



Mott Haven

# OPEN SPACE INDEX



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# Letter from the Executive Director

Parks and open spaces are critical components of New York City's dense neighborhoods – infrastructure as essential as housing, sewer lines, and roads. The impact that these spaces have on neighborhoods extends far beyond their boundaries.

The New York City Housing Authority (NYCHA) acknowledged this essential role when it asked New Yorkers for Parks to conduct an Open Space Index assessment of Mott Haven as part of its application for a U.S. Department of Housing and Urban Development Choice Neighborhoods grant. Our report will arm NYCHA, elected officials, community groups, and local residents with a tool to help prioritize and advocate for future open space investments that address some of the community's most pressing concerns, including public safety and public health.

That advocacy begins with cultivating an engaged community of local park and open space stewards – in both Parks Department and NYCHA properties – which can send a resounding message across the community, and to City and elected officials, that the health of these spaces lies at the heart of the health of Mott Haven itself.

We have already begun to engage the neighborhood with a series of meetings with NYCHA

residents. It should continue with the important work of Partnerships for Parks and the Housing Authority's tenant associations. Fostering this stewardship will help catalyze investment in Mott Haven, both through public dollars and potential private fundraising efforts.

This report offers recommendations to help accelerate that local advocacy push. They vary from addressing public safety, to improving waterfront access, to capitalizing on nearby Randall's Island Park. The report makes a strong case for capital investments and more robust civic engagement, both in the neighborhood's smaller playgrounds and in St. Mary's Park, a critical 35-acre park. Finally, we discuss how NYCHA open spaces – often overlooked in the City's network of green spaces – can more fully serve as public amenities for residents of the five NYCHA complexes within our study area.

While the needs of Mott Haven extend far beyond quality parks, it is to NYCHA's credit that it recognizes the central role that safe, accessible, and well-maintained open space plays in building healthy urban neighborhoods. We hope that this report treats those spaces – and their potential to improve the quality of life for all Mott Haven residents – with the thoughtful analysis that they deserve.

Tupper Thomas  
*Executive Director*



■ The Mott Haven Open Space Index Study Area.



# Part I: Measuring Neighborhood Open Space

# Introduction

*We broadened our tool to capture additional details about Mott Haven open spaces, including observing park use and surveying park visitors.*

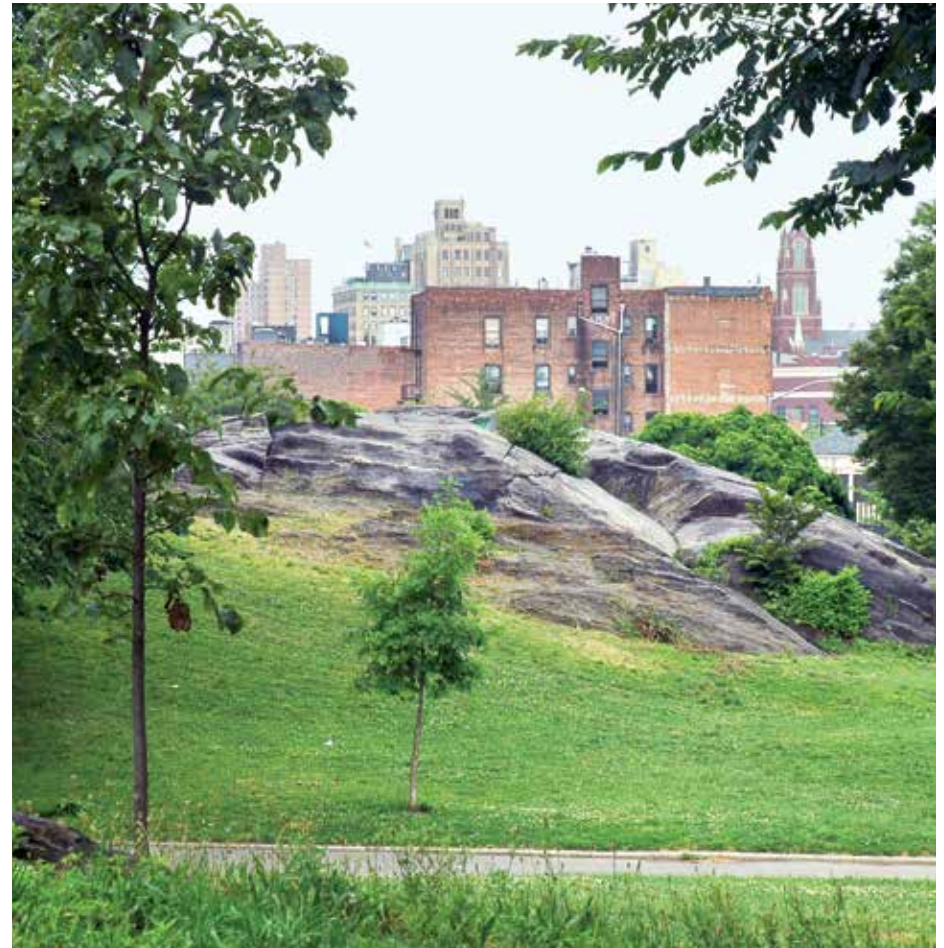
NY4P created the Open Space Index to ensure that open space planning is responsive to unique neighborhood conditions, the city's ever growing population, and its evolving built environment. Over the course of five studies (assessing the Lower East Side, Jackson Heights, East Harlem, East Midtown and the Upper East Side), we have refined our data collection tools as we encounter new landscapes and contend with each neighborhood's particular open space features.

In our study of the Mott Haven neighborhood in the South Bronx, we continue to grapple with more nuanced concepts that underlie our seemingly objective standards. Does a Mott Haven resident who lives within a 10-minute walk of a park truly have "access" to that property if her journey is fraught with truck traffic or the threat of street crime? How do we account for individual New Yorkers' experiences in parks when we use a tool that treats open spaces as neighborhood-level resources? For example, while more than half of the total parkland in Mott Haven is covered in natural, "green" landscape, the playgrounds where children play are predominantly asphalt,

providing an experience that is not reflected in the overall neighborhood average. To address questions like these, we modified our tool to provide new layers of information in many Index categories.

Further, we expanded our data collection methods in Mott Haven to observe park use and survey park visitors. This valuable information deepened our understanding of each space and enhanced the report's recommendations for the cleaning, greening, and expansion of Mott Haven open space.

We first dealt with the question of how to incorporate NYCHA open spaces into our assessment of East Harlem, and we continued to grapple with this challenge in our study of Mott Haven. These resources are abundant in the five NYCHA developments in Mott Haven, but we wrestled with their public versus private nature. As we discuss in this report, we ultimately excluded NYCHA open spaces from our aggregate neighborhood inventory. Instead, we address the particular attributes, uses and potential design improvements to NYCHA open spaces as topics in their own right.



St. Mary's Park in Mott Haven.

# The Open Space Index: An Overview

*NY4P developed the Open Space Index as a tool to guide neighborhood open space planning and help park advocates ensure that future generations will enjoy adequate parkland, greenery, and recreation.*

By measuring 15 open space features, the Index provides a comprehensive picture of a neighborhood's open space resources. What follows is an explanation of the broad categories of the Index, followed by details on the 15 standards. For a full discussion of methods, see Appendix A.

## ACTIVE OPEN SPACE

Active open spaces offer places for recreational sports, exercise, and play. Recognizing the need for a variety of active recreation opportunities, the Index contains four sub-categories of active open space – playgrounds, fields, courts, and recreation centers – each of which is critical to providing neighborhood residents with adequate opportunities for active play.

## PASSIVE OPEN SPACE

Passive open spaces offer places to relax, stroll, socialize, and experience the outdoors. Parks with seating, shade, and peaceful passive programming are important resources that support the healthy aging of seniors.<sup>1</sup> Passive open spaces are particularly important to people who may be unable to participate in active recreation but still benefit immensely from being outdoors. The Index measures the total amount of passive open space and counts and measures the community gardens that contribute to this category.

## ACCESS AND DISTANCE

The Index's standards for park access are derived from the PlaNYC goal that every New Yorker should live within a 10-minute walk of a park. We recognize that every resident should have access to a variety of open space options and that living within walking distance of a pleasant outdoor seating area meets different recreational and leisure needs than living near a large park with multiple recreational and natural amenities. Thus, we provide access targets for three types of parks:

*Pocket Parks* (less than one acre) usually accommodate one or two features such as a play area, a court, or a passive seating area.

Their small size limits the services they provide, yet they are critical amenities for residents with limited mobility, such as caretakers with small children, the elderly, and the infirm.

*Neighborhood Parks* (one to 20 acres) typically offer a broad range of recreational opportunities, allowing park-goers to enjoy both active recreation and outdoor relaxation. Neighborhood parks in Mott Haven, such as People's Park and Patterson Playground, contain multiple courts and play areas, as well as seating areas and landscaped greenery.

*Large Parks* (greater than 20 acres) contain expansive acreage that allows for a wide variety of active and passive activities, as well as space for distinctive resources such as lakes, golf courses, natural areas, and greenways. Large parks provide swaths of uninterrupted green lawns and natural landscaping, aesthetic features in dense cities that can often only be experienced in these vast spaces.

## URBAN TREE CANOPY

New York City trees provide both aesthetic and environmental benefits to the city. Trees connect residents to nature and enhance the park experience with their shade and beauty. They also provide multiple ecological services:



St. Mary's Park.



Mott Haven residents in the United We Stand Community Garden.

they remove pollutants from the air, their leaves absorb and store carbon dioxide, they cool the air, and the permeable ground in which they grow helps to absorb and manage stormwater runoff.

In 2006, the United States Forest Service completed an analysis of New York City's tree canopy coverage.<sup>2</sup> As part of its report, the Forest Service calculated the existing and potential tree canopies for each New York City neighborhood. We use these neighborhood statistics to inform the Index's tree canopy coverage category (see Appendix A for methods discussion).

#### PERMEABLE SURFACING

Like the urban tree canopy, permeable ground surfacing enhances the city's environment and beautifies parkland. There is a qualitative difference between accompanying a child to a playground with lawns, gardens, and shade trees and passing an afternoon on a patch of uninterrupted asphalt. Increased permeable surfacing also provides a number of environmental benefits including absorbing storm runoff.<sup>3</sup> Asphalt prevents rain from seeping into the ground; it enters municipal drains instead. Any gain in permeable surfacing will help to lessen the load carried by New York City's storm and sewer system, which is frequently challenged by heavy storms.

The Index offers a standard of 70% permeable surfacing in parks. As with the other Index standards, this target does not apply to a single park, but rather across the full set of parks and public open spaces within a neighborhood. In a small park filled with basketball and handball courts, 70% permeability would not be feasible. Yet in natural areas, up to 100% of the land is permeable, and in a large park with substantial passive areas, 80-90% permeability can be attained. As long as a neighborhood has a variety of park sizes and types, it is possible to reach an overall rate of 70% permeable surface.

#### PARK MAINTENANCE

Keeping parks clean and safe is essential to visitors' comfort and enjoyment. The Parks Inspection Program (PIP), the New York City Department of Parks and Recreation's (the Parks Department) method of tracking park maintenance, rates parks as "acceptable" or "unacceptable" based upon the condition of specific park features. Each park property receives ratings in two categories: cleanliness and overall maintenance. Cleanliness is determined by five factors: litter, broken glass, graffiti, ice, and weeds. Overall maintenance is determined by seventeen factors, including an inspection of benches, fences, sidewalks, and lawns.<sup>4</sup>

# Open Space Standards for New York City

## Amount of Open Space

### Active Open Space

#### PLAYGROUNDS

Places for play, containing equipment such as swings, structures for climbing, water features, sand boxes, or other play features

#### Standard

1  
playground per  
1,250  
children



#### ATHLETIC FIELDS

Soccer, football, cricket, baseball, and hockey fields, as well as ice rinks

#### Standard

1.5  
athletic fields per  
10,000  
residents



#### COURTS

Basketball, handball, volleyball, tennis, and bocce courts

#### Standard

5  
courts per  
10,000  
residents



#### RECREATION CENTERS

Indoor recreation facilities operated by the Parks Department, and other indoor facilities with comparable fees and public access

#### Standard

1  
recreation center per  
20,000  
residents



#### ACTIVE OPEN SPACE

Total acreage of playgrounds, fields, courts and recreation centers, plus unprogrammed active open space

#### Standard

1  
acre of active open  
space per  
1,000  
residents



### Passive Open Space

#### COMMUNITY GARDENS

All GreenThumb gardens and other gardens that provide a clear mechanism for public involvement and access

#### Standard

1  
community garden per  
10,000  
residents



#### PASSIVE OPEN SPACE

Total acreage of lawns, esplanades, plazas, beaches, natural areas, and planted areas, plus community gardens

#### Standard

1.5  
acres of passive open  
space per  
1,000  
residents



### Total

#### TOTAL OPEN SPACE

The aggregate acreage of all neighborhood open space including all active and passive open spaces that provide opportunities for play, relaxation, and contact with nature

#### Standard

2.5  
acres of total open  
space per  
1,000  
residents







Brook Park.

## Access and Distance to Parks

### POCKET PARKS

Parks less than one acre

#### Standard

100% of residents live within a five-minute walk (1/4 mile)



### NEIGHBORHOOD PARKS

Parks between one and 20 acres

#### Standard

100% of residents live within a five-minute walk (1/4 mile)



### LARGE PARKS

Parks larger than 20 acres

#### Standard

100% of residents live within a 10-minute walk (1/2 mile)



## Environmental Sustainability

### URBAN TREE CANOPY

The layer of trees, leaves, branches, and stems that cover the ground when viewed from above

#### Standard

45% potential tree canopy for Mott Haven

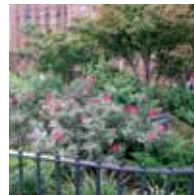


### PERMEABLE SURFACING

Land that can absorb water, including tree pits, natural areas, community gardens, natural grass fields, artificial turf fields, and other porous surfaces within parks

#### Standard

70% permeable surfacing in parks



## Park Maintenance

### CLEANLINESS

Park Inspection Program rating based on the presence of litter, glass, graffiti, weeds, and ice

#### Standard

90% of park inspections should be rated "acceptable"



### OVERALL MAINTENANCE

Park Inspection Program rating for overall park maintenance

#### Standard

85% of park inspections should be rated "acceptable"





# Part 2: Mott Haven Open Space Index

# Fieldwork

## METHODS

Over the summer of 2013, NY4P field surveyors walked every block of the study area. They counted all courts, athletic fields, playgrounds, and recreation centers. In addition, they used a measuring wheel to measure the total amount of active, passive, and permeable public open space in the neighborhood. Surveyors supplemented their measurements with site drawings and photo

documentation, and collected additional information on components of the park-going experience such as park benches, drinking fountains and trash receptacles. A full explanation of our data collection methodology can be found in Appendix A. A comprehensive list of Parks Department properties is in Appendix C.

This detailed fieldwork allows us to reconcile public information with actual neighborhood conditions. This is a critical component of accurately measuring public open space, particularly in a neighborhood with community gardens and open spaces managed under the jurisdiction of a number of organizations.

In addition to collecting physical measurements, surveyors conducted systematic observations of playground use, and spoke with park-goers throughout Mott Haven. This additional component of fieldwork helped us refine our understanding of neighborhood open space conditions and has informed our recommendations.

## MOTT HAVEN STATS

Total population<sup>5</sup>

46,332

Children under 18<sup>6</sup>

14,153

Seniors 65+<sup>7</sup>

4,409

Total acres

443

## SURVEYING STATS

Number of surveyors

2

Survey schedule

July to  
September  
2013

Blocks walked

More than  
230



     Mott Haven  
 ■ Parks and Community Gardens  
  NYCHA Properties

The Mott Haven Open Space Index study area boundary corresponds to NYCHA's Choice Neighborhood Initiative catchment area.

# Results: Amount of Open Space

*There is not enough open space in Mott Haven to accommodate the needs of the neighborhood.*

Mott Haven exceeds or approaches open space standards for most active open space features; parks contain play equipment, basketball and handball courts, adult fitness equipment, baseball fields, and grassy areas to play soccer.

However, these recreational facilities are often located in small parks. The average Mott Haven park (excluding St. Mary's Park) measures only

1.3 acres. With over 46,000 residents in the neighborhood, there are more residents than can be adequately accommodated by existing active open spaces. The same is true for the amount of passive and total open space. The neighborhood's many community gardens are small spaces that in aggregate account for just 2.48 acres of land.

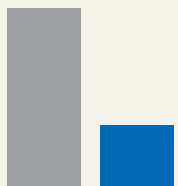
Opportunities for new open space will come from reclaiming streetscapes and expanding access to the nearby waterfront. For example, the neighborhood will benefit from new passive open space at a Department of Transportation plaza set to break ground at 3rd Avenue and 149th Street. The space will be reconfigured with benches, moveable seating,

plantings, space for community events, and a concessionaire managed by the South Bronx Overall Economic Development Corporation (SoBRO). Other opportunities for neighborhood open space expansion exist both within and beyond the study area, in particular along the waterfront, which we discuss on page 26.

## Active Open Space ■ OSI Standard ■ Result

### ACTIVE OPEN SPACE

**Result**  
**.32**  
acre per  
1,000 residents  
**Fails to meet standard**



**Standard**  
1  
acre of active open space  
per 1,000 residents

### PLAYGROUNDS

**Result**  
**1.06**  
playgrounds per  
1,250 children  
**Exceeds standard**



**Standard**  
1  
playground per  
1,250 children

### ATHLETIC FIELDS

**Result**  
**2.16**  
athletic fields per  
10,000 residents  
**Exceeds standard**



**Standard**  
1.5  
athletic fields per  
10,000 residents

### COURTS

**Result**  
**11.76**  
courts per  
10,000 residents  
**Exceeds standard**



**Standard**  
5  
courts per  
10,000 residents

### RECREATION CENTERS

**Result**  
**.86**  
recreation center per  
20,000 residents  
**Fails to meet standard**



**Standard**  
1  
recreation center per  
20,000 residents

## Passive Open Space

### COMMUNITY GARDENS

**Result**  
**1.73**  
community gardens per  
10,000 residents  
**Exceeds standard**



**Standard**  
1  
community garden per  
10,000 residents

### PASSIVE OPEN SPACE

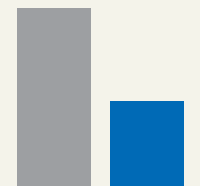
**Result**  
**.80**  
acre per  
1,000 residents  
**Fails to meet standard**



**Standard**  
1.5  
acres of passive open  
space per 1,000 residents

## Total Open Space

**Result**  
**1.10**  
acres per  
1,000 residents  
**Fails to meet standard**



**Standard**  
2.5  
acres per 1,000  
residents

# Focus on Community Gardens

*Mott Haven is rich in community gardens. Among them, there are spaces for urban agriculture, youth programming, and quiet, planted spaces that appeal to seniors.*

The public nature of these spaces varies greatly. Not all gardens abide by the GreenThumb requirements for public access.<sup>8</sup> We observed Mott Haven gardens that were functionally privatized as club space, but we also saw many examples of how gardens can serve as community resources, offering space for community activities in addition to their aesthetic and environmental benefits. We have highlighted some of Mott Haven's most successful gardens here.

**Padre Plaza Success Garden** on St. Ann's Avenue and 139th Street is the site of a weekly farmers' market. Community organizations and city agencies regularly set up tables along the garden's perimeter, offering services such as health screenings and workforce information. Dedicated youth gardeners grow food in the garden's raised beds. After the garden was battered by Hurricane Sandy, gardeners came together to clean and rebuild the space, celebrating with a community festival in June 2013.

Beginning in 2010, GrowNYC has been working in **Wanaqua Family Garden**, supporting youth gardening and environmental education. A recent garden rehabilitation included a new casita with a green roof that captures rain water for use in the garden. The garden plays host to community activities such as GreenThumb workshops and a fall harvest festival.

After a community design process, the New York Restoration Project-sponsored **Willis Avenue Community Garden** is undergoing a refurbishment that will bring a number of improvements to the space. A casita will support cooking in a newly refurbished kitchen. The garden will also contain a composting toilet, as well as raised-bed garden plots, and an ornamental butterfly garden. This multi-use design will accommodate a variety of activities.

**Brook Park** is a large garden that offers a broad array of programs for neighborhood children and adults. The garden is home to vegetable and flower gardens, an active chicken coop, beehives, and regular exhibitions of local art, music, and dance. The Friends of Brook Park is a community-based environmental organization that oversees activities in the garden. In addition to its work in the garden, the group engages in environmental justice advocacy throughout the neighborhood. It received a "Greening the Bronx" grant from the New York State Energy Research and Development Authority that funded the planting and maintenance of 47 street trees throughout the neighborhood, and is an active member in the Harlem River Working Group, which advocates for community access to the Harlem River.



*Wanaqua Avenue Garden.*



*Willis Avenue Garden.*

# Results: Access and Distance to Parks

Mott Haven fails to achieve the standards that call for 100% of residents to live within reasonable walking distance of a pocket, neighborhood, and large park. However, 96% of neighborhood residents have access to at least one type of park, and nearly one-quarter of neighborhood residents have access to all three types of parks. While it is encouraging that nearly all residents have access to some type of open space, only half of Mott Haven

residents live within reasonable walking distance of St. Mary's, the neighborhood's only large park, and residents' primary location to experience greenery, varied topography, and natural landscape features.

## STREET SAFETY

Our method for calculating walking distance accounts for the time it takes for residents to traverse streets and roads (see Appendix A for

methods). The method does not, however, take into account the conditions of those streets and roads. Neighborhood residents and local advocates have pointed to a major impediment to pedestrian travel in Mott Haven: traffic safety. The Hub, the busy commercial and transit intersection of 3rd Avenue and 149th Street on the northern edge of the neighborhood is of particular concern. According to Transportation Alternatives (TA), it is the third most dangerous

intersection in the Bronx for pedestrians.<sup>9</sup> According to TA's Crash Tracker, 11 pedestrian and bicycle fatalities occurred there from 1995 to 2009. South Bronx Unite has held public rallies to call attention to concerns for street safety – both the safety of pedestrians at busy crossings along 138th Street, and the safety of all residents living in proximity to heavily-trafficked trucking routes that ring and sometimes traverse the neighborhood.<sup>10</sup>

■ OSI Standard ■ Result

### POCKET PARKS

Result

68%  
of residents live within a five-minute walk

**Fails to meet standard**



Standard  
100%  
of residents live within a five-minute walk

### NEIGHBORHOOD PARKS

Result

68%  
of residents live within a five-minute walk

**Fails to meet standard**



Standard  
100%  
of residents live within a five-minute walk

### LARGE PARKS

Result

50%  
of residents live within a 10-minute walk

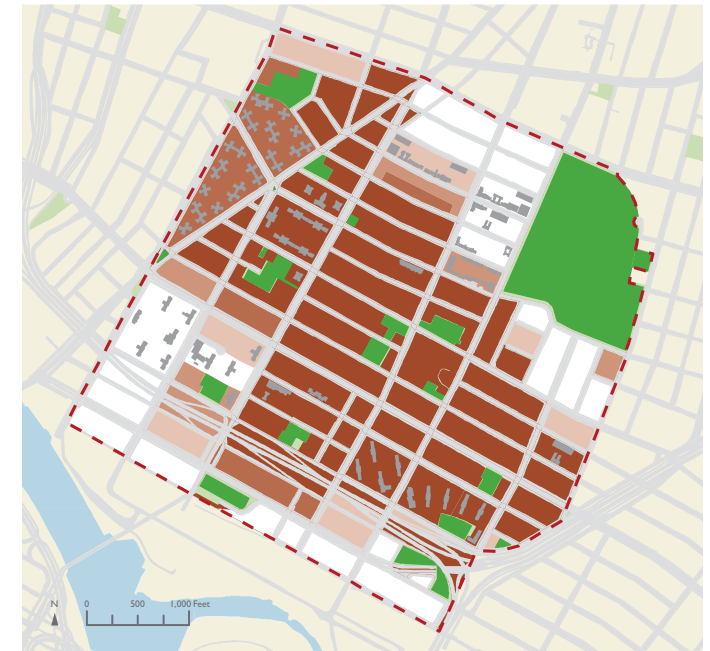
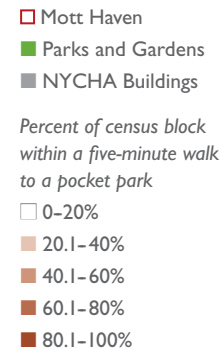
**Fails to meet standard**



Standard  
100%  
of residents live within a 10-minute walk

### POCKET PARKS

68%  
of residents live within a five-minute walk





138th Street is a busy commercial thoroughfare and the focus of pedestrian safety activists.



Street furniture can help to create comfortable passageways to parks.

### NEIGHBORHOOD PARKS

68%  
of residents live within  
a five-minute walk

- Mott Haven
- Parks and Gardens
- NYCHA Buildings

Percent of census block  
within a five-minute walk  
to a neighborhood park

- 0-20%
- 20.1-40%
- 40.1-60%
- 60.1-80%
- 80.1-100%



### LARGE PARKS

50%  
of residents live within  
a 10-minute walk

- Mott Haven
- Parks and Gardens
- NYCHA Buildings

Percent of census block  
within a 10-minute walk  
to a large park

- 0-20%
- 20.1-40%
- 40.1-60%
- 60.1-80%
- 80.1-100%



# Results: Environmental Sustainability

*The tree canopy in Mott Haven is sparse, and most playgrounds are dominated by asphalt.*

## URBAN TREE CANOPY

There is a large disparity between the current tree canopy coverage – 11% – and the estimated 45% coverage that the Mott Haven landscape could support. The “potential urban tree canopy” is a measure of tree cover that the neighborhood could support if all the land

that could support trees, from private lawns to community gardens, were planted. Planting in all physically viable spaces is not necessarily feasible or desirable. However, the numbers provide a portrait of a neighborhood with great opportunity for growing the existing amount of greening.

## PERMEABLE SURFACING

The aggregate neighborhood permeability result – 60% – overstates the quality of the park-going experience for visitors to Mott Haven’s small playgrounds. St. Mary’s Park comprises nearly 70% of the total parkland in the neighborhood, and approximately 75% of the park’s 35 acres are covered in natural areas,

lawns, trees, and decorative plantings. It is this natural landscape that makes St. Mary’s such a treasured respite among residents. In comparison, Mott Haven’s smaller parks are, on average, only 26% permeable. In other words, these are primarily hard, gray asphalt spaces that lack natural elements.

■ OSI Standard ■ Result

## URBAN TREE CANOPY

Result

11%  
existing tree canopy coverage

**Fails to meet standard**



Standard  
45%  
potential tree canopy for Mott Haven



141st Street in front of Brook Park.

## PERMEABILITY-INCLUDING ST. MARY'S PARK

Result

60%  
permeable surfacing in parks

**Fails to meet standard**



Standard  
70%  
permeable surfacing in parks

## PERMEABILITY-EXCLUDING ST. MARY'S PARK

Result

26%  
permeable surfacing in parks

**Fails to meet standard**



Standard  
70%  
permeable surfacing in parks



People's Park.



# Results: Park Maintenance

*Mott Haven parks failed to meet the City's standards for overall maintenance and cleanliness.*

St. Mary's Park earned an acceptable rating for only 59% of general maintenance inspections and 75% of cleanliness inspections, bringing down the neighborhood average. However, even if we exclude St. Mary's, the neighborhood parks still fall short of Index standards. Of the 12 pocket and neighborhood parks in

Mott Haven, nine had at least one overall unacceptable rating, and eight had at least one unacceptable cleanliness rating.

The Parks Department has identified large parks as maintenance challenges, and they consistently underperform smaller parks and

playgrounds citywide. In 2010 and 2012, New Yorkers for Parks used its *Report Card on Parks* tool to assess large parks across the city. We found that St. Mary's Park, like many large parks, is true to that trend. St. Mary's is the only large park in the South Bronx, and offers recreation and leisure activities unavailable

elsewhere in the neighborhood, which makes its poor maintenance a particularly troubling problem. Mott Haven residents deserve well-maintained parks, and a cleaner St. Mary's would serve the greatest number of residents.

■ OSI Standard ■ Result

## CLEANLINESS

**Result**  
80%  
of "cleanliness" inspections acceptable

**Fails to meet standard**



**Standard**  
90%  
of park inspections should be rated "acceptable"

## OVERALL MAINTENANCE

**Result**  
71%  
of "overall maintenance" inspections acceptable

**Fails to meet standard**

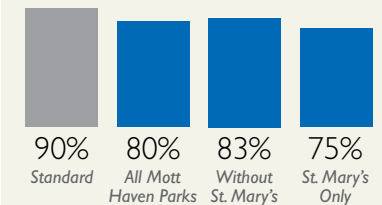


**Standard**  
85%  
of park inspections should be rated "acceptable"

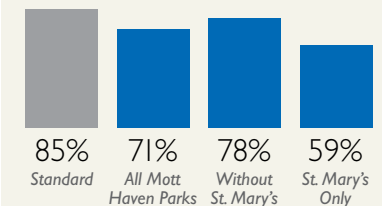


People's Park.

## Cleanliness



## Overall Maintenance





Part 3:  
NYCHA  
Open Space

# NYCHA Open Space: Public or Private?

The Open Space Index is intended to be a portrait of neighborhood resources available to the public. From our first Open Space Index assessment on the Lower East Side, NY4P has grappled with how to classify the public nature of open space on NYCHA property. From the many vast but inaccessible grassy lawns to small playgrounds tucked between buildings to basketball courts fronting busy public streets, these spaces have been difficult to categorize as entirely public or private.

When NY4P conducted our first survey on the Lower East Side of Manhattan, we excluded NYCHA open spaces from the calculation of neighborhood resources, arguing that they “...are not always accessible from outside of the housing complex,” and thus semi-private in nature.<sup>11</sup>

In 2011, NY4P partnered with researchers at the Mount Sinai School of Medicine to investigate the relationship between playground use and health among a cohort of children growing up in East Harlem. To explore this question, we examined the range of play spaces available to children in the study area, over one third of whom lived in NYCHA developments. We included certain features of NYCHA open space in our neighborhood inventory, measuring community gardens, courts, and play structures. We excluded spaces

with restricted access, such as fenced daycare center playgrounds, and spaces that were intended for ornamental use such as lawns, which may produce public benefits such as stormwater management, tree canopy coverage, and aesthetic beauty, but do not accommodate physical use by the public.

In 2012, we continued the practice of measuring discrete NYCHA play spaces in our study of open space on Manhattan’s East Side. The East Side study area abounded with “privately owned public spaces” – small plazas whose management is overseen by private property owners for use by the public. Conversely, we might think of open spaces on Mott Haven NYCHA property as “publicly owned private space” – land under the jurisdiction of a public authority, but inhabited by private individuals who live their daily lives and encounter their neighbors on their apartment campuses, akin to residents of a privately managed apartment building with a common courtyard.

In the current study, we have classified NYCHA open spaces as private resources that serve residents of each development. We based this decision on staff observations of the use of each space and discussions with residents and NYCHA property managers.



*A grassy lawn on NYCHA property in Mott Haven is fenced in and inaccessible.*

# NYCHA Open Space: An Inventory

*Mott Haven is the focus of a neighborhood-level planning initiative led by NYCHA to improve housing, employment, health, safety, and quality of life for residents of the Betances Houses and the surrounding community.*

By and large, NYCHA campuses are predominately passive in nature. In many, much of the open space is set behind locked fences and closed to both NYCHA residents and the general public. Within the five NYCHA developments in Mott Haven, the most common features that are accessible to people are playgrounds and seating areas. Each development has multiple play areas and at least one basketball court. Playgrounds typically have little landscaping or permeable surfacing.

The five developments vary in configuration. In some the playgrounds, sitting areas, and courts are located in clusters that draw people of varying ages and interests. In others, they are dispersed throughout the campus and isolated from one another. Patterson Houses is home to two vibrant community gardens – Rainforest Garden and McKay-Rodriguez Sunrise Garden.



- Mott Haven
- NYCHA Open Space
- NYCHA land
- NYCHA buildings
- Parks and Community Gardens

*The Mott Haven Open Space Index neighborhood boundary corresponds to NYCHA's Choice Neighborhood Initiative catchment area.*

## Betances Houses



Residents\*  
2,720

Children under 18\*  
875

### AMOUNT OF OPEN SPACE

Total acres  
2.83 acres

% Active Space  
21%

% Permeable  
20%

### OPEN SPACE FEATURES

Play areas  
10

Basketball courts  
0.5

Athletic fields  
0

Community gardens  
0

### OTHER AMENITIES

Seating accommodates  
527

## Mill Brook Houses



Residents\*  
3,259

Children under 18\*  
985

### AMOUNT OF OPEN SPACE

Total acres  
1.32 acres

% Active Space  
39%

% Permeable  
31%

### OPEN SPACE FEATURES

Play areas  
5

Basketball courts  
2

Athletic fields  
0

Community gardens  
0

### OTHER AMENITIES

Seating accommodates  
357

## Mitchel Houses



Residents\*  
4,055

Children under 18\*  
1,350

### AMOUNT OF OPEN SPACE

Total acres  
1.62 acres

% Active Space  
17%

% Permeable  
35%

### OPEN SPACE FEATURES

Play areas  
5

Basketball courts  
1

Athletic fields  
0

Community gardens  
0

### OTHER AMENITIES

Seating accommodates  
369

## Mott Haven Houses



Residents\*  
2,498

Children under 18\*  
850

### AMOUNT OF OPEN SPACE

Total acres  
2.18 acres

% Active Space  
29%

% Permeable  
23%

### OPEN SPACE FEATURES

Play areas  
4

Basketball courts  
2

Athletic fields  
0

Community gardens  
0

### OTHER AMENITIES

Seating accommodates  
431

## Patterson Houses



Residents\*  
4,369

Children under 18\*  
1,331

### AMOUNT OF OPEN SPACE

Total acres  
1.11 acres

% Active Space  
51%

% Permeable  
29%

### OPEN SPACE FEATURES

Play areas  
6

Basketball courts  
2

Athletic fields  
0

Community gardens  
2

### OTHER AMENITIES

Seating accommodates  
443

\*Population data from NYCHA and Local Initiatives Support Corporation

# NYCHA Open Space: Use

## METHODS

Surveyors observed use in NYCHA open spaces on weekdays and weekend days, and across times of day from morning to early evening. Using a modified version of the park use assessment tool SOPARC, surveyors divided open spaces into discrete “use zones” dictated by the dominant feature of the space.<sup>12</sup> Within each zone, surveyors counted the number of users, noting their gender, age group, and the primary activity in which they were engaged. See Appendix B for a discussion of the method and resulting use maps.

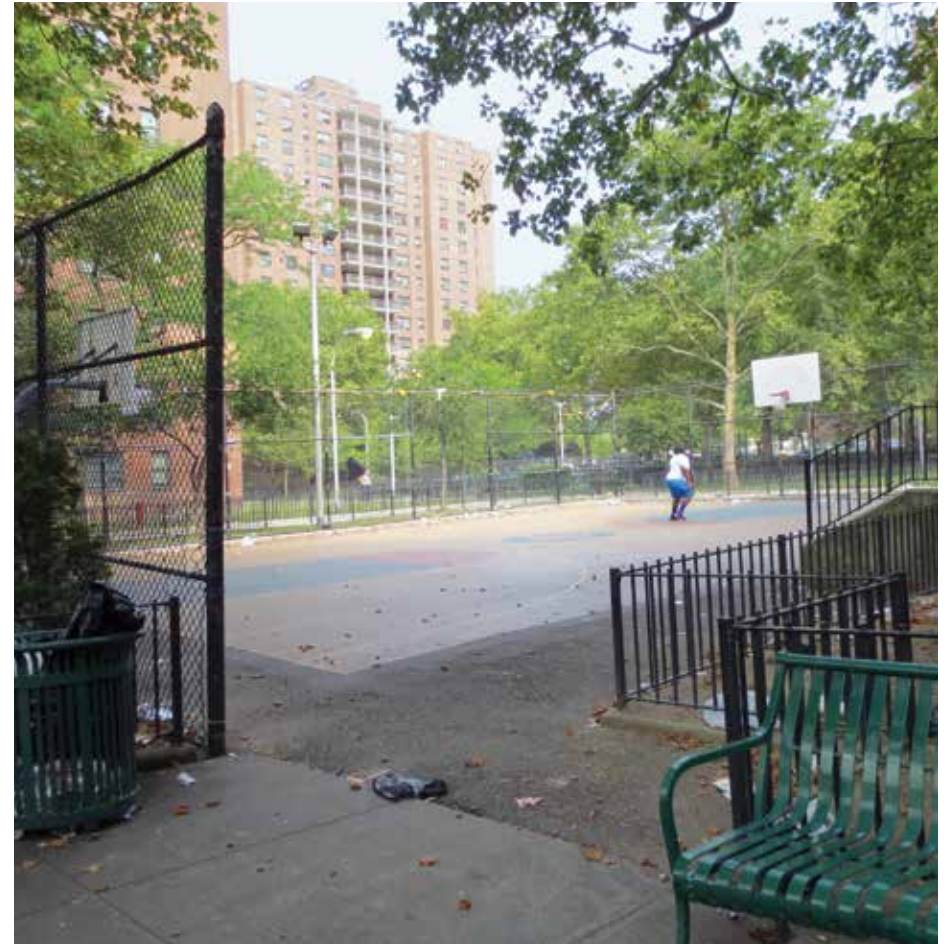
## OBSERVATIONS

A number of observations of use held true across all developments. Playing was never the most common activity in play areas, but rather standing and sitting (hanging out) were the most frequently observed. We also observed little “unstructured play” – activities that can occur in any open space without the need for special equipment, such as skipping, jumping rope, tossing a baseball, or playing hopscotch. We also observed a preponderance of male visitors, with men outnumbering women at least 60:40 in each development. Women, argued urban theorist William H. Whyte, are more likely to leave a place when uncomfortable and are quicker to perceive public disorder, making the equal presence of women a barometer of the perceived safety and welcoming nature of a

public space.<sup>13</sup> The gender imbalance and the lack of play – notable given the proliferation of play spaces across all developments – raise a number of questions. Do residents avoid play because nearby City parks offer a larger variety of activities and amenities? Does current play equipment lack engaging design? Do residents feel unsafe using common open spaces?

## BETANCES HOUSES

With the exception of a single play area in the Mill Brook Houses, Betances is the only study area development in which we observed locked open spaces. Betances, built in the early 1970s as a Demonstration Cities project, comprises multiple housing forms including infill housing, converted tenement buildings, and high rise developments dispersed over a 10-square block area.<sup>14</sup> The other developments, dense high rise apartment towers on “superblock” campuses, conform to “tower in the park” design – small building footprints surrounded by large swaths of grass, parking, pathways and seating areas. Open spaces in Betances take many forms, including interstitial plots of land, interior “alleyways” of play equipment and seating, sunken plazas, and a pedestrian through street. The isolated nature of the Betances open spaces make them difficult to manage and program. Our surveyors found 10 out of 15 of them locked on at least one occasion, and five out of 15 locked at the time of all nine survey periods.



*A basketball court at the Mitchel Houses in use.*

NYCHA management cites security concerns – from both staff and residents – as the impetus for locking the spaces.



# Part 4: Recommendations

# Recommendations

## Address Public Safety

Any attempt to improve open spaces in Mott Haven must first consider safety concerns. While the crime rate in Mott Haven has improved substantially since the height of the crack epidemic of the 1980s, it remains one of the highest in New York City. In the course of our outreach, residents repeatedly expressed concerns about the safety of streets, playgrounds, and parks. Many said that these concerns reduce their use of the spaces.



Young NYCHA residents participate in a community center planting event in East Harlem.

Residents suggested additional lighting, security cameras and strategic policing as techniques that might increase a sense of security in open spaces and reduce the number of crimes. However, a discussion about neighborhood policing should happen at the community level and is beyond the scope of this report.

Active programming, consistent maintenance, and strategic investments in neighborhood green spaces can foster residents' sense of investment in local spaces and may also help promote more vibrant parks in which people feel secure and welcome. In one study of what attracts people to parks, researchers found that "having events at the park, including sports competitions and other attractions, appears to be the strongest correlate of park use,"<sup>15</sup> while also promoting physical activity. We heard from Mott Haven residents that there is a particular need for programs that encourage teen and young adult recreation. Other researchers note the importance of "the number of part time staff, the number of supervised and organized programs, and knowing the park staff"<sup>16</sup> to encourage park use. Renovations to physical equipment might also increase the use of parks. The recommendations below call for additional staff, programming, and park enhancements that may, hand in hand with other security measures, make parks safer and more appealing.

## Make Capital Investments in Aging Playgrounds

The playgrounds of Mott Haven have seen little refurbishment over the past few decades, and their equipment is worn and outdated. Strategic investments could make these small but critical spaces more welcoming and appealing to residents. Local elected officials and the Parks Department should engage with the community to prioritize improvements to spaces like Saw Mill Park, Ranaqua Playground, Playground 134, and Pulaski Playground.

## Undertake a Neighborhood Greening Initiative

Introducing greener landscapes into Mott Haven open spaces would enhance the environmental sustainability of the neighborhood<sup>19</sup> and encourage use of these spaces by making them more pleasant. *NYC's High Performance Design Guidelines*<sup>20</sup> offer a variety of solutions that can improve stormwater management and beautify Mott Haven playgrounds that are currently dominated by asphalt. But converting asphalt to greener, more porous surfaces will require substantial investment. If this is a priority among community members, funding must be sought from local elected officials, partners, or grant opportunities.

## Expand Programming in Parks & Gardens

Expanded programming – whether it is in the form of a weekly market, aerobics class, or health fair – adds vibrancy to any space. As users and program staff visit a space regularly, they begin to take an interest in its upkeep, and their presence can deter unsavory activity.

### IN PARKS

Shape Up NYC and WalkNYC are free fitness programs that the Parks Department provides across the city. In Mott Haven, classes are offered at St. Mary's Recreation Center, the Betances Community Center, and Lincoln Hospital, and do not require any registration or memberships. Despite this, many residents we spoke with during the course of our outreach were unaware that these free services were available to them. These programs could serve more users by undertaking broader outreach efforts and offering options in more local parks and within NYCHA developments. Variations on these programs, like walking paths along sidewalks and through public housing complexes, could also be explored with local partners such as Lincoln Hospital or the Department of Health's District Public Health Office. In East Harlem, such a collaboration resulted in walking programs through Marcus Garvey Park and St. Nicholas Houses.



We heard numerous requests for teen and young adult sports leagues in St. Mary's Park. The Parks Department should work with community partners to expand organized sports programming for these age groups. The City Parks Foundation hosts concerts in St. Mary's Park through its Summer Stage program. These events are very popular and should continue.

#### IN COMMUNITY GARDENS

Mott Haven's eight community gardens can host public services such as community health fairs, cooking demonstrations, or information tables for local nonprofits. Current examples of programming include after-school tutoring, youth gardening, and canoeing clubs. These gardens can be the site of larger community outreach initiatives.

#### IN NYCHA DEVELOPMENTS

NYCHA's Garden & Greening Program helps beautify public housing campuses while also engaging residents in the care of their open spaces. The 51-year-old program serves over 3,000 gardeners working in over 700 gardens across the five boroughs. It offers gardeners materials, tools, technical assistance, and other support. Partner programs such as the Americorps Green City Force<sup>18</sup> help provide additional support to program staff, but to maximize resident engagement in open space stewardship and maintenance, the Garden & Greening Program must have robust organizational capacity.



*Pulaski Playground is worn and would benefit from greening and refurbishment.*

There are many successful programs enlivening NYCHA open spaces citywide, which could be replicated in Mott Haven. Concrete Safaris has worked with over 3,200 children in East Harlem to turn over 15,000 square feet of unused NYCHA open space into gardens, with the children actively participating as both landscape designers and gardeners. The nonprofit has transformed formerly lifeless patches of lawns in East Harlem's Jefferson and Washington

Houses into vibrant gardens, while encouraging children to engage in outdoor physical activity and to learn applied lessons in environmental and health education. Other programs support the active use of NYCHA sidewalks and pathways. For example, Harlem's St. Nicholas Houses boast a one-mile tree and flower-lined walking path, and pathways through the Brownsville Houses in central Brooklyn are lined with banners that promote walking and healthy living.

### Foster Park Stewardship

Mott Haven residents can become active caretakers of their local parks and open spaces. Community residents who are involved in the planning and stewardship of their local parks make a noticeable difference in the quality of those public spaces. Partnerships for Parks offers training and technical assistance to community-based park groups and individual volunteers. Their Outreach Coordinators help local volunteers become savvy activists.

Cornell University researchers found that while few South Bronx residents had been involved in tree planting or stewardship, they desired additional tree plantings, better tree maintenance, and expressed a "significant interest in learning about all aspects of tree planting and care, as well as the environmental and public health benefits of trees."<sup>17</sup> The free tree care workshops offered citywide by MillionTrees NYC are opportunities to introduce Mott Haven residents to local stewardship.

Active open space stewardship may also lead to additional forms of community engagement. A 2003 survey of GreenThumb gardeners found that garden members participate in community groups like block associations, community boards, youth and senior groups, and faith-based institutions. Encouraging local residents to become stewards of their parks and open spaces will benefit the entire Mott Haven neighborhood.

## Revitalize St. Mary's Park

As the largest park in the South Bronx, St. Mary's Park offers 35 acres of scenic beauty and a range of recreational amenities. The first playground and the first indoor recreation center in the Bronx were both built in St. Mary's Park, and today's park-goers can enjoy the following features:

- Barbecuing areas
- Baseball fields
- Basketball courts
- Bathrooms
- Fitness equipment
- Handball courts
- Playgrounds
- Recreation Center with indoor pool
- Running tracks
- Soccer fields
- Spray showers
- Tennis courts
- Wi-fi hot spots

### PARK MAINTENANCE

With rolling hills, glacial rock outcroppings, and tree-lined pathways, visitors can immerse themselves in a pastoral landscape. But those same hills and paths can be challenging to maintain. In 2012 NY4P conducted a maintenance assessment of St. Mary's Park as part of its *Report Card on Large Parks*. The overall park score of 78 (C+) placed St. Mary's among the lowest-scoring of 43 large parks

citywide. The park's score was particularly affected by the poor condition of the pathways, disassembled bleachers lining a ball field, and many tree stumps and weeds in the lawns and natural areas of the park. As we noted earlier in this report, St. Mary's performed below the City's standard on the Parks Department's own internal assessment of maintenance and cleanliness (PIP) in recent inspections. The City must recognize the importance of St. Mary's for the residents of the South Bronx and commit more maintenance resources for its upkeep.

Some of the park's maintenance challenges can be addressed by an active association of neighbors and park lovers. Friends-of-parks groups across the city, working in conjunction with the Parks Department and Partnerships for Parks, have brought about positive change in their local parks by organizing clean-ups, planting flowers, hosting *It's My Park Day* events, and being vigilant about park use and upkeep. At the time of this writing, efforts are underway to form a Friends of St. Mary's Park.

### CAPITAL INVESTMENT

Other issues in St. Mary's Park will require significant capital investment in infrastructure. The Parks Department recently repaired a staircase in the western portion of the park, and the recreation center underwent a "green retrofit" that included upgrades to light fixtures and improvements to the pool. However, other



St. Mary's Park.

park features still demand attention, including ball fields that lack working bleachers and lights, a bathroom that regularly floods, a

playground with aging equipment, crumbling pathways, and deteriorating staircases on the eastern side of the park.

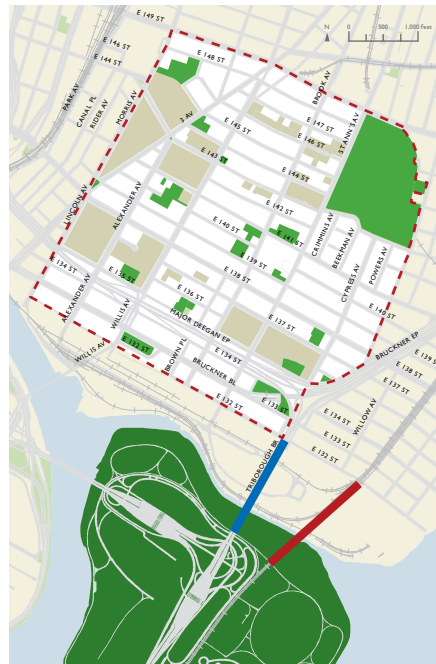
## Take Advantage of Randall's Island Park

### RANDALL'S ISLAND PARK AMENITIES

- 66 fields for soccer, softball, baseball, football, cricket, lacrosse, field hockey, rugby, including lighted fields for night use
- 8 miles of bicycle and pedestrian pathways
- Newly redesigned Scylla Playground
- Picnic areas
- 9 acres of salt marsh and freshwater wetlands
- Gardens and a one-acre urban farm
- Fishing sites
- Fee-based sports facilities
- Free community programs for family and youth
- Volunteer opportunities

### NEW ACCESS TO RANDALL'S ISLAND FROM THE SOUTH BRONX

In the fall of 2013 the NYC Economic Development Corporation (EDC) announced that long-sought easement rights had been obtained to construct a quarter-mile bicycle and pedestrian pathway connecting the South Bronx to Randall's Island.<sup>21</sup> When construction is completed in 2015, the Randall's Island Connector, a bridge spanning the Bronx Kill and connecting pathway, will put nearly 10,000 Mott Haven residents within a 20-minute walk of the island, a



- Randall's Island Connector
- RFK/Triborough Bridge Walkway
- Mott Haven
- Mott Haven NYCHA Developments
- Mott Haven Parks
- Randall's Island

destination that offers tremendous natural and recreational resources. Randall's Island is a stone's throw away from the South Bronx, and the Connector will offer Mott Haven residents a chance to approach the waterfront that they are currently disconnected from.



Looking at Mott Haven from Randall's Island, only a stone's throw across the Bronx Kill.

### GETTING PEOPLE THERE

Despite its many amenities, and the direct access provided by the Connector, it will be a lengthy walk to Randall's Island for many Mott Haven residents. Getting to the Connector will require travel through an active industrial area and across busy truck routes. Wayfinding signs, bike lanes, and streetscape amenities such as lights, benches, and pedestrian crossing signals must help safely guide residents to Randall's Island Park. The coordination of traffic calming measures, signage, lighted

pathways, and amenities will require the active coordination of a number of City and State agencies. The promotion of the Randall's Island Connector as a destination for South Bronx residents is a potential initiative for the Bronx Borough President's Office, working in conjunction with local business leaders and neighborhood economic development organizations.

## Explore Creative Ways to Provide Waterfront Open Spaces

Mott Haven is situated on a peninsula at the southern tip of the South Bronx. The Harlem River, Bronx Kill, and East River are all a short walk from the heart of the neighborhood, yet there are currently no opportunities for public access to the water. Industrial sites ring the peninsula, creating a wall between residents and the water.

For many years, community residents and organizations, including the Harlem River Working Group, Sustainable South Bronx, and South Bronx Unite, have been advocating for access to the waterfront. With the help of partners like the Pratt Institute, the Trust for Public Land, the Metropolitan Waterfront Alliance, New Yorkers for Parks, and the Bronx Museum, advocates have developed proposals for specific sites, including the terminus of Lincoln Avenue at the Harlem River and the intersection of Locust Avenue and 134th

Street at the East River. A 2009 rezoning of the Lower Concourse included the creation of a Special Harlem River Waterfront District, which provides the groundwork for a future public walkway along the waterfront and new park. And in nearby Hunts Point, a group of local and government partners created and are implementing a detailed plan for a 10-mile South Bronx Greenway connecting residents to neighborhood parks and points along the waterfront.

Bronx Borough President Ruben Diaz, Jr. recently gave critical support for enriching the South Bronx's connections to the waterfront. In his 2014 State of the Borough speech, Diaz endorsed efforts to expand and strengthen waterfront accessibility throughout the Bronx.<sup>22</sup> Developing any one of these potential waterfront connections comes with a set of practical challenges, but with the right balance of collaboration between advocates, planners, and the government, each is attainable.



# Appendix A: Open Space Index Data Collection

NY4P’s development of the Open Space Index began with an extensive survey of open space policies and metrics used in other cities. While many of these standards do not work for New York City’s unique population density and geographic constraints, they provided thoughtful groundwork for developing OSI targets. NY4P also drew upon existing New York City open space and sustainability goals, such as those laid out in PlaNYC, and recommendations by experts in relevant fields such as urban planning and environmental advocacy. NY4P conducted a pilot study of the Lower East Side of Manhattan in the spring of 2009, which helped to refine the Open Space Index and was the basis of our first published Open Space Index Report in 2010.

## PLAYGROUNDS

*Places for play, containing equipment such as swings, structures for climbing, water features, sand boxes and other play features*

### Data Collection

Collecting data on playgrounds requires surveying neighborhood parks on foot. Surveyors visit all parks and playgrounds in the study area to identify play equipment. The Open Space Index defines a playground

as a portion of a park consisting of play equipment, such as swings and structures for climbing. A playground is defined as the maximally bounded area that contains play features. Sometimes this will be a stand-alone property; other times, there will be several playgrounds within a larger park. Most New York City public playgrounds are operated by the Parks Department. We also include in our calculation PlaNYC Schoolyard-to-Playground sites, and private schoolyards with explicitly stated hours of public accessibility.

## ATHLETIC FIELDS

*Soccer, football, cricket, baseball, and hockey fields, as well as ice rinks*

### Data Collection

Surveyors visit all parks in the study area to confirm the number and types of fields available. When fields overlap one another, surveyors count the maximum number of fields that can be used simultaneously. For instance, if two baseball fields are drawn atop a soccer field, the area will be counted as two fields.

## COURTS

*Basketball, handball, volleyball, tennis and bocce courts*

### Data Collection

Collecting data on courts also requires surveying neighborhood parks on foot. Surveyors visit all parks in the study area to confirm the number and types of courts available. All tennis, basketball, volleyball, handball and bocce courts are counted toward this total. When half-basketball courts are identified, they are counted as ½ of a court.

### Court and Field Dimensions

Type	Square footage
Baseball Field (Standard)	70,650 <sup>23</sup>
Baseball Field (Little League)	25,447 <sup>24</sup>
Basketball Court	4,200 <sup>25</sup>
Bocce Court	No fixed size, measure bocce court with a measuring wheel <sup>26</sup>
Cricket Pitch & Field	No fixed size, measure cricket fields with a measuring wheel
Football Field	57,600 <sup>27</sup>
Golf Course	No fixed size, contact course manager or use the Parks Department website
Handball Court	680 <sup>28</sup>
Hockey Rink	17,000 <sup>29</sup>
Running Track	No fixed size, measure tracks with a measuring wheel
Pool	a) Long-Course 12,300 <sup>30</sup>
	b) Short-Course 4,505 <sup>31</sup>
	c) Diving Pool 4,500 <sup>32</sup>
Soccer Field (standard)	54,000 <sup>33</sup>
Soccer Field (small)	27,000 <sup>34</sup>
Tennis Court	2,106 <sup>35</sup>
Volleyball Court	1,800 <sup>36</sup>

## RECREATION CENTERS

*Indoor recreation facilities and other indoor facilities operated by the Parks Department, and those with public access comparable to those operated by the Parks Department*

### Data Collection

Data on recreation centers comes from a variety of sources. The Parks Department lists its recreation center locations on its website. Surveyors also identify community centers run by non-profits and other agencies through field work and in consultation with local officials. If these sites offer recreational opportunities, are publicly-accessible, and maintain a fee structure comparable to Parks Department recreation centers, they are included in the neighborhood's recreation center count.<sup>37</sup>

## ACTIVE OPEN SPACE

*Total acreage of playgrounds, fields, courts, pools, golf courses, greenways, bikeways and recreation centers, plus unprogrammed active open space*

### Data Collection

Calculating a neighborhood's active open space acreage requires measuring the playgrounds, courts, fields, swimming pools, golf courses, greenways, bikeways and recreation centers. Surveyors employ a variety of methods to obtain this data. Most courts, fields and pools follow national size standards (listed on page 27);

however, occasionally these elements are not standard size. When a court, field or pool is shaped irregularly, surveyors use a measuring wheel to obtain the dimensions. A measuring wheel must also be used to calculate the size of playgrounds. In the case of greenways, bikeways, golf courses and recreation centers, the Parks Department can often provide data on acreage. However, when a measurement is not available, these features are measured manually as well.

## COMMUNITY GARDENS

*All GreenThumb gardens and other gardens that provide a clear mechanism for public involvement and access*

### Data Collection

New York City's community gardens are owned and operated by a variety of entities including the Parks Department, the Trust for Public Land, New York Restoration Project, and others. NY4P obtains community garden data from the Parks Department and GrowNYC. Surveyors, led by NY4P staff, visit each garden to confirm the data. Surveyors also identify community gardens through on-the-ground fieldwork and confirm potential public gardens with data from OASIS ([www.oasisnyc.net](http://www.oasisnyc.net)) and PLUTO maps.

## PASSIVE OPEN SPACE

*Total acreage of lawns, esplanades, plazas, beaches, natural areas and planted areas, plus community gardens*

### Data Collection

Passive open space acreage is calculated using a number of sources and methods. Maps obtained from the Parks Department and other City agencies, NYC Audubon Society, and other sources provide data on parks, beaches, community gardens and natural areas. NY4P staff uses GIS (Geographic Information Systems) mapping software to calculate the acreage of community gardens, natural areas, beaches and parks. For large parks that are primarily passive but contain some active recreation, NY4P subtracts the active space acreage from the total park acreage to obtain the passive open space acreage. For neighborhood parks that tend to be occupied primarily by active open space, NY4P calculates the passive acreage by measuring lawns, esplanades, planted areas and other passive spaces within parks using a measuring wheel. Often these spaces are permeable, and the measurements can also be used for the permeable surfaces element of the OSI. Information on privately owned public plazas developed through the City's incentive zoning program is obtained from the Department of City Planning's website.<sup>38</sup> The locations of the Department of Transportation's Plaza Program are obtained from its website.<sup>39</sup>

## TOTAL OPEN SPACE

*The aggregate acreage of all neighborhood open spaces*

### Data Collection

This number combines all active and passive open spaces, as previously calculated.

## ACCESS AND DISTANCE TO PARKS

*Walking distance to pocket, neighborhood and large parks*

### Data Collection

To create a measurement of park accessibility that takes into account how people move through the neighborhood, we measured the walking distance along pedestrian routes from park entrances using GIS software. Using data collected from fieldwork and publicly available datasets for parks, sidewalks, and census blocks, we first created a weighted map layer that privileges travel along sidewalks over other surfaces. Next we calculated distances of either ¼-mile from pocket and neighborhood parks or ½-mile from large park entrances, which presented the total area covered by the OSI park accessibility standards. Finally, we overlaid 2010 US Census population data for each census block data to calculate the population residing within that area. Where census blocks fell only partially within the area, we determined the percentage covered and assumed an equal distribution of population within the block to arrive at our figures.

### **URBAN TREE CANOPY (UTC)**

*Neighborhood-level tree canopy capacity estimates from the U.S. Forest Service*

#### **Data Collection**

The Open Space Index uses the potential neighborhood-level tree canopy coverage estimate published in the U.S. Forest Service's 2006 study, *A Report on New York City's Present and Possible Urban Tree Canopy*, as each neighborhood's target. Using GIS data and aerial photography, the Forest Service calculated New York City's existing Urban Tree Canopy (UTC) at 24%. By identifying all land not covered by water, roads or buildings as possible planting locations, the study estimated that New York City's UTC could be expanded to 42%.<sup>40</sup>

### **PERMEABLE SURFACING**

*Land that can absorb water, including tree pits, natural areas, planted green areas, community gardens, natural grass fields, artificial turf fields, and other porous surfaces within parks*

#### **Data Collection**

NY4P collects permeable surfacing data by surveying neighborhood parks and publicly accessible open spaces on foot and identifying all tree pits, natural areas, planted green areas, community gardens, natural grass fields and

artificial turf fields within the survey area's parks and open spaces.<sup>41</sup> In parks that are primarily concrete, we measure each individual permeable space with a measuring wheel. In parks with large swaths of natural surfacing, it is more efficient to measure the impermeable surfaces and subtract them from the park's overall acreage to find the permeable surfacing acreage for that park.

### **PARK MAINTENANCE**

*The Parks Department Park Inspection Program (PIP) ratings for cleanliness and overall maintenance*

#### **Data Collection**

To calculate park maintenance results, the Open Space Index uses the "cleanliness" and "overall maintenance" ratings from the Parks Department's Park Inspection Program (PIP) for all parks within the survey area over the last three years. The PIP results are listed on each park's page on the the Parks Department website. The "cleanliness" rating is based on the presence of litter, glass, graffiti, weeds and ice. The "overall maintenance" rating assesses: litter, glass, graffiti, weeds, ice, benches, fences, paved surfaces, play equipment, safety surface, sidewalks, athletic fields, horticultural areas, lawns, trails, trees, and water bodies.

For both categories, NY4P calculates a neighborhood's result by adding the number of park inspections that rated acceptable and dividing that number by the total number of inspections for area parks over the last three years. The OSI standards correspond to the NYC Mayor's Management Report park performance targets.

# Appendix B: NYCHA Use Observations Methods & Results

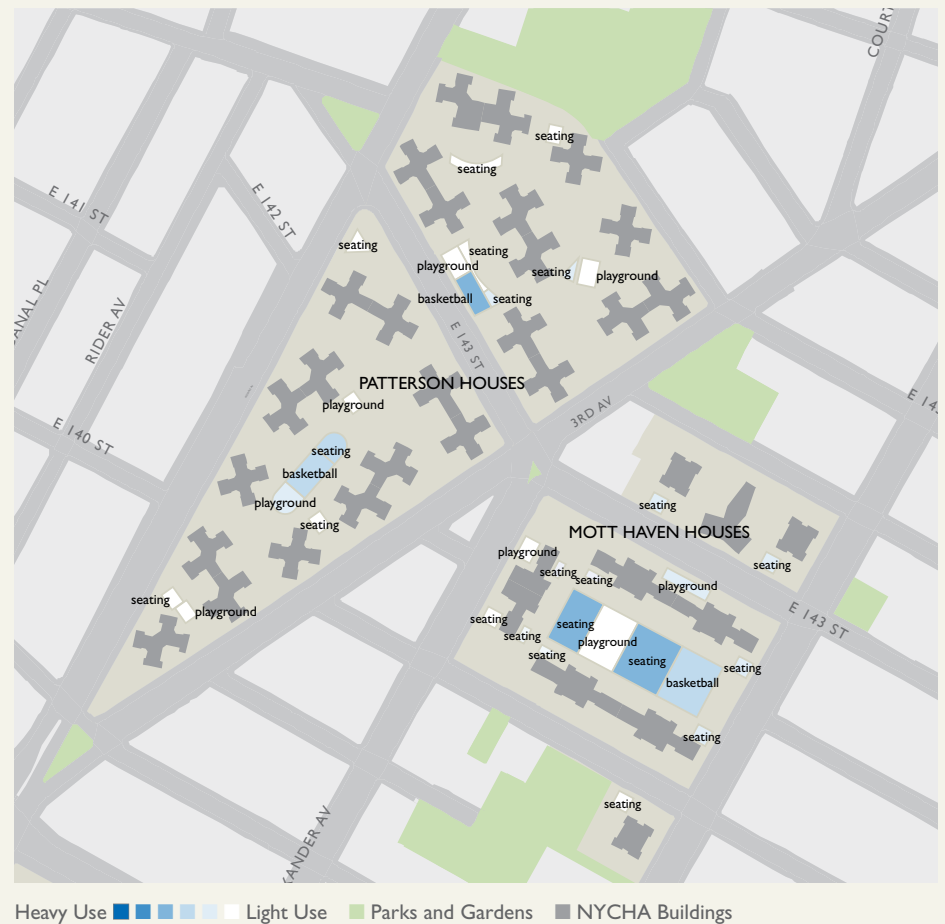
*SOPARC: System for Observing Play and Recreation in Communities*, created by Thomas L. McKenzie, Ph.D., Deborah A. Cohen, MD, MPH, is a systematized observation method that allows researchers to determine the distribution and intensity of physical activity across park space. NY4P surveyors used a modified version of the SOPARC method to 1) divide the Parks Department and NYCHA open spaces into discrete activity areas, and 2) record characteristics of park users and the activities in which they were engaged within each park zone.

The purpose of this method in the context of the Mott Haven Open Space Index study was to determine the distribution of open space use across different types of space and times of day; surveyors noted the number of people engaged in an activity, listing age and gender (with the option for unknown), recording observations of use for each target area within a park or NYCHA property. If more than one activity was taking place in a single target area, surveyors noted all activities.

The observation portion of our open space study took place after the collection of physical open space measurements for the calculation of Index targets, which allowed surveyors to become familiar with each space. Surveyors spent an additional day informally observing the use of each park or NYCHA campus before parsing the property into use zones, following SOPARC mapping strategies.<sup>42</sup>

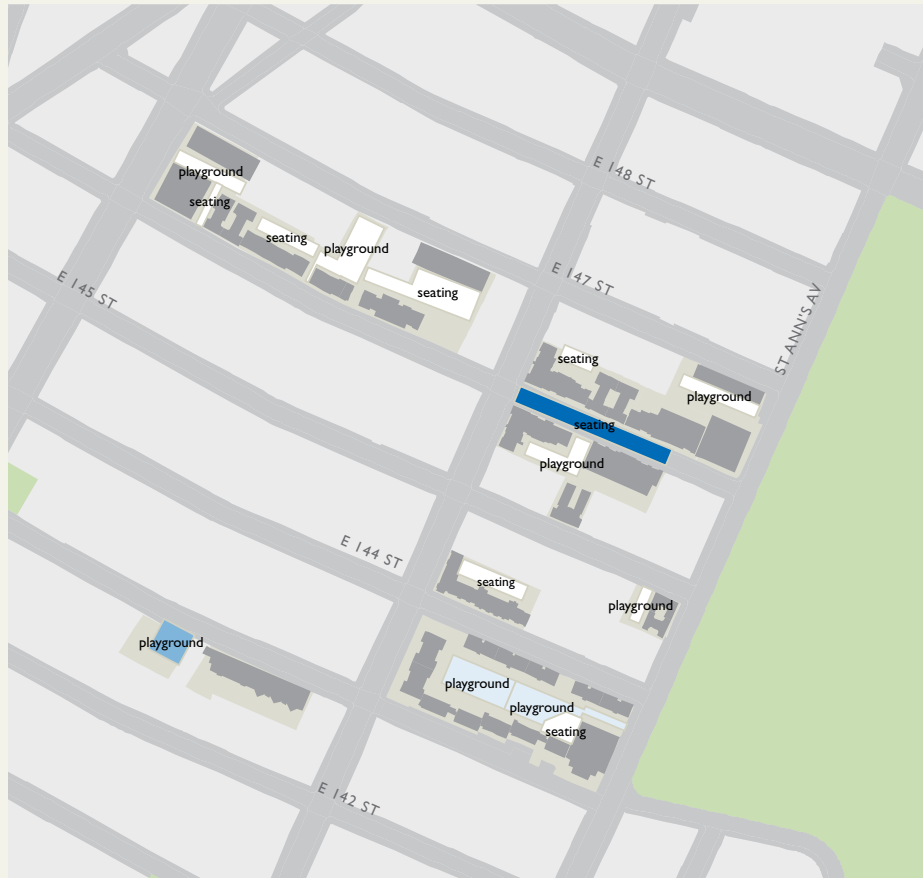
Surveyors visited parks and NYCHA campuses on two weekdays and one weekend day, three times per day (morning 9-11am, lunchtime 11am-2pm, and afternoon 2-5pm), for a total of nine observation periods in each property. We entered observation data for each unique observation period. To better understand the distribution of use across types of spaces (e.g. seating areas, playgrounds, basketball courts), we aggregated the observations across all time periods. The use diagrams that follow the aggregated volume of use in the five NYCHA developments within our study area.

**PATTERSON AND MOTT HAVEN HOUSES**



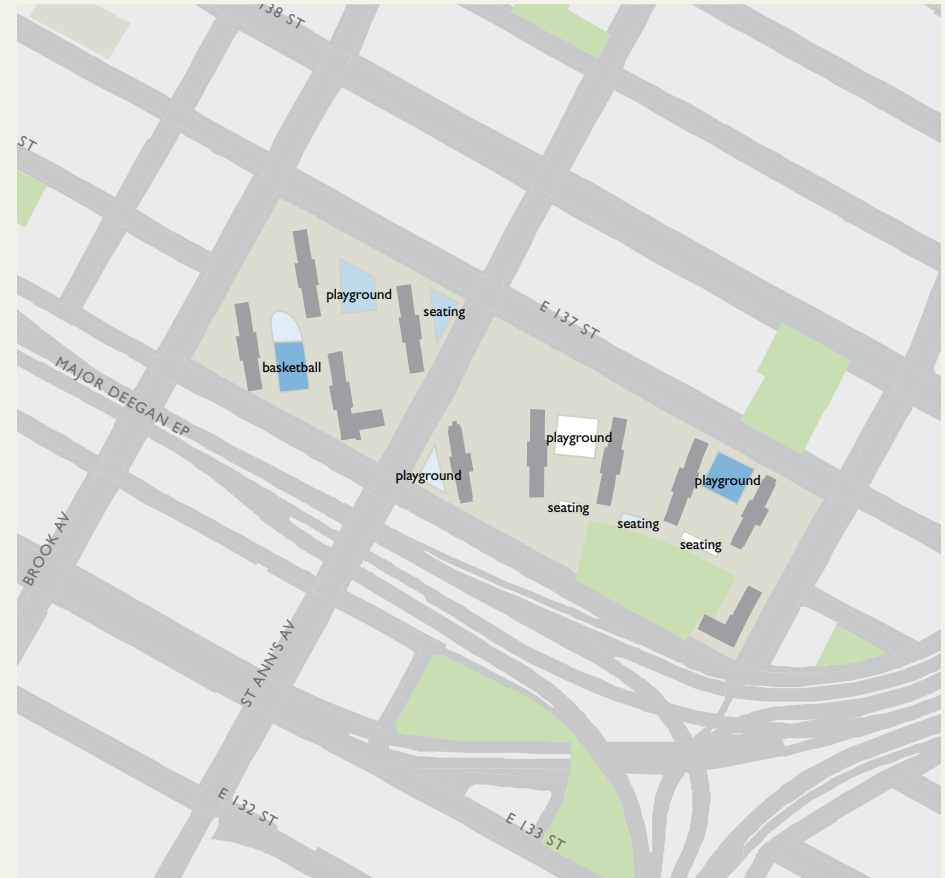


### BETANCES HOUSES



Heavy Use ■■■ Light Use ■■■ Parks and Gardens ■■ NYCHA Buildings ■■

### MILLBROOK HOUSES



Heavy Use ■■■ Light Use ■■■ Parks and Gardens ■■ NYCHA Buildings ■■

## MITCHEL HOUSES



Heavy Use ■ ■ ■ ■ ■ Light Use ■ ■ ■ ■ ■ Parks and Gardens ■ ■ ■ ■ ■ NYCHA Buildings ■ ■ ■ ■ ■

# Appendix C: Mott Haven Parks

## POCKET PARKS (UNDER 1 ACRE)

Alexander's Alley  
 Brook Park  
 Bruckner Mott Haven Garden  
 Clark Playground  
 Padre Plaza Success Garden  
 Ranaqua Park  
 Saw Mill Playground  
 St. Luke's Park  
 Sunflower Garden  
 United We Stand Garden  
 Wanaqua Garden  
 Willis Avenue Community Garden

## NEIGHBORHOOD PARKS (1 TO 20 ACRES)

Lozada Playground  
 Millbrook Playground  
 Patterson Playground  
 People's Park  
 Playground 134  
 Pulaski Park  
 Willis Playground

## LARGE PARK (MORE THAN 20 ACRES)

St. Mary's Park

## OPEN SPACE INDEX RESULTS

Amenity	Quantity	Current Condition	Open Space Index Standard	Meets Standard?
Active Open Space (acres)	14.92	0.32 per 1,000 residents	1 per 1,000 residents	No
Playgrounds	12	1.06 per 1,250 children	1 per 1,250 children	Yes
Athletic Fields	10	2.16 per 10,000 residents	1.5 per 10,000 residents	Yes
Courts	54.5	11.76 per 10,000 residents	5 per 10,000 residents	Yes
Recreation Centers	2	0.86 per 20,000 residents	1 per 20,000 residents	No
Community Gardens	8	1.73 per 10,000 residents	1 per 10,000 residents	Yes
Passive Open Space (acres)	37.01	0.8 per 1,000 residents	1.5 per 1,000 residents	No
Total Open Space (acres)	51.01	1.1 per 1,000 residents	2.5 per 1,000 residents	No
Pocket Parks (population)	31,304	68% within a 5-minute walk	100% within a 5-minute walk	No
Neighborhood Parks (people)	31,440	68% within a 5-minute walk	100% within a 5-minute walk	No
Large Parks (people)	23,267	50% within a 10-minute walk	100% within a 10-minute walk	No
Meets All Accessibility Standards (people)	11,472	25% within walking distance	100% within walking distance	No
Tree canopy coverage	—	11% actual canopy coverage	45% possible canopy coverage	No
Permeable Surface of all parks (acres)	30.72	60% open space permeable	70% open space permeable	No
Permeable Surface w/o St. Mary's (acres)	4.14	26% open space permeable	70% open space permeable	—
Parks rated "Acceptable" Overall	—	71% "acceptable"	85% "acceptable"	No
Parks rated "Acceptable" on Cleanliness	—	80% "acceptable"	90% "acceptable"	No

# Endnotes

- 1 See *Toward an Age-Friendly New York City: A Findings Report*, The New York Academy of Medicine, <http://www.nyam.org/news/docs/AgeFriendly.pdf>
- 2 By identifying all land not covered by water, roads or buildings as possible planting locations, the study estimated that New York City's UTC could be expanded to 42%. The 2006 report finds that all 188 New York City neighborhoods have the potential to increase their tree canopy coverage. In light of these findings, the City initiated MillionTreesNYC, which is facilitating the planting of one million trees with the ultimate goal of achieving 30% citywide tree canopy coverage by 2030. Grove, J. M., O'Neil-Dunne, J., Pelletier, K., Nowak, D., and Walton, J. (2006). *A Report on New York City's Present and Possible Urban Tree Canopy*. [http://nrs.fs.fed.us/nyc/local-resources/downloads/Grove\\_UTC\\_NYC\\_FINAL.pdf](http://nrs.fs.fed.us/nyc/local-resources/downloads/Grove_UTC_NYC_FINAL.pdf)
- 3 When rainwater flows off paved surfaces, it picks up contaminants that are then carried through the city's over-taxed wastewater treatment process. But when the runoff encounters a natural surface, the soil and vegetation filter out some of the pollutants. Permeable surfacing can also reduce the volume of stormwater runoff as soil absorbs some moisture. Most importantly, soil and vegetation slow the speed of the runoff by providing a physical barrier.
- 4 The full set of 17 factors includes: litter, glass, graffiti, weeds, ice, benches, fences, paved surfaces, play equipment, safety surfaces, sidewalks, athletic fields, horticultural areas, lawns, trails, trees, and water bodies.
- 5 2010 U.S. Census
- 6 Ibid.
- 7 Ibid.
- 8 From the GreenThumb Gardener's Handbook: "Open Hours: A minimum of 20 hours per week (10 which must posted) a garden's gates must be open April 1st through October 31st." [http://www.greenthumbnyc.org/pdf/gardeners\\_handbook.pdf](http://www.greenthumbnyc.org/pdf/gardeners_handbook.pdf)
- 9 <http://crashstat.org/sites/default/files/dangerous/Top%20Ten%20Intersections%20by%20Crash%20Type%20and%20Boro.pdf>
- 10 <http://www.streetsblog.org/2013/04/08/after-fatalities-mott-haven-residents-rally-for-safe-streets-fewer-trucks/>
- 11 <http://www.ny4p.org/research/osi/LES.pdf>
- 12 <http://activelivingresearch.org/node/10654>
- 13 For a discussion, see William H. Whyte, *City: Rediscovering the Center*, New York: Doubleday, 1988.
- 14 Deborah Cohen, Terry Marsh, Stephanie Williamson, Kathryn Pitkin Derose, Homero Martinez, Claude Setodji, and Thom McKenzie, "Parks and Physical Activity: Why are Some Parks Used More Than Others?" *Preventative Medicine* 50.1 (2010): S9-S12.
- 15 Deborah A. Cohen, Bing Han, Kathryn Pitkin Derose, Stephanie Williamson, Terry Marsh, Jodi Rudick, and Thomas McKenzie, "Neighborhood Poverty, Park Use, and Park-Based Physical Activity in a Southern California City," *Social Science & Medicine* 75.12 (2012): 2317-2325.
- 16 Part of President Lynden B. Johnson's Great Society, the Demonstration Cities and Metropolitan Redevelopment Act of 1966 provided grants and technical assistance from the Department of Housing and Urban Development to communities nationwide. These cities planned and developed individual programs to rebuild "blighted" or "slum" neighborhoods. <http://digitalcollections.baylor.edu/cdm/ref/collection/cs-vert/id/6309>.
- 17 <http://www.human-dimensions.org/storage/article-pdfs/4.pdf>
- 18 An Americorps-sponsored green jobs training program for young adult NYCHA residents. <http://www.greencityforce.org/>.
- 19 The *2010 NYC Green Infrastructure Plan*, a document by the NYC Department of Environmental Protection, which sets goals for improving water quality in city waterways, includes a goal to control 10% of the runoff from impervious surfaces citywide. The plan identifies target areas around NYC watersheds, including the Bronx River. [http://www.nyc.gov/html/dep/pdf/green\\_infrastructure/NYCGreenInfrastructurePlan\\_LowRes.pdf](http://www.nyc.gov/html/dep/pdf/green_infrastructure/NYCGreenInfrastructurePlan_LowRes.pdf)
- 20 *High Performance Landscape Guidelines: 21st Century Parks for NYC*, a document by the Design Trust for Public Space and the NYC Department of Parks & Recreation.
- 21 The construction of the connector is a success for the multiple agencies and community organizations that coordinated to bring about the agreement, including The Point CDC, Sustainable South Bronx, the Parks Department, the Randall's Island Park Alliance, NYC DOT, EDC, and elected representatives.
- 22 Ruben Diaz, Jr., Bronx Borough President. "State of the Borough Address." Speech, The Bronx, NY, February 20, 2014. <http://bronxboropres.nyc.gov/pdf/2014-bronx-bp-ruben-diaz-jr-sotb.pdf>.
- 23 Outfield and foul ground sizes vary. See Grady L. Miller, "Baseball Field Layout and Construction," Environmental Horticulture Department, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL, Publication date: June 2001, Revised: July 2001. <http://ufdc.ufl.edu/IR00001736/00001>
- 24 Ibid.
- 25 See [http://en.wikipedia.org/wiki/Basketball\\_court](http://en.wikipedia.org/wiki/Basketball_court)
- 26 See <http://www.sportsknowhow.com/bocce/dimensions/bocce-court-dimensions.html>
- 27 <http://sportsknowhow.com/football/field-dimensions/high-school-football-field-dimensions.html>
- 28 United States Handball Association. <http://ushandball.org/courts2.html>
- 29 Sports-Know-How. <http://www.sportsknowhow.com/hockey/dimensions/hockey-rink-dimensions.html>
- 30 For NCAA Standards for Swimming and Diving Pools, see the Recreonics website. [http://www.recreonics.com/fyi/ncaa\\_standards.htm](http://www.recreonics.com/fyi/ncaa_standards.htm)
- 31 Ibid.
- 32 Ibid.
- 33 See the Sports-Know-How website. <http://www.sportsknowhow.com/soccer/dimensions/soccer-dimensions.html>
- 34 Ibid.
- 35 See the Sports-Know-How website. <http://www.sportsknowhow.com/tennis/dimensions/tennis-court-dimensions.html>
- 36 See the Sports-Know-How website. <http://www.sportsknowhow.com/volleyball/dimensions/volleyball-court-dimensions.html>
- 37 DPR recreation center membership and fees: <http://www.nycgovparks.org/programs/recreation-centers/membership>
- 38 New York City Department of City Planning. <http://www.nyc.gov/html/dcp/html/priv/priv.shtml>
- 39 New York City Department of Transportation. <http://www.nyc.gov/html/dot/html/sidewalks/publicplaza.shtml>
- 40 J. Morgan Grove, Jarlath O'Neil-Dunne, Keith Pelletier, David Nowak, Jeff Walkton. "A Report on New York City's Present and Possible Urban Tree Canopy," Table 6: Existing, Possible, and Relative UTC by Neighborhood, p 20, July 2006. [http://www.nrs.fs.fed.us/nyc/local-resources/downloads/Grove\\_UTC\\_NYC\\_FINAL.pdf](http://www.nrs.fs.fed.us/nyc/local-resources/downloads/Grove_UTC_NYC_FINAL.pdf)
- 41 The Open Space Index does not separate out artificial turf fields into a unique permeability category because of the variety of turf systems used in city parks and the lack of public research on turf permeability.
- 42 See [http://activelivingresearch.org/files/SOPARC-SOPLAY\\_MappingStrategies.pdf](http://activelivingresearch.org/files/SOPARC-SOPLAY_MappingStrategies.pdf).



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*New Yorkers for Parks is the citywide independent organization championing quality parks and open spaces for all New Yorkers in all neighborhoods.*

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