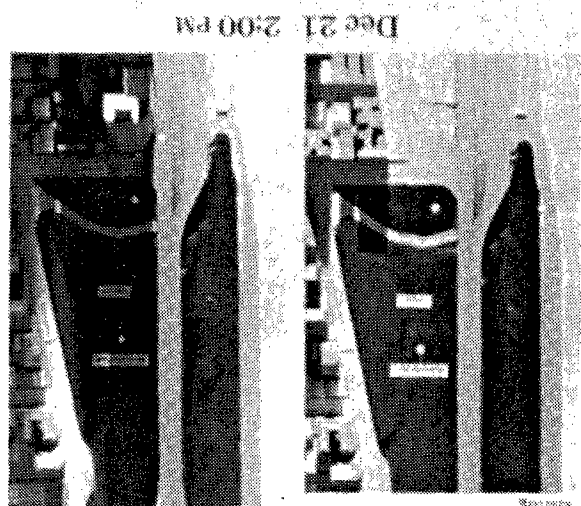


With Future Development

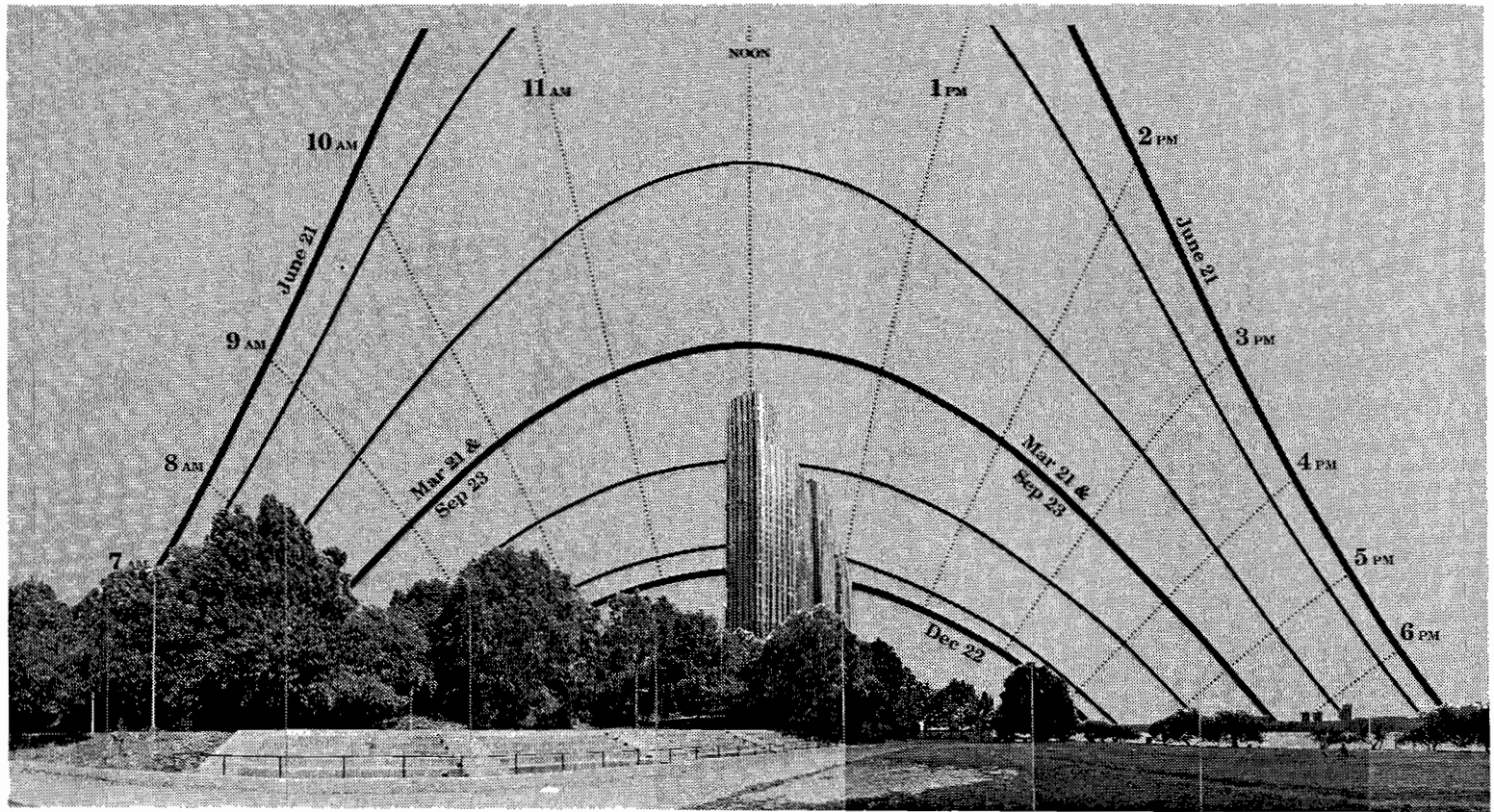
Shadows on Riverside Park



With Future Development



With Future Development

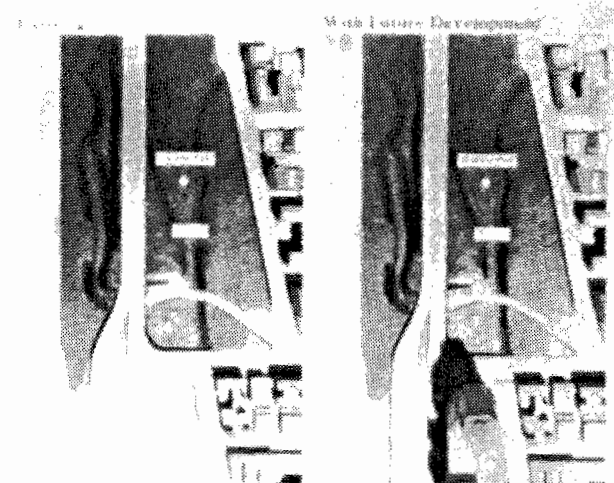


Running Track

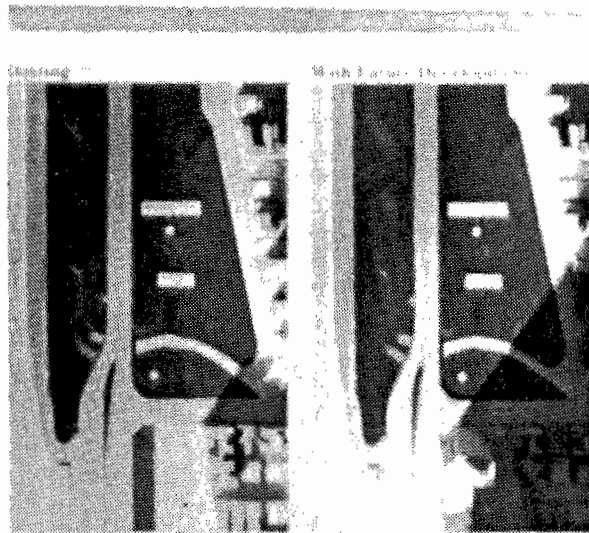
The running track in Riverside Park and the river walk would be in the shade at lunchtime from the end of September to the beginning of March.



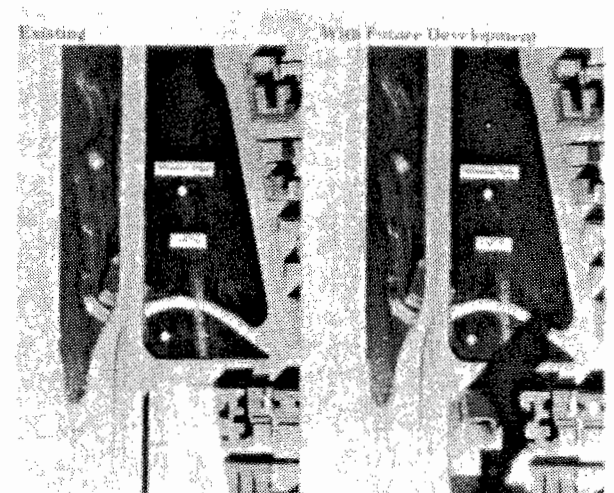
Dec 21 3:30 PM



Jun 21 12:00



Mar 21 / Sep 23 4:00 PM



Jun 21 2:00 PM

Verdi Square

Broadway is among the oldest roads in Manhattan, predating the grid pattern that covers most of the Island. When the grid was established in the early 19th century, it created “bow tie” intersections where streets and avenues cross Broadway (known first as the Albany Post Road or the Bloomingdale Road, and later, the Boulevard).¹⁹

The bow-tie intersections provide large open spaces including triangular patches of green that form mini-parks along the length of Broadway.

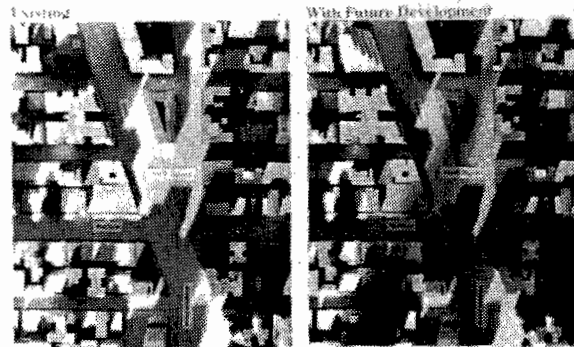
Verdi Square, at the intersection of Broadway and 72nd Street, named for the great Italian composer, Giuseppe Verdi, has been designated a New York City landmark.

Shortly after Verdi’s death in 1906, New York’s Italian community commissioned a statue in his honor. Verdi’s statue, carved in marble, sits on a granite pedestal surrounded by four life-sized figures from his operas Otello, Aida, Falstaff, and La Forza del Destino.²⁰

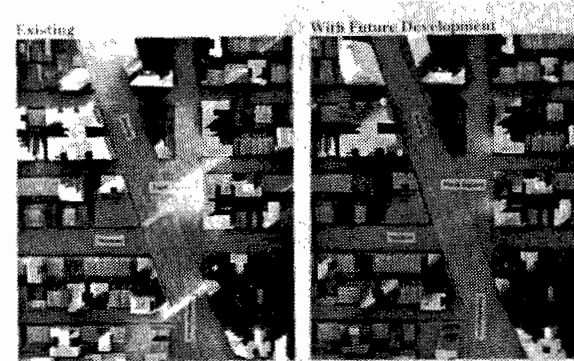
The square is lined by street benches, providing a refuge for neighbors and pedestrians. The benches serve as a gathering spot for older residents to visit with each other and enjoy the sun.

The square has been nicknamed “Needle Park” because of the drug activity there. The City is planning to restore the square in an attempt to overcome this reputation.

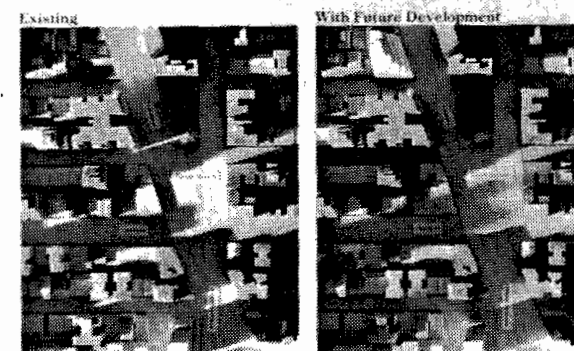
Shadows on Verdi Square



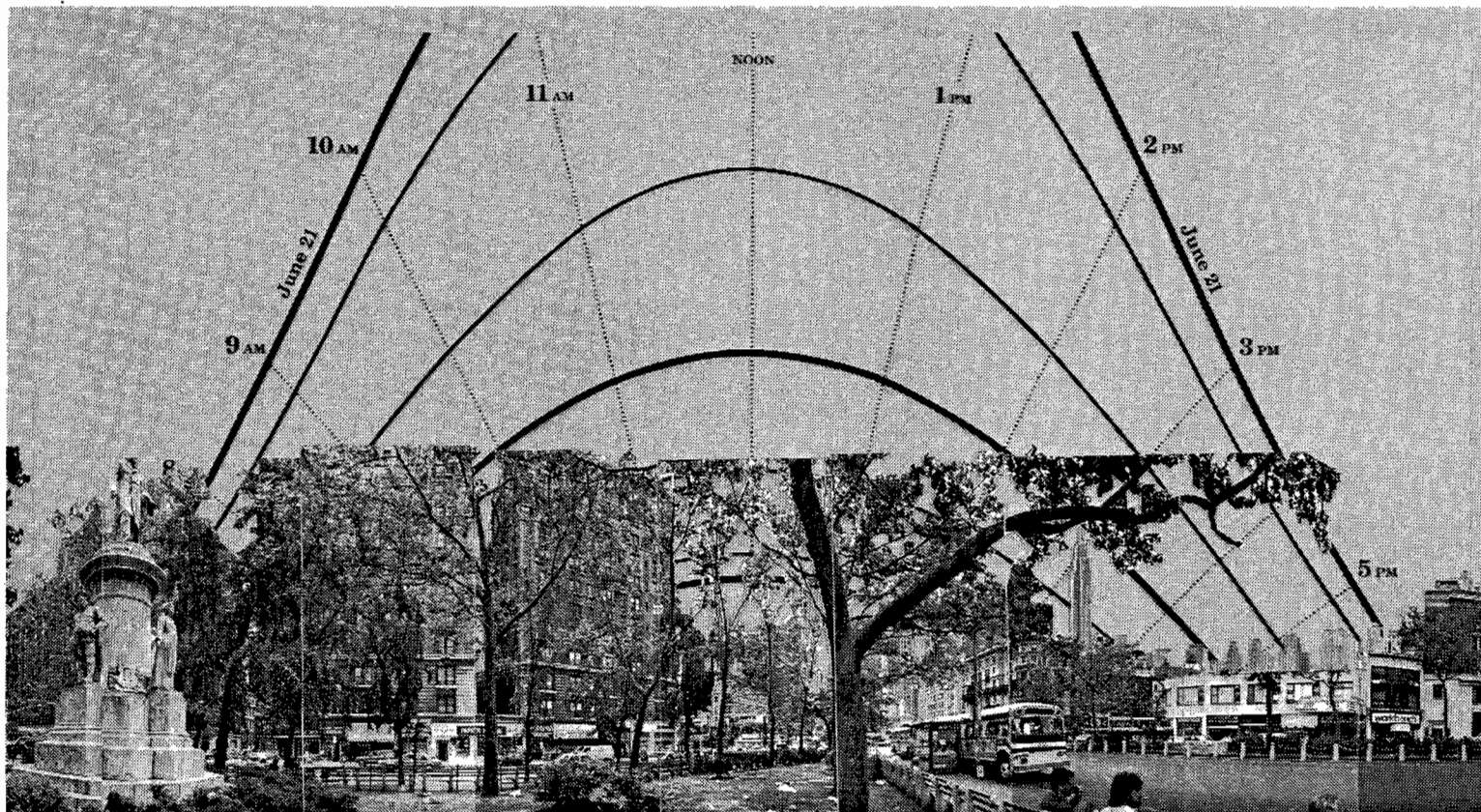
Mar 6/Oct 6 3:10 PM



Mar 21/Sep 23 5:15 PM



Jun 21 6:00 PM



People on the benches sit in sunlight year-round during morning and afternoon hours. With Television City to the west, the sun would disappear behind the towers at 4:30 p.m. in the Fall and Spring and between 5:00 and 5:20 on summer afternoons.



Existing

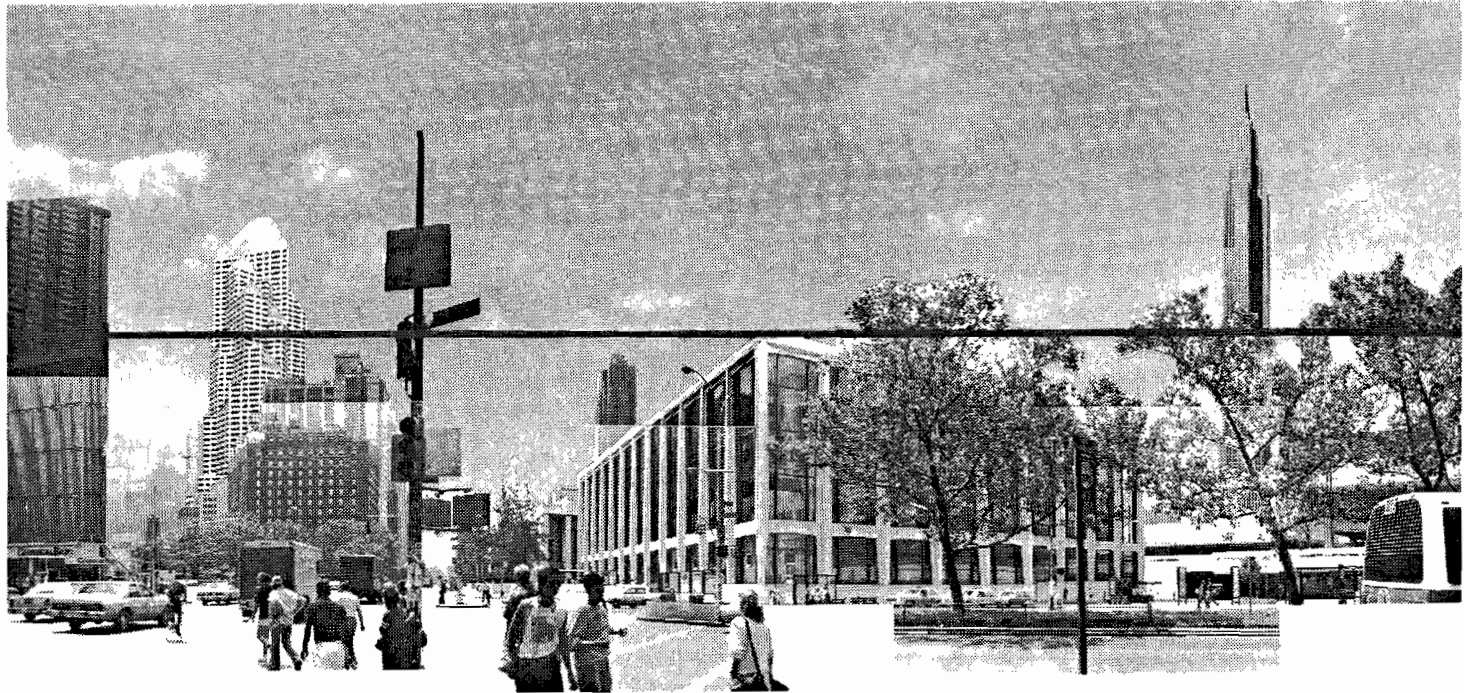
Lincoln Center

Lincoln Square

“Out of the most barren waste,” a New York Times reporter wrote in 1959, “. . . come the most beautiful flowers.” Heralding the soon-to-be completed performing arts center, the reporter continued, “Old law tenements (in Lincoln Square) stand, blowsy and run-down, in silent shoulder-to-shoulder misery, full of filth and vermin . . . out of it will rise the Lincoln Center for the Performing Arts.”²¹

Whether the old neighborhood was really full of “filth and vermin” and whether Lincoln Center reminds people of “beautiful flowers” or not has been the subject of continuing debate. Once it was built, critics of the Center lamented its “surgically sanitary surroundings” and called its facades “severe, colorless, (and) unimaginative.”²²

Built during the 1960’s as part of a federally-subsidized urban renewal program, Lincoln Center is an example of the large-scale projects that transformed the character of cities all over the country. It occupies a 14-acre superblock,



With Future Development

Columbus Circle, 58 & 68 floors
Coliseum

Television City

part of the 45-acre Lincoln Square urban renewal area which includes Lincoln Towers and Fordham University. ²³

The Lincoln Square project required demolishing hundreds of structures deemed substandard by the City and relocating 11,000 families and 800 businesses from what had been a working class neighborhood in the heart of the West Side. The wholesale assemblage of land made room for the 30- and 40-story towers common in the district today. Many of the projects depicted in this exhibit are proposed for large sites originally assembled under

urban renewal.

Despite the controversy surrounding its history, Lincoln Center is considered one of the world's leading centers for the classical performing arts—home of the Metropolitan Opera, the New York Philharmonic, the City opera, the City Ballet, the New York State Theater and the Julliard School of Music.

Many residents describe Lincoln Center as the hub of the neighborhood, where people gather to sit by the fountain, to meet friends, and to enjoy the weather.

Lincoln Plaza

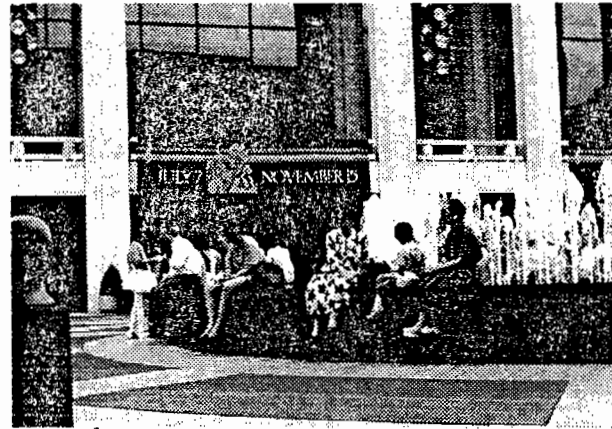
Before it was built, the plaza at Lincoln Center was compared to the Piazza San Marcos in Venice. The *New York Times Magazine* informed its readers that, “the architectural emphasis will be on space and beauty, light and air, greenery and color . . . in a world’s fair style.”²⁴

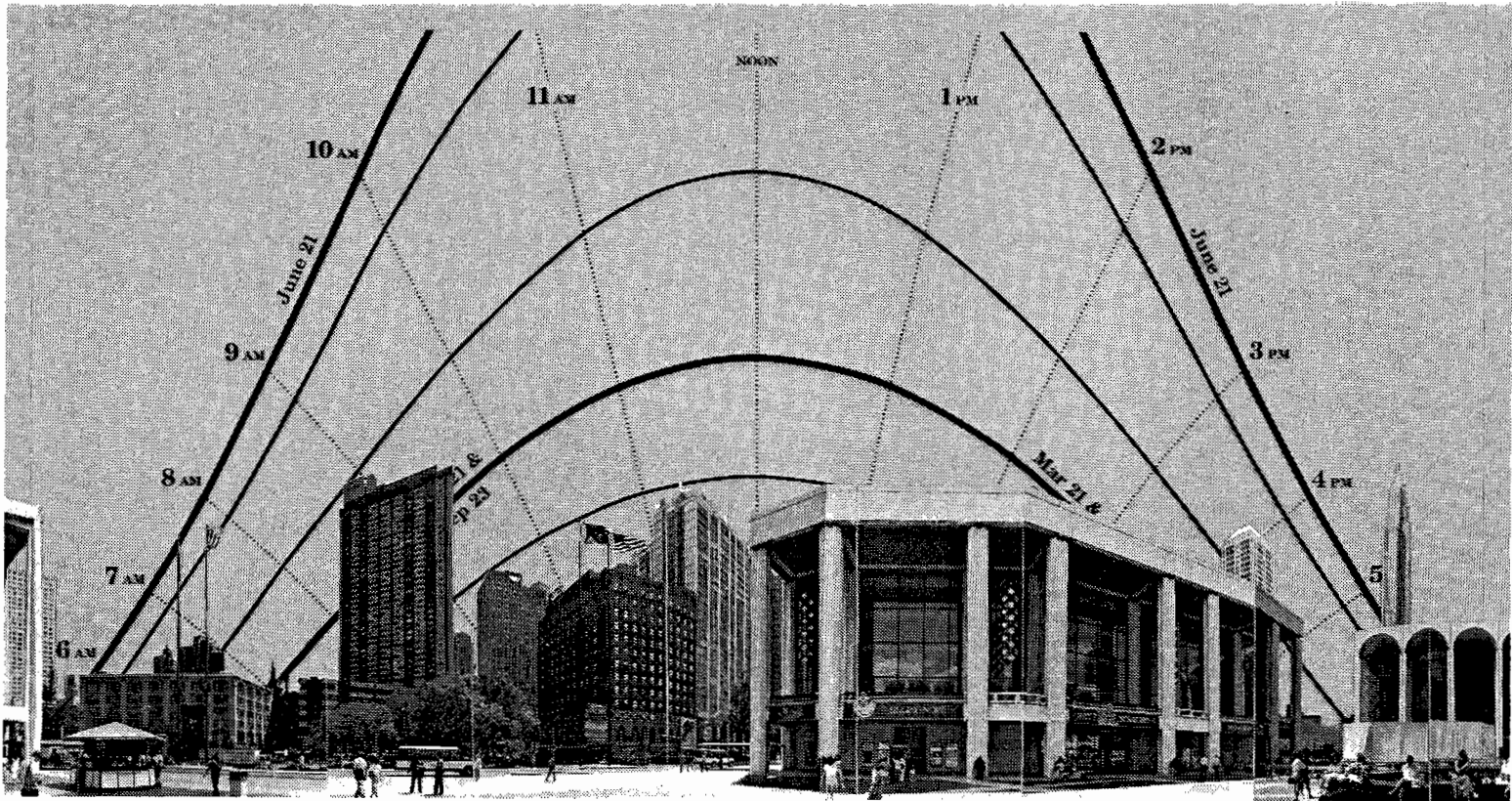
How did the Lincoln Center end up on the West Side? Robert Moses, chair of the Slum Clearance Committee, was responsible for the Lincoln Square project, part of his vision of a redeveloped West Side, which he launched by building the Coliseum at Columbus Circle in 1957.

For both these projects, Moses used federal urban renewal funds to condemn and purchase properties deemed substandard, which were then sold to private developers below market rates. Projects such as these violated the spirit of the federal program, which had intended to replace run-down housing with new housing.

Moses had his eye on the Lincoln Square area as a potential site for redevelopment. At the same time, the Metropolitan Opera and the New York Philharmonic were looking for new homes. Knowing that the cost of purchasing a central site would be prohibitive, a committee chaired by John D. Rockefeller III approached Moses with the possibility of the City condemning slum properties and selling them at below market rates to a non-profit arts organization.

Lincoln Square tenants attempted to block the use of urban renewal funds for the project but their case was thrown out by the Appellate Court. The City proceeded to evict and relocate the residents, clearing the way for construction of the new Center.²⁵



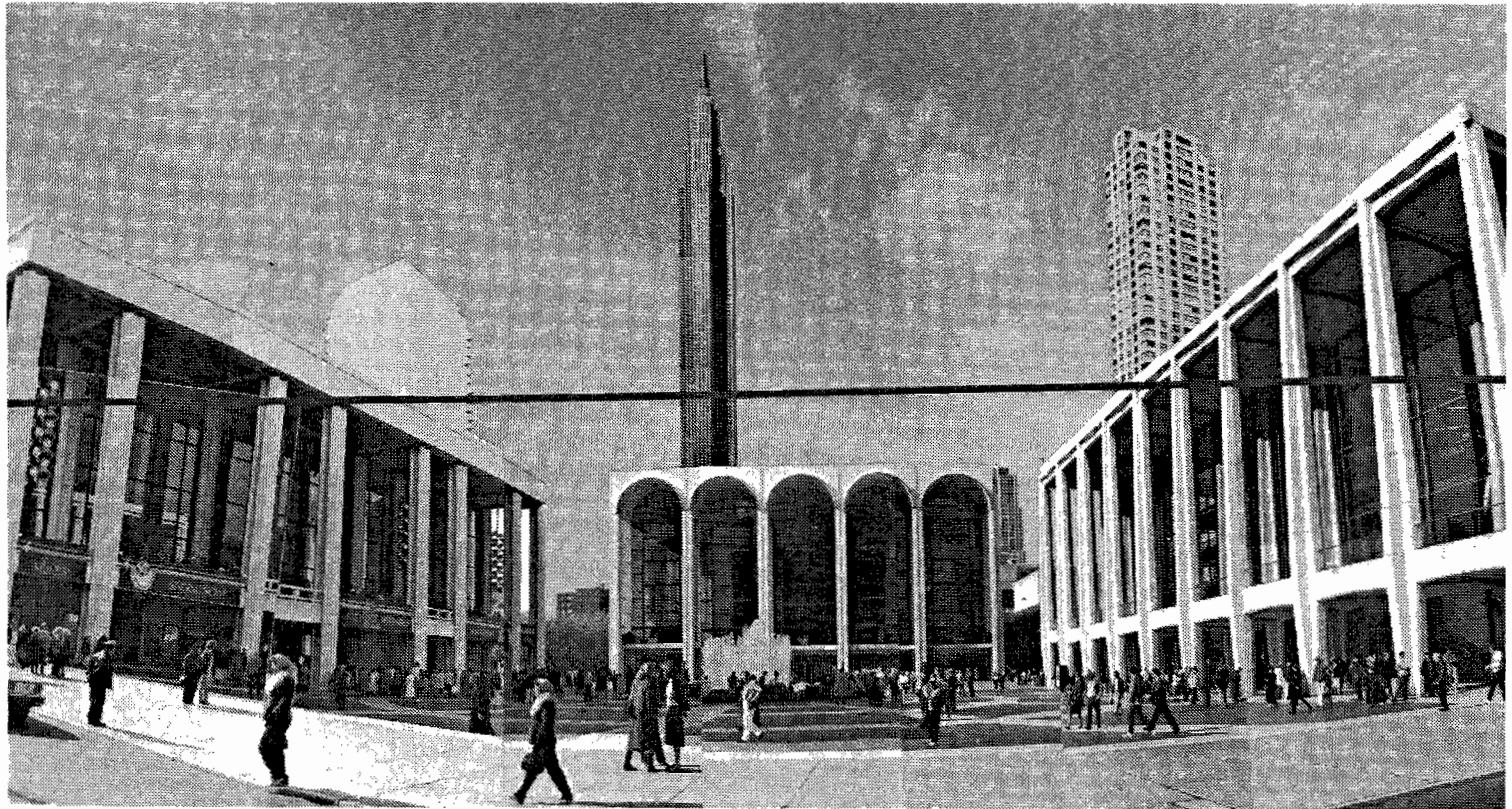


The plaza in front of the Metropolitan Opera House will be shaded by the Alfred II tower at 4:00 p.m. during spring and fall. The TV City tower would shade the plaza at 5:30 in the summer.



Existing

Lincoln Plaza

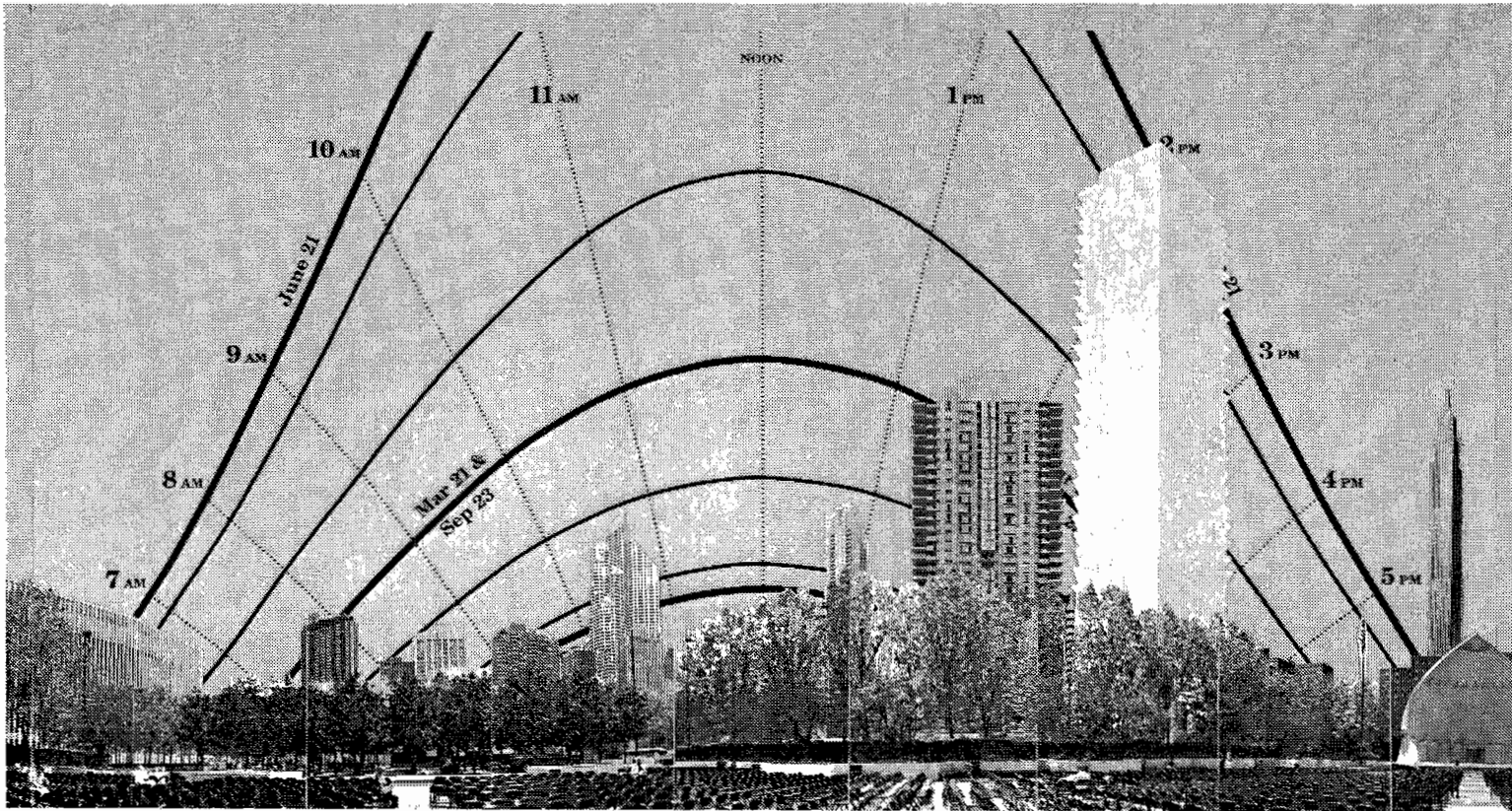


With Future Development

Alfred I & II, 38 & 49 floors
61st/Amsterdam

Television City

Lincoln Center North, 59 floors
65th/Amsterdam

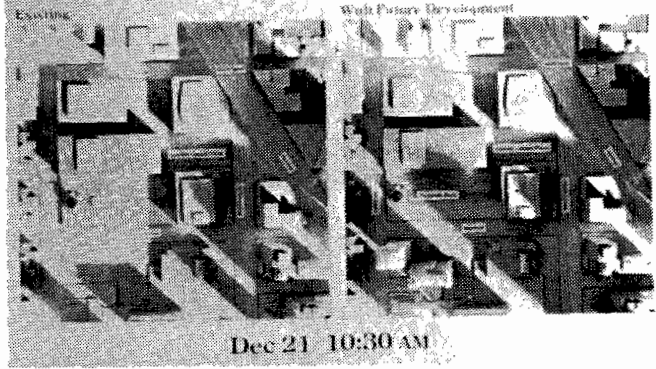


Damrosch Park, located behind the Metropolitan Opera House and the New York State Theater, is home to fairs, exhibits and free concerts in the summer.

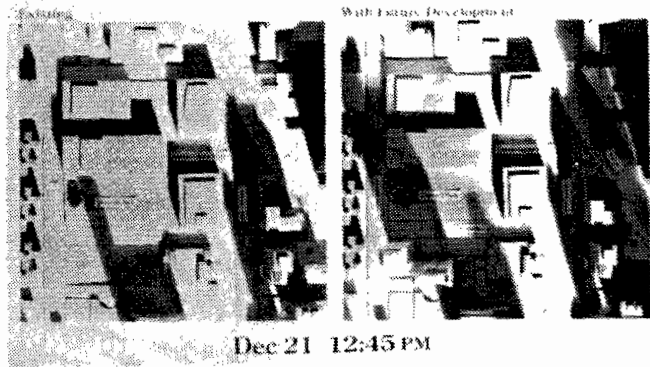
Moses fought for the inclusion of this public park within the Lincoln Center complex. He convinced the Damrosch and Guggenheim families to donate the necessary funds and insisted on the 2.3 acre open space despite resistance from the Lincoln Center developers.²⁶

During the winter mornings at 10:00 a.m. the park would be shaded by the Coliseum Circle project. Shortly after lunchtime, the shadows of the two Alfred towers will fall on the seats in front of the Guggenheim Bandshell. That shadow stays until 3:00 p.m. in the summer and for much of the afternoon during the rest of the year. Later, on a summer afternoon, the sun is again blocked by the tallest of the TV City towers.

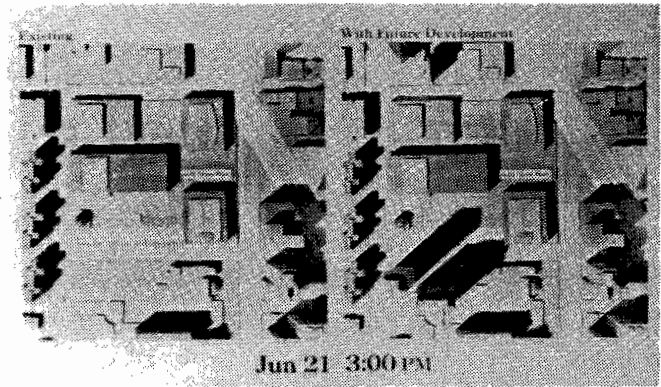
Shadows on Lincoln Center



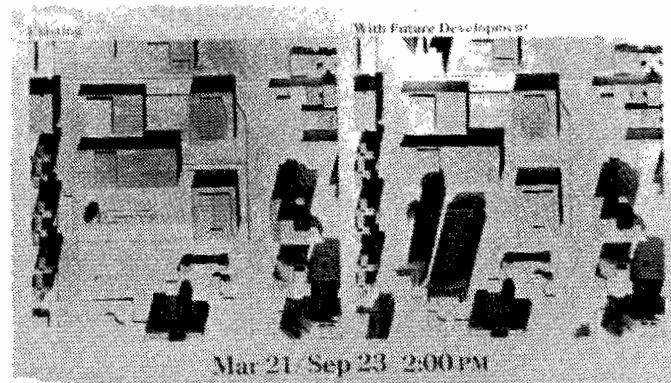
Dec 21 10:30 AM



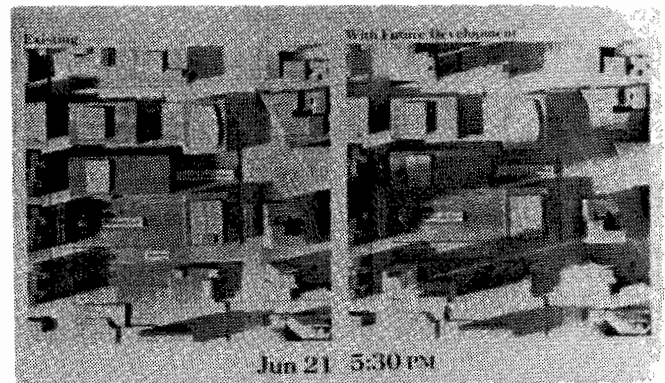
Dec 21 12:45 PM



Jun 21 3:00 PM



Mar 21 Sep 23 2:00 PM



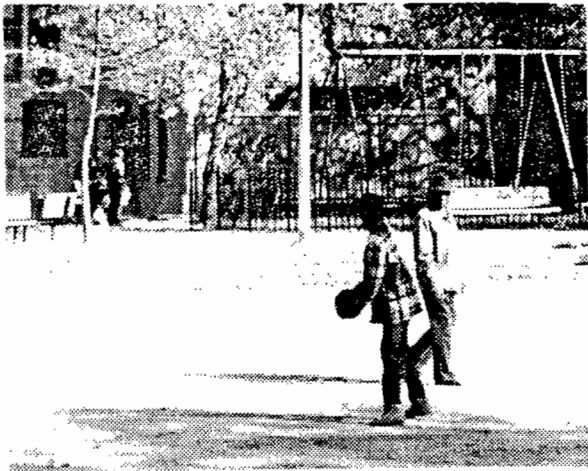
Jun 21 5:30 PM

Amsterdam Houses

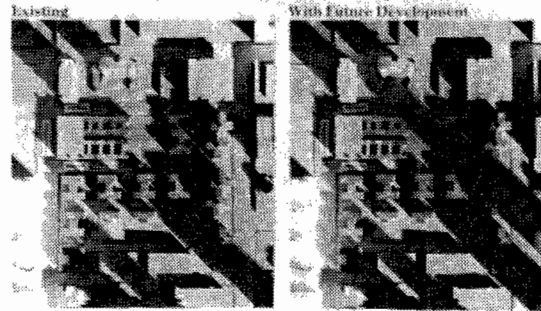
Owned and operated by the New York City Housing Authority, the **Amsterdam Houses** provide 1,100 low-income units in an area where affordable housing has virtually disappeared. ²⁷

Completed in 1948, the complex is located on the west side of Amsterdam Avenue between 61st and 64th Streets. It quickly became an enclave for minority families who had moved from other parts of Manhattan.

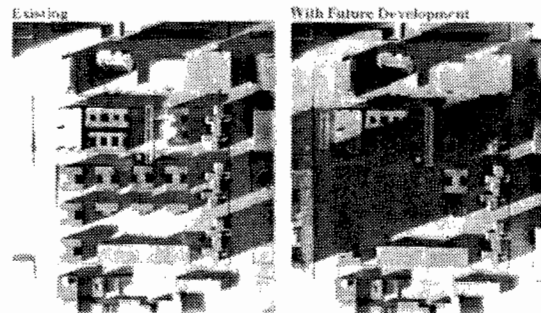
Apartment houses surround a playground. Several years ago, the Lincoln Square Community Council raised the funds to improve the playground, and the Parks Department completed the repairs within two years. The Amsterdam Action Association now runs an organized summer sports program for young people in the neighborhood. ²⁸



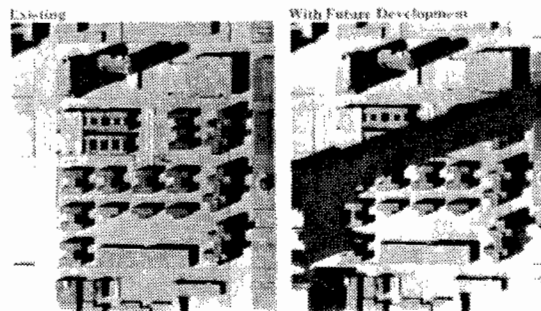
Shadows on Amsterdam Houses



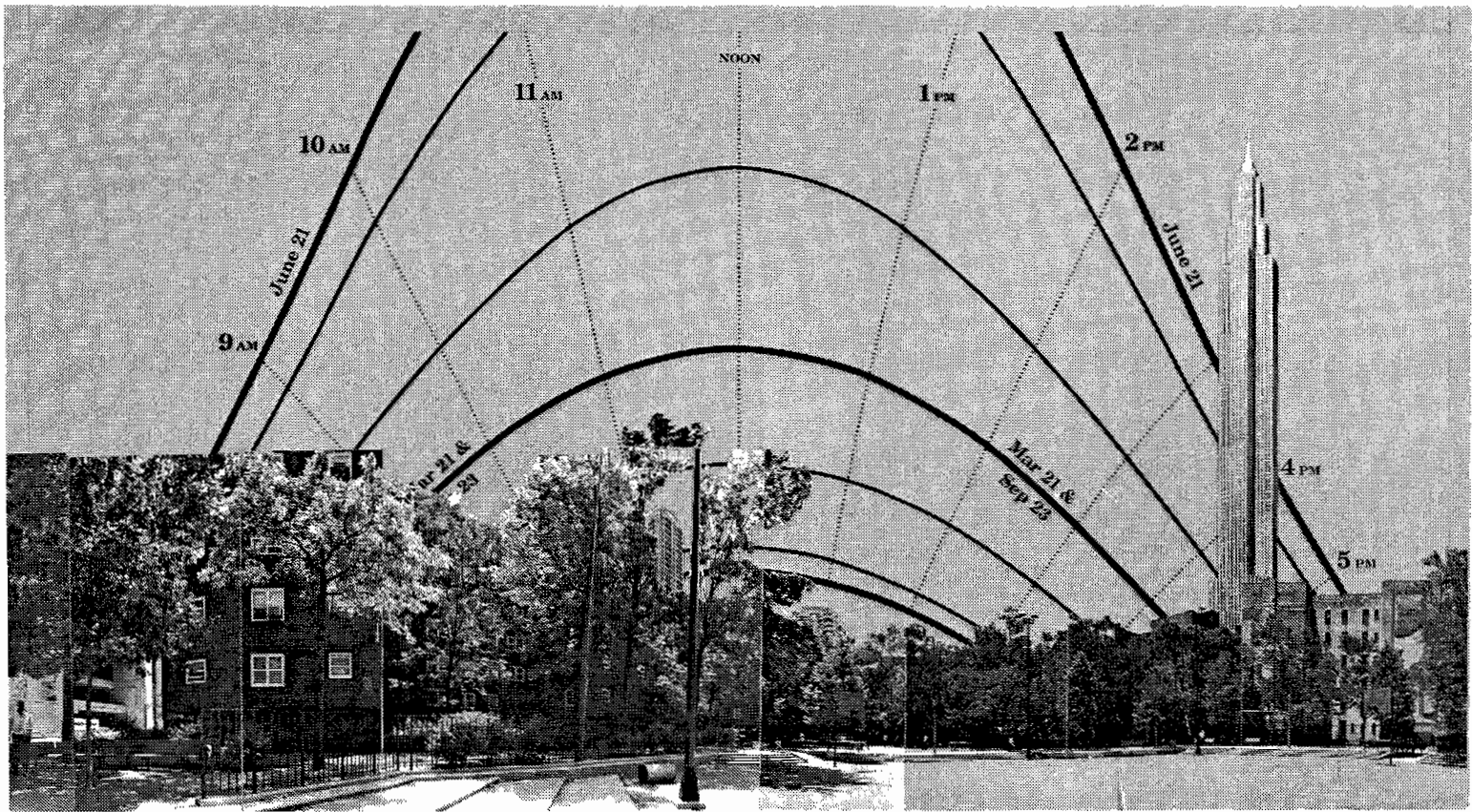
Dec 21 11:00 AM



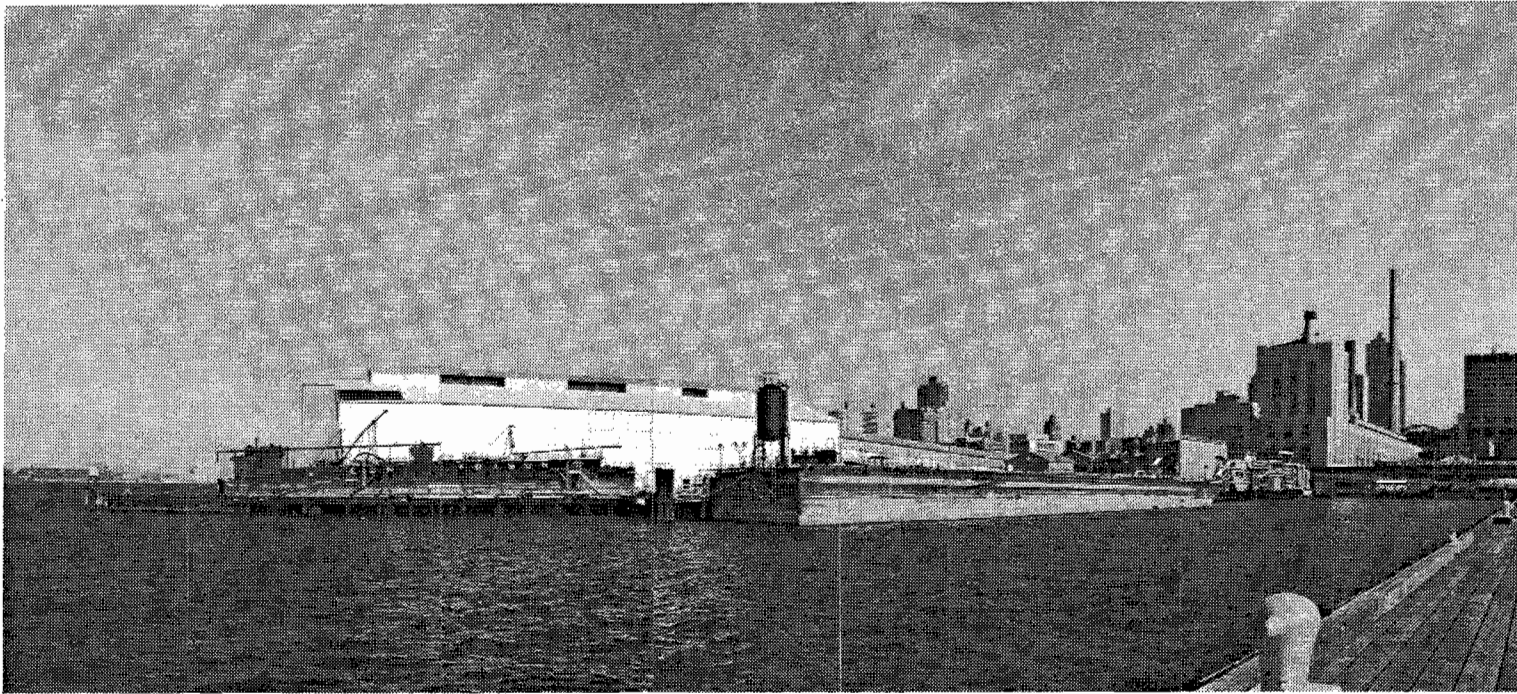
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Jun 21 3:15 PM



The playground at gardens at Amsterdam Houses are shaded by the Alfred II Towers at 11:00 a.m. from mid-October to mid-February. The Brodsky East Tower at 60th and Amsterdam shades the playground at 1:00 p.m. in the winter. Manhattan West and Television City cast shadows on the playground every afternoon of the year starting between 3:30 and 4:00 p.m.



Existing

“The worst thing I could do, I was convinced, was to build something that blended into the surroundings.”

Trump: The Art of the Deal, by Donald J. Trump, 1987, referring to the proposed Television City project. ²⁹

The site of the now-defunct Penn Central West Side Rail Yards has been vacant for more than a decade. Previous attempts to develop the site, 80 acres between 59th and 72nd Streets, have failed. In 1985 Trump purchased his second option on the property. A year later, he unveiled plans for the controversial Television City. ³⁰

The 80-acre project calls for nine highrise towers, including what would be the tallest building in the world. The Television City complex calls for over nine million square feet of luxury apartments and six million square feet of office and retail space.

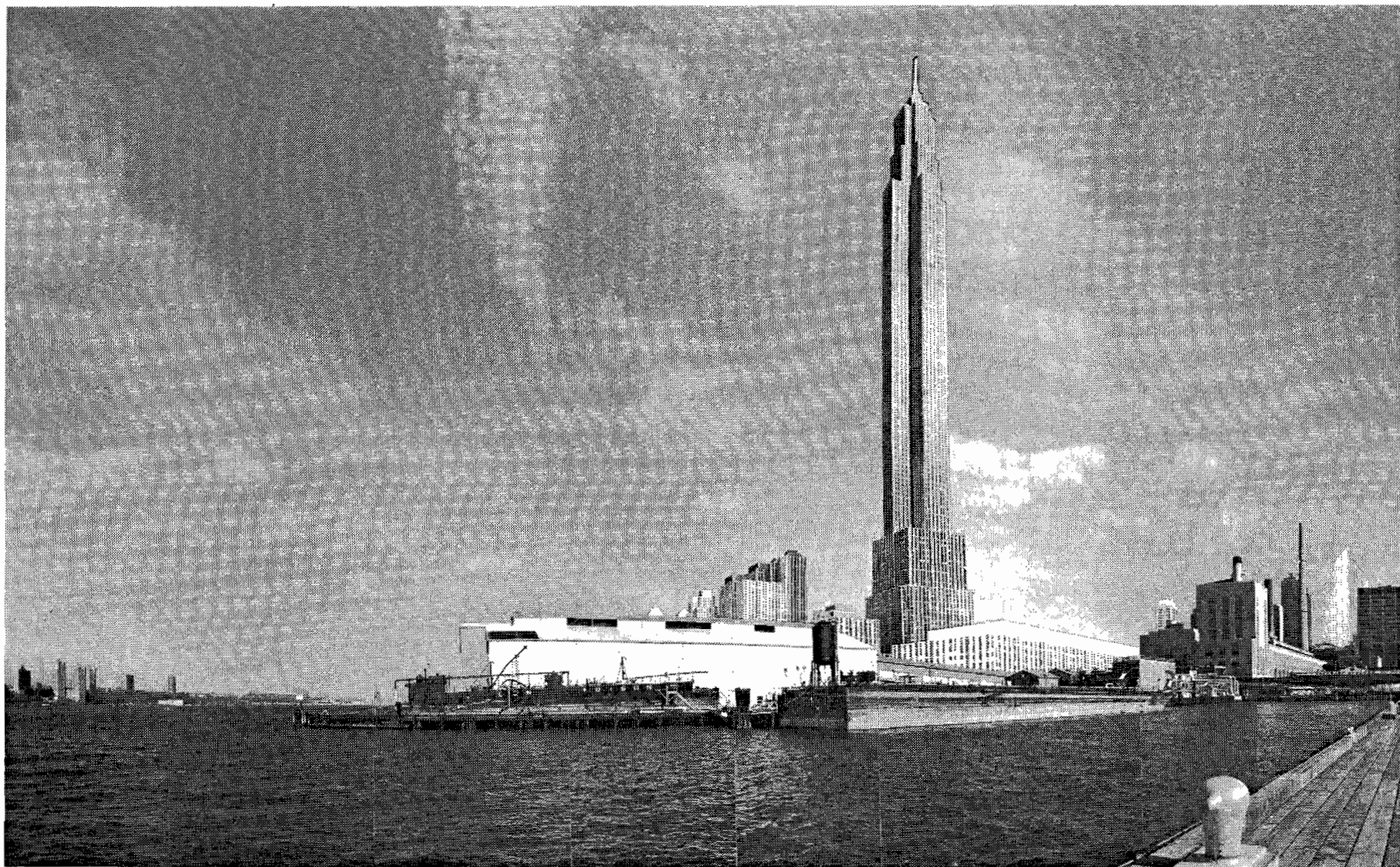
The Brodsky organization has proposed

another project, Manhattan West, on an adjacent twenty-acre site.

Two new parks are planned as part of Television City and Manhattan West: one east-west park between 63rd and 64th Streets from West End Avenue to the River, and a second 80 to 150 foot-wide strip along the entire three-quarter mile length of the Hudson River Frontage.

In addition to the two parks, a landscaped boulevard with a twenty foot wide median would run alongside a row of eight highrise towers. Trump's proposal describes this median as a landscaped pedestrian promenade to begin at the proposed Television City Park on 64th Street and end at a landscaped semi-circle at 68th Street.

Television City and Manhattan West's total open space amounts to one and a half million square feet. Most of the space is on concrete roofs of parking garages with the exception of the riverfront park, which is located on landfill behind a seawall. ³¹



With Future Development

Television City

Lincoln Center North, 59 floors
65th/Amsterdam

Columbus Circle, 58 & 68 floors
Coliseum

Television City

How to Read the Windmaps:

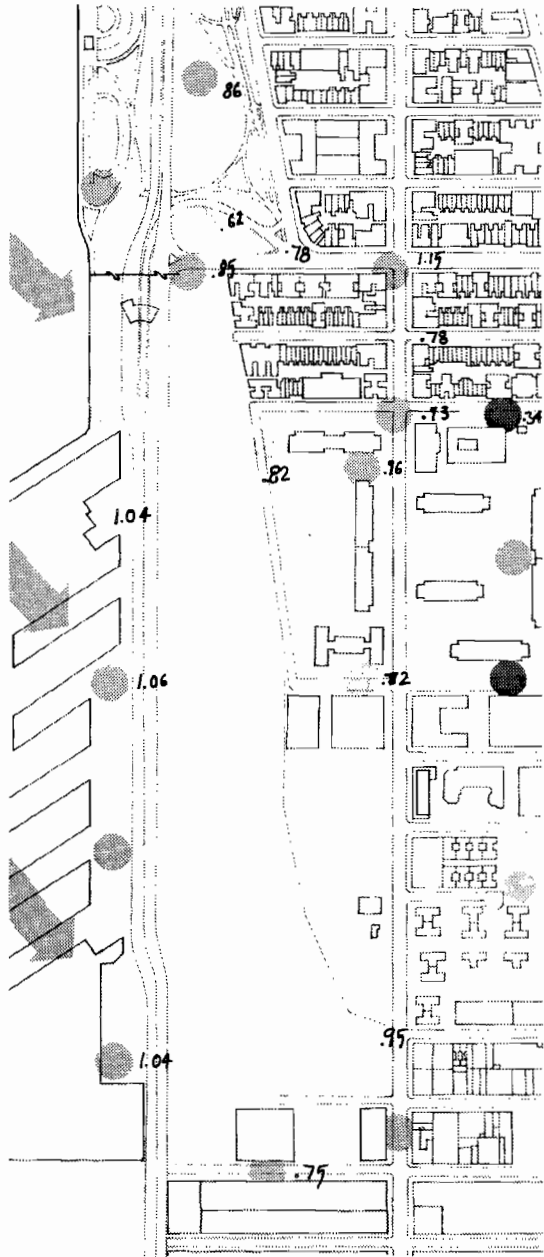
These are maps for each of the prevailing wind directions. The wind blows most frequently from the north west, from the southwest, and from the north. For each of these wind directions, two maps are shown, one for the existing condition and one with the proposed development.

The colors shown on these maps show the wind intensity at street-level at the proposed Television City and Manhattan West projects. The intensity indicates the strength of the wind; the darker the blue, the higher the wind velocity. The orange and red tones indicate the sheltering effect of existing and proposed buildings; the dark red shows areas that are protected; and the orange shows areas with calm winds.

The legend shown charts street-level winds as a percentage of the wind speed measured at the weather station in Central Park. This station is located on the top of the Belvedere Castle, mounted at an elevation of 170 feet, forth feet above the rock on which the Castle stands.

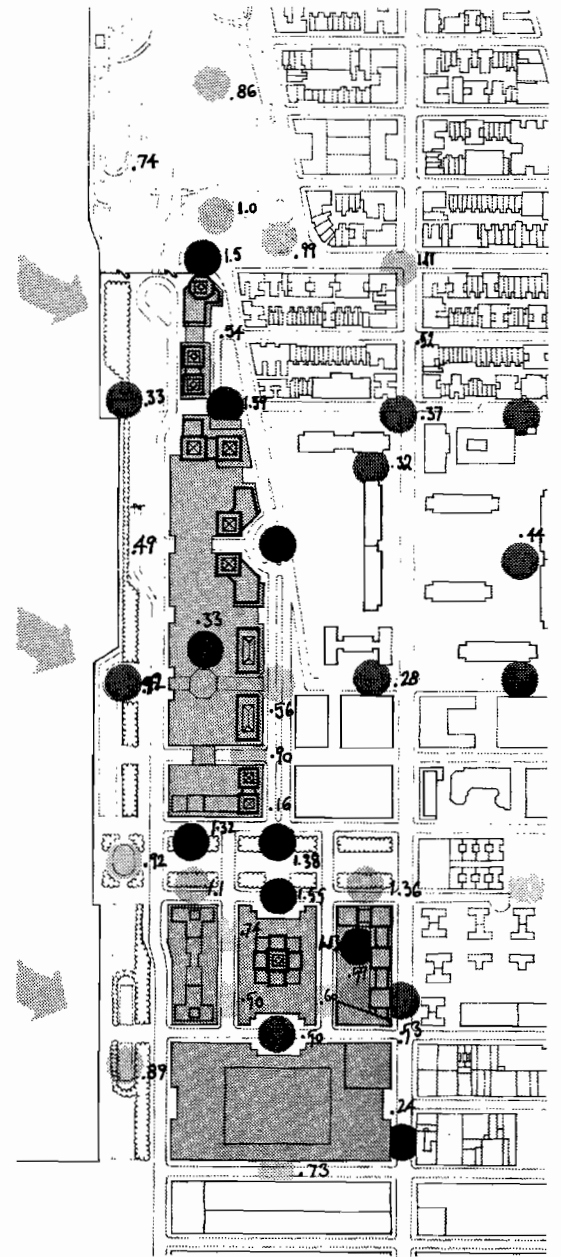
To illustrate the difference in windspeeds, consider the two northwesterly wind maps, the prevalent condition in the fall, winter and spring. The area surrounding the site proposed for Television City is often windy, usually between 53 and 100 percent of the wind speed measured at the weather station. The second map shows that Television City, while providing more protection in some areas than existing today, would generate winds up to 160 percent of those measured by the weather station.

If the weather station reports ten mile per hour winds, street-level winds in the proposed east-west park between 63rd and 64th Street will be 16 miles per hour. On those days when the weather station reports 20 miles per hour winds, street-level winds will be approximately 32 miles per hour.



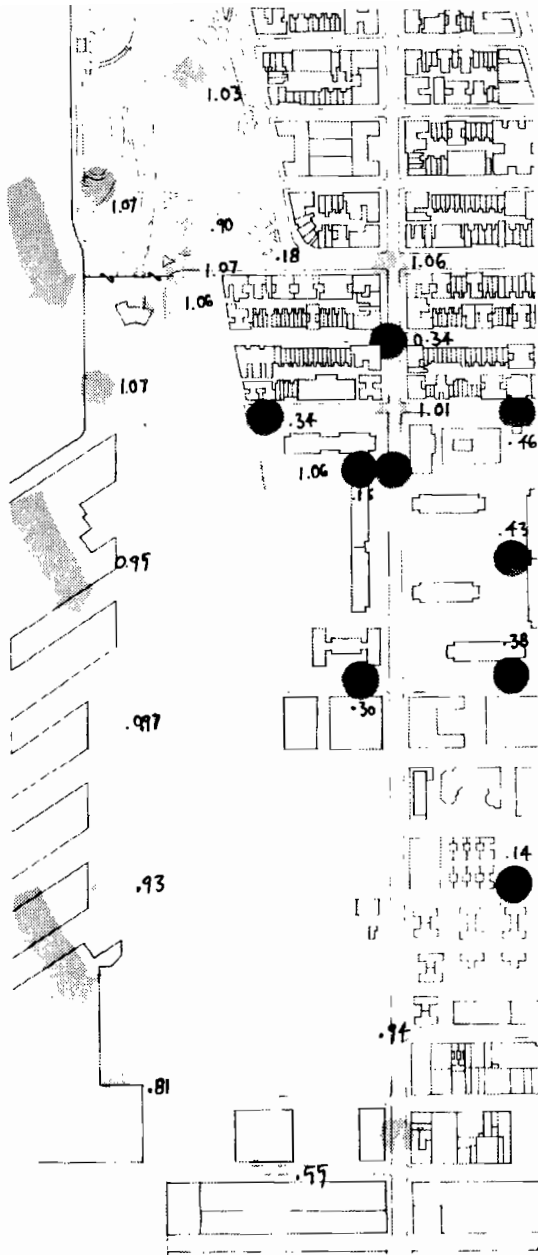
North West Wind

Most Frequent from
November to March
Existing



North West Wind

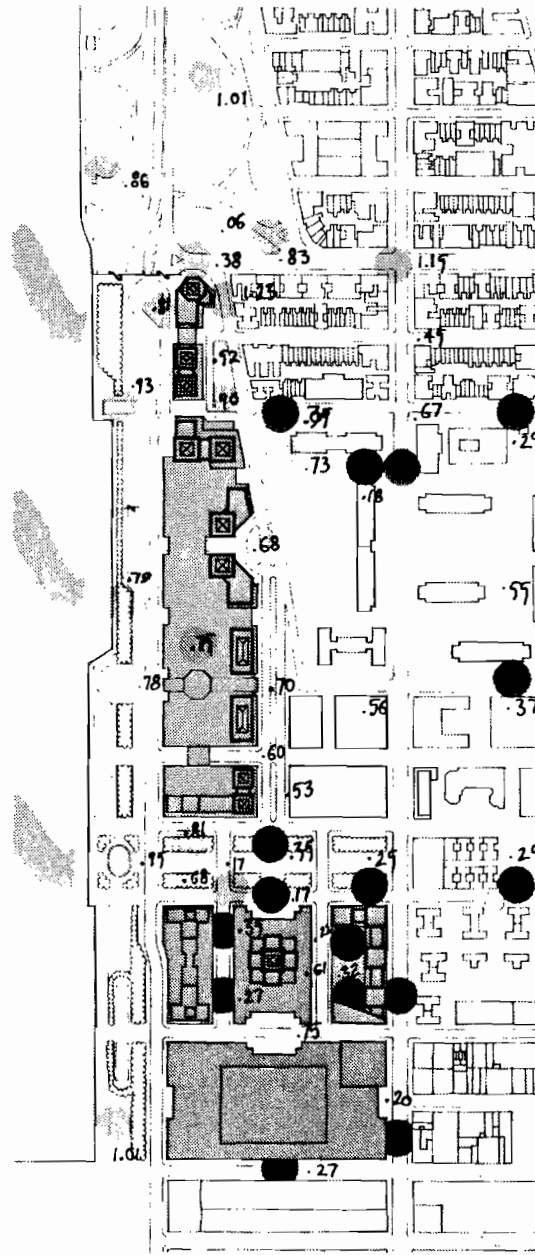
with Proposed Development



North Wind

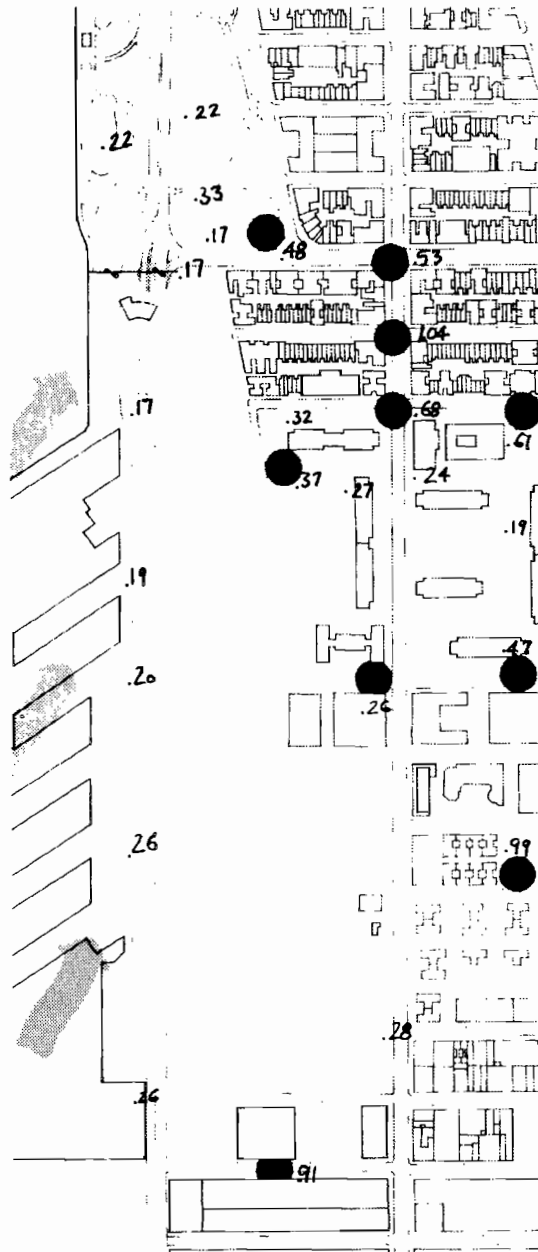
46

Most Frequent During the Months
of October, November and December
Existing



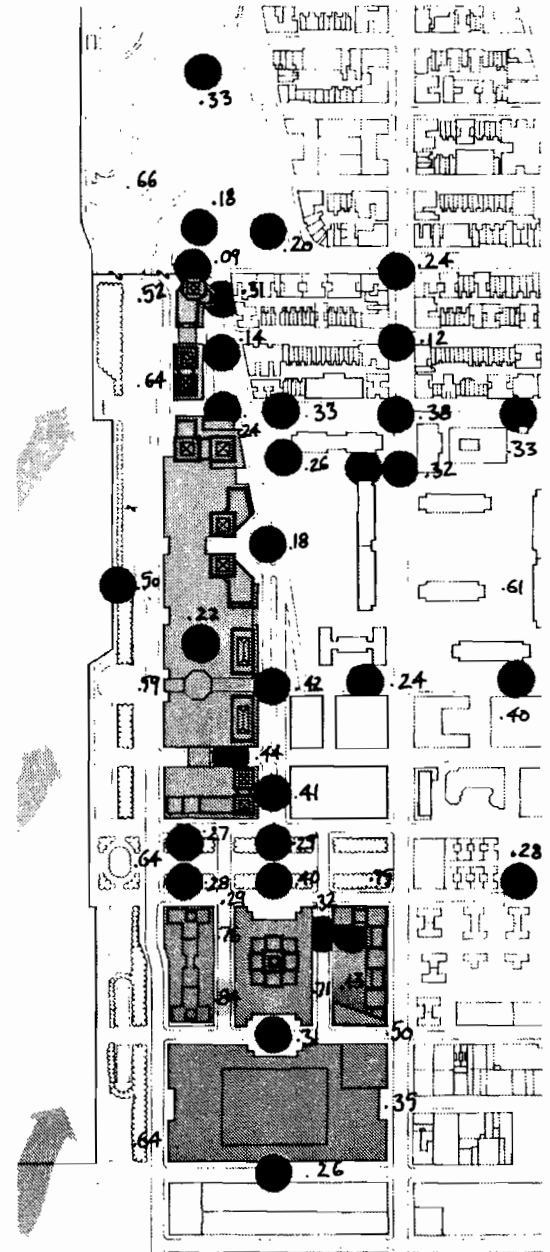
North Wind

with Proposed Development



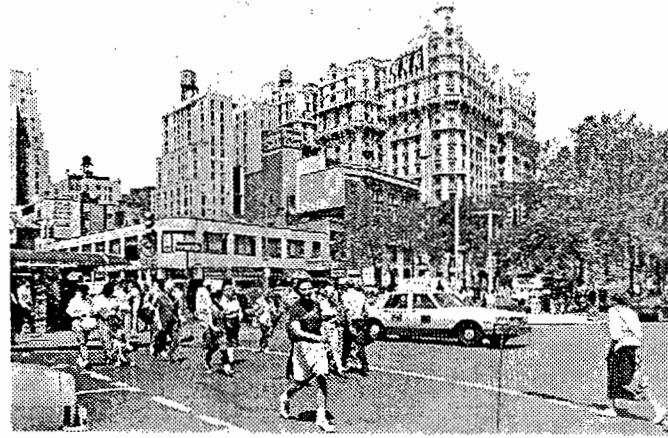
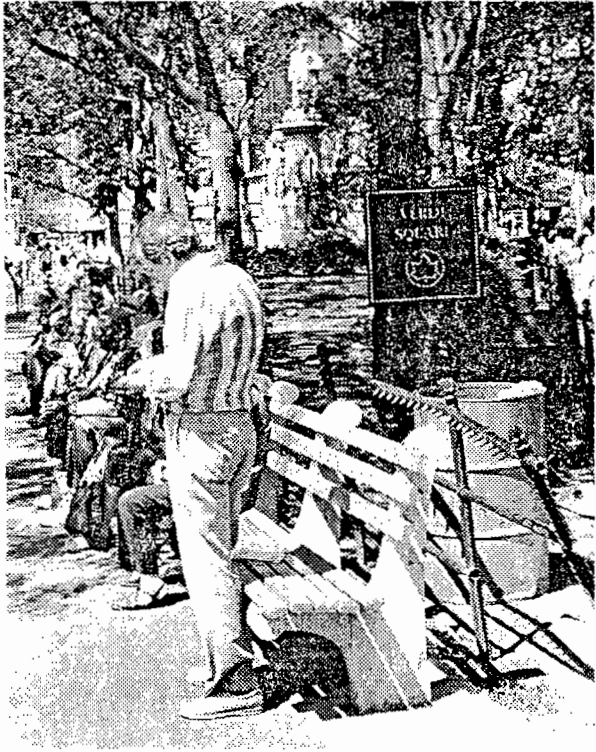
South West Wind

Most Frequent from
April to September
Existing



South West Wind

with Proposed Development



Recommendations:

Zoning for light and air

The concern for light and air has been central to urban planning in this country and abroad. In New York it is a historic concern.

When the old Equitable Life Insurance building was built on lower Broadway, it blocked so much light from neighboring properties that the city introduced its first comprehensive zoning, in 1916. In doing so, the city recognized that light and air were necessary for healthy human living conditions, and used its power to ensure they were available.

The design of buildings, streets and sidewalks affects the amount of light and air that is available at street level and to building facades. The writers of New York's 1916 ordinance recognized this and introduced "sky exposure planes," imaginary planes that project from the center line of each street upwards at an angle. These planes effectively limited the height and shape of tall buildings and required "ziggurat" type setbacks above a set height. The zoning protected corridors through which light, air and visible sky could reach every street and avenue.

The residential density on a typical Manhattan street is high, with more than 100 apartments per acre. In areas of such density the concern for light and air normally would be great. But in districts built under the 1916 zoning regulation sunlight is ample: most buildings receive a minimum of six hours of sunlight during the Fall and Spring Equinox,

more during the summer and less during the winter.

Areas built under the 1916 zoning ordinance have a remarkable consistency in building style and human scale. This similarity of building dimensions gave these neighborhoods, which generally date from the first half of this century, a strong identity. Much of the Upper West Side was built during this period, and its human scale and strong identity contribute to making it a pleasant and desirable neighborhood.²

Comfort and Climate on the Upper West Side

Measuring human comfort. How much light and air are necessary for comfortable and healthy living conditions? Zoning administrators will not find simple answers to this question.

However, one aspect of comfort, thermal comfort, is relatively easy to define. It depends on four measurable variables: temperature, humidity, radiation of sun energy, and wind velocity.

Acting in combination, these variables influence the body's thermo-regulatory system. Depending on whether we sit, walk, or run, and depending on the amount of clothing we wear, the body's thermo-regulatory system responds to the local climate. For people strolling or sitting, the range of conditions considered comfortable are relatively narrow, differences are based on cultural background, gender, and age.³

The Impact of Climate. Generally, New Yorkers consider their climate comfortable year-round, except in July and most of August, when temperatures and humidity rise close to the limits of what is tolerable. At such times people outdoors will seek shade and enjoy a light breeze that helps them stay cool.

But in September, when fall approaches, the rays of the sun come in at lower angles and temperatures drop. Winds start to shift to northwesterly directions and blow stronger than during the summer.⁴ Direct sunlight is increasingly important in maintaining a comfortable climate on sidewalks, in parks, and in open spaces.

The same is true throughout the winter months; when the skies are clear, people choose to walk in the sun. As spring arrives and days get longer, sunlight remains essential for people's comfort. Not until late in May and in June do some days become so warm that people prefer to walk on a shaded sidewalk or sit on park benches under a grove of trees.

Close to two-thirds of all days in a given year have clear or partly clear skies. In New York, only 133 days of the year are without sun, making it almost as sunny as San Francisco.⁵ The sunniest months are September and October; the month with the greatest number of overcast days are December and January. Based on the monthly averages of all the sunny days in New York, only those in July and August are too hot and humid to be comfortable.

For a significant part of the year, the presence of sunlight is essential in assuring human comfort. Therefore, preserving

sunlight to all open spaces, sidewalks, parks, squares, and playgrounds is an important concern.

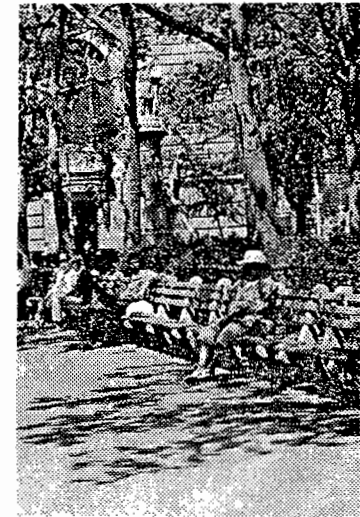
Sun. On the Spring and Fall Equinox the sun rises due east at 6:00 a.m. By 9:00 a.m. the sun's rays will shine down the cross streets from the east. At 12 noon it appears due south, and its height above the southern horizon equals 50 degrees. The sun will set due west at 6:00 p.m.

On the Winter Solstice the arc of the sun is shorter; the sun rises later and sets earlier. At noon it stands just 26 1/2 degrees above the horizon.

The Summer Solstice, June 21, is the longest day of the year. The sun rises in the north east and shortly after nine o'clock it will be above the cross streets. Close to 2:00, the sun will shine directly above the avenues and, for a few evenings in June, it sets in the northwest, directly in line with the cross streets.⁶

Wind. New York is well-ventilated most of the year. During the summer, local sea breezes -- winds blowing across the cool water surface toward the land -- can bring relief from the hot air. These breezes generally arrive from the ocean to the south and sweep up the wide north-south avenues of Manhattan.

For 60 years wind velocities have been measured at a station at Belvedere Castle, located on top of a 140-foot-high hill in Central Park. Through the fall, winter and spring, the wind measured there generally blows from the northwest at an average of 11 miles per hour. Naturally on this high hill



winds are somewhat stronger than at lower altitudes.⁷

On the Upper West Side wind frequently creates adverse conditions. This is where the cold winter winds that travel along the Hudson River Valley first cross over the city, making street corners along Riverside Drive frequently cold, windy, and uncomfortable.

Insensitive new development can compound this problem. Tall buildings like the 640 foot towers proposed for Television City will channel wind flows from even higher altitudes downwards to street level. This increases the momentum of the wind, accelerating the wind flows at street corners and along sidewalks.

The Upper West Side, along the windy Hudson River, is especially vulnerable to this effect. Therefore, it is important that new development be sensitive to these conditions.



Development Guidelines

Preserving Sunlight in Open Spaces

Citywide measures for preserving the sunlight that reaches parks, playgrounds, and squares would protect these open spaces as resources for relaxation and recreation. Three alternative measures could be used to implement such a Sunlight Preservation Ordinance.

Alternative One. Existing sunlight conditions could be preserved by prohibiting any further shading of city-owned parkland and neighborhood open spaces. New buildings would not be allowed if they added to the shadows already falling on any such space.

To make the implementation of such an ordinance feasible, a number of exemptions would have to be spelled out. For example, shadows of new buildings replacing existing buildings should be exempted, if the new building does not cast shadows over a greater area or for longer periods of time than the demolished structure.

Certain building heights should be exempted. For example, buildings surrounding open spaces could be allowed to go up to a height of 65 feet or lower, if the predominant height of existing buildings were less than 65 feet to begin with.

Shadows during certain times of day, such as just after sunrise and just before

sunset, when shadows are longest because the sun is lowest, might be exempted. Also short, fleeting shadows that remain less than 15 minutes on the open space should be exempt.

This discussion already gives a sense of the complexities that administrators of such an ordinance would need to understand and master. In San Francisco, where such an ordinance exists, it became necessary to develop a very detailed three-dimensional database of the city. Aerial photography and a process called photogrammetry were used to identify the dimensions of all buildings and open spaces.⁸ High accuracy standards for the data and a high level of precision in including building details are needed for accurately calculating the shadows buildings cast. Such a database could be used for other purposes, making updating and maintenance of the database economically more feasible.

Alternative Two. Another type of ordinance would introduce Park Exposure Planes, solar fans, or sun access easements. Similar to sky exposure planes for streets, their effect would be to limit building heights.

The Park Exposure Plane would use as its reference point the height of the predominant street wall, created by existing buildings adjacent to the open space. From that streetwall, the Park Exposure Plane would project away from the open spaces at a slope that would be determined by the angle of incoming sunlight. For example, the planes projecting east and west would be less steep than the plane to the south in order to let in sunlight from the low-lying morning and late-afternoon sun.

No future building would be allowed to penetrate a Park Exposure Plane, except buildings more than a thousand feet away from the open space, which could penetrate the plane if it could be demonstrated that they had no adverse impact on sunlight. In some cases it has been shown that a building that far away will not leave a clear shadow outline in the open space, depending on the building geometry, the size of nearby buildings, and atmospheric conditions.⁹

Alternative Three. A final option would be to work within the existing legal framework of zoning by setting floor area ratios for properties surrounding parks according to sun access considerations.

Generally a floor area ratio of 1:6 or 1:7 would be necessary to preserve sun access to neighborhood open spaces. Some very small spaces might require even lower ratios. For large parks like Central Park, ratios of not more than 1:10 along the western and eastern edges and 1:12 along the southern edge would be permissible. Properties near large parks could be developed at this intensity but could not receive additional floor area from bonuses or transfer rights. Also, the allowable range of heights between floors would need to be set.

Other parts of the current zoning provisions would remain in force, including mandatory building fronts along lot lines and setbacks above mandatory street wall heights.

Choosing an Alternative. It is not clear what approach would be most useful for New York. It is recommended, therefore, that a citywide analysis of zoning in the vicinity of parks and open spaces be conducted. Maps should be produced that show areas where current zoning is in conflict with sun access to open spaces. This analysis would not take very long, and once completed, it would provide a basis for deciding what steps should be taken to preserve sunlight to the city's open spaces.

The three alternatives described earlier each have strengths and weaknesses. The first approach would be the most comprehensive and thorough, but at the same time it would result in guidelines that could be very rigid. The database necessary for administration of this ordinance would be expensive to produce and maintain. The second approach would be best if there were significant conflicts between the existing zoning and the goal of protecting sunlight to open spaces. The third approach would work best if a study of the zoning around open spaces showed that relatively minor changes had to be made to protect sunlight.

For the time being, new parks such as the Hudson River Esplanade between 59th and 72nd Street, and a new east-west park on the old Penn Rail site should follow the Park Exposure Plane concept.

Preventing Adverse Wind Effects

In order to understand the impact buildings will have on wind flow at street level, boundary level wind tunnel tests of scale

models of the buildings are necessary. Boundary layer means the area upwind from the project has been modeled or shaped in a way that represents the terrain the wind will travel across before reaching the project.

Wind tunnel tests are useful if standards that limit wind velocities in open spaces and along sidewalks have been established. San Francisco has recently adopted such a standard that makes wind tunnel studies mandatory for downtown development. The developer has to demonstrate that the new building will cause any sidewalk location in the vicinity of the project to receive wind velocities greater than 11 m.p.h. and seven m.p.h. in areas where people sit.

Simulating Conditions in Streets and Open Spaces

Simulations of the sunlight, wind and view impacts of large projects such as Television City should be made mandatory. Early during the design development and design review by the planning department, data from these studies should be made available to the public. All parties involved in the development process would benefit from this information -- after buildings have been built, mistakes are difficult to correct.

The Layout of New Streets and Avenues

Within the study area the site of the former Penn Rail Yards north of 59th Street provides an opportunity to continue New York's historical grid to the Hudson river. However, the current developer has proposed a plan that would produce a wall of tall buildings along the western edge of the site.¹⁰

Although the spacing of these towers corresponds to the grid to the east of the project, the current design, if built, would not be experienced as a continuation of the grid down to the Hudson. On most of the streets, a view of and direct access to the river would be blocked by the top stories of a shopping mall and parking garage that would run underneath the towers. And on all the cross streets the proposed towers are much taller than the prevailing building height -- from five to ten times as high as typical Upper West Side buildings and more than twice as high as the Lincoln Towers -- that they would block significant portions of the sky.

The continuation of the street grid and the extension of the side streets to the proposed esplanade is an obvious concern and should be made mandatory. Combined with restrictions on the heights of streetwalls, this will permit the views down side streets to reach across the river and into the Jersey Palisades. This also is the best way of increasing public access to the river and the

proposed esplanade. Extending most of these streets to the river level is possible and has been recommended by Community Board 7.¹¹

Sunlight and Sky in Upper West Side Streets and Open Spaces

Historically, residential streets in the Upper West Side were laid out with building heights equal to street width. The side streets between 59th and 72nd Street measure 60 feet in width and, allowing a customary five-foot setback on each side, the distance from building front to building front measures 70 feet. This ratio of 1:1 width to height has been effective in allowing the sun to reach into the streets.

The proposed 640-foot towers break this pattern and create numerous concerns. They will not only block the view of the sky and the Jersey Palisades, but also significantly reduce the amount of afternoon sunlight reaching streets, open spaces and apartment windows as far away as Broadway.

The 1:1 ratio should be used on side streets built through the Penn Yards Site; the height of the street wall should not exceed 70 feet. This would allow sun to reach the streets, break the strong winds that blow from the Hudson River across the island every winter and spring, and allow more sky to be visible not only near the river but also from streets and open spaces several blocks inland.

Wind Standards

When considering what building heights are necessary for minimizing the wind impacts of developing the Penn Yards site, it helps to visualize Manhattan as a man-made mountain range. Ideally, the slope of the mountain towards the northwest should rise gradually to peaks or a ridge line along the center of the island. If Manhattan's skyline had such a shape, the gradual rise of the buildings would encourage winds to travel over and above the city. Were tall buildings to break this pattern, they would cause turbulences or downwinds, which in turn can create uncomfortable conditions on the street.

In general, low building heights will be appropriate at the western edge of the Penn Yards site. Further away from the edge, and further inland, buildings could step up to higher elevations.

Assume buildings at the western edge of the site, along the elevated highway, rise to a height of 70 feet -- the maximum height recommended for streetwalls along the side streets. The next step in height should be at a distance of at least three hundred feet east, where buildings could rise to a height of 140 feet above the ground. Another three hundred feet to the east, if the width of the property allows, buildings could step up again to 280 feet. In general, when deciding on the height of buildings facing strong winds, a step in height should never allow buildings whose height is more than double the height of those in the previous level.

For this study, we constructed a large model of the southern portion of the Upper West Side. All future proposals for the Penn

Yards/Television City project -- whether they conform to the previous height guidelines or not -- should be tested in this model and in a boundary layer wind tunnel.

Under these guidelines it would be possible for the Penn Yards site to be developed to the current FAR, which would allow approximately eight million square feet to be built.¹² That is half the amount of development proposed in Television City. An example of the form development of the site could take, considering the issue of neighborhood scale as well as sunlight and wind conditions, is in the appendix.

Using the Scale Model to Help Plan Development

The model constructed for this study should be used by the entire community as a vehicle for studying the scale, sunlight and wind impacts of future developments in the Upper West Side. After the Penn Yards site is developed, proposals for developments along Broadway and along Central Park West could be studied. The model should provide everyone with a better understanding of such proposals, which should lead to a more educated discussion about the merits of future proposals and, hopefully, to better planning decisions.

Using Sunlight and Wind Criteria in Planning for New York City

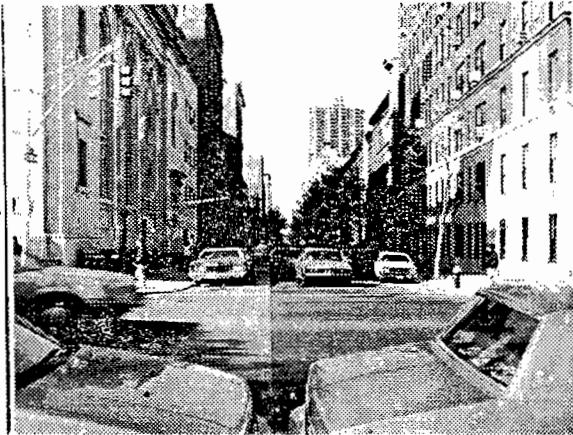
The development boom in Manhattan during the last ten years has resulted in a heightened concern for development has on the quality of everyday life. New Yorkers, surrounded by more and more and taller and taller highrise buildings, are realizing the price they are paying: colder and darker parks and open spaces, and stiffer winds gusting down side streets.

This report shows how considerations for sunlight and wind can be incorporated into New York's planning process for the Penn Yards site, for Upper West Side parks and open spaces, and for the city in general.

Such considerations are not new: New York's original 1916 zoning ordinance and the

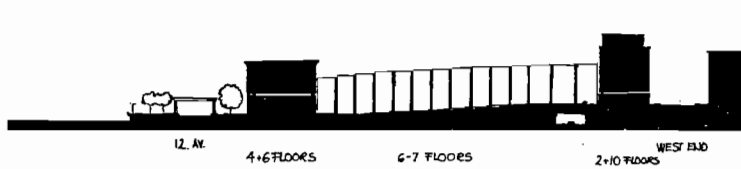
1961 rezoning -- both pioneering documents -- were motivated by concerns for sunlight and the quality of life in open spaces. These considerations need not add lengthy new steps to the review process, nor should they cause development in Manhattan to grind to a halt: at the Penn Yards site, sunlight, wind and view considerations can be accommodated without reducing the current FAR.

It is time again for New York to re-examine this historic balance between the practical need for continued development in Manhattan and the urgency of protecting the quality of life in its open spaces. More than a half century of experience has shown that New York City can indeed have both.

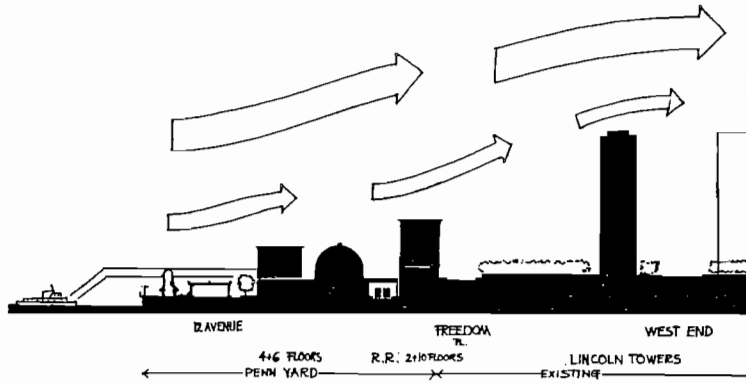


Appendix

Following is an example of how the Television City site could be developed under the guidelines recommended in this report. This example not only meets the sun and wind recommendations made in this project, but also reflects the fine grain and human scale of older Upper West Side neighborhoods. Under this proposal, total development would exceed eight million square feet, close to that which is permitted under the current zoning.



Depicts a typical cross-section on streets such as 65th St. Building heights are based on a 1:1 ratio between height and street width, preserving sunlight to the streets, preventing strong winds, and maintaining views of the sky and river.



Section at 67th St. From the river heading east, the buildings' increasing height and elevation create a "manmade mountain," which carries the wind over the neighborhood instead of channelling it down through the side streets running perpendicular to the river.

The taller buildings line the north-south avenues, in keeping with the tradition of the Upper West Side.

The Wintergarden occupies the superblock between 12th Ave. and Freedom Place. Although the Wintergarden superblock interrupts what would normally be two cross streets and a view running from Central Park to the river, the impact is minimal because it is situated on two streets which already are blocked by the Lincoln Towers development.

72nd Street

Preserve crosstown view from Central Park to N.J. Palisades.
Maintain 120' streetwall along 72nd St.

71st Street -- Preserve crosstown view.

70' maximum streetwall along side street.
No 12th Ave. frontage

70th Street -- Preserve crosstown view.

70' maximum streetwall along side street.
Six floors of residential above four floors of commercial along 12th Ave.

69th Street -- Preserve crosstown view.

Six floors of residential above four floors of commercial.
"Wintergarden" market, neighborhood commercial pedestrian passages to
Freedom Place and 12th Ave. River Esplanade.

66th Street -- Preserve crosstown view.

70' maximum streetwall along side street.
Six floors of residential above four floors of commercial.
Existing ABC studio on West End Avenue.

65th Street -- Preserve crosstown view.

70' maximum streetwall along side street.
10 to 14 stories of residential above street-level commercial on West End Ave.

64th Street -- As above.

63rd Street -- As above.

62nd Street Park

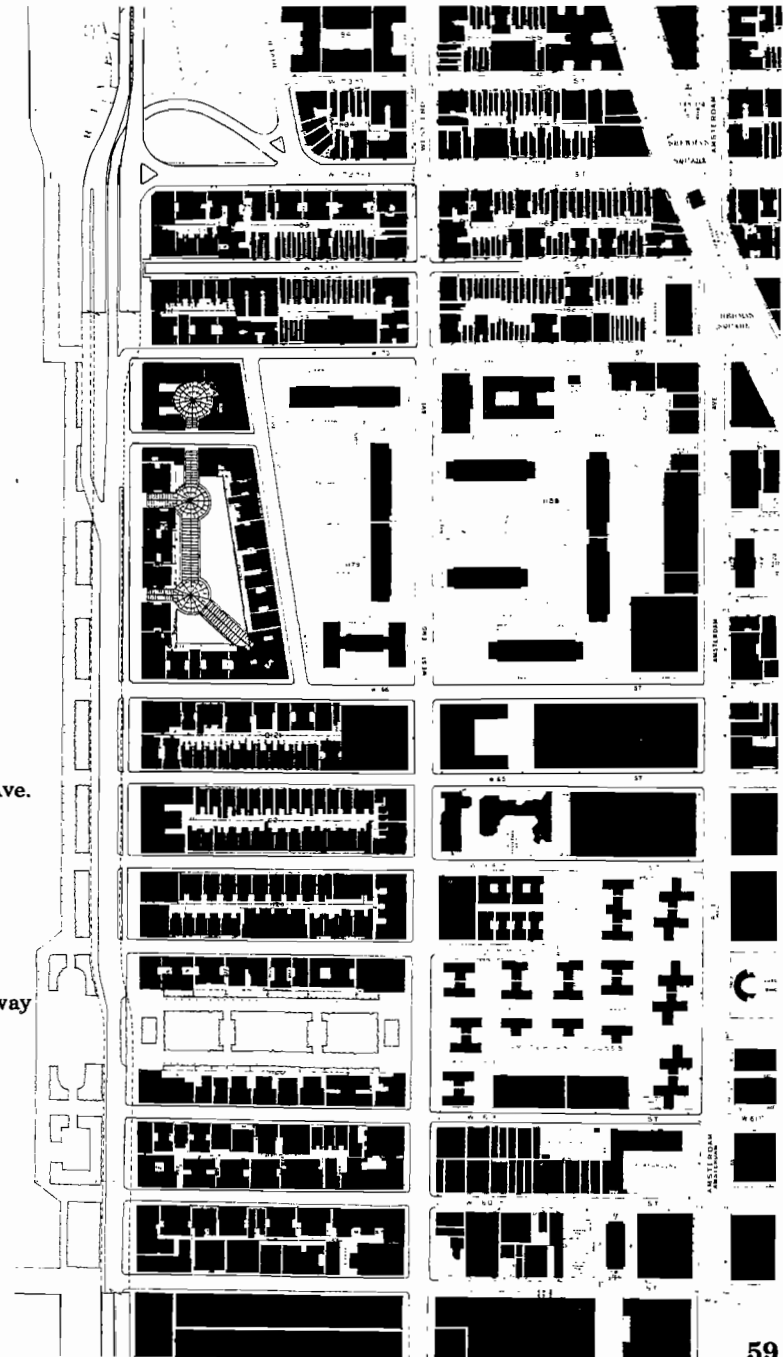
200,000 s.f. neighborhood park for community gardens.
Possible commuter train station on West End Ave. using Amtrak right of way
below surface.

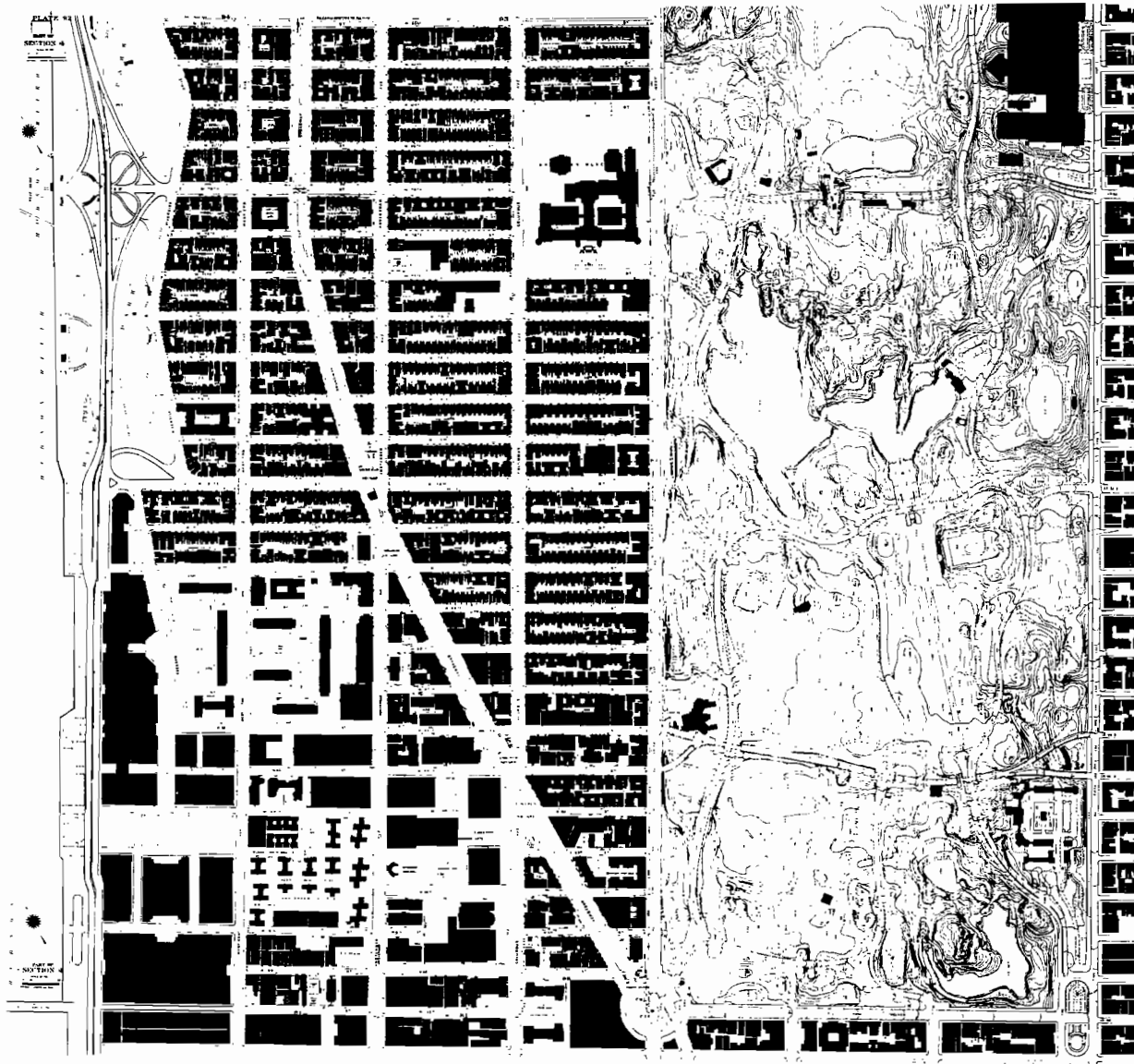
61st Street -- As above.

60th Street -- As above.

59th Street

Commercial/business support.





These maps compare the footprints of how the Penn Yards site could be developed under the Television City proposal and the example described on the preceding pages. These drawings show that the example

not only meets the sun and wind recommendations made in this report, but also reflects the finer grain of older Upper West Side blocks.



NOTES

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- 12) Cook, op. cit., page 197.
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- 14) Cook, op. cit., pp. 193-194.
- 15) Simpson and Hern, op. cit.
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- 25) Schonberg, op. cit. and "Business Backs an Art Center," op. cit.
- 26) Caro, op. cit., page 1157.

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28) Interview with Leonard X Farbman, member of Amsterdam Action Association, November 22, 1987.

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30) Trager, op. cit., pp. 192-195.

31) Preliminary Environmental Impact Statement for Television City, op. cit.

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2) Michael Kwartler and Associates, West Side Futures Study, prepared for the Municipal Art Society of New York City, March, 1987.

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