

Fordham University **Fordham Research Commons**

Student Theses 2015-Present

Environmental Studies

Spring 2022

Locked Inside: The Importance of New York City's Parks in the Wake of COVID-19

Ellena Dickerson edickerson3@fordham.edu

Follow this and additional works at: https://research.library.fordham.edu/environ_2015



Part of the Environmental Studies Commons

Recommended Citation

Dickerson, Ellena, "Locked Inside: The Importance of New York City's Parks in the Wake of COVID-19" (2022). Student Theses 2015-Present. 129.

https://research.library.fordham.edu/environ_2015/129

This is brought to you for free and open access by the Environmental Studies at Fordham Research Commons. It has been accepted for inclusion in Student Theses 2015-Present by an authorized administrator of Fordham Research Commons. For more information, please contact considine@fordham.edu, bkilee@fordham.edu.

Locked Inside: The Importance of New York City's Parks in the Wake of COVID-19
Ellena Dickerson
in partial fulfillment of the requirements for the Degree of Bachelor of Arts in the Fordham University Environmental Studies Department, Fordham University Urban Studies Department, and Fordham University Honors Program at Rose Hill
Spring 2022
Spring 2022

Abstract

This paper investigates the role of green space in combating the negative impacts of the COVID-19 lockdown on New Yorkers. Access to the outdoors is vital for ensuring the mental, physical, and emotional well-being of individuals at all times, but especially in times of communal crisis. Chapter 1 investigates park usage during the height of the COVID-19 pandemic, from changes in the numbers of people patronizing their local parks, to the implications the pandemic had on park maintenance. Chapter 2 discusses Nature Deficit Disorder and the benefits of time spent outdoors to understand the vital role parks have in individuals' mental and physical health. Chapter 3 analyzes the history of parks in New York City and how New Yorkers have historically engaged with their green spaces. Chapter 4 analyzes the politics behind parks funding in New York City and the inequities caused by funding discrepancies across the city. Chapter 5 builds upon the first four chapters to detail public policy recommendations which would allow New Yorkers easier access to well-maintained and equitable outdoors spaces; spaces vital to the success of both individuals and communities alike. The Bronx is Blooming, a Bronx-based environmental nonprofit organization at which I have worked with for the past year is used as a case-study in Chapter 4.

Keywords: green space, Covid-19, New York City, nature deficit disorder, urban parks, parks, environmental equity

Table of contents

Introduction: Locked inside

Chapter 1. Parks and the Pandemic

Chapter 2. Nature is Nurture

Chapter 3. NYC Parks History: The Value of Gathering Space

Chapter 4. Parks as Political Battlegrounds

Chapter 5. Re-evaluating the Importance of Green Infrastructure in the Wake of the Covid-19

Bibliography

Introduction: Locked Inside

I have never felt so lucky to go home to the middle of nowhere Texas than I did in the spring of 2020. As Fordham, like many other universities, made the switch from in-person instruction to online learning, students were suddenly given an intimate glimpse into each other's lives. I began online learning thinking that this would be embarrassing; I worried my peers might think it odd to see cows on their computer screen for a class that was supposed to be held in the Bronx. My hometown is so rural that it made more sense for me to login to classes outside, on the edge of our cows' grazing pasture, where I could get the strongest signal. This definitely was out of the norm, and I quickly realized how lucky I was to be calling in from a ranching town.

When lock down orders were instated my friends and classmates obviously struggled. Being locked inside, during a period of such grief and uncertainty, only added to people's anxieties. Health officials across the country urged Americans to venture into the outdoors to help regulate stress levels and remain active, but what it meant to step outside meant drastically different things depending on where people lived. Those living in suburban areas could take walks around their neighborhoods or drive to local parks while still feeling safe. I was able to spend as much time outside as I wished, as the only opportunity for me to encounter a stranger was to drive fifteen miles to the closest town. Urban dwellers, however, had few options.

In geographic regions as small as the Bronx, outdoor access varied block by block.

Residents of the North Bronx' wealthy communities, like Riverdale, could spend time walking around their neighborhoods or sitting in their backyards. For residents of the South Bronx, however, spending time outside presented unique challenges; you don't have to write an entire thesis to understand that outdoor leisure time spent walking on concrete blocks is a different experience from a nature trail. Furthermore, South Bronx residents would need to take public

transit to get to nature trails or public green spaces, a health risk many were understandably not willing to take when New York City was the epicenter of the United States' COVID-19 outbreak.

I understand the sentiment behind the goal for New York City to return to how life was before the pandemic, but I believe this goal is misguided. The idea that we should strive to return to how our lives were before March 2020 is a missed opportunity to use this awful period for positive change. With this in mind, it is imperative that we re-evaluate how green spaces, especially in New York City, are prioritized post-pandemic. Our parks are not relics of a bygone era in New York City, they act as community gathering spaces in this present moment. Our children learn to run and play in public spaces. Our elderly spend their days communing with others from the safety of a park bench. Parks play a vital role in creating community resilience from an emotional, physical, and community perspective.

With this in mind, this thesis strives to prove that New York City's parks are more than a city budget line. Chapter 1 highlights the importance of green space to people weathering the stresses of the pandemic and lockdown orders. Chapter 2 builds upon the first chapter to understand the value of green space access outside of the context of the pandemic. Chapter 3 delves into the history of New York City's parks, analyzing how their role has changed over time. Chapter 4 investigates the political nature of green space access, looking at parks across the nation but with a focus on how New York City's parks are (under)funded. Last, Chapter 5 makes policy recommendations for increasing green space access and equity for New York City's residents.

Chapter 1: Parks and the Pandemic

As the COVID-19 pandemic ravaged the country throughout the spring and summer of 2020, healthcare inequities were just one of the many types that the pandemic exposed in the United States. During the weeks-long shelter in place orders that millions endured, the outdoors were the only source of solace for many. The green space which Americans stepped into, however, varied drastically across the country. Thus, it is imperative to analyze the takeaways the pandemic has provided about outdoor access and park usage. As such, this chapter will investigate the different ways people interacted with their national, state, and local parks, before homing in on New York City's parks and how they weathered the pandemic.

First, note how humans' interactions with nature fall into our understanding of ecosystem services. Ecosystem services, understood as any benefit ecosystems provide people, are broken into four over-arching sections: provisioning, regulating supporting, and cultural. All four relate with parks. Provisioning services relate to those which benefit humans' survival. Examples within public green spaces include fruits and vegetables grown in community gardens.

Regulating services ensure the normal functioning of local environments, like park trees improving air quality by absorbing pollutants and filtering carbon dioxide. Supporting services are those which aid the other three categories, such as providing a habitat for trees to grow and insects to pollinate. The last, and most prevalent in this paper, are cultural services; intangible benefits of the outdoors, like providing welcoming aesthetics and creating a communal gathering space. The pandemic's impact on park access and park quality highlights the cultural services parks provide to the people who use them.

The National Park Service reported a 28 percent decrease in park usage from 2019 to 2020. At the same time, however, the park service experienced record-breaking crowds and a significant number of first-time visitors; with fifteen federally run parks setting a visitor record in 2020 and an additional five breaking their 2019 visitor records. Many national parks experienced temporary closures because of pandemic-related public health risks, but also because of the impacts of the crowds which flocked to them. Santa Paula Canyon in Ventura, California has historically been a quiet desert destination. During 2020, however, the park exploded with people. Typically, new visitors and a full parking lot would be reason to celebrate, but the park became so littered with trash and damaged by vandalism that the park's administration was forced to close portions of Santa Paula Canyon's trails.

States which already had underfunded parks systems struggled exponentially. Texas' state parks have long been one of the state's top tourist attractions, with state parks seeing visitor numbers skyrocket in the last decade in particular. Between 2012 and 2017, Texas' parks experienced a twenty percent increase in visitor turn-out rates, with parks in the suburbs of Austin reporting twice as many visitors in 2017 than in 2012. Weekend visits to many of the parks were already difficult, with park rangers often turning hopeful visitors away by midmorning, but entry into the parks during the pandemic became even more of a challenge. As late as March of 2021 Texas Parks and Wildlife still required visitors to purchase timed tickets in

¹ "National Parks Hosted 237 Million Visitors in 2020," National Parks Service, February 25, 2021, accessed November 26, 2021, https://www.nps.gov/orgs/1207/02-25-21-national-parks-hosted-237-million-visitors-in-2020.htm)

² "National Parks Hosted 237 Million Visitors in 2020," National Parks Service, February 25, 2021

³ Andrew R. Chow, "In COVID-19 Pandemic, National Parks Are Getting Trashed," Time, July 22, 2020, accessed November 26, 2021, https://time.com/5869788/national-parks-covid-19/)

⁴ Joe Nick Patoski, "Is Texas' Overcrowded, Underfunded State Parks System Being Loved to Death?" The Texas Observer, August 02, 2019, accessed November 22, 2021, https://www.texasobserver.org/is-texas-overcrowded-underfunded-state-parks-system-being-loved-to-death/)

advance of their visits, as the parks did not have the capacity to accommodate the number of people turning out.⁵

A survey study conducted by the Natural Areas Conservancy, a New York City-based environmental interest non-profit, illustrates the pressure the pandemic put on parks and the organizations that care for them alike. The group surveyed eighteen of their partner organizations, spread across twelve American municipalities, who work in urban natural areas—defined as forests, wetlands, and grasslands that exist within a city's limits. My May of 2020 seventy-two percent of organizations claimed that their budget had been negatively impacted, and just seventeen percent of respondent organizations were confident that they would have the economic resources to continue their work through the following year. Despite being strapped for resources, eighty-three percent of organizations observed increased turnout rates to the urban natural areas they work in during the same period when these organizations were least able to care for these green spaces. Respondents from New York City noted that the city's urban trails were particularly busy during the height of the pandemic, but local parks groups struggled to provide routine maintenance in these areas.

Though parks departments and groups across the country have been honest about how the pandemic has strained their resources, the ongoing nature of COVID-19 means few quantitative studies have been released pertaining to urban park usage in the United States during the pandemic. However, research which has been released thus far seems to support the qualitative

⁵ "Texas State Parks Working to Return to Normal Capacity," TPWD, March 10, 2021, accessed November 22, 2021, https://tpwd.texas.gov/newsmedia/releases/?reg=20210310a)

⁶ C. Pregitzer et. al. "Impacts of COVID-19 on America's Urban Natural Areas: Full Report" (Report, New York City, 2020)

⁷ C. Pregitzer et. al. "Impacts of COVID-19 on America's Urban Natural Areas: Full Report"

⁸ Ibid.

claims made above. As such, research from the United States and abroad will be used to analyze how recreation habits changed during the pandemic.

A study on the popularity of google searches on the terms "go for a walk," "go shopping," and "eat out" in both English and German showed that after March 15, 2020, searches involving walking skyrocketed.⁹ By using Google Trends to track the popularity of these searches, researchers were able identify the fact that people became hyper-interested in outdoor activities on a day which coincided with many countries' lockdown and stay-at-home orders. Thus, creating a strong link between the onset of the pandemic and the necessity of accessible outdoor space.

A New Jersey based study further illuminates COVID recreation trends, serving as one of the only publications on how park usage varied in state park systems during the height of the pandemic. Volenec et. al. tracked Instagram geotag usage in New Jersey's state parks from 2017 through 2020 to determine that park usage increased with the onset of COVID-19. Turnout rates in the first month of the pandemic, in 2020, were markedly higher than turn-out rates for the same time period in previous years, even when controlling for Instagram becoming more popular over time and how inclement weather impacts park usage. Furthermore, "park visitation was 63.4 percent higher in the ~3.5 weeks following general COVID quarantine restrictions (before park closures [due to lockdown]) than in the preceding 3.5 weeks of 2020."

An English study which used "data collected by Google from location-enabled mobile devices" to investigate recreation patterns after the country's strict lockdown rules were lifted

⁹Fritz Kleinschroth and Ingo Kowarik, "COVID-19 Crisis Demonstrates the Urgent Need for Urban Greenspaces," *Frontiers in Ecology and the Environment* 18, no. 6 (August 3, 2020): pp. 318-319, https://doi.org/10.1002/fee.2230.

¹⁰ Zoe M. Volenec et al., "Public Parks and the Pandemic: How Park Usage Has Been Affected by COVID-19 Policies," Plos One 16, no. 5 (May 19, 2021): doi:10.1371/journal.pone.0251799)

¹¹ Ibid.

provides insight into how green spaces were heavily relied upon throughout the first wave of the pandemic. ¹² Note that while the study above tracked recreation habits within New Jersey state parks, this study tracked turn out rates to publicly accessible green spaces across England using an ORVal framework, thus treating "parks, gardens, playing fields, church yards, cemeteries, allotments, nature reserves, woodlands, wetlands, river and lakeside walks, beaches and the network of coastal and countryside paths" as green space. While the spike in outdoor recreation is typically connotated with the period between the start of the pandemic and strict say-at-home orders going into effect, this study found that people flocked to green spaces once again after restrictions were lifted, with car and on foot visits to these spaces, "resulting in levels of recreation visits that are some 27.5 percent above those expected under normal conditions." ¹³

Americans were often reminded by local, state, and national leaders that even in the height of the pandemic, time outside was necessary. During a period in which people were unable to go to the gym, out to eat, to work, to school, or to their houses of worship, parks provided an opportunity to get out of the house. People began to use their parks to their fullest extent, running on trails rather than gym treadmills and eating at picnic tables rather than restaurants.

New York City's parks are already a crucial asset to many residents, as balconies are rare and backyards scarce across the city. As such, urban parks take on the role of both personal and communal recreation spaces. Though some of the nation's biggest national parks, like Yellowstone and the Great Smoky Mountains, closed their gates for a time during the height of

¹² Brett H. Day, "The Value of Greenspace under Pandemic Lockdown," *Environmental and Resource Economics* 76, no. 4 (August 4, 2020): pp. 1161-1185, https://doi.org/10.1007/s10640-020-00489-y. ¹³ Day, "The Value of Greenspace under Pandemic Lockdown," *Environmental and Resource Economics*.

the pandemic, New York City kept its green spaces open. This does not, however, mean that all spaces under the jurisdiction of the Parks Department remained accessible.

On March 31, 2020 Mayor Bill de Blasio announced that he was closing ten of the city's thousand playgrounds due to social distancing concerns. ¹⁴ Just a day later, and probably influenced by the infamous personal feud amongst the former mayor and governor, Governor Andrew Cuomo closed *all* of New York City's playgrounds. ¹⁵ While playgrounds may not seem like a lot of park space, keep in mind that the Parks Department operates "more than 800 athletic fields and nearly 1,000 playgrounds, 1,800 basketball courts, 550 tennis courts, 65 public pools, 51 recreational facilities, 15 nature centers, 14 golf courses, and 14 miles of beaches," including the care of 600,000 street trees and two million park trees. ¹⁶ In short, the Parks Department is responsible for far more than just lawns. The closing of the city's thousand playgrounds meant that 1.1 million New Yorkers no longer lived within walking distance to a park. Much of these impacted residents live in high-density, low-income, neighborhoods of color. ¹⁷

The studies mentioned above illustrate the ways in which people with access to green space relied more heavily on outdoor recreation after the onset of the pandemic than in the months prior to it, highlighting a few important points about how playground closures impacted New Yorkers' ability to get outside. First, and most obviously, closing playgrounds, no matter the public health benefits to doing so, suddenly placed a barrier between 1.1 million citizens and

¹⁴ Shannan Ferry, " City Closes 10 Playgrounds Over Social Distancing Concerns," Spectrum News NY1, March 31, 2020, accessed November 14, 2021, https://www.ny1.com/nyc/all-

boroughs/coronavirus/2020/03/31/city-closes-10-playgrounds-over-social-distancing-concerns)

15 Valeria Ricciulli, "New York City Finally Closes Playgrounds Due to Coronavirus Pandemic."

¹⁵ Valeria Ricciulli, " New York City Finally Closes Playgrounds Due to Coronavirus Pandemic," Curbed NY, April 01, 2020, accessed November 19, 2021, https://ny.curbed.com/2020/4/1/21203101/nyc-coronavirus-playgrounds-close-covid-19)

¹⁶ "About the New York City Department of Parks & Recreation," NYC Parks, accessed April 8, 2022, https://www.nycgovparks.org/about.

¹⁷ Winnie Hu and Nate Schweber, "New York City Has 2,300 Parks. But Poor Neighborhoods Lose Out.," The New York Times, July 15, 2020, accessed November 17, 2021, https://www.nytimes.com/2020/07/15/nyregion/nyc-parks-access-governors-island.html)

a crucial coping mechanism for weathering the pandemic. Second, the fact that closing playgrounds cut so many people off from their public parks makes clear that New York City's park space is not synonymous with green space. Last, playground closures impacting working class communities of color most heavily points to the inequitable ways green space has been developed across New York City.

After the genesis of the pandemic, City Council promptly created legislation to close streets to vehicular traffic in favor of pedestrian use. By mid-May forty miles of streets (mainly in Manhattan) had been opened to pedestrians and bicyclists from 8 a.m. to 8 p.m.. ¹⁸ While resources were being invested in expanding green infrastructure elsewhere in the city, the Parks Department's budget was hit with budget cuts. In the year before the pandemic the Parks Department received \$540 million for its annual budget, but was cut by \$88 million because of COVID-19.

As such, the pandemic made New York City's rampant environmental racism near impossible to ignore. As will be further discussed in Chapter 2, parks are vital for human health. At a time when low-income communities of color were already experiencing higher COVID-19 mortality rates than their white neighbors, the fact that these communities no longer had access to things as simple as the outdoors added insult to injury. ¹⁹ Chapter 2 discusses the impacts of parks on individual human health, but parks also act as a public health asset through provisioning services, like providing air filtration and cooling temperatures in their neighborhoods.

¹⁸ Natalie Colarossi, "Photos Show How Cities Have Closed Streets to Cars so People Have Enough Space to Get outside during the Pandemic," Insider, May 15, 2020, accessed November 07, 2021, https://www.insider.com/cities-closed-streets-for-pedestrians-covid-lockdowns-2020-5)

¹⁹ "Risk for COVID-19 Infection, Hospitalization, and Death By Race/Ethnicity," Centers for Disease Control and Prevention, November 22, 2021, accessed November 24, 2021, https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-byrace-ethnicity.html)

Neighborhoods without green space, like those impacted by the playground closures, do not reap these benefits.

The 2015 New York City Health Department community health profile of Mott Haven and Melrose, two adjacent South Bronx neighborhoods, found that they have the highest rates of asthma related hospitalizations for children ages five to fourteen in New York City. For perspective, Borough Park, a wealthy Brooklyn community, had just six hospitalizations per 10,000 children while Mott Haven and Melrose have a troubling one-hundred twelve.²⁰ Countless studies conducted of majority-minority communities across the United States, however, raise questions about the responsibility of asthmatic persons to prevent an asthma attack. Mott Haven and Melrose's proximity to Hunts Point (the largest food distributorship on the world) and numerous solid waste transfer stations, in addition to numerous corporations' reliance on these neighbourhoods' roadways for trucking operations, raise questions about the ethicality of the pollution burden Mott Have and Melrose carry.²¹ In short, Melrose and Mott Haven are forced to deal with the consequences of pollution they are not responsible for creating.

The entirety of the Bronx is affected by a disproportionately high amount of PM2.5 in comparison with the rest of New York City, and Mott Haven and Melrose have some of the highest PM2.5 rates in the Bronx.²² PM2.5 is atmospheric particulate matter that is 2.5 micrometers or less in diameter. The particles are harmful to the young, old, and those with preexisting health conditions. This point is especially significant in Mott Haven and Melrose because 20.9 percent of the population reported being disabled in 2017, 23 percent of the

²⁰ K Hinterland, Naidoo M, King L, Lewin V, Myerson G, Noumbissi B, Woodward M, Gould LH, Gwynn RC, Barbot O, Bassett MT. Community Health Profiles 2018, Bronx Community District 1: Mott Haven and Melrose; 2018; 13(59):1-20. p. 2

^{21 &}quot; Transfer Stations - Solid Waste Management Facilities Map," State of New York, accessed November 9, 2021, https://data.ny.gov/Energy-Environment/Transfer-Stations-Solid-Waste-Management-Facilitie/avuu-s8z3)

²² Hinterland et. al. "Community Health Profiles." p. 5

community has no access to healthcare, and 17 percent of the population has gone without needed medical attention in the recent past.²³²⁴ These figures are sure to have risen with the pandemic.

With an understanding that "planting vegetation may mitigate the effects of climate change" and "an association between vegetation and lower mortality rates suggests it also might be used to improve health," greening efforts in Mott Haven, Melrose, and similar neighborhoods are vital public health efforts.²⁵ Yet, the city made drastic budget cuts to the Parks Department, responsible for street tree and green space maintenance.

The Parks Department's \$88 million budget cut was felt almost immediately. COVID-19 related budget cuts caused "40,000 lost hours of maintenance and 110,000 lost hours of horticultural care city wide." Major news outlets began reporting on the worsening state of the parks immediately. The first sentence of one New York Times article from the summer of 2020 reads that "in a playground in the Morrisania section of the Bronx on a recent afternoon, two parents kept their toddler strapped in her stroller, afraid she might pick up the hamburger wrappers, cigarettes or a hypodermic needle lying on the pavement." ²⁷

When other communities were able to get by with the help of private funding, South Bronx parks, which rely on city funding, were hit the hardest. These parks were most in need of an influx of funding as citizens relied more heavily on their green spaces. Instead, these

²³ Ibid.. 8

²⁴ "Mott Haven/Melrose Neighborhood Profile," NYU Furman Center, 2018, accessed December 9, 2020, https://furmancenter.org/neighborhoods/view/mott-haven-melrose)

²⁵ Peter James et al., " Exposure to Greenness and Mortality in a Nationwide Prospective Cohort Study of Women," *Environmental Health Perspectives* 124, no. 9 (April 14, 2016): accessed November 12, 2021, doi:10.1289/ehp.1510363)

²⁶ Report on Covid-19 Impact of Public Spaces, PDF, New York City: Parks and Open Space Partners, May 01, 2020)

²⁷ Sarah Maslin Nir, "Trash Piles Up in Parks, Just When New Yorkers Need Them the Most," The New York Times, August 27, 2020, accessed November 17, 2021, https://www.nytimes.com/2020/08/27/nyregion/nyc-parks-trash.html)

communities suffered the negative impacts of COVID-19, Parks Department budget cuts, and a lack of green infrastructure more heavily than the city's wealthy communities.

Chapter 2: Nature is Nurture

Richard Louv's groundbreaking work *Last Child in the Woods* regained national attention as COVID-19 ravaged the United States. Published in 2005, *Last Child in the Woods* posits that all people, but especially children, incur negative consequences when access to natural spaces is inhibited.²⁸ Louv compares his childhood with that of his children, explaining that outdoor play was a given for children of his generation, but not for those of proceeding ones. Children of the outdoors, he asserts, are a dying breed. While nature deficit disorder is not an affliction a child would ever receive a diagnosis for, health professionals of all kinds recognize the importance of outdoor time for children's emotional, mental, and physical well-being. Louv, however, was the first to tackle nature access as a predictor of health outcomes rather than factors associated with nature access.

Louv's book, and this chapter, seek to reimagine the ecosystem services traditionally discussed about humans and the environment. Ecosystem services are typically broken down into four umbrella categories: Regulating, Supporting, Provisioning, and Cultural. It is well understood that humans need clean air and fresh water (Regulating and Supporting) to survive, and that humans enjoy ecotourism and outdoor recreation (Cultural), but the cultural umbrella is underdeveloped. Need and enjoy are not synonymous. The importance of outdoor leisure should be considered more than just a fun activity for humans. Humans of all ages require accessible outdoor spaces and extended periods of time outside to foster their emotional, mental, and

²⁸ Richard Louv, Last Child in the Woods: Why Children Need Nature, How It Was Taken from Them, and How to Get It Back (Chapel Hill, NC: Algonquin Books of Chapel Hill, 2005)

physical capabilities. Using terms like recreation and ecotourism makes outdoor leisure seem like a luxury rather than a necessity. Additionally recreational and tourist experiences come with a price. The connotation that outdoor time must be earned is harmful. It plays into and supports the flawed idea that humans are separate from the environment while undermining how critical outdoor time is to human health.

Louv's writing is important for all children, but especially for those living in New York City. The vast majority of the city's children live in multi-family dwellings without backyards or even balconies. New York City's parks, in turn, serve the role that other children's backyards, greenbelts, and pastures do. Note that while Louv was the first to write a comprehensive work on the importance of the outdoors, the importance of parks to public health was written on for centuries prior. The push for parks



in New York City during the nineteenth century revolved around the argument that parks served as 'lungs' for urban areas. Though the argument was underdeveloped and not entirely accurate, city planners two-hundred years before Louy's publication had already recognized a link between park access and positive public health outcomes. As such, it is critical to analyze the emotional, mental, and physical benefits of park access for urban dwellers. Since Louv's writing focuses on the positive implications of time spent outdoors for adolescents, this analysis shall begin by building upon Louv's work.

A large body of research exists on the necessity of play in fostering children's social and critical-thinking skills. ²⁹³⁰ Research suggests that when play occurs outdoors, the benefits of play are heightened. ³¹ Indoor play often involves an unnecessary, and sometimes harmful, amount of parental control and supervision. When parents decide how their children should engage in play, creating carefully structured activities, they inhibit their children's decision making, imaginative, and critical thinking skills. When play occurs outdoors, however, parents provide supervision but significantly less structure to their children's play experiences. Unstructured play forces children to rely on their imagination and social skills to ensure they enjoy themselves. Though a large portion of New York City's five-thousand recreation spaces are playgrounds, which do much of the imagination work for children, adolescents must find novel ways to engage with their surroundings no matter what sort of Parks and Recreation facility they visit.

Nature as a play space provides beneficial risk to children. Outdoor play is more 'dangerous' than the sort of regulated environment that the indoors provides. While young people are more likely to sustain injury in parks than at home, there is value in the risk.³² This risk is twofold: social and physical. Children who play in parks encounter other children during their time there. As such, they work on their social skills through trial and error. Children are at risk of being embarrassed or having their feelings hurt by unknown people of their age. In turn, parents feel the need to shield their children from the potential humiliation of being kicked off

-

²⁹ Anthony D. Pellegrini, Danielle Dupuis, and Peter K. Smith, "Play in Evolution and Development," *Developmental Review* 27, no. 2 (June 2007): accessed November 21, 2021, doi:https://doi.org/10.1016/j.dr.2006.09.001)

³⁰ Anthony D. Pellegrini and Peter K. Smith, "The Development of Play During Childhood: Forms and Possible Functions," *Child and Adolescent Mental Health* 3, no. 2 (1998): accessed October 17, 2021, doi:10.1111/1475-3588.00212)

³¹ Gabriela Bento and Gisela Dias, "The Importance of Outdoor Play for Young Childrens Healthy Development," Porto Biomedical Journal 2, no. 5 (September 2017): doi: 10.1016/j.pbj.2017.03.003) ³² Peter H. Kahn and Stephen R. Kellert, *Children and Nature: Psychological, Sociocultural, and Evolutionary Investigations* (Cambridge, MA: MIT Press, 2002)

the monkey bars or out of the sandbox. While no one wants to see a child in emotional distress, exposing young people to these possible scenarios fosters social skills; creating more emotionally mature children who would rather invite and share than exclude others.³³

The second risk is physical. The beauty of park play is that children have the space to move their entire bodies however they please. It is important for children to understand their limitations, as a child limits outline sources of independence. Outdoor kindergartens proliferated in Scandinavia and Western Europe throughout the 1950's and 1960's after Ella Flatau, of Denmark, came up with the concept of forest kindergartens. In recent years they have gained traction across the United States, and in New York City, as a way for young children to learn to become stewards of their environments while also learning how to safely engage in risky play. Risk play creates confident children by teaching them to safely navigate their surroundings.

Furthermore, it is socially acceptable for children to run, jump, and roll around in parks. While this sort of play puts children at risk of physical injury, it fosters their gross motor skills while doing so.³⁶ Gross motor activities are those which involve the engagement of leg, core, and arm muscles. Note that many gross motor activities, like playing tag or hula-hooping, also count as physical activity. The National Association for Sport and Physical Education, the preeminent organization for physical education in the United States, asserts that early adolescents require an

_

³³ Claire McCarthy, "6 Reasons Children Need to Play outside," Harvard Health, October 27, 2020, accessed November 11, 2021, https://www.health.harvard.edu/blog/6-reasons-children-need-to-play-outside-2018052213880)

³⁴ Stanislav Michek, Zuzana Nováková, and Lucie Menclová, "Advantages and Disadvantages of Forest Kindergarten in Czech Republic," *Procedia - Social and Behavioral Sciences* 171 (2015): pp. 738-744, https://doi.org/10.1016/j.sbspro.2015.01.186.

³⁵"Upper Manhattan Forest Kids Upper Manhattan Forest Ki Upper Manhattan Forest Kids Upper Manhattan Forest Kids ds," Upper Manhattan Forest Kids, accessed November 22, 2021, https://www.uppermanhattanforestkids.com/)

³⁶ Dawn Podulka Coe, "Means of Optimizing Physical Activity in the Preschool Environment," *American Journal of Lifestyle Medicine* 14, no. 1 (2018): doi:10.1177/1559827618818419)

hour of structured physical activity and *at least* one hour of unstructured free play per day.³⁷ Despite this, the vast majority of preschoolers do not reach their daily activity needs.³⁸ While parents and educators seem well-versed in the necessity of physical activity, a mix of stranger-danger, fear of traffic, inaccessible play space, and the belief that play is a form of rest rather than a productive activity means that children play less than they should.³⁹

Just as the benefits of outdoor play have been studied in children, outdoor leisure and activity have been studied in adults. Research into the impact of nature exposure on adult health is limited in comparison to research into the impact of nature on children's health and occurs within a different framework. While research on adolescents is focused on providing benefits to adolescents, research on adults centers around illness reduction through nature exposure. For example, while adolescent research might investigate how outdoor play creates social resilience in children, adult research investigates how outdoor leisure can mitigate various illnesses.

Note that researchers define nature in many different ways when referring to how adults engage with the outdoors. Some argue that nature activity is relegated to the countryside where interaction with human-made objects is minimal. Others note that it is anthropocentric to argue that humans are separated from nature. Once a barrier exists between humanity and nature there exists an opportunity to place humanity above the rest of nature and break down the moral/ethical contract humans have with the Earth to maintain it. Anthropocentrism is one of the many reasons park access is limited in so many American cities. However, making the (valid)

³⁷ Jane E. Clark et al., *Active Start A Statement of Physical Activity Guidelines for Children Birth to Five Years* (Place of Publication Not Identified: Distributed by ERIC Clearinghouse, 2002)

³⁸ Dylan P. Cliff et al., "Relationships between Fundamental Movement Skills and Objectively Measured Physical Activity in Preschool Children," *Pediatric Exercise Science* 21, no. 4 (2009): doi:10.1123/pes.21.4.436)

³⁹Kellie Dowdell, Tonia Gray, and Karen Malone, "Nature and Its Influence on Children's Outdoor Play," *Journal of Outdoor and Environmental Education* 15, no. 2 (January 2011): doi:10.1007/bf03400925)

argument that humans are a part of the environment and so all human activity occurs in nature makes a conversation about the importance of outdoor activity inaccessible to individuals not versed in environmental justice literature. As such, for the sake of this chapter, the terms green space access and outdoor activity will be used as a workaround.

Wild spaces, free of man-made/artificial material provide an optimal habitat for humans in the same way it does for other animals. Perhaps, then providing a habitat should be included in the cultural umbrella of the ecosystem services chart. Doing so would both recognize the importance of natural space to human health and close the gap between humanity and nature.

In a groundbreaking 1984 study on how nature exposure aids in recovery processes, researchers studying comparable cohorts of patients recovering from gallbladder surgery found that patients recovering in a room with a view of greenery had much better recovery outcomes and timelines than patients assigned to rooms with a view of a brick wall. Recovery times for patients with a view of trees was, on average, almost ten percent faster than those with the view of a brick wall, and patients with a view of greenery required as much as thirty percent fewer painkillers than those without.

Key evidence for natural spaces – green ones in particular – being critical habitats for humanity lies in research comparing the mortality of elderly individuals exposed to green space versus those who were deprived of it. A 2017 cohort study of elderly people living in Hong Kong found that regardless of age, sex, class, marital status, or education attainment, individuals who live next to green spaces have lower mortality rates, especially for circulatory related illnesses.⁴¹

⁴⁰ Roger S. Ulrich, "View through a Window May Influence Recovery from Surgery," *Science* 224, no. 4647 (1984): pp. 420-421, https://doi.org/10.1126/science.6143402.

⁴¹ Dan Wang et al., "Neighbouring Green Space and Mortality in Community-dwelling Elderly Hong Kong Chinese: A Cohort Study," *BMJ Open* 7, no. 7 (August 1, 2017): accessed November 13, 2021, doi:10.1136/bmjopen-2016-015794)

Even when controlled for physical activity, the inverse relationship between nature exposure and mortality persisted.⁴² Another cohort study of elderly individuals in Tokyo found that elderly people who live within walking distance to a usable green space or public parks experienced longer lifespans.⁴³

With an understanding that simply looking at greenery can have positive health outcomes for adults, it is imperative to investigate how park access impacts health. During the height of the pandemic, public health officials across the world urged individuals to frequent their parks to care for their physical and mental health. Rightfully so, as numerous studies link proximity and time spent in urban parks with positive mental health outcomes.

Research on the psychological benefits of outdoor activity for adults finds that nature exists on a sliding scale. Forest environments have shown to me more beneficial than other types of environments in decreasing stress and increasing livelihood among adults. He will be using lower-later super output areas (LSOA) — which refers to "a geographic hierarchy designed to improve the reporting of small area statistics in England and Wales" — researchers were able categorize different areas of England by their percentage of green space. They then compared the percentage of green space (areas defined as "green space" and "gardens" by LSOAs) in an area with the scores residents of those areas received on the General Health Questionnaire (GHQ), in which a high score correlates with mental distress, and the British Household Panel Survey

⁴² Dan Wang et al., "Neighbouring Green Space and Mortality in Community-dwelling Elderly Hong Kong Chinese: A Cohort Study," *BMJ Open* 7, no. 7 (August 1, 2017): accessed November 13, 2021, doi:10.1136/bmjopen-2016-015794)

⁴³ T. Takano, "Urban Residential Environments and Senior Citizens Longevity in Megacity Areas: The Importance of Walkable Green Spaces," *Journal of Epidemiology & Community Health* 56, no. 12 (December 01, 2002): accessed November 25, 2021, doi:10.1136/jech.56.12.913)

⁴⁴ E. Morita et al., "Psychological Effects of Forest Environments on Healthy Adults: Shinrin-yoku (forestair Bathing, Walking) as a Possible Method of Stress Reduction," *Public Health* 121, no. 1 (January 2007): accessed November 09, 2021, doi:10.1016/j.puhe.2006.05.024)

(BHPS) in which higher scores correlate with life satisfaction. Researchers found that people living in a LSOA one standard deviation above the mean (81 percent green space) are associated with a 14 percent reduction in GHQ and seven percent increase in life satisfaction, compared with people living in LSOA one sdtandard deviation below the mean (48 percent green space). Thus, suggesting that people living in urban areas with more green space are happier than urban dwellers living in less green space.

Furthermore, a Danish study that used data derived from the 2005 Danish Health Interview Survey, and face-to-face interviews followed by a self-administered questionnaire, drew a link between time spent in green space and proximity to green space (forests, parks, green spaces, beaches, seas, lakes, and other green space) with a high health-related quality of life and decreased stress levels. 45 82.1 percent of respondents living less than three-hundred meters from a green space reported that they had "really good" or "good" self rated health, a figure ten percent higher than respondents living ast least one kilometer away from green space.

Additionally, respondents living one kilometer or more away from green space were 1.42 times more likely to experience stress than those living within three-hundred kilometers from green space, and respondents who did not report stress had 1.57 higher odds of visiting a green spaces at least a few days per week than those who reported experiencing stress. Thus, suggesting that proximity to and time spent in green space results in a high health-related quality of life and decreased stress levels.

⁴⁵ Stanislav Michek, Zuzana Nováková, and Lucie Menclová, "Advantages and Disadvantages of Forest Kindergarten in Czech Republic," *Procedia - Social and Behavioral Sciences* 171 (2015): pp. 738-744, https://doi.org/10.1016/j.sbspro.2015.01.186.

At present, only one American study exists connecting proximity to urban parks with mental health benefits. By analyzing ten different Los Angeles parks, located in neighborhoods with similar racial and economic demographics to New York City's underprivledged communities, researchers concluded that good mental health, frequancy of park use, and probability of weekly excercise all decline as a person's home's distance from a park increases.⁴⁶ Thus, suggesting that mental health is impacted by objective distance from urban parks.

COVID-19 provides a unique opportunity to reflect on research which associates proximity to green space and time spent in green space with physical and mental health benefits for people of all ages. Chapter 1 highlights the fact that green spaces have been a place of solace for people throughout the pandemic, while this chapter emphasized that public green space can provide numerous other vital benefits to people. It is imperative that outcry for adequate and equitable parks across New York City does not stop with the end of the pandemic. New Yorkers need parks.

Chapter 3. NYC Parks History: The Value of Gathering Space

The history of New York City's parks predates the founding of the New York City Parks & Recreation Department, or the 'Department of Public Parks,' as it was once called. As such, it is important to investigate the different roles that the city's parks played in urban life prior to any formal park administration, up until 1870 when the Parks Commission claimed responsibility over Central Park, the 1870 founding of the Department of Public Parks controlling all

⁴⁶ Roland Sturm and Deborah Cohen, "Proximity to Urban Parks and Mental Health," *The Journal of Mental Health Policy and Economics* 17, no. 1 (March 2014): pp. 19-24, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4049158/.

Manhattan public parks, and after 1934 when Robert Moses consolidated each of the boroughs' parks into one city agency.

I posit that there are, effectively, five different ways that the city's parks have been founded: too much public use for the city not to get involved, the redevelopment of respected historic spaces, the redevelopment of disliked or deserted space, and the transferring of control of public space from one city agency to another. Of course, many of the city's 1,900 parks will not fall perfectly into one category, but understanding the categories helps to understand the role of parks in creating community gathering spaces. These five founding/establishment types provide necessary context to understanding the history of the Park Department. As such, parks history shall be explained through park establishments.

The City's oldest park, Bowling Green Park, acts as the paragon example of a park being founded because of prior and unignorable use by the citizenry. The popular English sport of lawn bowling, akin to the Italian game of bocce, had become a popular activity for people to play in front of Fort Amsterdam. In response to the space's frequent use for lawn bowling, the Common Council, the governing body of the 'city' at the time, officially enclosed the space on March 12, 1733 calling it Bowling Green.⁴⁷ The space designated as Bowling Green was leased for a decade to Peter Bayard, John Chambers, and Peter Jay for the price of just one peppercorn per year. In return, the trio were tasked with beautifying the space for "the Beauty and Ornament of the Said Street as well as for the Recreation & Delight of the Inhabitants of this City." Though English lawn bowling quickly lost its popularity, Bowling Green remained an integral civic gathering space in the early years of the city, hosting the Stamp Act Protests in the fall of 1765

⁴⁷ Michelle Nevius and James Nevius, *Inside the Apple: A Streetwise History of New York City* (New York: Free Press, 2009)

⁴⁸ "The Oldest Parks (1686-1811)," The Oldest Parks : Online Historic Tour : NYC Parks, accessed November 30, 2021, https://www.nycgovparks.org/about/history/timeline/oldest-parks)

and the toppling of King George III's statue after a public reading of the Declaration of Independence on July 9, 1776 had concluded on the Bowling Green fields. 4950

While Bowling Green's history is often outshined by that of Central Park, note that the park was founded by citizens as a community gathering space, and then used by citizens to its fullest extent. Within a half-century Bowling Green had already established itself as a recreational and civic center. When New Yorkers toppled the statue of King George III, they were not only making a political statement about their dislike and distrust of British rule, they were marking Bowling Green as their own territory. They already viewed Bowling Green as a space where they could gather in communion with one another, the destruction of the statue just cemented the importance of the park to civic life.

This lesson either went unlearned or ignored, however, as the Commissioner's Plan, the original urban plan for the development of New York City above modern-day Houston Street, has notably little parkland. Public opinion in the years after the Commissioner's Plan 1811 publication was that too much parkland had been included in the design of the city. At the time, parkland's chief purpose was to provide fresh air for citizenry. New York City's proximity to the Atlantic Ocean was used as justification by a committee formed in 1812 to rework the plan for shrinking the already miniscule amount of acreage set aside for parks further.

At the time, parks were viewed as having two purposes: aesthetic recreation and air ventilation. America's first parks were designed in the style of classical European parks, with winding pathways and manicured lawns. An anthropocentric view of nature, one which places humanity above all else, meant parks reflected humanity's need to assert control over nature. The

⁴⁹ F. L. Engelman, " Cadwallader Colden and the New York Stamp Act Riots," *The William and Mary Quarterly* 10, no. 4 (1953): doi:10.2307/1923595)

⁵⁰ "The Oldest Parks (1686-1811)," The Oldest Parks : Online Historic Tour : NYC Parks, accessed November 30, 2021

'wild' or 'natural' parks which have gained popularity recently would have been unfathomable. Additionally, miasma theory and the rapid development of New York City meant that citizens and government officials alike believed parks provided fresh air beneficial for physical health. Neither of these factors are entirely great or accurate reasons to construct parks, but they proved useless anyway, as local officials had little interest in sacrificing acreage which could be developed into residential housing or businesses for the sake of parkland.

As a result, private citizens stepped in to address the lack of recreation space, with Samuel Ruggles donating land for the founding of Gramercy Park in 1831 and Mr. and Mrs. Peter B. Stuyvesant donating the land for Stuyvesant square in 1836.⁵¹ Thus, falling into the history which had been established with the events at Bowling Green, in which New York City's citizenry value public space more so than the city's government officials. The rise in privately owned parks for public use makes clear that New York City's citizenry put emphasis on parkland and saw park space just as valuable, if not more so, than residential or commercial space.

The next major historical event in the history of New York City's parks was the establishment of Central Park. Central Park's founding shall serve as an imperfect example of the redevelopment of disliked, blighted, or deserted space, as recent research into the park's founding has brought to light the racist leveling of Seneca Village – the city's (perhaps even the country's) most prosperous Black community – through eminent domain. ⁵² So, while a conversation about how Central Park was a way for New Yorkers to reclaim their city, note that not all of the land was reclaimed, much of it was colonized. In that same vein, only a portion of New Yorkers were able to revel in their new recreation space. Many citizens, namely those who

⁵¹ Morrison H. Heckscher, "Creating Central Park," *The Metropolitan Museum of Art Bulletin* 65, no. 3 (Winter 2008): doi:https://doi.org/10.2307/25434142)

⁵² "Seneca Village, New York City (U.S. National Park Service)," National Parks Service, accessed November 22, 2021, https://www.nps.gov/articles/seneca-village-new-york-city.htm)

had established themselves in Seneca Village, grieved Central Park's construction. In 1853 the Central Park Act passed, stating that all land for the park "is hereby declared to be a public place, in like manner as if the same had been laid out by the commissioners appointed in and by the act of the Legislature of the State of New York, entitled "An Act relative to improvements touching the laying out of streets and roads in the city of New York, and for other purposes," passed April 3d, 1807."53

Central Park's designers, Frederick Law Olmstead and Calvert Vaux were committed to creating a space for all New Yorkers. Even the smallest of details reflect the pair's commitment to equitability in a period where the concept was almost unheard of. For example, each of the entrances to the park honor a profession or community of New Yorkers which make the city so great. The four main gates honor Scholars (Fifth Avenue), Artists (Sixth Avenue), Artisans (Seventh Avenue) and Merchants (Eighth Avenue). The other eighteen gates honor groups like farmers, mariners, and immigrants.

This history of honoring New Yorkers in our parks lives on today. The modern parks system is working diligently to make the city's parks more equitable, with their 2021 'NYC Parks Renaming Project' once of the most recent and most visible examples of these efforts. The Renaming Project called for New Yorkers to submit the names of notable Black Americans, with the chance of having their suggestions picked for the renaming of a park or park space. On June 16, 2021, NYC Parks announced the renaming of sixteen different parks, spread across the five boroughs. It should be mentioned, however, that the public's interest in renaming parks began far before NYC Parks began asking for suggestions.

⁵³ Charles H. Russel et al., *Fourth Annual Report of the Board of Commissioners of the Central Park*, January 1861, New York City)

Public support for the renaming of Reverend Wendell Foster Park existed for years prior to the NYC Parks' decision to rename it. The park's present name honors Rev. Foster, a Bronxbased preacher and the first Black man to sit on the New York City Council.⁵⁴ Prior to the 2021 renaming, however, the park was named after John Mullaly, who is remembered as the founder of the Bronx parks system. While Mullaly was an important figure in the early days of the Bronx parks system, any acts of seemingly good will should not be outshined by the racist hatred he employed whenever possible. The push to rename Reverend Wendell Foster Park (formerly Mullaly park) gained media attention in 2016, after Alan Singer, a Hofstra Professor and Bronx native, published an expose on John Mullaly in a Huffington Post article.⁵⁵ Singer explains that "at a Union Square rally on May 19, 1863, Mullaly declared "the [civil] war to be wicked, cruel and unnecessary, and carried on solely to benefit the negroes, and advised resistance to conscription if ever the attempt should be made to enforce the law."" The 1863 Draft Riots resulted in nineteen Black men murdered, either by crowd beating or lynching. Sadly, just as the city's parks have hosted countless protests and demonstrations in support of social justice initiatives, they have also been the site of mobs and riots fueled by hatred.

Just a few years after the 1863 Draft Riot, and a few decades after the completion of Central Park, it became clear that the hodgepodge of park administrations covering Manhattan was inadequate. As such, in 1870 the Department of Public Works was founded to consolidate leadership of Manhattan parks. Manhattan was not alone, however, in their struggle to construct and maintain their borough parks: each of the outer boroughs followed suit in creating their own

⁵⁴ Devin Gannon, "16 NYC Parks Renamed in Honor of Black Americans," 6sqft, June 17, 2021, https://www.6sqft.com/16-nyc-parks-renamed-in-honor-of-black-americans/.

⁵⁵ Alan Singer, "Stop Honoring Racists -- Say Goodbye to John Mullaly Park in the Bronx," HuffPost, April 5, 2017, https://www.huffpost.com/entry/stop-honoring-racists--sa b 9608344.

parks agencies. In the wake of the passage of the New Deal in 1933, which provided an influx of federal funds into the creation and maintenance of the nation's urban parks, Mayor Fiorello H. LaGuardia elected to discontinue each independent park system and centralize park management into one city agency.

The famed Robert Moses was named the sole commissioner of the Department of Parks for New York City, while also holding multiple state-level offices and adding Head of the Triborough Bridge and Tunnel Authority to his resume in the same year he received his appointment as head of parks. Moses' lifelong career in public works and urban planning had catastrophic consequences for the city's countless cultural enclaves, namely for Black and Brown communities in Harlem, Brooklyn, and the Bronx. It is vital to keep this fact in mind when celebrating that the city's recreation spaces increased sevenfold in the first three decades of the consolidation and unification of the parks system.

Furthermore, Moses' ability to expand the park system was also a grave weakness to the city, as he did not adequately plan for the future maintenance and upkeep these new green spaces would require. Parks across the city rapidly deteriorated in the 1970's as New York City came dangerously close to bankruptcy. Chapter 4 will go into further detail about the political failures which led to divestment in the parks, while this chapter will discuss the impacts of underfunding.

During his campaign for mayor, John Lindsay released his "White Papers," a collection of nine papers, each dedicated to different municipal issues, in which addressed issues ranging

⁵⁶ "Robert Moses and the Modern Park System (1929-1965)," Robert Moses and the Modern Park System (1929–1965): Online Historic Tour: NYC Parks, accessed November 26, 2021, https://www.nycgovparks.org/about/history/timeline/robert-moses-modern-parks)

⁵⁷ The New York City Park Department, *Thirty Years of Progress*, June 9, 1964, A summary of the Parks Department's work in its first thirty years for use by the mayor and the Board of Estimate., New York City)

from transportation, education, and the city's parks. ⁵⁸ Lindsay recognized the fact that a city's parks serve as a testament of its economic, social, and cultural success, emphasizing his beliefs on the importance of public participation in Parks Department policies. After assuming office, Lindsay, and his first Parks commissioner, Thomas P. F. Hoving got to work, introducing an artistic flare to the city's parks. While there is no 'typical' career route to becoming parks commissioner, there seems to be three trends: Harvard Law graduate, former New York City Councilmember, and/or parks planning experience. Hoving does not align with any of these. His whirlwind year as commissioner is rarely mentioned, as he left the Parks Department to become the youngest director of the Metropolitan Museum of Art at just thirty-five years old. ⁵⁹ Hoving is remembered as the 'Remaker of the Met,' but his time with the parks had a lasting impact.

Upon Hoving's appointment as Parks Commissioner, "the Office of Cultural Affairs was transferred from the Mayor's office to the Parks Department." Hoving used this move to bring the arts to the parks, encouraging people to host cultural, music, and arts events in the city's public green spaces. As such, Hoving is credited with reviving a history of free, world-class performances in the parks, which date back to 1959. Master of the 'happening,' Hoving managed to turn every mundane leisure activity into a communal affair. Hoving hosted a 'scientific happening' so that New Yorkers could gather to watch a meteor shower together, an 'artistic happening' involved over one-hundred acres of canvas being stretched between trees on Central Park's Cedar Hill to showcase the work of amateur and professional artists alike, and a children's

⁵⁸ Richard Witkin, "LINDSAY TO ISSUE 9 'WHITE PAPERS'; Specific Proposals on City Issues Promised -- Aides Wary of 'Image' Appeal Lindsay to Issue 9 'White Papers' on the City's Problems," *The New York Timed*, September 7, 1965, pp. 1-30.

⁵⁹ Randy Kennedy, "Thomas Hoving, Remaker of the Met, Dies at 78," The New York Times, December 10, 2009, https://www.nytimes.com/2009/12/11/arts/design/11hoving.html.

⁶⁰ Ethan Carr, "Rediscovery and Restoration (1965–1987)," Rediscovery and Restoration (1965–1987): Online Historic Tour: NYC Parks, accessed April 10, 2022, https://www.nycgovparks.org/about/history/timeline/rediscovery-restoration.

'flying saucer happening' in which New Yorkers were warned not to panic "when a massive invasion of little people with 'flying saucers' is reported in the Central Park Sheep Meadow." 61

Though his time as commissioner was short, there is a strong argument to be made that Hoving ended Robert Moses' reign over the city's public spaces. Hoving spearheaded the movement to kick cars out of the parks. Just six weeks into his tenure, he proposed banning automobiles from Central Park's East and West drives. He also hosted the Parks Department's first design competition just three weeks after assuming his role as commissioner. Hoving explained in a February 9th, 1966 press release, in line with Mayor Linday's campaign 'White Papers,' that the Parks Department would be hosting "the first of many architectural competitions," calling on New Yorkers to submit plans for "a prototype refreshment kiosk for Central Park."62 Hoving also pioneered the vest pocket park in New York City. Vest pocket parks, also known as mini parks, or simply pocket parks, refers to parks developed on acreage equivalent to the size of a building. Just like his infamous 'happenings,' Hoving "recognized that [vest pocket parks] offered the city not only "lungs" and a respite from noise, but opportunities for collective action by the surrounding communities whose help he enlisted in reclaiming the land. He believed that the communal act of making these spaces of quiet itself promoted harmony." 63 These examples might seem insignificant, but they take aim at two of Moses' most coveted things: cars and control.

⁶¹ "Commissioner Benepe Remembers Former Parks Commissioner Thomas Hoving," The Daily Plant , December 11, 2009, https://www.nycgovparks.org/news/daily-

plant?id=22072#:~:text=Thomas%20Hoving%20was%20a%20spirited,together%20in%20a%20shared%20experience.

 ^{62 &}quot;Hoving Announces First Parks Department Design Competition" (press release, New York City, 1967)
 63 George Prochnik, "City of Earthy Delights," The New York Times, December 13, 2009, https://www.nytimes.com/2009/12/13/opinion/13prochnik.html.

Moses did not view parks as part of the fabric of the community, he viewed them on a map. Any suggestion that Moses' contributions to the city's urban park landscape is evidence of a community-focused approach to urban planning fails to consider the fact that Moses built as much as he had funding for. New Deal funding allowed Moses to irrevocably change New York City. Moses hated cities, and so he used an influx of capital funding to try and stamp out the essence of New York City. Hoving, however, represents an entirely different approach to assessing the value of parks, as he did not view parkland as empty space in the city. Rather, Hoving recognized the parks' cultural significance; hence his embrace of the Department of Cultural Affairs falling under his control.

By the early 1970's New York City had entered a period of decline which many feared the metropolis would never recover from. The city had lost one million residents in a decade (due to the same New Deal policies responsible for the proliferation of parks), manufacturing jobs were rapidly moving out-of-state, and inflation caused by the 1973 OPEC crisis led to bond market failures which put the city in a lurch. Desperate attempts to balance the city's budget meant every city agency suffered. That being said, divestment from the Parks Department began much earlier, in 1968, when Mayor Lindsay placed even more responsibility on the Parks administration by forming The Parks, Recreation and Cultural Affairs Administration (PRCA). In an effort to streamline the city's bureaucracy and to cut costs, Lindsay consolidated fifty different city departments into just nine 'superagencies.' The formation of the PCRA meant the

⁶⁴ Joseph P. Viteritti, Summer in the City: John Lindsay, New York, and the American Dream (Baltimore: Johns Hopkins University Press, 2014), 83.

⁶⁵ Deena Ecker, "A Crisis without Keynes: The 1975 New York City Fiscal Crisis Revisited," The Gotham Center for New York City History, August 12, 2021, https://www.gothamcenter.org/blog/a-crisis-without-keynes-the-1975-new-york-city-fiscal-crisis-revisited.

⁶⁶ Edward Ranzal, "City Councilmen Vote to Dismantle Superagencies Formed by Lindsay," *The New York Times*, April 1, 1977, pp. 24-24.

new super-Parks department was responsible for everything from minor park maintenance to funding major libraries.⁶⁷ While the PCRA's budget was massive in comparison to the former Parks Department's, the money funneled to the city's parks by the PCRA was much less than what the parks had received before. Within a decade Mayor Abraham Beame and the City Council had voted to dismantle the superagency system, and the PCRA was once again broken into The Department of Parks & Recreation and The Department of Cultural Affairs.

Prior to the 1970's, New York City was famous for its Keynesian economic policies, resulting in a top-down funding of the city's parks. After the 1975 crisis, however, private funding became, and remains, imperative to individual parks' success. Chapter 4 will analyze this shift through a political lens, but for the sake of this current discussion, it is important only to know that throughout the 1960's the city devoted "one-and-a-half percent of its budget to the Parks Department, but the financial crisis of the 1970s forced severe cutbacks in this funding. By 1986 parks had fallen to just 0.86 percent of the budget, and the resulting lack of maintenance and staffing turned city parks into places which many New Yorkers sought to avoid." 68

In response, New Yorkers adopted the same practices they had used centuries before to maintain their green spaces: maintaining their own. The aftermath of the fiscal crisis, in which parks were never funded at the rate they had been in the 1960's, exposed the fact that the city's

⁶⁷ Ethan Carr, "Rediscovery and Restoration (1965–1987)," Rediscovery and Restoration (1965–1987): Online Historic Tour: NYC Parks, accessed April 10, 2022,

https://www.nycgovparks.org/about/history/timeline/rediscovery-restoration.

⁶⁸ Mark Levine (City Councilman), "Opening Statement to the Committee on Parks and Recreation: Equity in Parks" (speech. New York City. 2013).

government and citizens assessed the value of public green space differently. Thus, the conservancy was born.

In short, "conservancies are private, nonprofit park-benefit organizations that raise money independent of the city and spend it under a plan of action mutually agreed upon with the government." Conservancies often either enter a formal agreement with the city they work in or have a 'memorandum of understanding' (MUA) which allows them to work in connection with the city's parks department. Across the nation conservancies have become a favored management practice in municipalities which either cannot or do not provide their parks departments with adequate funding. In New York City, parks generate revenue through things like concession stands and entry fees into certain facilities, but revenue that the parks create goes back to the city rather than the Parks Department. Conservancies, however, are able to raise millions of dollars which solely support the maintenance of a single park.

The New York City Parks department has experienced a full rotation in its life cycle with the advent of the conservancy. Just as the historic city's elite donated their time and efforts to maintaining and creating parks in their communities, today's wealthy have used conservancies to ensure their neighborhood parks remain manicured while economically disadvantaged communities endure the impacts of staff shortages and mismanagement issues. Chapters 4 and 5 will build upon these ideas by first explaining the current political debates about inequities in New York City's parks and then providing policy recommendations for how the city might address current issues.

⁶⁹ Peter Harnik and Abby Martin, "Public Spaces/Private Money: The Triumphs and Pitfalls of Urban Park Conservancies" (report. New York City. 2015), p, 6.

Chapter 4. Parks as Political Battlegrounds: Inequities in Green Space

America's local and state level parks are chronically underfunded. The American Society for Civil Engineers gave the nation's local parks a D+, citing years of underinvestment as causing major infrastructure and maintenance issues across the country. While this chapter will focus on how underinvestment in New York City's parks has led to a plethora of problems for the city, it is important to understand how New York City compares to the rest of the nation.

Nationally, local parks have accrued \$60 billion worth of deferred maintenance work.⁷¹ In many regions, the window to act has passed and governments are now looking at how to unload the burden of addressing maintenance issues. For example, Mississippi's state government is considering privatizing its state parks, another chronically underfunded park system across the board, as a viable solution for tackling the impacts years of budget cuts have caused.⁷² The Trust for Public Land has long been the preeminent organization for understanding the state of local parks. They assert that nationally, 55 percent of Americans live within a tenminute walk to a park, with a caveat for communities of color. While communities of color are about as likely to be walking distance to a park (63 percent of whites vs 56 percent of Asians) the amount of space that communities of color have access to pales in comparison to the space which white communities have. BIPOC residents have access, on average, to 46 percent less park space than the nations' cities' averages, and over 60 percent less space than white residents.⁷³

⁷⁰ "Public Parks," ASCE's 2021 Infrastructure Report Card, March 25, 2021, accessed November 20, 2021, https://infrastructurereportcard.org/cat-item/public-parks/)

⁷¹ "Public Parks," ASCE's 2021 Infrastructure Report Card, March 25, 2021, accessed November 20, 2021, https://infrastructurereportcard.org/cat-item/public-parks/)

⁷²Geoff Pender, "Lawmakers Consider Privatizing Mississippi's Dilapidated, Underfunded State Parks," Mississippi Today, May 10, 2021, accessed November 11, 2021,

https://mississippitoday.org/2020/12/30/lawmakers-consider-privatizing-mississippis-dilapidated-underfunded-state-parks/)

⁷³ " New York, NY," The Trust for Public Land, accessed November 29, 2021, https://www.tpl.org/city/new-york-new-york)

The Trust for Public Land ranks New York City's park system eleventh in the nation. Citywide, 99 percent of residents are walking distance to a park, communities of color have the same amount of park space access as the city median (though white neighborhoods have 51 percent more park space than the city average), and New York City Parks & Recreation funding breaks down to \$81 per resident.⁷⁴ These numbers are a bit misleading, however, when looking at the state of the outer boroughs' parks. Though the Trust for Public Land ranks New York City eleventh in the nation, it critiques the equitability of the city's parks. They highlight figures about high-income and white New Yorkers having access to significantly better parks than highneed communities of color. On top of that, the parks that Black and white New Yorkers have access to vary in size rather than just quality, as "the average park size is 7.9 acres in predominantly Black neighborhoods, compared with 29.8 acres in predominantly white neighborhoods."⁷⁵ Development trends mean that the most densely populated neighborhoods in the city also have the least park space. Rather than enjoying waterfront trails, baseball fields, volleyball courts, and bathrooms, like the residents of the Upper West Side, residents in highneed areas of the Bronx and Brooklyn are given small concrete slabs. The eleventh place ranking which New York City has received can be attributed to the city's averages, as an in depth look into the inequities across the parks landscape are not worthy of such an impressive title.

The impacts of the lack of greenery in the city's low-income communities of color don't stop at unequal park amenities, they also include higher heat indexes from the urban heat island effect and water quality issues across the city because of combined sewer overflows (CSOs).

⁷⁴ "New York, NY," The Trust for Public Land, accessed November 29, 2021

⁷⁵ Winnie Hu and Nate Schweber, "New York City Has 2,300 Parks. But Poor Neighborhoods Lose Out.," The New York Times, July 15, 2020, accessed November 17, 2021, https://www.nytimes.com/2020/07/15/nyregion/nyc-parks-access-governors-island.html)

The Environmental Protection Agency explains that urban heat islands "occur when cities replace natural land cover with dense concentrations of pavement, buildings, and other surfaces that absorb and retain heat. This effect increases energy costs (e.g., for air conditioning), air pollution levels, and heat-related illness and mortality."⁷⁶ A 2021 report from The Natural Resources Defense Council, in collaboration with WeAct for Environmental Justice, found that when analyzing average summer temperatures across Manhattan, between 2007-2011, residents of Northern Manhattan experience notably higher average surface temperatures than white and wealthier communities.⁷⁷ Increased temperatures are more than a nuisance, they are lifethreatening.

Unsurprisingly, a lack of "natural land cover" is associated with formerly red-lined communities. Redlining refers to a New Deal era practice of denying housing loans to people deemed to be living in bad areas. Maps of low-income communities of color were painted red, marking people who lived within red zones as unfit for investing. Today, formerly redlined areas have about twenty-three percent tree canopy, while areas deemed most respectable during the heigh of red-lining (wealthy and white) have on average forty-three percent tree canopy. Thus, the urban heat island effect is a direct result of racist housing policies. Though the worst implications of the urban heat island effect are centered in low-income communities of color, the

^{76 &}quot;Reduce Urban Heat Island Effect," EPA (Environmental Protection Agency), accessed April 14, 2022, https://www.epa.gov/green-infrastructure/reduce-urban-heat-island-

effect#:~:text=%22Urban%20heat%20islands%22%20occur%20when,heat%2Drelated%20illness%20and%20mortality.

Juan Declet-Barreto Cynthia Herrera Al Huang Cecil Corbin-Mark, "Summer in the City: Improvign Community Resilience to Summertime Heat in Northern Manhattan" (report. New York City. 2021).
 Dexter H. Locke et al., "Residential Housing Segregation and Urban Tree Canopy in 37 US Cities," *Npj Urban Sustainability* 1, no. 1 (2021), https://doi.org/10.1038/s42949-021-00022-0.

insufficient urban canopy which leads to high heat indexes causes problems for the entire city through combined sewer overflows.

Sixty percent of New Yorkers' pipes are a part of a combined sewer system, in which "there is a single pipe that carries both stormwater runoff and sewage from buildings." Annually, twenty-seven billion gallons of raw sewage and untreated stormwater flow out of the city's 460 CSOs and into the New York Harbor. While the city downplays how often CSOs result in sewage entering waterways, on any day in 2019 there was a fifty percent chance that a body of water in the city was unsafe to touch because of sewage pollution. Other cities close their beaches after storms to clean up debris; New York City closes its beaches because entering the water after a storm can result in beachgoers developing nasty rashes and deadly intestinal diseases. Much research exists about the environmental impacts of CSOs and how New York City might update its sewer system. This research, however, is outside of the scope of this paper.

For the sake of this paper, it is important to note that if the city's sewer systems are not inundated with stormwater, CSOs will not be triggered. In 2007, 592,130 of the city's street trees absorbed 890.6 million gallons of stormwater runoff, resulting in \$35,628,220 in stormwater benefits.⁸³ Thus, a plethora of healthy trees are vital for absorbing stormwater. The impacts of Parks Department divestment on the recreation opportunities for low-income communities of color should be reason enough to rectify inequities in the city's green spaces, but perhaps the

⁷⁹ "Combined Sewer Overflows," NYC Department of Environmental Protection, accessed April 13, 2022, https://www1.nyc.gov/site/dep/water/combined-sewer-overflows.page.

^{80 &}quot;Combined Sewage Overflows (CSOs)," Riverkeeper, October 27, 2016, https://www.riverkeeper.org/campaigns/stop-polluters/sewage-contamination/cso/.

⁸¹ Larry Levine, "NYC's New Plan Would Let Massive Sewage Overflows Continue," NRDC, February 24, 2020, https://www.nrdc.org/experts/larry-levine/nycs-new-plan-would-let-massive-sewage-overflows-continue.

⁸² Larry Levine, "NYC's New Plan Would Let Massive Sewage Overflows Continue," NRDC, February 24, 2020.

⁸³ Environmental Protection Agency "Stormwater to Street Trees: Engineering Urban Forests for Stormwater Management" (guide. Washington D.C. 2013), pg 15.

consequences these inequities have had for the entire city, through CSOs, will serve as a rallying cry for the city's elite to act.

I feel that I can speak directly to the discrepancies in the city's green space equitability, as I have spent the last year working with The Bronx is Blooming! (BiB), a South Bronx focused environmental non-profit organization. BiB was founded over a decade ago after its founder and executive director, Jennifer Beaugrand, was stationed as an environmental educator and horticulturist in the Bronx. A Manhattan native, Beaugrand was shocked at the state of the Bronx' parks and founded BiB to combat the inequities in the city's parks' landscapes. While working with BiB I have served as a summer mentor for high school students and recent high school graduates, and executive assistant.

During the summer of 2021 I worked in eight different Bronx green spaces (Franz Siegel, Joyce Kilmer, the Andrew Freedman Home, Claremont, Soundview, Crotona, Rev. Foster, and Mosholu Parkway parks) and received a full-time posting at Rev. Foster, where I led a team of eight young Bronxites in revitalization work. When we began working in one of the city's pollinator beds – gardens designed to let native flora and fauna flourish – we discovered six-foottall weeds choking out the plants which the parks department had planted. Trash, ranging from bottles to barbecue pits, was scattered around the park each Monday morning. The lack of public restrooms in the parks, and the city's hostility towards those experiencing homelessness, meant that finding or stepping on human feces was a frequent occurrence. Rev. Foster is known for being one of the better maintained parks in the Bronx, and from experience working in over a dozen of the South Bronx' parks I have to agree with this sentiment. And yet, my students routinely told me that they would not spend time in Rev. Foster Park if they were not paid to be there.

I want to be very clear that the state of Rev. Foster Park is neither the fault of the people who patronize it, the people who seek refuge there, or the park staff. Rev. Foster Park is in disarray because of a lack of funding. The Bronx' parks are so underfunded that many Bronxites have not only given up on their parks, but given up on their community. I am astonished by how often park patrons interrupt my work planting and/or weeding to tell me somebody else is going to step on or steal the plants. While people do step on plants occasionally, that is not the problem. The problem is that there is not an adequate landscape maintenance budget set aside for ongoing care of the parks. The Bronx' parks are not as nice as Manhattan's. That is undeniable. Any

suggestion that these boroughs' parks are a reflection of the people who live near them is unacceptable, however.

Much of the reason that certain South Bronx and Brooklyn neighborhoods struggle goes back to the 1970's fiscal crisis. During the 1970's fiscal crisis the city, narrowly escaping bankruptcy, was



forced to slash the Park Department's budget. In turn, the Parks Department was unable to provide basic services to the public or carry out routine maintenance work, leading to major neglect. The picture above depicts Belvedere Castle, a popular tourist attraction today, covered in graffiti. Just as during the height of the pandemic in the South Bronx, the lawns of Central Park went unattended for months at a time.

The \$88 million COVID-19 related budget cut to the Parks Department was a shock in a period in which the parks were being used so heavily, but resource scarcity in the Parks

Department has long been an issue. Between 2014 and 2019 the Parks Department's staff grew at an astoundingly slow rate compared with other city departments. While the Department of Corrections staff grew by 17 percent and the Department of Homeless Services staff by 25 percent in five years, the Parks Department staff grew by a disappointing two percent. At The Parks Department's former head of horticulture, Marechal Brown, explained that her staff would need to increase by 300 percent to properly care for all the park system's plantings. A report from the Center for Urban Futures, on the revitalization efforts needed in the NYC Parks Department, found that even with pre-pandemic staffing, 35 percent of the 65 parks that they surveyed had notable horticultural problems.

Horticulture issues are to be expected with the amount of acreage each gardener is expected to care for: the Parks Department has just 150 gardeners (just one a third of them are permanent jobs) responsible for the horticultural care of over 20,000 acres of green space. This is equivalent to 133 acres per gardener. For reference, San Francisco has a gardener to acreage ratio of one gardener to every twenty acres of green space. Note that one gardener to 133 acres of land would be an improvement to the current situation in many parks, as the lack of a citywide horticultural management map means some parks are never assigned a horticulturalist.

Soundview Park, a 206-acre waterfront park near Hunt's Point in the Bronx, is overgrown with invasive species, as it has no assigned gardener. Instead, organizations like The Bronx is Blooming and Friends of Soundview Park try to pick up the city's slack. Park and street trees suffer the same way plantings under the Parks Department's care do. Just 58 full-time foresters, a

_

⁸⁴ Steve Cohen, "The Mayor's Shameful Mismanagement of New York City's Parks," State of the Planet (Columbia University, September 2, 2020), https://news.climate.columbia.edu/2020/08/31/mayors-shameful-mismanagement-new-york-citys-parks/.

⁸⁵ Center for an Urban Future "A New Leaf: Revitalizing New York City's Aging Parks Infrastructure" (report. New York City. 2018), p. 25.

⁸⁶ CUF "A New Leaf," p. 25.

⁸⁷ Ibid., 25

dozen seasonal foresters, and 120 climbers and pruners are responsible for the stewardship of over 600 thousand street trees and 3.5 million park trees.

During his campaign for mayor, Eric Adams took up New Yorkers for Parks' 'percent for the parks' challenge. The challenge was simple: raise the current city budget's annual allocation of funding to the Parks Department from half of a percent to one percent. New Yorkers for Parks, and many other groups which echoed the importance of the challenge, noted that other cities typically allocate two percent of their annual budget to their parks. Adams' commitment to the challenge was the bare minimum, as not increasing funding allocations to the Parks Department, during a period in which it is still recovering from COVID-19 budget cuts and preparing for a third summer in a row of larger than average crowds, might cause the same sort of years long battle to recover that the parks endured in the wake of the 1975 financial crisis.

Preliminary FY23 budget proposals were incredibly disappointing. Rather than fulfill his 'percent for the parks' campaign promise, the Adams administration proposed "cutting \$60 million from the FY22 budget and removing 3,500 essential park positions." Not only would this have devastating impacts on low-income communities of color which are already negatively impacted by the city's measly budget allocations, it might allow the city to double down on its dependence on conservancies.

As mentioned in the previous chapter, conservancies proliferated in response to the fiscal crisis of 1975, but have become a fixture of New York City's green space maintenance because

⁸⁸ Joe Anuta, "Adams' Pledge to Boost Parks Funding Is Absent from Budget Proposal," POLITICO, February 21, 2022, https://www.politico.com/news/2022/02/21/adams-pledge-to-boost-park-funding-nowhere-to-be-found-in-budget-proposal-

^{00010284#:~:}text=The%20idea%20was%20to%20match,money%20toward%20upkeep%20and%20services

⁸⁹ Carlos Castell Croke, "NYC 2023 Preliminary Budget Falls Short on 1.0% for Parks Promise," New York League of Conservation Voters, April 1, 2022, https://nylcv.org/news/nyc-2023-parks-promise/.

of continued underfunding of the Parks Department. The first conservancy, the Central Park Conservancy, has served Central Park for over forty years, investing an average of \$78 million annually into the park's care. ⁹⁰ This private public partnership between the city and the conservancy allows for funding which would have otherwise gone towards Central Park's maintenance to be invested into other parks. The funding that the Central Park Conservancy, and the city's other partners, provide to their parks allows these green spaces to flourish in a city where they would have otherwise been largely unattended to.

In many ways conservancies are one of the last remnants of the 1975 financial crisis. While other city agencies and departments slowly recovered their budgets and staffing after the city's economic standing improved, well-meaning citizens trying to mitigate the impacts of the 1970's budget cuts created a way for the city to evade prioritizing green space after economic recovery. Conservancies are no longer a crutch to New York City. New York City is dependent on them.

If the city council continues to allocate such a small percentage of the city's budget towards the Parks Department, conservancies will remain both a necessity for the maintenance of the city's most iconic parks, and a driver of inequity for unprivileged communities. It is clear upon entry into the city's parks which receive economic assistance from conservancies and which ones rely solely on public funding. In turn, the proliferation of conservancies in wealthy neighborhoods means that public amenities provide unequal opportunities for New Yorkers to recreate within. Philanthropists saved many of the city's parks, but mainly in white and wealthy communities

⁹⁰ "About Us," Central Park Conservancy, accessed April 15, 2022, https://www.centralparknyc.org/about.

Chapter 5: Re-evaluating the Importance of Green Infrastructure in the Wake of the Covid-19

The two most recent mayoral administrations made long-term city planning a top priority. Both Michael Bloomberg and Bill de Blasio released comprehensive project plans to ensure that the New York City of the future would be equitable, resilient, and adaptable as people continue to migrate to the area. Bloomberg's PlaNYC, released in 2007, addresses ten different topics to ensure New York City's Future success: housing and neighbourhoods, parks and public spaces, brownfields, waterways, water supply, transportation, energy, air quality, solid waste, and climate change. While all ten topics are worth investigating, only a few are pertinent to this paper: namely parks and public spaces, brownfields, air quality, and climate change. 91

In the years leading up to PlaNYC's publication, the city had prioritized the expansion of park acreage. PlaNYC took a different approach by harnessing the potential of already developed spaces, as PlaNYC added lights to fields to extend the hours they could be utilized past sunset, designated hundreds of schoolyards as park spaces so they could be used at all times of the year, and placed new squares in dense areas. Note that many of the city's playgrounds are little more than concrete slabs. With this in mind, PlaNYC partnered with private organizations, like the Trust for Public Land, to revitalize schoolyards to foster play. Five years after PlaNYC was announced, 380,000 children's school playgrounds had already been improved by the partnership.⁹²

Bloomberg's PlaNYC evolved into OneNYC once Bill de Blasio took office. While PlaNYC's goals are scheduled to be completed by 2030, OneNYC seeks to be complete in 2050.

⁹¹ "PlaNYC: A Greener, Greater New York," The City of New York, April 2007.

⁹² "'Green' Community Playground Opens at P.S. 164 in Brooklyn," Trust for Public Land, May 16, 2012, https://www.tpl.org/media-room/green-community-playground-opens-ps-164-brooklyn.

Every mayor has a few things that they prioritize during their years in office, and the differences between Bloomberg's and de Blasio's priorities are obvious from the opening remarks of their plans. Bloomberg emphasized the need to prioritize climate resiliency and public health while de Blasio called attention to economic inequality and weaknesses in the public school system. As such, OneNYC still includes parks access, but places it underneath the umbrella of neighbourhoods. 93

As Eric Adam's tenure as mayor begins, its important to discuss what issues he should prioritize in his long-term plans for the future, and how solutions for his concerns should be implemented. PlaNYC increased parks access for New Yorkers by converting schoolyards into playgrounds, increasing park walkability for many communities. As discussed previously, however, pandemic-related playground closures highlighted the fact that the types of parks New Yorkers have access to vary greatly. Bloomberg's efforts to make playgrounds more accessible were both noble and widely successful, but shouldn't be celebrated as increasing access to green space. The parks department oversees parks, recreation centres, playgrounds, and street trees. All are important, but not the same. As discussed in Chapter 2, on nature deficit disorder and environmental psychology, concrete slabs and plastic play equipment are not going to cut it.

That being said, Eric Adams' plan should unveil plans to increase and enrich public green space, rather than simply maintain what already exists. The city's parks need to be greener and more engaging. As such, the following five policy recommendations seek to cultivate public spaces which allow all New Yorkers to commune in environmentally rich and well-maintained parks.

A. Increase the Parks Department's Budget to \$2 billion.

^{93 &}quot;One New York: The Plan for a Strong and Fair New York," The City of New York, April 2015.

Mayor Eric Adam's has a duty to fulfill his campaign promise to allocate one percent, equivalent to about \$1 billion, of the city's budget to the Parks Department. However, preliminary budget proposals for Fiscal Year 2023 sorely fail to follow through with Adams' word: just \$500 million of the city's \$98.5 million budget proposal was allocated to the parks. Or, in plain terms, not what was promised. Increasing the Parks Department's budget to \$1 billion would allow for the Parks Department to survive through the fiscal year, completing needed park maintenance work and hiring the bare minimum number of staff to do so. Increasing the budget to \$2 billion, however, would allow the Parks Department to thrive.

Specific changes will be discussed in the following policy recommendations, but all center on creating more accessible and interactive green spaces. If New York City's Parks Department received \$2 billion in annual funding, parks could once again serve as cultural centers of the city. Rather than conservancies being a necessity for creating parks acting as recreation spots, education centers, and an aesthetically pleasing gathering spaces, a budget of \$2 billion would mean all parks would have the opportunity to serve their neighborhoods to their fullest capacity. In turn, this would increase community resilience because all New Yorkers, regardless of race and class, would have access to high-quality public green space.

B. Re-adopt Thomas P. F. Hoving's plans for Vest Pocket Parks.

Mayor Eric Adams should announce plans to invest in vest pocket parks. Rather than using eminent domain to solve New York City's park equity issue, the city should conduct a survey of lots vacant for five or more years to convert into vest pocket parks. The city should prioritize placing vest pocket parks in communities which were most heavily impacted by NYC Parks closures and budget cuts during the height of the pandemic. Further, city officials can use tree

maps, and heat index and air quality data to decide which areas are in most need of greening efforts.

Furthermore, the city can harness the power of local neighborhood groups and community boards to gain an understanding of whether a vest pocket park would be well-utilized and what functions it might serve. Once the city has established a desire and function for a proposed park, the lot should either be turned over to direct Parks Department control or fall under the supervision of the Parks Department but be operated by a neighborhood or environmental group. If the Parks Department decides to overturn operations responsibilities over to a community group, groups will need to prove capacity to care for such a space and sign a ten-year lease and with the city to ensure prolonged maintenance.

Community engagement should serve as the cornerstone of vest pocket parks, emphasized in proposals for construction and maintenance of new parks. Harkening back to Hoving's tactics, design competitions might help to create excitement around each project, daring neighborhoods to imagine what these spaces might look like. Perhaps high school art classes could submit design plans with the opportunity to receive a scholarship for continuing education if a student's plan is chosen. Or senior centers might organize brainstorm sessions, reminding the elderly that they are vital to their community's functioning and encouraging seniors to stay active in their neighborhoods. Community board meetings could be utilized to allow interested neighbors to voice their wants, and later to vote on which proposal/design elements should be constructed.

Maintenance efforts should also be led by community members. The neighborhoods which would be prime candidates for vest pocket park construction are also those which have lost faith in the Parks Department's ability to care for green spaces. Furthermore, if the Parks Department's budget goes unchanged, it might be unfeasible for Parks staff to maintain these

spaces. As such, allowing and encouraging communities to maintain their own vest pocket parks would foster neighborhoods' sense of ownership over their new parks, encourage imaginative thinking about the ongoing care and plans for these spaces, and save Parks operating costs.

C. Expand Educational and Civic Minded Programming in Parks

Parks improve the quality of life of New Yorkers. Expanding the educational and civic resources the Parks Department provides to citizens is critical for ensuring citizens understand, utilize, and advocate for their parks. In the spirit of Ella Flatau's outdoor education model (discussed in Chapter 2), the Parks Department's Urban Park Rangers might serve as an entry point for a publicly funded outdoor school curriculum.

The Urban Parks Rangers are a product of the 1975 fiscal crisis, founded by Mayor Ed Koch in 1979 in response to the impacts of Parks divestment. While rangers are technically peace officers, they should not be confused with Parks Enforcement Patrol officers, who patrol the parks for crime. As a primary duty, the Urban Parks Rangers educate the public about the natural resources of the parks. Even though rangers are only comparable to police in the sense that they wear a badge, the already small number of rangers was cut in half (from ninety-five to fifty) in 2020, in response to calls to defund the New York Police Department and COVID-19 budget cuts. As of February of 2020 there were just forty-seven Urban Parks Rangers and three-hundred Parks Enforcement Patrol officers employed by the city. Defunding the Urban Park Rangers was an afront to green space and police abolition/defunding activists alike.

⁹⁴ "The Urban Park Rangers: An NYC Legacy," The Urban Park Rangers: An NYC Legacy: NYC Parks, accessed April 17, 2022, https://www.nycgovparks.org/programs/rangers/history.

⁹⁵ Reuven Blau, "Budget Cuts Make Rangers an Endangered Species in City Parks," The City, August 28, 2020, https://www.thecity.nyc/2020/7/7/21316673/budget-cuts-make-rangers-endangered-species-in-nyc-parks

⁹⁶ Samar Khurshid, "In First Budget, Adams Fails to Fulfill Pledge of 1% for Parks," Gotham Gazette, February 20, 2022, https://www.gothamgazette.com/city/11108-preliminary-budget-mayor-adams-breaks-promise-1-percent-parks-department.

If the city allocated just two percent of its annual budget to the Parks Department, the Urban Park Ranger program could flourish. Parks over twenty acres should have at least one ranger permanently stationed within it, hosting educational events and answering questions about the park for the public's benefit; while a traveling ranger force could facilitate events at parks between three and twenty acres on a more infrequent, but still planned, basis. Increased Ranger presence would enrich patrons' park experiences, while also encouraging patrons to utilize their public spaces in environmentally friendly ways. Luckily the Ranger force would not need to start from scratch when increasing organizational capacity, as future programming could be based off on the Rangers' events during Kids Week.

When New York City's public schools are on recess the Urban Park Rangers boost their programming efforts to keep children entertained and engaged in the outdoors. Between April 18-22, 2022, overlapping with public school children's spring recess, Urban Park Rangers hosted an event in each borough every day. With more staffing and more economic resources for events, Rangers could make Friday and Saturday events a year-round staple. After children break for summer recess, Rangers might use students' abundant free time as an opportunity to host daily events in each borough and add a summer camp, in collaboration with the Department of Education and the Department of Youth & Community Development to their programming.

D. Make Happenings Happen.

In another reference to Thomas P. F. Hoving's stint with the Parks Department, Mayor Adams should call for more accessible and interesting public events in New York City's parks.

On any given day there are numerous 'community' events hosted in city parks, but many of these come with a caveat: required recreation center membership. Membership packages are fairly affordable, costing adults \$150 per year and allowing free entry for young people, but the

requirement is a barrier to participating in events. Also note that people must have a membership at the hosting recreation center, greatly diminishing the number of people who would join for a one-day activity. Instead, one-day events should be open to the public, welcoming people from all boroughs and not requiring a membership. Furthermore, membership should be free of charge, with those interested in joining a recreation center only needing to proof of residence at an address within the borough the recreation center is located in.

The Parks Department should collaborate more with the Department of Cultural Affairs to bring arts and cultural events back to the parks. Every park with an amphitheater should make use of it, hosting concerts, educational talks, and community theater productions. Public parks have a long history as serving as gathering spaces for New Yorkers, one which might be resurrected for the city's current residents. Additionally, a proliferation of public arts in the parks would allow local artists to exhibit their work while also creating interest around underfunded and/or less popular parks.

Parks Department hosted sports teams should expand to include a larger age range. At present the Parks Department hosts leagues and clinics for popular sports like baseball, basketball, soccer, etc., with many starting entries at age seven and ending at either age sixteen or seventeen. The Parks Department might partner with the Department of Youth & Community Development to expand the age ranges catered to in both directions. Soccer and street hockey currently allow children as young as five to participate. This could be instated as the entry age for all children. Furthermore, the Department of Youth & Community Development provides programming for the 18-24 age cohort. Perhaps with them as a partner/sponsor, a league for young adults could be added to Parks Department league rosters.

E. Expand the City's Tree Canopy with the Help of a Citizen Scientist App.

As discussed in Chapter 2, New York City's underserved communities would benefit from the expansion of their street and park tree canopies. This paper thoroughly discussed the benefits of abundant greenery in terms of cultural services (with respect to ecosystem services) when discussing the positive mental and physical health impacts associated with one's home being proximate to greenery. Increasing the city's tree population, however, would have additional benefits like addressing the urban heat island effect, and the consequences of combined-sewer overflows as discussed in Chapter 4.

Mayor Michael Bloomberg took up the expansion of New York City's urban canopy as part of PlaNYC. The former mayor proposed MillionTreesNYC to expand the city's urban canopy by twenty percent. The initiative was scheduled to be complete in 2017, planning on an impressive one-hundred thousand trees being planted each year. The imitative proved to be a major hit with the public, and wrapped two years ahead of schedule, in 2015. The Bloomberg and de Blasio administrations' ability to rouse enough support for MillionTreesNYC to reach the initiative's goal so far ahead of schedule is proof that citizens are in strong support of expanding the city's tree population.

With proven planting success and a need for more urban trees, Mayor Eric Adams should readopt the MillionTreesNYC initiative with a new focus on community engagement. In low-income communities many tree pits sit empty, with stumps serving as the only reminder that someone ever attempted to add a healthy tree to the city's tree population. At present citizens can request a street tree or stump removal by either calling 311 or submitting a service request

⁹⁷ "Mayor De Blasio Celebrates One Millionth Tree," The official website of the City of New York, November 20, 2015, https://www1.nyc.gov/office-of-the-mayor/news/862-15/mayor-de-blasio-celebrates-one-millionth-tree-former-mayor-michael-bloomberg-bette-midler-#/0.

online, but creating an app for citizens would simultaneously streamline requests and create an opportunity for more interest from the public.

A TreesNYC app should have three primary functions: 1) track the health of the city's trees, 2) allow citizens to collaborate in the expansion of the urban canopy, and 3) educate the public on the importance of street and park trees. First, citizens should be able to submit requests for tree pruning, stump removal, tree pit care, and tree installation through the app. Users could be brought to the same form currently used to make tree-related requests, but also be prompted to take a picture of the tree/tree pit and upload it to an interactive map. The interactive map would allow the Parks Department to manage requests and citizens an opportunity to see how many requests are being made across the city and how quickly the Parks Department fulfills them.

When making requests, citizens could also specify which kind of native tree they would like to be planted from a list of acceptable trees. In this way, a new level of accountability would be instated, as users could see which neighborhoods had poor quality trees and which were being serviced at unacceptably slow rates.

Second, the app would allow for citizens to collaborate in the expansion of the urban tree canopy, as they could share photos and captions of the trees in their neighborhoods. Having a captioning and chat feature would allow users to write about their neighborhood's canopy, discussing anything from when to look out for cherry tree blossoms to how to prune struggling trees. Last, TreesNYC would serve as an educational tool for New Yorkers of all ages. The app could function like popular citizen scientist app iNaturalist by telling users which species of tree they had taken a photo of and facts about the tree. The app could also provide infographics about how to identify trees based off of their bark and leaves, how to care for trees, and the benefits of street and park trees to the New York City community.

Works Cited

- "About the New York City Department of Parks & Recreation." NYC Parks. Accessed April 8, 2022. https://www.nycgovparks.org/about.
- Anuta, Joe. "Adams' Pledge to Boost Parks Funding Is Absent from Budget Proposal." POLITICO, February 21, 2022. https://www.politico.com/news/2022/02/21/adams-pledge-to-boost-park-funding-nowhere-to-be-found-in-budget-proposal-00010284#:~:text=The%20idea%20was%20to%20match,money%20toward%20upkeep%20and%20services.
- Bento, Gabriela, and Gisela Dias. "The Importance of Outdoor Play for Young Childrens Healthy Development." *Porto Biomedical Journal* 2, no. 5 (September 2017): 157-60. doi:10.1016/j.pbj.2017.03.003.
- Blau, Reuven. "Budget Cuts Make Rangers an Endangered Species in City Parks." The City, August 28, 2020. https://www.thecity.nyc/2020/7/7/21316673/budget-cuts-make-rangers-endangered-species-in-nyc-parks.
- Carr, Ethan. "Rediscovery and Restoration (1965–1987)." Rediscovery and Restoration (1965–1987): Online Historic Tour: NYC Parks. Accessed April 10, 2022. https://www.nycgovparks.org/about/history/timeline/rediscovery-restoration.
- Chow, Andrew R. "In COVID-19 Pandemic, National Parks Are Getting Trashed." Time. July 22, 2020. Accessed November 26, 2021. https://time.com/5869788/national-parks-covid-19/.
- Clark, Jane E., Rhonda L. Clements, Marci Guddemi, Don W. Morgan, Rae Pica, James M. Pivarnik, Mary Rudisill, Eric Small, and Stephen J. Virgilio. *Active Start A Statement of Physical Activity Guidelines for Children Birth to Five Years*. Place of Publication Not Identified: Distributed by ERIC Clearinghouse, 2002.
- Cliff, Dylan P., Anthony D. Okely, Leif M. Smith, and Kim Mckeen. "Relationships between Fundamental Movement Skills and Objectively Measured Physical Activity in Preschool Children." *Pediatric Exercise Science* 21, no. 4 (2009): 436-49. doi:10.1123/pes.21.4.436.
- Cohen, Steve. "The Mayor's Shameful Mismanagement of New York City's Parks." State of the Planet. Columbia University, September 2, 2020. https://news.climate.columbia.edu/2020/08/31/mayors-shameful-mismanagement-new-york-citys-parks/.
- Coe, Dawn Podulka. "Means of Optimizing Physical Activity in the Preschool Environment." *American Journal of Lifestyle Medicine* 14, no. 1 (2018): 16-23. doi:10.1177/1559827618818419.
- Colarossi, Natalie. "Photos Show How Cities Have Closed Streets to Cars so People Have Enough Space to Get outside during the Pandemic." Insider. May 15, 2020. Accessed

- November 09, 2021. <u>https://www.insider.com/cities-closed-streets-for-pedestrians-covid-lockdowns-2020-5</u>.
- "Combined Sewage Overflows (CSOs)." Riverkeeper, October 27, 2016. https://www.riverkeeper.org/campaigns/stop-polluters/sewage-contamination/cso/.
- "Combined Sewer Overflows." NYC Department of Environmental Protection. Accessed April 13, 2022. https://www1.nyc.gov/site/dep/water/combined-sewer-overflows.page.
- "Commissioner Benepe Remembers Former Parks Commissioner Thomas Hoving." The Daily Plant, December 11, 2009. https://www.nycgovparks.org/news/daily-plant?id=22072#:~:text=Thomas%20Hoving%20was%20a%20spirited,together%20in%20a%20shared%20experience.
- Croke, Carlos Castell. "NYC 2023 Preliminary Budget Falls Short on 1.0% for Parks Promise." New York League of Conservation Voters, April 1, 2022. https://nylcv.org/news/nyc-2023-parks-promise/.
- Day, Brett H. "The Value of Greenspace under Pandemic Lockdown." *Environmental and Resource Economics* 76, no. 4 (August 4, 2020): 1161–85. https://doi.org/10.1007/s10640-020-00489-y.
- Declet-Barreto, Juan et. al., "Summer in the City: Improving Community Resilience to Summertime Heat in Northern Manhattan." Report, New York City, 2021.
- Donovan, Liz. "NYC Parks Get a Funding Boost Following Covid-Related Cuts." City Limits. July 12, 2021. Accessed November 20, 2021. https://citylimits.org/2021/07/07/nyc-parks-get-a-funding-boost-following-covid-related-cuts/#:~:text=Both Adams and former Sanitation, commit to funding park equity.
- Dowdell, Kellie, Tonia Gray, and Karen Malone. "Nature and Its Influence on Children's Outdoor Play." *Journal of Outdoor and Environmental Education* 15, no. 2 (January 2011): 24-35. doi:10.1007/bf03400925.
- Ecker, Deena. "A Crisis without Keynes: The 1975 New York City Fiscal Crisis Revisited." The Gotham Center for New York City History, August 12, 2021. https://www.gothamcenter.org/blog/a-crisis-without-keynes-the-1975-new-york-city-fiscal-crisis-revisited.
- Engelman, F. L. "Cadwallader Colden and the New York Stamp Act Riots." *The William and Mary Quarterly* 10, no. 4 (1953): 560-78. doi:10.2307/1923595.
- Environmental Protection Agency "Stormwater to Street Trees: Engineering Urban Forests for Stormwater Management." Guide, Washington D.C., 2013.
- Ferry, Shannan. "City Closes 10 Playgrounds Over Social Distancing Concerns." Spectrum News NY1. March 31, 2020. Accessed November 14, 2021. <a href="https://www.ny1.com/nyc/all-nttps://www.ny1.com/

- boroughs/coronavirus/2020/03/31/city-closes-10-playgrounds-over-social-distancing-concerns.
- Fitch, Robert. The Assasination of New York. London: Verso, 1993.
- Gannon, Devin. "16 NYC Parks Renamed in Honor of Black Americans." 6sqft, June 17, 2021. https://www.6sqft.com/16-nyc-parks-renamed-in-honor-of-black-americans/.
- "Green' Community Playground Opens at P.S. 164 in Brooklyn." Trust for Public Land, May 16, 2012. https://www.tpl.org/media-room/green-community-playground-opens-ps-164-brooklyn.
- Harnik, Peter and Martin, Abby, "Public Spaces/Private Money: The Triumphs and Pitfalls of Urban Park Conservancies." report, New York City, 2015.
- Heckscher, Morrison H. "Creating Central Park." *The Metropolitan Museum of Art Bulletin* 65, no. 3 (Winter 2008): 5-74. doi:https://doi.org/10.2307/25434142.
- "Hoving Announces First Parks Department Design Competition," press release. New York City. 1967.
- Hu, Winnie, and Nate Schweber. "New York City Has 2,300 Parks. But Poor Neighborhoods Lose Out." The New York Times. July 15, 2020. Accessed November 17, 2021. https://www.nytimes.com/2020/07/15/nyregion/nyc-parks-access-governors-island.html.
- James, Peter, Jaime E. Hart, Rachel F. Banay, and Francine Laden. "Exposure to Greenness and Mortality in a Nationwide Prospective Cohort Study of Women." *Environmental Health Perspectives* 124, no. 9 (April 14, 2016): 1344-352. Accessed November 12, 2021. doi:10.1289/ehp.1510363.
- Jonnes, Jill. South Bronx Rising: the Rise, Fall, and Resurrection of an American City. New York: Fordham University Press, 2002.
- Kahn, Peter H., and Stephen R. Kellert. *Children and Nature: Psychological, Sociocultural, and Evolutionary Investigations*. Cambridge, MA: MIT Press, 2002.
- Kennedy, Randy. "Thomas Hoving, Remaker of the Met, Dies at 78." The New York Times, December 10, 2009. https://www.nytimes.com/2009/12/11/arts/design/11hoving.html.
- Khurshid, Samar. "In First Budget, Adams Fails to Fulfill Pledge of 1% for Parks." Gotham Gazette, February 20, 2022. https://www.gothamgazette.com/city/11108-preliminary-budget-mayor-adams-breaks-promise-1-percent-parks-department.

- Kleinschroth, Fritz, and Ingo Kowarik. "COVID-19 Crisis Demonstrates the Urgent Need for Urban Greenspaces." *Frontiers in Ecology and the Environment* 18, no. 6 (August 3, 2020): 318–19. https://doi.org/10.1002/fee.2230.
- Levine, Larry. "NYC's New Plan Would Let Massive Sewage Overflows Continue." NRDC, February 24, 2020. https://www.nrdc.org/experts/larry-levine/nycs-new-plan-would-let-massive-sewage-overflows-continue.
- Locke, Dexter H., Billy Hall, J. Morgan Grove, Steward T. Pickett, Laura A. Ogden, Carissa Aoki, Christopher G. Boone, and Jarlath P. O'Neil-Dunne. "Residential Housing Segregation and Urban Tree Canopy in 37 US Cities." *npj Urban Sustainability* 1, no. 1 (2021). https://doi.org/10.1038/s42949-021-00022-0.
- Louv, Richard. Last Child in the Woods: Why Children Need Nature, How It Was Taken from Them, and How to Get It Back. Chapel Hill, NC: Algonquin Books of Chapel Hill, 2005.
- Louv, Richard. *Vitamin N: The Essential Guide to a Nature-Rich Life*. Chapel Hill, NC: Algonquin Books of Chapel Hill, 2016.
- Maslin Nir, Sarah. "Trash Piles Up in Parks, Just When New Yorkers Need Them the Most." The New York Times. August 27, 2020. Accessed November 17, 2021. https://www.nytimes.com/2020/08/27/nyregion/nyc-parks-trash.html.
- McCarthy, Claire. "6 Reasons Children Need to Play outside." Harvard Health. October 27, 2020. Accessed November 11, 2021. https://www.health.harvard.edu/blog/6-reasons-children-need-to-play-outside-2018052213880.
- McLaughlin, Carolyn, and Gómez David. *South Bronx Battles: Stories of Resistance, Resilience, and Renewal.* Oakland, CA: University of California Press, 2019.
- Michek, Stanislav, Zuzana Nováková, and Lucie Menclová. "Advantages and Disadvantages of Forest Kindergarten in Czech Republic." *Procedia Social and Behavioral Sciences* 171 (2015): 738–44. https://doi.org/10.1016/j.sbspro.2015.01.186.
- Morita, E., S. Fukuda, J. Nagano, N. Hamajima, H. Yamamoto, Y. Iwai, T. Nakashima, H. Ohira, and T. Shirakawa. "Psychological Effects of Forest Environments on Healthy Adults: Shinrin-yoku (forest-air Bathing, Walking) as a Possible Method of Stress Reduction." *Public Health* 121, no. 1 (January 2007): 54-63. Accessed November 09, 2021. doi:10.1016/j.puhe.2006.05.024.
- "National Parks Hosted 237 Million Visitors in 2020." National Parks Service. February 25, 2021. Accessed November 26, 2021. https://www.nps.gov/orgs/1207/02-25-21-national-parks-hosted-237-million-visitors-in-2020.htm.
- Nevius, Michelle, and James Nevius. *Inside the Apple: A Streetwise History of New York City*. New York: Free Press, 2009.

- "New York, NY." The Trust for Public Land. Accessed November 29, 2021. https://www.tpl.org/city/new-york-new-york.
- "One New York: The Plan for a Strong and Fair New York," The City of New York, April 2015.
- Patoski, Joe Nick. "Is Texas' Overcrowded, Underfunded State Parks System Being Loved to Death?" The Texas Observer. August 02, 2019. Accessed November 22, 2021.
- Pellegrini, Anthony D., Danielle Dupuis, and Peter K. Smith. "Play in Evolution and Development." *Developmental Review* 27, no. 2 (June 2007): 261-76. Accessed November 21, 2021. doi:https://doi.org/10.1016/j.dr.2006.09.001.
- Pellegrini, Anthony D., and Peter K. Smith. "The Development of Play During Childhood: Forms and Possible Functions." *Child and Adolescent Mental Health* 3, no. 2 (1998): 51-57. Accessed October 17, 2021. doi:10.1111/1475-3588.00212.
- Pender, Geoff. "Lawmakers Consider Privatizing Mississippi's Dilapidated, Underfunded State Parks." Mississippi Today. May 10, 2021. Accessed November 11, 2021. https://mississippitoday.org/2020/12/30/lawmakers-consider-privatizing-mississippis-dilapidated-underfunded-state-parks/.
- "PlaNYC: A Greener, Greater New York," The City of New York. 2007.
- Pregitzer, C. C., Plitt, S., O'Connell, T., Charlop-Powers, S.. "Impacts of COVID-19 on Natural Areas in American Cities." Report. Natural Areas Conservancy. New York City, 2020.
- Prochnik, George. "City of Earthy Delights." The New York Times, December 13, 2009. https://www.nytimes.com/2009/12/13/opinion/13prochnik.html.
- "Public Parks." ASCE's 2021 Infrastructure Report Card. March 25, 2021. Accessed November 20, 2021. https://infrastructurereportcard.org/cat-item/public-parks/.
- Ranzal, Edward. "City Councilmen Vote to Dismantle Superagencies Formed by Lindsay." *The New York Times*, April 1, 1977.
- "Reduce Urban Heat Island Effect." EPA. Environmental Protection Agency. Accessed April 14, 2022. https://www.epa.gov/green-infrastructure/reduce-urban-heat-island-effect#:~:text=%22Urban%20heat%20islands%22%20occur%20when,heat%2Drelated%20illness%20and%20mortality.
- Report on Covid-19 Impact of Public Spaces. PDF. New York City: Parks and Open Space Partners, May 01, 2020.
- Ricciulli, Valeria. "New York City Finally Closes Playgrounds Due to Coronavirus Pandemic." Curbed NY. April 01, 2020. Accessed November 19, 2021. https://ny.curbed.com/2020/4/1/21203101/nyc-coronavirus-playgrounds-close-covid-19.

- "Risk for COVID-19 Infection, Hospitalization, and Death By Race/Ethnicity." Centers for Disease Control and Prevention. November 22, 2021. Accessed November 24, 2021. https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html.
- "Robert Moses and the Modern Park System (1929-1965)." Robert Moses and the Modern Park System (1929–1965): Online Historic Tour: NYC Parks. Accessed November 26, 2021. https://www.nycgovparks.org/about/history/timeline/robert-moses-modern-parks.
- Russel, Charles H., J. F. Butterworth, John A. C. Gray, Waldo Hutchins, Thomas C. Fields, Andrew H. Green, William K. Strong, Augaust Belmont, Henry G. Stebbins, R. M. Blatchford, and M. H. Grinnel. *Fourth Annual Report of the Board of Commissioners of the Central Park*. January 1861. New York City.
- "Seneca Village, New York City (U.S. National Park Service)." National Parks Service. Accessed November 22, 2021. https://www.nps.gov/articles/seneca-village-new-york-city.htm.
- Singer, Alan. "Stop Honoring Racists -- Say Goodbye to John Mullaly Park in the Bronx." HuffPost, April 5, 2017. https://www.huffpost.com/entry/stop-honoring-racists--sa_b_9608344.
- Stigsdotter, Ulrika K., Ola Ekholm, Jasper Schipperijn, Mette Toftager, Finn Kamper-Jørgensen, and Thomas B. Randrup. "Health Promoting Outdoor Environments Associations between Green Space, and Health, Health-Related Quality of Life and Stress Based on a Danish National Representative Survey." *Scandinavian Journal of Public Health* 38, no. 4 (2010): 411–17. https://doi.org/10.1177/1403494810367468.
- Sturm, Roland, and Deborah Cohen. "Proximity to Urban Parks and Mental Health." *The Journal of Mental Health Policy and Economics* 17, no. 1 (March 2014): 19–24. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4049158/.
- Takano, T. "Urban Residential Environments and Senior Citizens Longevity in Megacity Areas: The Importance of Walkable Green Spaces." *Journal of Epidemiology & Community Health* 56, no. 12 (December 01, 2002): 913-18. Accessed November 25, 2021. doi:10.1136/jech.56.12.913.
- "Texas State Parks Working to Return to Normal Capacity." TPWD. March 10, 2021. Accessed November 22, 2021. https://tpwd.texas.gov/newsmedia/releases/?req=20210310a.
- The New York City Park Department. *Thirty Years of Progress*. June 9, 1964. A summary of the Parks Department's work in its first thirty years for use by the mayor and the Board of Estimate., New York City.

- "The Oldest Parks (1686-1811)." The Oldest Parks: Online Historic Tour: NYC Parks. Accessed November 30, 2021. https://www.nycgovparks.org/about/history/timeline/oldest-parks.
- Ulrich, Roger S. "View through a Window May Influence Recovery from Surgery." *Science* 224, no. 4647 (1984): 420–21. https://doi.org/10.1126/science.6143402.
- "Upper Manhattan Forest Kids Upper Manhattan Forest Kids." Upper Manhattan Forest Kids. Accessed November 22, 2021. https://www.uppermanhattanforestkids.com/.
- Viteritti, Joseph P. *Summer in the City: John Lindsay, New York, and the American Dream.*Baltimore: Johns Hopkins University Press, 2014.
- Volenec, Zoe M., Joel O. Abraham, Alexander D. Becker, and Andy P. Dobson. "Public Parks and the Pandemic: How Park Usage Has Been Affected by COVID-19 Policies." *Plos One* 16, no. 5 (May 19, 2021). doi:10.1371/journal.pone.0251799.
- Wang, Dan, Kevin Ka-Lun Lau, Ruby Yu, Samuel Y S Wong, Timothy T Y Kwok, and Jean Woo. "Neighbouring Green Space and Mortality in Community-dwelling Elderly Hong Kong Chinese: A Cohort Study." *BMJ Open* 7, no. 7 (August 1, 2017). Accessed November 13, 2021. doi:10.1136/bmjopen-2016-015794.
 - Witkin, Richard. "LINDSAY TO ISSUE 9 'WHITE PAPERS'; Specific Proposals on City Issues Promised -- Aides Wary of 'Image' Appeal Lindsay to Issue 9 'White Papers' on the City's Problems." *The New York Timed*, September 7, 1965.