Illuminations of Safety:

Urban Design, Safety, and Conviviality in Danehy Park

A thesis submitted by

Rachel Dowley

in partial fulfillment of the requirements for the degree of Master of Science

in

Environmental Policy and Planning

Tufts University, July 2020

Adviser: Dr. Kristin Skrabut

Reader: Christine Cousineau

Abstract

Safety and social cohesion are interdependent components in park design. Safety increases visitation, but it also runs the risk of restricting activities at the cost of cultural diversity. How can social cohesion help shape safety design decisions? This thesis uses ethnographic methods to research the intricacies between social cohesion and safety in Danehy Park. First, it explores Danehy's landfill remediation, demonstrating the ways that its aesthetic design has erased the neighborhood's history. Second, it discusses how Danehy has been influenced by spatial safety models such as Defensible Space and Broken Windows Theory, hindering users' right to the city. Lastly, it draws on insights from a multi-species ethnography of the senses to scrutinize how park users perceive safety, highlighting how users determine safety relationally, based upon their ties to those around them. This thesis argues for the importance of planning for social cohesion, not as a mere outcome of safety but as a way to generate it.

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Introduction

On January 2nd, 2019 at 6:46 pm, a call was made to Cambridge Police to report a white male found unresponsive on the ground in Danehy Park, right at the park's New Street entrance, beside a working streetlight. The unconscious man, who was later identified as local resident Paul Wilson of Sherman Street, was taken to the hospital, and was pronounced dead hours later. Officials stated that the cause of death appeared to be blunt force trauma to the head. According to municipal employees, this is the first murder to have taken place in Danehy since its opening nearly 30 years ago.

A little over a week later, the City held a public meeting in the local Peabody School's auditorium. More than 200 people came and voiced their concerns to councilmen, the police commissioner, and the city manager who hosted the meeting. The City staff profusely stated that Cambridge is a safe city, that its parks are places where people can gather and enjoy. They remarked that this incident was a terrible tragedy, and while it is incredibly rare, it is part of living in a densely populated area. One staffer commented, "Yes, we are safe. But Cambridge is a city. That doesn't mean we are going to be safe all the time" (Fisher, 2019a). The district attorney encouraged residents to come forward if they had seen anything that made them feel uneasy or anything that seemed unusual, arguing that all of these seemingly inconsequential details may be essential for the investigation.

As residents shared at the microphones, their questions and suspicions were telling of their underlying fears and concerns. One resident remarked that

they have been seeing teens hanging around in the park after dark and asked if the murder could have been gang related. One person commented on graffiti they saw on a picnic table and asked if there were any connections there. The City addressed both of these concerns upfront, stating they had no evidence to tie the murder back to any gangs or graffiti. Some residents demanded increased lighting in the park, to which the staff gently reminded them that Wilson was found under a working streetlight. Some called for the installation of video surveillance equipment; others argued that this would be an invasion of privacy for abutting neighbors. Another man suggested that the City ought to question every resident in the nearby affordable housing complexes of Walden Square and Jefferson Park, to which the crowd of mostly white elderly people jeered at him and told him to sit down.

By responding to the district attorney's invitation to speak up about anything that made them feel uneasy, this subset of residents revealed what they thought corresponded with danger (teenagers, graffiti, low-income residents, and darkness) and safety (increased lighting and surveillance). The facts around Paul Wilson's murder were troubling to many residents. Wilson grew up in the neighborhood, was incredibly tall at 6'6", was walking not that late in the evening, and was found under a working streetlight. Any attempts to blame the victim for being foolish or weak or to anonymize him as some unknown outsider were not possible. Further for residents who knew Wilson or who identified with him as white, his death prompted some to be distrustful of other races, as demonstrated by the man demanding to question the predominantly black

residents of Walden Square and Jefferson Park. Despite much publicity and numerous requests for information, to date the case remains unsolved. The murder in Danehy Park reveals the precariousness of the public's perceptions of safety in urban parks, and the precariousness of the mutual trust amongst neighbors.

There is an increasingly large amount of literature in planning urban spaces for safety and security. But before exploring these topics further, it is important that I clarify my uses of words safety and security. Some of the authors I will draw from use the terms distinctly (Ghertner et al., 2020) and others interchangeably (Kelling & Wilson, 1982). Safety comes from the Latin *salvus* meaning "uninjured, in good health" while security comes from the Latin *secures* meaning "free from care" ("Safety," 2020; "Security," 2020). While these words stem from different origins, I use them interchangeably because my interlocutors discussed them in this way. Often, my interlocutors would discuss safety in ways that implied feeling secure and discuss security measures that would ensure people were protected and safe. My fieldwork did not emphasize any key difference between the two, thus the language of my analysis reflects this.

There is a strong link between safety and social dynamics in the theories and practices around park design. While safety is not the primary reason why people visit parks, it operates interdependently with their perceived attractiveness. Designers and planners believe that the more attractive the park is, the more it is used and naturally monitored, and thus the safer it is. Jane Jacobs, an early modern observer and thinker in urban planning, argued this point, stating that it is not enough for parks to be attractive to parents taking their children to the park,

for that would only equate to a few hours of use each day (Jacobs, 1961). Rather, parks should attract all sorts of people, like families, exercisers, and employees on lunch break to ensure continual use. But the goal of continual use generates new challenges for the interactions between diverse users and what the social goals of parks ought to be.

Urban parks are designed to operate as social spaces but for decades planners have differed from one another with regards to the depth of human connection that parks ought to provide. Their models range widely in the significance they give to interactions between strangers. Parks have been recounted as strictly superficial spaces where strangers implicitly agree to keep interactions brief and jovial (Jacobs, 1961), as convivial places where everyone is at ease with difference (Rishbeth & Rogaly, 2017), as grounds for social cohesion where mutual trust is formed from shared values and cooperation (Peters et al., 2010), and as community meeting spaces where members feel valued and believe that their social and physical needs will be met by one another (Francis et al., 2012).

Some argue that the social role of parks is fixed. Jane Jacobs believed that their beauty lies in their silently agreed-upon superficiality (Jacobs, 1961). But this idea has been countered, arguing that to achieve conviviality in culturally diverse neighborhoods is to grant one the moral right to express one's own culture, to represent various heritages, to welcome and honor the recreational experiences of different worldviews, to allow the possibility of confrontation between cultures that can create new social processes, and to provide "a form of

cultural resistance to political and economic domination by elites and power asymmetries and a way to counteract relations of dependency" (Hannerz, 1996; Low et al., 2005, p. 17). Thus, convivial spaces act as a steppingstone to greater democracy in cities by constructing a more inclusive understanding of the public (Caldeira, 2000). But in the history of planning, ideals such as social harmony and coexistence have been used to invoke control and have been pursued using strategies of assimilation. Henri Lefebvre argued that spaces of social respite made daily unjust hierarchies more tolerable (Lefebvre, 1992). In this case, the state provides public places that facilitate an illusion of equality that makes structural inequalities in other realms, such as the work environment, more permissible. Further, parks have been designed to create harmony via cultural assimilation. For example, while Central Park was said to be designed for all classes, it was built to middle-class standards with the hopes of compelling the working class to emulate the social behaviors of high society (Taylor, 1999). When the state executes such high measures of social and spatial control, the space becomes sanitized. My use of sanitization to describe this phenomenon references Mary Douglas and her work analyzing the societal standards that dictate when something is deemed acceptable or as "matter out of place" (Douglas, 2003). In the case of parks, specific behaviors are deemed offensive or out of place in attempts to maintain "order" as defined by the state (Merry, 2001). But ideals of order, when left unchecked, lead to the homogeneity of spaces, which ultimately strains the social cohesion of the neighborhood (Caldeira, 2000). Sanitization is both the determination of behaviors as out of place and the

resulting homogeneity of the space. This thesis will be discussing conviviality to great length, and at points will be arguing for greater policies to increase conviviality. The goal is not to have this conviviality be one of strictly superficial encounters or of social control, but one that acts as a vehicle for cultural resistance to make spaces more democratic.

Danehy Park, a 50-acre public recreational facility in Northwest Cambridge, MA, is an excellent case study for examining safety and neighborhood conviviality due to its size, complex topography, unique history, and the demographics of the neighborhoods surrounding it. I reference Danehy's surrounding neighborhoods as Northwest Cambridge, a region coined by a publication of the Cambridge Historical Commission (Krim, 1977). It refers to several neighborhoods in that part of the city, including North Cambridge, Cambridge Highlands, Strawberry Hill, and parts of Neighborhood Nine and West Cambridge. While Danehy Park is technically in Neighborhood Nine, it borders on each of these neighborhoods (Figure 1). Further, the boundary of Northwest Cambridge more accurately represents the historical and present-day class boundaries and zoning, topics that will be discussed further in Chapter 1.
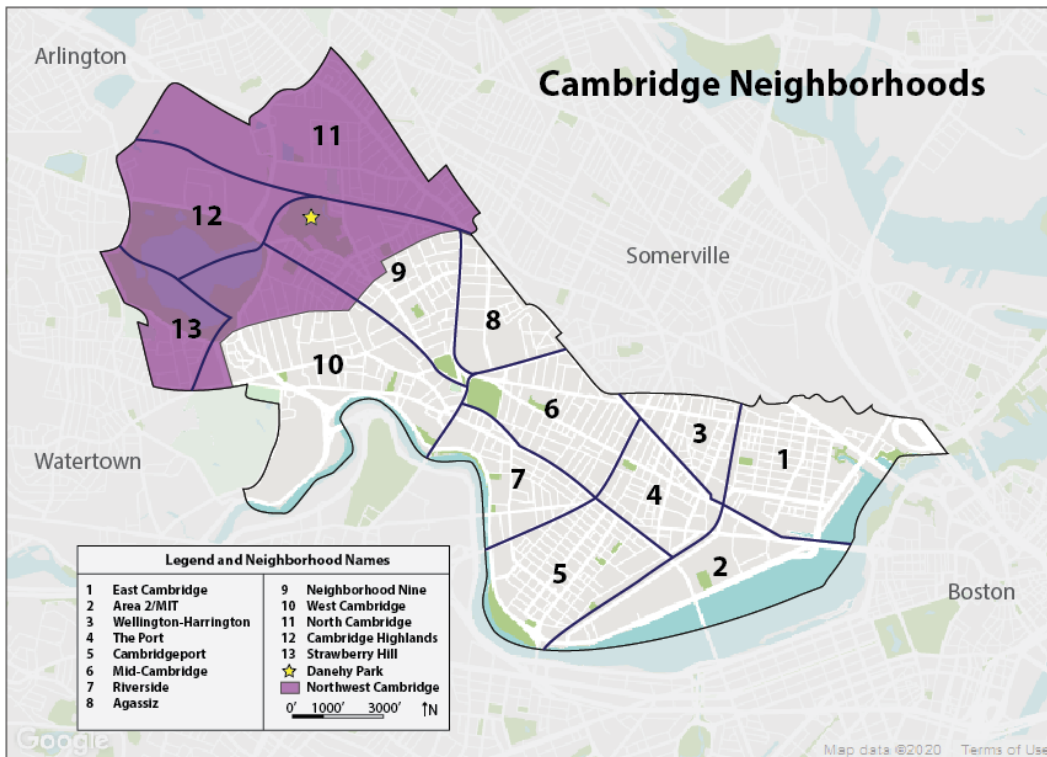
Figure 1 The neighborhoods of Cambridge overlaid with Northwest Cambridge's boundary, as defined by Krim, 1977, p. x. The present-day location of Danehy Park is highlighted in yellow.

Danehy Park, which has the same land area as Boston Common, is home to many amenities, including three artificial turf fields, three softball fields, a picnic area, two playgrounds, a bathroom facility, a splash pad, an artificial wetland, art displays, and nearly a mile of trails around it (Figure 2). Its rolling hills are the product of over a hundred years of industrial land use, as it transformed from a clay pit to the city dump to finally being remediated and converted into a park. Having been commissioned to be built in the 1980s and opening in 1990, it was one of the first projects like it in the country. Danehy Park increased the city's public space by 20% and gave the community greater access to athletic fields. The neighborhoods surrounding Danehy have changed over the

years, from immigrant, working-class dwellings to middle-class homes and affordable housing complexes. While some descendants of these immigrant families still remain in the area, Northwest Cambridge is rapidly gentrifying. As the neighborhood continues to change, housing both increasingly affluent families and low-income residents, the City must consider how to promote conviviality and cultural inclusiveness in Danehy Park in order to prevent the social-political exclusion of low-income families and people of color and to minimize tensions among its residents (Caldeira, 2000).

Figure 2 Satellite view of Danehy Park. Trails are outlined in navy. Key amenities shown in orange of the a) artificial wetlands, b) playground, c) bathroom facilities, d) splash pad, e) picnic and grilling area, f) paths, g) public art, and h) track. Base map courtesy of Google Maps.

Further, Danehy makes for an interesting case study as the City designed every contour, every tree, and the wetlands of this park for the specific purposes of creating a safe, monitorable space and ensuring successful environmental remediation. With Danehy being such a novel project at the time of its proposal, the City had to deploy a great amount of resources to convince residents both that the park was not an environmental hazard and that the park would not attract undesired attention or nefarious activities. While the formation of Danehy is a unique story, it can help inform best practices for environmental remediation, promoting safety, and fostering conviviality for parks across the country. Danehy's story shows that the work of creating a safe, vibrant park requires more than substantial funding or socioeconomically diverse neighborhoods nearby; it requires an intentional investment in promoting cultural diversity in the space itself.

Illuminations of Safety examines the relationship between security decisions and neighborhood conviviality in Danehy Park, exposing the ways in which safety measures have the power to both foster conviviality and threaten social cohesion, and exploring the extent to which a neighborhood's social cohesion motivates their implementation of new safety measures. The first two chapters examine the City's efforts to make Danehy Park feel safe for its users, while the third chapter explores some of the ways humans use their senses to determine safety. The first chapter recounts Danehy's transformation from a landfill into a park in order to give context to the City's present-day considerations for safety. On the one hand, Danehy's history is an inspiring story

of successful risk-taking. The City had to take calculated risks and address strong public concerns in order for the project to succeed. At the same time, it is a cautionary tale of fostering a sense of safety too well. In their attempts to prove to the public that a landfill could become an aesthetically pleasing park, they designed it so well that many present-day residents and users are unaware that it is a remediated landfill. This public amnesia threatens the continued success of Danehy's remediation as users inadvertently damage the plants that act as erosion control measures for the landfill's cap and petition for capital projects that could exacerbate the escape of the landfill's methane gas. The City fostered such a pleasing aesthetic and an immense sense of safety that it inadvertently created new threats to the park's remediation. This theme of emphasizing security and aesthetics to the point of threatening safety continues in Chapter 2, where I evaluate the City's deployment of spatial security theories such as Defensible Spaces and Broken Windows Theory. Defining safety via monitorability, such as lighting and clear sight lines, has led to a false sense of safety. I also argue that in the City's intensive efforts to make the park monitorable and remain environmentally remediated, they left little room for creative, unplanned uses which ultimately harms residents' right to the city and weakens opportunities for conviviality and residential ownership of the park. Finally, in Chapter 3, I investigate how park users deploy their senses to determine the safety of their environment. I explore the sensorium, arguing that even the most visceral and seemingly natural perceptions of things are socially influenced (Classen, 1997). To gain a new perspective, I practice methods from multispecies ethnography and

anthropology of the senses as a dog walker, which I will elaborate on below in the methods section. From my field research, I uncover that sensing safety is relational, that my demeanor, alertness, and guardedness were influenced by which dog I was walking and the strangers I came into contact with. I make a case that a sense of safety is fostered not only by security measures but by the social cohesion of the neighborhood. In my conclusion, I make policy recommendations regarding how Cambridge and other cities can improve park security through encouraging greater conviviality, not only nurturing a sense of safety but also creating a steppingstone for public spaces to be more democratic.

Methods

Given the fact that *Illuminations of Safety* covers multiple topics including environmental remediation, park design, crime and security, and the sensorium, I deployed a multi-methods approach. Overall, my research methodology was designed to understand the planning of Danehy Park from the perspective of those who have overseen it, to observe the park through the experiences of those who use it, and to note how ideas of security and feelings of safety emerge from these vantages. From August to November of 2019, I accomplished these goals through four main channels: I interviewed key decision makers for Danehy Park, reviewed the Cambridge Historical Commission's archives for historical documents regarding the plans for Danehy Park, conducted over 60 hours of participant observations to analyze recreational activities in Danehy, and attended park

events. My approaches were heavily influenced by the field of anthropology, which I elaborate on further in each section.

Interviews with Key Decision Makers

For my interactions with key decision makers, I conducted semi-structured interviews with people from a wide array of professional backgrounds, including a director of recreation, a former city manager, an arborist, an employee of the arts council, a landscape architect, and a playground designer, to name a few. Ranging in expertise, each interlocutor had a position of authority over some aspect of Danehy Park and offered me some unique entry points for understanding the park, whether it be through public art, trees, public opinions, or environmental remediation. My questions revolved around understanding their job as it relates to Danehy Park, what their current perceptions are about Danehy's security and safety, how Danehy has changed over the years, and what improvements they believe ought to be made to the park's security measures. Per the nature of semi-structured interviews, each interview looked different with some lingering on certain topics more than others. Some had histories and insights to share that went beyond what my questions could have anticipated, providing me insights that I couldn't have foreseen.

Historical Document Analysis

Given that the creation of Danehy Park is recent history, I found it to be both feasible and worthwhile to review Danehy's historical documents which are

on file at the Cambridge Historical Commission. I observed from my interviews that Danehy Park is only in its second generation of decision makers. A number of the key landscape architects, project managers, and directors who oversaw the park during its construction passed the torch to their successors within the past 10 years, and several still have peripheral roles in the City. This means that the original visions and objectives of Danehy Park still play a crucial part to how Danehy Park is operated today.

The Cambridge Historical Commission had a number of documents on file, including a Cambridge City Dump feasibility survey drafted by the consulting landscape architects for the Cambridge Planning and Development Department, newspaper articles on proposals for the park, preliminary design drawings, funding requests to the Division of Conservation Services, polaroid slides of the landfill as they capped it, and brochures for the public from the opening year (1990) explaining how the park was created from a landfill. My analysis of these documents helped me understand the persuasive language that was used to convince planners and citizens alike that capping the landfill and converting it into a park was safe. It also allowed me to crosscheck the accounts of experts I interviewed with the files' formal memos and newspaper clippings.

Park Events

My interviews and my document analyses provided me a lens into understanding the overseers of Danehy Park, but not the experience of the park in real time. One avenue for interacting with the park firsthand was through a

number of the planned events Danehy hosted each year, including such activities as Shakespeare performances, an old-time baseball game, a jazz festival, and Danehy Park Family Day, to name a few. I attended these events and others to understand how the City oversaw these events and to see in what ways these events drew neighbors and new users to the park. I engaged in brief conversations with attendees to compare my own observations of safety with that of others. I also interviewed a number of the event planners for these events as well so that I could learn more about the formal plans for safety and ground truth them from my observations from attending. Studying park events allowed me to compare park oversight and park use side by side, by both hearing of the intent of the event planner and seeing the efficacy of its execution.

Participant Observation

In addition to attending park events, I conducted over 60 hours of participant observation in Danehy Park through a variety of activities, including dog walking, bird watching, and observing recess in order to interact with users as they visited the park and experience firsthand moments of conviviality and insecurity. These methods proved especially helpful for my examinations of how users deploy their senses to determine safety, providing understanding to the visceral sensations that contribute to the overall park experience. I chose my activities based on my interests and because these entry points gave me opportunities to interact with park users. I must note that Danehy Park has a large amount of land area devoted to athletic fields, but this was not the central focus of

my research project. The city of Cambridge follows national regulations for ensuring the safety of athletic fields, a subject of many academic research projects (Breivik, 2010; Frosdick & Walley, 2010; Harichaux, 2005; Howe, 2004). Instead, my goal was to explore the more unique elements of Danehy, such as its large central hill or its methane gas vent trenches. These features were engineered by the designers distinctly for Danehy while the fields had athletic regulations systematically applied to them as they are with every park. As part of my research, I did investigate how the fields were booked and attended a few games. But that was the extent of my engagement with the athletic fields.

The findings I elaborate on most in my analysis were from dog walking, because they allowed me to critique how I as a human perceive danger and interpret safety. I gained a majority of my observations from walking just two dogs named Sofie and Jerry. I originally engaged in dog walking because I thought it would bring me to the dog park to interact with a local community of dog owners. But I quickly found out that Sofie and Jerry, like many dogs, aren't dog friendly. They were my individual companions, rather than an excuse for other kinds of sociality. They gave me an alternate vantage point from which to view the park, allowing me to make the familiar strange, as is encouraged in anthropological methods. My analyses were influenced by the theories of multi-species ethnography, which supports studying how other species are shaped by political, economic and cultural forces (Kirksey & Helmreich, 2010). Donna Haraway's *The Companion Species Manifesto* helped me establish a relationship with these dogs, not anthropomorphizing them, but still treating them as key

informants whom I can learn from (Haraway, 2003). As I walked these dogs, I began to observe how they sensed the world around them, how they perceived danger, and how my demeanor shifted based upon which dog I was walking. Contrasting my senses to theirs, I was able to notice the unique ways humans use their senses to interpret safety and how our primarily sight-dominant perceptions of safety impact policy and conviviality. I also engaged in multi-species ethnography as a bird watcher, noting the ways people interact not only with each other but with other species on their visits. A local birdwatching group weekly gathered to survey the park's wetlands during the fall migration. While I did this less frequently than dog walking, partly due to scheduling conflicts and bad weather, participating as a bird watcher allowed me to understand the perspectives of other park users and have informal discussions of safety. These bird watchers manipulated their environment in unique ways to draw out more birds, creating a sense of safety for other species. Bird watching also allowed me to talk with a primarily elderly and retired population of park users and understand what parts of the park they enjoyed.

A Note on Snowball Sampling and Constructing Community

My methodology evolved through and was supported by the social cohesion of the neighborhood surrounding Danehy Park, and by the connections of those in power in the city of Cambridge. On the one hand, my method of finding new interlocutors through existing interlocutors, also known as snowball sampling, helped me map the connections between various people in certain

communities, but it also revealed the social fault lines that governed park design and use. The segregation of communities surrounding Danehy Park made it difficult for me to gain connections beyond my initial social circles.

My interactions with the neighbors and authorities of Danehy Park began with one woman, my landlord. My landlord's family has lived across from Danehy Park for multiple generations and with that history comes connections in the neighborhood. After interviewing her, she recommended that I talk with her childhood friend, who now works for the police department. From that friend and her mother, I was given contacts at the Cambridge Arts Council and the Cambridge Historical Commission, who in turn gave me contacts at the Department of Human Services, who then gave me contact to former project managers who oversaw the project from the beginning. Because of the close social circles I was invited into and because Danehy is part of Cambridge's recent history, I witnessed ghosts from historical documents become living beings across the table from me.

I was able to find a few interlocutors outside of my landlord's connections, and these more spontaneous interactions also led to helpful resources for my project. Perhaps the strongest example is with Mitchell, a man who came to the historical commission looking for history on his family's home. When I heard him say his address to the assistant at the front desk of the historical commission, I recognized it as being close to Danehy Park. I struck up a conversation with him and he agreed to interview with me. In addition to hearing stories about the history of the neighborhood, he also introduced me to a neighbor

in need of someone to walk her dog, Sofie. Within a couple weeks, Mitchell went from a stranger to being the reason this neighbor trusted me so much with her beloved dog. Even from the most impromptu of introductions, I was invited into the social webs of my interlocutors.

From just my landlord came a web of connections across generations, social classes, and race. But there were limits to this reach as I discovered signs of social fragmentation within my own neighborhood. The various affordable housing complexes surrounding Danehy Park remained elusive to me. By perhaps no coincidence, two of the housing complexes, Rindge Towers and Jefferson Park, were out of the way and inconvenient to get to. The apartment complex on my street, Walden Park, felt exclusionary to outsiders like me, with its u-shaped buildings surrounding playgrounds and parking lots. With little public space surrounding the buildings, it remained difficult for me to form connections via casual chance encounters. I would often ask interlocutors if they knew anyone in these buildings, but the answer was always no. Further, I struggled to have organic conversations with park attendees due to the nature of how the park was designed. A large number of visitors simply passed through the park, and others were there for structured, exclusive events such as soccer games and birthday parties. There were few spaces to naturally converse with fellow attendees, so Danehy itself failed to be a helpful avenue for meeting new interlocutors.

Because my methodology was created out of conviviality in a fractured community, my observations are limited to those of key decision makers and middle-class families who use Danehy Park as it was hard for me to make

relationships outside my natural social circles, namely people who weren't white and middle class like me. Because I was not able to hear from a large or diverse enough sample of the neighborhood, I did not include many analyses of park user perspectives, beyond a few stories that added detail to historical records I found. In a project focusing on perceptions of safety in Danehy, it seemed inaccurate and inequitable to only elevate the voices of those whom the park best serves: the middle and upper class. It seemed suitable to share the historical accounts because in this instance I was able to hear voices from multiple racial and class backgrounds. In my methodology's successes and in its shortcomings lie substantive observations on the state of conviviality and sensing safety in Danehy Park and its surrounding neighborhoods. It is my hope that my research would encourage future studies that incorporate more of the voices of lower-income families and their experiences living in Northwest Cambridge.

Chapter 1

The History and Environmental Remediation of Danehy Park

Introduction

The word remediation stems from the Latin *remediare*, from *remedium* which means "a cure or a remedy" ("Remediation," 2020). Danehy Park is frequently acknowledged as an environmentally remediated park, as it used to be an active landfill. At present, the park presents itself as pristine and aesthetically pleasing, with tall mature trees, rolling hills, and a lush wetland. But in reality, Danehy's remediation is ongoing and the park will never cease to be a landfill. The landfill's cap must remain intact, the trash will continue to compress and decompose, and methane gas will periodically be emitted. While Northwest Cambridge has transformed over the past 150 years from an urban periphery to a predominately affluent suburb, the neighborhood's industrial history still has profound impacts not only for Danehy Park but for the social class dynamics for the residents surrounding it. The purpose of this chapter is to examine the history of Northwest Cambridge and analyze the aesthetics-oriented environmental remediation of Danehy that made into a world-class park.

In this chapter, I will explore the great work that went into convincing the public that remediating the city dump into a park would indeed be safe and aesthetically pleasing. The City's efforts were successful, as most new visitors are unaware that it used to be a municipal dump. But the City's success in providing a beautiful park came at the cost of erasing important history. As more citizens of Cambridge are unaware or forget that Danehy rests on top of a dump, they

unintentionally tamper with key erosion control measures and grow more vocal in their desires for park improvements that could be structurally unsafe or infeasible due to potential methane gas emissions. The story of Danehy's remediation not only holds important lessons for environmentally managing a site but it also foreshadows the complications that come with using aesthetics to define security and create a sense of safety. The City's efforts to make the park look and feel safe may have undermined the park's own safety, a theme that will appear again in later chapters. Danehy's environmental remediation highlights the risks of sanitizing spaces, in this case by deeming its history as a landfill as undesirable and needing to be erased. At the same time, Danehy's success also serves as an inspiration for the City to continue to take greater calculated risks to improve the park

Northwest Cambridge as an Evolving Urban Fringe

The story of Northwest Cambridge is one of marginalization, class segregation, and movement, as early on the neighborhood was designated to host aesthetically displeasing industries as well as the city's working-class immigrants. And as the city grew and residential suburbs expanded, the lower class were continually displaced by the affluent who lived within closer and closer proximity. The Cambridge Historical Commission's book on Northwest Cambridge deems the neighborhood as the "urban fringe" (Krim, 1977, p. 18). At the start of the 1800s, Northwest Cambridge was predominantly farmland neighboring the Alewife Brook, the Great Swamp, and the Fresh Pond Meadows.

But as Boston transitioned during this time from a merchant seaport into an industrialized city, Northwest Cambridge provided cheap, accessible land that could produce raw materials to fuel industrial factories in Boston (Krim, 1977, p. 18). These spaces of production started with cattle yards, slaughterhouses, and tanneries, but quickly expanded to carriage factories and ice houses. This land was also attractive for its proximity to regional transportation routes that connected rural areas to Boston, including the Fitchburg Railroad and Concord Highway, which is now Massachusetts Avenue. However, as the city grew and affluent homes sprawled further out from Boston's downtown, the cattle yards near affluent homes were forced to close towards the end of the 19th century and move to more remote, vacant areas by Fresh Pond (Figure 3), the first of many examples of the displacement of the lower class.
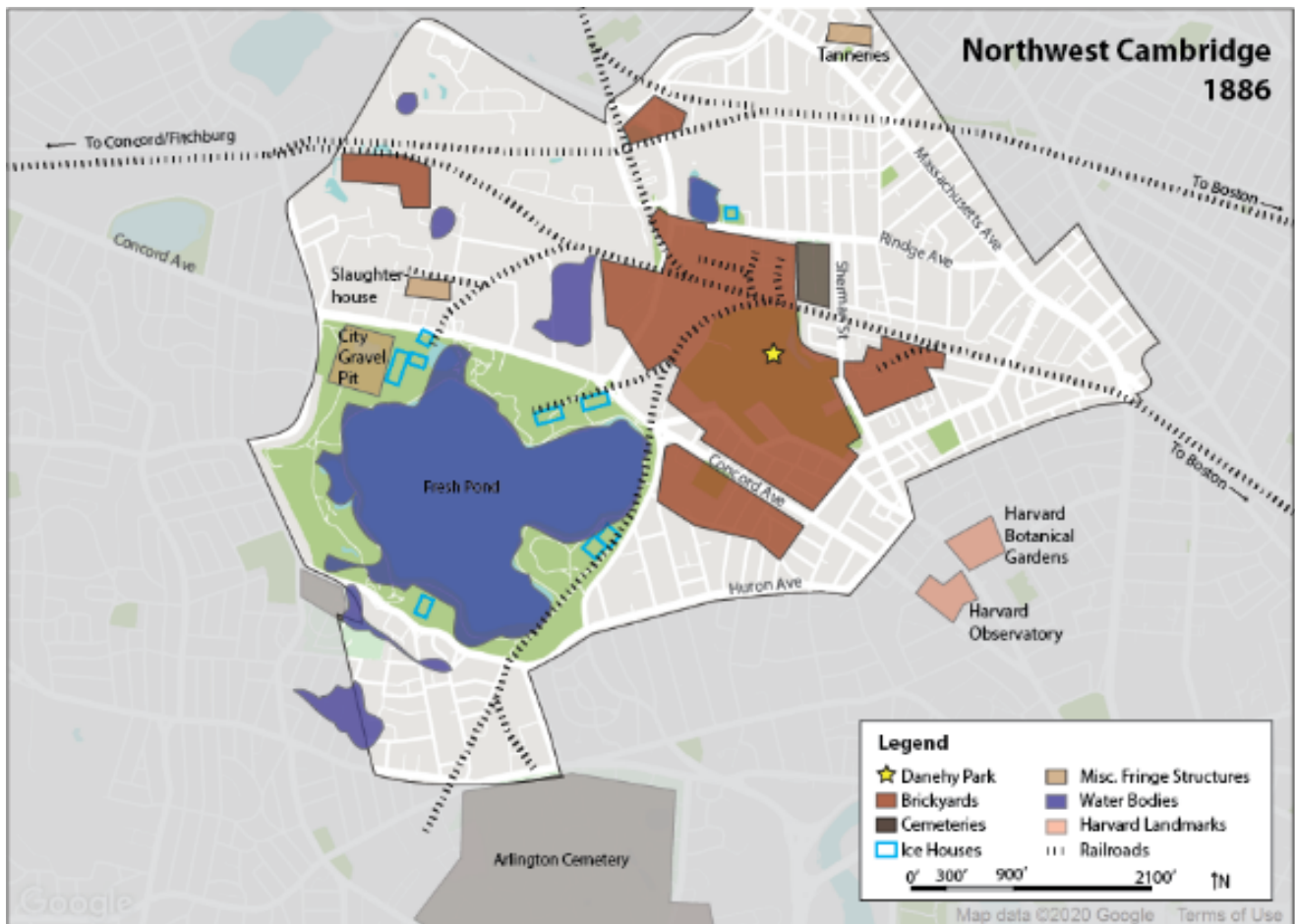
Figure 3 Urban fringe activities of Northwest Cambridge. The yellow star denotes the current location of Danehy Park. Roads represent the current configuration, for reference. Image modified from Krim, 1977, p. 19.

One of the most notable forms of raw material production in Northwest Cambridge was clay mining and brick manufacturing, which took off in the mid-1800s as New England cities rapidly grew and required brick for their construction. Underneath the Great Swamp laid large deposits of glacial clay. Thus, these long stretches of thickets were quickly transformed into industrial complexes for excavating, heating, and drying the clay to form bricks. The clay from these deposits were used to construct many affluent spaces including Boston's Back Bay, Trinity Church, and Harvard University's Sever Hall. Over the course of the 19th century, Northwest Cambridge would be home to over a

dozen private brick manufacturing companies. But as the smaller clay deposits were depleted and due to the economic panics of 1873 and 1893 halting industrial expansion, many small brickyards closed. One of the few remaining brick companies, Bay State Brick, which by 1900 would become New England Brick Company, focused their Northwest Cambridge mining efforts on a deep clay depository by the Fitchburg Railroad which is the present-day site of Danehy Park. This clay excavation site would be dug nearly 80 feet deep and would continue to be mined through the first half of the 1900s.

As other brick fields were exhausted, they were given new designated purposes consistent with the urban fringe. These sites became chemical plants, refuse dumps, and housing projects (Krim, 1977, p. 28). Jefferson Park is a public housing complex that was built in 1949 on top of an old brickyard. In 1951, the City bought the land that is now Danehy Park because they needed a municipal dump and because the clay pits were nearly exhausted (Figure 4). The City allowed New England Brick Company to continue to excavate the remaining clay on site. But clay production abruptly ceased in 1952 when the last remaining steam shovel was buried in a landslide and unable to be recovered. Some athletic fields were also established in the area due to the wide expanses of undeveloped land that were unsuitable for buildings. St. Peter's Field, which is directly adjacent to Danehy Park, was converted into a ball field after formerly acting as an ash deposit site for burned refuse. So, while industrialization decreased in New England, Northwest Cambridge remained an urban fringe through much of the second half of the 1900s.

Figure 4 1951 aerial view of Northwest Cambridge facing west. The present site of Danehy Park is in the top-left corner. Image courtesy of Cambridge Historical Commission.

Providing the labor for these urban fringe activities over the years were multiple waves of immigrants from various countries, whose settlement in Northwest Cambridge defined the housing styles and colloquial names of the neighborhoods. In the 1840s, the workers were predominantly Irish immigrants. French-Canadian immigrants settled into the area in the 1880s, and Italian immigrants arrived at the turn of the century. Sherman Street was originally called Dublin Street and the houses that now are near Bellis Circle used to be referred to

as New Dublin because of the high proportion of Irish immigrants. Brickyard workers had homes surrounding the pits and some had dwellings built on parcels that had previously been shallow clay extraction sites. While Northwest Cambridge was not developed under any unifying plan, housing developments were consistently designed to be grouped together by class (Krim, 1977, p. 37). Middle class dwelling units were built up near Massachusetts Avenue, which provided a direct route into Boston, and Huron Avenue, which bordered many long-time affluent families of Cambridge just to the south. Working class subdivisions developed around Rindge Avenue and Sherman Street, further away from the main roads and closer towards the undeveloped swampland (Figure 3). While some class zoning was subtle, other measures were more direct, like suburban subdivision homes having deed restrictions that prohibited "nauseous or offensive business" which would threaten the "quiet and comfort of the neighborhood" (Krim, 1977, p. 39). Such language barred people who worked as tanners, blacksmiths, and brickmakers as they often worked and sold goods from their homes. Other deed restrictions were even more overt in their exclusion, allotting sales only to native-born citizens of the United States.

Additionally, the stratification of class was reinforced by the introduction of the trolley car system to Northwest Cambridge as it was inaccessible to the working class, accessible to the middle class, and unattractively noisy to the upper class. At the turn of the century, Northwest Cambridge gained better transportation networks through the electric trolley system on Massachusetts Avenue and the construction of the Harvard Bridge. Because the electric trolley

was faster and cheaper to operate than the horse-drawn cars that preceded them, parts of Northwest Cambridge were now a desirable suburban development for middle class families commuting to Boston. Increases in housing demand caused builders to change from constructing single family homes to double and triple decker houses. But in places where the trolley was promised but never delivered, like along Concord Avenue, the developers had a difficult time selling, especially with so many clay pits still within close proximity. Eventually in the 1920s, black families from the South End who were seeking suburban homes away from the city moved into the neighborhood (Krim, 1977, p. 50). Meanwhile for the upper-class residents near Massachusetts Avenue, the trolleys were a nuisance. Some upper-class families, who originally settled in the area to be away from the city noise, moved out and their homes were converted into doctors' offices and businesses. With every wave of development and urban economic change, there were continued tensions and negotiations for where people of various socioeconomic backgrounds settled in the area.

While Northwest Cambridge today has largely been suburbanized, some themes of class segregation prevail as there are still a few distinct dividing lines between the wealthy and poor. Huron Avenue remains an informal social boundary between the now middle-class suburb and the historical houses of Old Cambridge. In a 15-minute walk from Danehy, the architecture transitions from triple-deckers to multi-million-dollar, single-family gated homes. Walking in another direction, the Fitchburg Railroad acts as a partial dividing line between single or double family homes to the south and the affordable housing complexes

of Jefferson Park and Rindge Towers to the north. Areas south of the railroad have witnessed dramatic increases in housing value. The two-family, former workers' home I resided in for the duration of this thesis sits across the street from the park. According to public records it sold for $495,000 in 2010 and is currently worth over $870,000 according to Zillow. Other multi-family homes on Sherman Street are worth well more than $2-3 million.

This transition to an upper-middle-class neighborhood has led to a greater public push for better aesthetics and security in order to maintain or further increase property values. But while Northwest Cambridge is increasingly affluent, its urban fringe history subtly remains through its affordable housing developments and with Danehy being a remediated landfill. And where previously the arrival of affluent residents would have forced urban fringe elements to retreat, these present-day structures are fixed so that wealth and working class exist right alongside each other. But the negotiations of shared and adjoining space continue. In the following chapters, I will discuss how these social dynamics influenced Danehy's security and access, establishing certain aesthetic standards by arguing that they would ensure public safety.

Before Northwest Cambridge could become an aesthetically pleasing suburb with a world-class park, the City had to extend the imaginations of its residents and provide detailed engineering plans to state agencies to convince them all that a mountainous landfill could become a vibrant park. In the next section, I will give an overview both of how residents perceived the dump and how the City opportunistically managed to negotiate with state and local entities

in order to make Danehy Park economically and environmentally feasible. In the section after that, I will go into more detail about Danehy's environmental remediation, the calculated risks the City had to take, and how aesthetics drove perceptions and negotiations.

From Landfill to Park - An Overview

To many residents, it was hard to imagine a park in the place of what they had only known as a dump. The Cambridge City Dump was commissioned in 1951 and remained an active dump site until 1971 (Figure 5). The long-time residents of the neighborhood whom I talked to about Danehy Park loved to bring up their stories of growing up next to the dump. They would share about how it was constantly smoldering from underground fires of methane gas releasing itself from the fill. One interlocutor's family friend worked for the fire department and would have frequent overnight shifts in the dump's guard shack, where he had to watch for sparks that could have caused serious fires. He spoke of seeing rats the size of dogs. Another interlocutor remarked that as a teenager, he and his friends loved to drive up to the dumpster of the Stop and Shop Supermarket that bordered the dump and watch rats come from the dump, jump impressively from the loading platforms, and into the dumpsters.

Figure 5 1962 photo of municipal dump trucks unloading in the Cambridge City Dump. Image courtesy of Cambridge Historical Commission.

Cambridge City Dump also acted as an informal playground for neighborhood kids. Young boys loved to use their BB guns to shoot at the rats, which some recounted as numbering in the thousands. Other boys would play fort in the abandoned refrigerators and hide there to read Playboy magazines. Piles of sand stored there for the winter snow were used as summer sledding hills. It is unclear from my interviews the extent to which girls played in the dump. From the handful of interlocutors I talked to, they remarked that their brothers or their

now husbands had stories of playing in the dump. One female interlocutor did share about exploring and playing in the dump as a child. She knew of a rumor of a child who died from being trapped in one of the abandoned refrigerators, so her parents insisted that she avoid going into them. From my interviews, it seems children went into the dump informally and unattended by adults and continued to do so until the landfill was capped.

Cambridge City Dump was decommissioned in 1971 when it reached capacity, having filled what was once a 30-foot deep open clay pit with nearly 60 feet of trash, creating what is now the park's central, the highest point in Cambridge. Beginning in 1972, the Cambridge Planning and Development Department commissioned a feasibility survey with the engineering consulting firm Haley & Aldrich, Inc. to determine the potential long-term uses of the dump. In the cover letter of their report, they stated, "In our opinion, it is technically feasible to use the Cambridge City Dump for building and/or recreational development provided certain criteria are met. Buildings will require pile foundations. Potential long-term settlement of the existing refuse fill and the hazards of methane gas will be the major site development problems." Interestingly, this account differs slightly from how my interlocutors who oversaw the project framed the narrative of Danehy Park, who simply stated that creating a park was always seen as the only viable option. The strategy of constructing buildings is not echoed much in other documents, perhaps showing how best practices changed as the expertise in landfill remediation progressed.

Considering Haley & Aldrich's recommendations, the City recognized that it lacked open space in this densely populated area and eventually decided to designate the area for recreational facilities. This plan would allow for Cambridge Rindge and Latin School, the city's public high school, to have designated fields for practice, as well as provide ballfields for the youth sport organizations that were growing in prominence at that time. Happening concurrently, the MBTA was planning an extension of the Red Line from Harvard to Alewife. In 1978, the City made a contract with the MBTA, allowing them to place the excavated fill from the Red Line extension on top of Cambridge City Dump. The MBTA paid the City $3.6 million for use of the site and capped the dump using plans drafted by Carol Johnson Landscape Architecture firm. The City also obtained $2 million from an Urban Self-Help Program grant and $2 million from a city bond. With a budget of $7.6 million dollars, the municipality constructed a park without requiring any additional taxpayer dollars. By the time the park opened in 1990, this 50-acre recreational facility increased the city's open space by 20%.

Danehy Park was one of the first landfills in the country to be remediated into a park. The City had few precedents and following Danehy's completion, became the precedent for landfill remediation for other municipalities. Because of its novelty in concept, citizens were concerned throughout the process and the Massachusetts Department of Environmental Protection (MassDEP) did not have formal guidelines for landfill remediation yet. Project leads told me, and demonstrated to me through their knowledge, that they sought to be extremely thorough with their research and permitting for designing Danehy. Taking on

Camp Dresser & McKee, Inc., now CDM Smith, as their engineering consultant, the City worked closely with MassDEP to meet all concerns as MassDEP raised them. One project manager shared with me how towards the end of the project's design phase, a resident wrote to the television show *20/20* to expose the potentially dangerous work the City was undertaking. The television crew attended a few public meetings. According to him, when they saw how well the City answered their questions, they never ran the story because there was nothing shocking to reveal. The City had done their homework to ensure the safety of this project. That is not to say that every decision was made with no trade-offs, but it was done well enough to convince concerned citizens of the viability of the project.

Environmental Safety Concerns – Seepage, Coverage, and Rematerialization

While many factors went into the environmental remediation of Danehy Park, three main subject matters were crucial to Danehy's remediation efforts: seepage, the ways in which groundwater was tested and flooding was managed through Danehy's design; coverage, how soil and vegetation were used to create a more permanent cap for the refuse below the soil; and lastly, the rematerialization of refuse via methane gas and public art. In each of these topics, the themes of aesthetics and the erasure of Northwest Cambridge's industrial past arise. In some instances, it is the City advocating for improved aesthetics and erasure. At other points, the City faces undue pressure from the state to contain the dump's pollution when in reality the entire neighborhood shares this industrial history.

Each of these environmental considerations also demonstrate how safely

remediating Danehy did not come without opposition, subjective decision

making, and negotiating what environmental safety looked like in Danehy Park.

Seepage

As the City sought to accomplish its permitting for Danehy, state

environmental officials were quick to emphasize the landfill as a threat to

groundwater contamination, given its former use as a dump. Groundwater

management was given a great deal of consideration due to the fact that Fresh

Pond Reservoir, one of the city's major sources of water, was nearby. Early in the

project, the City's consultants created a map of the flow of groundwater. It was

discovered that if Fresh Pond Reservoir's water level went below a certain point,

the contaminated groundwater from Danehy and surrounding areas would begin

to seep in. Thus, the City decided to use external reservoirs in Belmont to

maintain Fresh Pond at a certain water level to achieve the needed hydrostatic

pressure. As part of the permitting process, the City took groundwater samples to

measure for contaminants. During their initial monitoring in the 1980s,

technology for groundwater testing progressed so dramatically that they were able

to detect minute levels of unfamiliar compounds. Detection was advancing faster

than the public health research of these compounds. To the surprise of MassDEP

and the city staff, the groundwater samples off-site from Danehy were worse than

the on-site samples, due to the region's shared history as the industrial urban

fringe. These presumptions show how quickly the history of the neighborhood

had been forgotten and how the current aesthetics of these sites shaped officials' predictions for identifying areas of environmental concern.

Given the landfill's aesthetic, Danehy Park was designed to detain stormwater runoff on site until other stormwater runoff in the area could be processed through the municipal sewer system. Prior to Danehy's completion, the neighboring residents of Bellis Circle had major issues with flooding following any large storm event. Bellis Circle was bordered by an excavated clay pit that was subject to such regular flooding that common wetland plants such as the common reed (*phragmites sp.)* had taken root. With time, the establishment of wetland plants led residents and avid birders of the area to believe that this was a naturally occurring wetland that ought to be preserved, another example of historical memory erasure. Only after the engineers explained the subterranean contents of the wetland, including the buried steam shovel from the clay excavation in the 1950s, did the residents accept plans to cap this portion of the landfill as well.

The fill used to cap Danehy Park was composed of a sandy loam topsoil with a sandy gravel drainage layer underneath. All the fields were graded and sloped to move the water internally to swales that would eventually feed to the municipal stormwater drainage system. However, a great amount of the soil provided by the MBTA for the cap was dense clay that didn't absorb water as readily. The City also had not yet upgraded its stormwater infrastructure to match the needs of the growing number of residences in Northwest Cambridge. This

meant that during major storm events, the ground at Danehy flooded and remained spongey for longer than other areas in the neighborhood.

To combat these stormwater drainage issues, the city executed two distinct tactics. The first was to establish a professionally engineered artificial wetland overtop of the informal wetland that neighbored Bellis Circle, which was frequently subject to flooding. They filled the existing wetland and capped it with a clay-based liner with geotextiles on the sides to increase soil stability. The clay would retain a greater amount of soil moisture to encourage the succession of a wetland habitat. On the far side of the wetland, closest to Bellis Circle, the City constructed a berm bordered by a drainage ditch that would protect the neighborhood from flooding in the event of a major rainstorm (Figure 6). The City annually uses herbicides to remove any invasive *phragmites sp.* that try to grow in the stormwater drainage ditches, which would prevent the water from running freely through. According to a long-time landscape architect for the project, Danehy Park is the only site in Cambridge that is permitted to use herbicides on a consistent basis. No other public project has permission to do so. It appears from this negotiation between the City and its residents that the City concedes that the use of herbicides is undesirable on a city-wide scale. But for the purposes of remediating the dump, and keeping storm ditches clear, it is deemed a permissible exception to the rule.
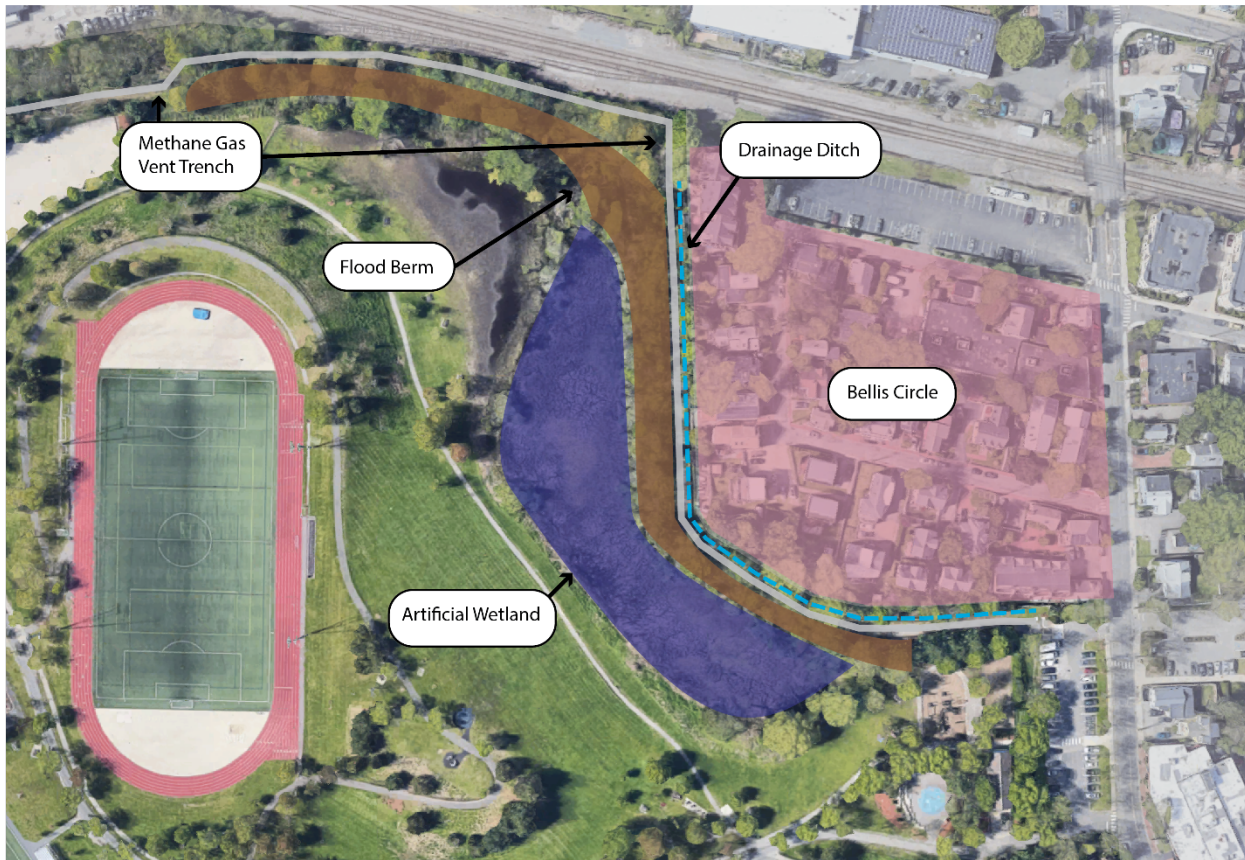
Figure 6 Diagram of some of Danehy's flood prevention measures. Graphic by author. Basemap courtesy of Google Maps.

The second tactic used to mitigate stormwater runoff was the implementation of artificial turf fields. These turf fields were not put in immediately, due to structural concerns that the landfill refuse required more time to settle. Because the refuse is still in the process of decomposing, the earth above it is prone to shift and sink as it does so. Building prematurely on a landfill could lead to cracked foundations and pipes in the most severe cases, and even cracked paths in the mildest of instances. In 2000, the City determined that the refuse compression rate had decreased sufficiently such that the grounds were now stable enough to hold a track with artificial turf. Artificial turf was a novel enough

concept at the time that it raised a number of community concerns. Artificial turf was an attractive option because it allowed the field to have a more consistent surface, thus reducing knee and ankle injuries. The artificial turf would also allow for greater drainage, with 9 to 12 inches of crushed stone beneath the surface which would increase the onsite water storage capacity of the field. The rubber sand on turf fields at the time were known to be made of rubber from recycled tires. There had been some studies that suggested that the material was carcinogenic, while other studies refuted it. It was a long debate for years. Ultimately, the City decided that the safety that the artificial turf provided against sports injuries and the stormwater management it allowed outweighed the risks and concerns for carcinogens. They assured residents that they would use artificial turf sparingly both at Danehy and across the city, and only use it to solve major drainage problems.

From this examination of seepage, we see that the City had to contend with assumptions from the existing land use and aesthetics and negotiate the definition of safety in order to control groundwater flow and contamination. That is not to say that the City did not have any fixed definitions of safety or any environmental code that they had to adhere to. Rather, as hurdles presented themselves and required risky solutions, the City had to determine the costs and trade-offs for deploying such tactics. They also had to manage groundwater flow at a time when detection technology exceeded environmental permitting standards. These instances show that the definition of safety is negotiated and not always fixed, even in legally coded systems like environmental permitting.

Coverage

While the City faced difficulties in permitting because of aesthetics erasing land use history, their own strategies for maintaining and beautifying the cover for the dump would cause similar issues of community memory erasure. Vegetation plays a crucial part in maintaining the cover over Danehy Park. Danehy is a unique case of landfill remediation because of the large quantities of soil that were able to be placed on top from the Red Line extension. Typical remediated landfills have a minimum of two feet of soil covering the refuse, with caps typically remaining within a few feet of that thickness. Danehy Park's cap is anywhere from two feet to 40 feet thick. The designers appointed areas to have a thicker cap in order to speed up the compression and decomposition of the refuse. Having this extremely thick cap allowed for full, mature trees to be planted throughout the site. The trees help capture large amounts of soil while also preventing the erosion of the cap. But their lushness also makes it harder for users to believe the park's former landfill status.

Large trees were not the City's only tactic for retaining soil. They established smaller bushes and grasses along the hillsides, which serve just as crucial of a function. When I first began conducting field observations in Danehy Park, I was struck by the number of discontinuous fences around the fields, with periodic gates in them. When I asked interlocutors that used the fields for soccer what the fences were for, they said for trapping balls. However, not all fields had fences surrounding them. And the fences that were present didn't fully enclose the

ball fields but rather just encircled the edges that neighbored steep hillsides. I discovered from talking to a landscape architect for the project that the fences were designed less to trap balls and more to minimize informal pathways across the hillside. He remarked, "all it takes is a desire line to create a pathway." Informal pathways act in a self-reinforcing cycle, speeding up the rate of erosion of the cap. Informal paths kill vegetation, cause increased stormwater runoff, eroding the soil and making it more difficult for plants to grow back. This makes it look more like a well-used path, inviting park attendees to explore them more. As a dog walker, I found that one particular dog I walked loved to explore these paths, seemingly curious to see what lies beyond the end of the grassy-arched tunnel (Figure 7). This informal use could ultimately lead to the uncovering of landfill refuse, which would be a major environmental hazard. The presence of these paths along with the gates makes ball field users petition for more gates so that they can retrieve balls faster. But were the City to oblige, they would have greater risks of erosion to combat.

Figure 7 Informal path down the hillside from a gate neighboring the softball fields. Photo by author.

One way in which the vegetation efforts have deviated from the original aesthetic design was with the composition of native plants on the hillside. The City intentionally tried to plant native flowers to be more visually pleasing, but people liked them so much that they picked the flowers and took them home. These flowers were also easily outcompeted by the native grasses. The City tried to mediate this ecological competition by annually mowing the hillside but have since minimized such efforts due perhaps to their inefficacy. The sites have reached a new state of homeostasis. Though not exactly what was originally intended, the grasses did attract locusts which in turn attracted native bird species.

Though these vegetated hillsides are not precisely what the City had intended,

they have been able to serve the functional purpose of maintaining the cap of the

landfill and have become visually pleasing in a new way by attracting wildlife.

Still, with such beautiful foliage and no visual cues that trash is what forms the

hillside, the park's beauty is a liability to protecting its own erosion control

measures. This theme of the City repurposing and aestheticizing Danehy's

environmental remediation structures is one that will continue in the next section.

Rematerialization

Though the park's landfill history was forgotten by some, evidence of the

landfill is still present in the park in new, and almost imperceptible, elements.

Perhaps one of the greatest ongoing considerations for Danehy's remediation is

the emission of methane gas. Methane gas is an output from the decomposition of

landfill refuse. It is odorless and colorless though highly combustible when low

concentrations are exposed to oxygen. For methane gas, the Lower Explosive

Limit (LEL) is 5% in the air. Though the nuisances of the sights and smells of the

Cambridge City Dump are buried, the refuse, as it decomposes, re-presents and

rematerializes itself in the form of this methane gas. The City chose to take a

creative approach with regards to the structures it built to manage the methane

ventilation system. Some landfills install pipes to act as chimneys to actively burn

off the methane. But Danehy was designed only with an impermeable cap which

gases cannot pass through, and no chimneys. Instead, the City installed what they

call a vent trench, a several-foot deep trough completely filled with large gravel

and crushed stone, that surrounds the perimeter of the park. The gas travels laterally, following the path of least resistance, and exiting through the trench, releasing itself over time in what the engineers call a passive system. The trench was dug deep enough to be below the lowest groundwater reading so that even in drought years the gas could never travel underneath the trench and into the surrounding neighborhoods. Most of the landfill's methane gas was released in the first 7-10 years, but decomposition rates can vary. One landscape architect I talked to explained it well when he stated that the landfill breathes. As the air pressure changes, the landfill inhales and exhales gases correspondingly. During times of "exhaling," higher levels of methane gas can escape.

To track this odorless and colorless gas, the City installed monitoring wells throughout the vent trench, which were initially checked quarterly and are now checked semiannually. The monitoring wells are essentially these several-foot long tubes that sit vertical in the soil. To check the methane gas levels, the wells are cleared of debris, and a sensor is placed inside to measure the levels of gas in the shaft. The monitoring wells are placed just inside and just outside of the vent trench to ensure that it is functioning properly and that no gas is escaping outside of the park's boundaries. Additional sweeps of the surface of the site are conducted to ensure that there are no significant gas emissions coming off the top. At a public meeting in October of 2019, geotechnical experts reported that most of the monitoring wells, as well as the catch basins and probes, read at 0.0%. The last occurrence of a catch basin having methane levels of moderate concern,

detecting gas at 1.25% which is still below the 5% LEL, was in 2012. The ventilation was found to be impeded and was fixed immediately.

Still, methane gas emissions remain an area of great concern for the City whenever residents propose new capital projects for Danehy Park. Any structures, including fire hydrants and foundational supports, that go into the refuse and travel to the surface have the potential to act like a chimney for methane gas to leak out. When Danehy Park was first created, they had to move and modify the position of various fire hydrants around the park that were originally placed to help with irrigation but were causing excessive methane gas emissions. Over the years, numerous petitions have been proposed to increase lighting, build more bathroom facilities, or construct larger spectator stands. But each of these proposed projects runs the risk of compressing the refuse, which may cause a pocket of methane gas to shift or create avenues for the gas to escape.

One of the long-time landscape architects remarked, "The greatest issue with Danehy is that people forget it's a dump." He stated that the more people forget that it's a dump, the higher their expectations will be for more structural projects on site. During his time working for the city, this interlocutor proposed putting up plaques around the park, to remind people of Danehy's history. Some argue that more visual methane off-gassing tactics help remind people of a park's landfill history, causing them to respect its remediation structures like the cap's vegetation that was discussed previously. User ignorance is currently evident through the use of the vent trench as a walking path. Because it is unlabeled, it appears to users as an attractive scenic route through the now tall trees

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Figure 8 A curious small dog exploring the informal path immediately abutting the gravel vent trench to the right. Photo taken by author.

surrounding the park. From my interviews with the City, they are under the impression that the vent trench is seldom used as a walking path, especially because it is harder to walk across due to the gravel being larger than on normal trails. But dirt paths cutting along and between sections of the vent trench suggest otherwise (Figure 8). Because users do not know about Danehy's past, they do not know to avoid the structure that may still pose the greatest potential risk to their safety. In Chapter 3, I will explore further how the senses are used to determine safety, but it is worth highlighting here how some of the greatest threats to safety in Danehy are imperceptible to the human senses.

While Danehy Park does not have overt reminders of the park's former

landfill status, the City of Cambridge did seek to celebrate Danehy's history as a

dump through a public art display, rematerializing refuse into art. In 1997, the

Cambridge Arts Council commissioned Mierle Ukeles, an artist in residence for

the New York City Sanitation Department. Ukeles conducted a three-phase

project that focused on the central hill in Danehy Park called

"Turnaround/Surround," which had the goals of celebrating recycling, redeeming

the repulsive sensory experiences of the dump for residents, and creating

somewhat of a sacred mound at the top of the hill. The first phase was to create a

glassphalt path that led up to the top of the hill. The glassphalt was comprised of

recycled glass, broken into tiny fragments and mixed with asphalt to give the path

a shimmering quality. Ukeles' second exhibit was "Wavers and Smellers." This

exhibit was a collection of plants placed near the top of the hill, to wave at visitors

as they pass by and give off pleasant smells. Mierle remarked, "we planted alleys

of trees along with native grasses, which are the first indicators of a healthy,

restored landscape, and roses and several kinds of fragrant herbs for those people

who still have childhood memories of terrible odors" (Ukeles, 2002, p. 11). This

was to give visitors the sense of a restored landscape and counter the childhood

memories of the terrible odors of the dump. For the third phase, Ukeles was

inspired by Silbury Hill, the largest artificial mound in Europe, comparing the two

as both having a sacred presence (Ukeles, 2002). The exhibit was a cosmic blue

asphalt dance floor and a set of modern thrones, encouraging visitors to enjoy the

sites from the hill's high elevation, dance, and take a seat as king and queen of the

hill. Mierle Ukeles intended to have a fourth part of the exhibit that has yet to be built, though the previous piece was completed in 2002. The fourth phase is intended to celebrate the neighborhood's rich cultural diversity, drawing parallels to how ecological diversity indicates a healthy landscape (Ukeles, 2002). It is unclear when this component will be implemented.

While Ukeles' work was inspired by the dump's history, her intent was to remediate negative experiences of the dump rather than clearly communicate the history of the site to new visitors. There are no plaques present to explain the exhibit and some of the pieces have worn with time. As a visitor myself, I did not notice the glassphalt until I conducted my interviews with the Cambridge Arts Council for this project. The glass has dirtied and been scratched from years of use and parts of the path have lost their shimmer even on the sunniest of days. The thrones and the stage, while wonderful for celebrating the hill, do not explain how the hill came to be in the first place. For an onlooker, the "Wavers and Smellers" appear to be part of the natural landscape, rather than clearly referencing the park's past. In Cambridge's attempt to rematerialize the dump's history into a more aesthetically pleasing format, they have nearly erased the history of the dump, and the neighborhood, altogether.

Conclusion

In this chapter, I explored the history of Northwest Cambridge, this periphery that transformed as Boston transitioned into and away from being an industrialized city. Northwest Cambridge went from pasturelands to tanneries to

clay pits to landfills to a suburban neighborhood with both affordable housing complexes as well as affluent homes. The neighborhood's class boundaries can still be seen through both Huron Avenue and the Fitchburg Railroad, acting as informal and physical dividing lines between affluent homes and apartment complexes like Rindge Towers and Jefferson Park. And in this vision of Northwest Cambridge becoming less industrial and more suburban, Danehy Park was designed to match the new desired aesthetic of the neighborhood. The City worked vigilantly, heavily investing in remediation strategies and taking calculated risks, to transform the image of the dump into a world-class park, so much so that any visitor coming for the first time is unaware of its landfill status. Danehy's remediation story provides a powerful metaphor of the consequences of the erasure; here it shows environmental safety at the cost of the erasure of land use history, and in later chapters, social order at the cost of the erasure of people and cultures.

One of the biggest lessons in Danehy's remediation history is the value of taking calculated risks. The City had few precedents to use as guidance and had to work closely with MassDEP to create new standards for landfill remediation, occasionally making difficult choices between things like improving drainage or risking exposure to carcinogens through artificial turf. Through the uncertainties, the City was thorough in their work, hiring project managers that had a deep sense of ownership over the project. The road to remediation was still filled with subjectivity and judgement calls. As Cambridge looks towards the future of Danehy Park and Northwest Cambridge, my analysis suggests that the City and its

residents should consider in what other ways they could take risks and set new precedents for creating convivial urban public spaces. Often, new concepts for activating a park, such as public participatory art or nighttime events, can seem like uncharted territory or even safety risks. But perhaps there needs to be risk, along with strong research, in order to make innovative leaps in fostering conviviality.

Chapter 2

Defensible Danehy Park

Introduction

      Danehy Park's transformation from a clay pit to a landfill to an urban park gives it a distinct topography. Its tiered, flat areas separated by trees allow for multiple ball fields to operate simultaneously with little risk of one game interrupting another. Danehy's large hill, covered in trees and tall grasses on one side, makes an attractive lookout point for users without giving them the feeling of being watched by park goers below. The winding and curving paths across this varied elevation makes walkers feel more like they are exploring and experiencing the terrain, rather than cutting through to reach a destination. But from the City's perspective, each of these features of topography make it difficult for them to monitor the space in order to ensure the safety of park users. Danehy's large size presents challenges for consistent surveillance; the large hill creates blind spots; and trees which offer shade and quasi-privacy can become a liability for crime if left unmaintained (Kuo, 2003; Kuo & Sullivan, 2001). The goal of this chapter is to explore the rationale behind designing for safety via monitorability and the controversies it presents in this one-of-a-kind, 50-acre recreational facility.

      I begin this chapter by exploring perceptions of crime in Cambridge, as their beliefs about the nature of crime shapes their security strategies. Through my interviews with park directors and residents, I demonstrate that perceptions of crime and how it spreads reflects frameworks presented by Teresa Caldeira's

influential research on "crime talk" in Sao Paolo (Caldeira, 2000). In both her findings and mine, crime is discussed as a threat from an outside place, capable of affecting any neighborhood, and thus requires measures of control to keep it at bay, such as fortification and heavy monitoring. Next, I will outline how these perceptions of crime influenced Danehy's security efforts.

Globally over the past century, measures for controlling crime have shifted from enforcing punishment against offenders to an emphasis on prevention through defense of the space itself (Merry, 2001). Danehy Park has been shaped by prominent spatial defense theories such as Defensible Space and Broken Windows Theory, giving Danehy highly specified designated uses and a full-time, on-site staff to immediately handle any disarray to maintain order in the park. These spatial defense strategies, while making some users feel safe, have also led to false notions of safety that often contradict lived experiences; the topic of the final section of this chapter. I conclude by arguing that in addition to fostering a false sense of security for some users, these security tactics also make other users feel unwelcome and hindered in their use of the park, denying residents their right to the city.

Similar to how the City's aesthetics-focused remediation erased the industrial history of Danehy and Northwest Cambridge, the City's anti-disarray monitoring strategies inhibit creative uses of the park that would welcome a more culturally diverse array of attendees. In both instances, the pursuit of order if left unchecked can compromise the safety of Danehy. The erasure of history threatens environmental remediation and the sanitizing of creative uses hinders conviviality

which, per my central argument for this thesis, weakens users' sense of safety.

While the next chapter will explore the relationship between conviviality and the

sense of safety in greater detail, Chapter 2 sets the groundwork by analyzing the

motivations behind Danehy's spatial defense strategies and the consequences they

have on conviviality.

Crime Talk and Crafting Stories for Defense in Northwest Cambridge

Before discussing the security tactics deployed in Danehy Park, it is

important to discuss how threats of crime are perceived by the City and the

public, and how these perceptions shape the City's approach to security. In her

book *City of Walls: Crime, Segregation, and Citizenship in Sao Paulo*, Teresa

Caldeira conducts interviews and reviews crime statistics to understand how

residents talk of crime, respond to threats of violence, and how this has shaped

residential building design and public life within Sao Paulo. From her

observations of how residents talked about crime, she noted:

> "Crime is a matter of authority… Authorities are held responsible for
>
> controlling the spread of evil. In the talk of crime, evil is conceived of as
>
> something powerful and easily spread. Once evil corrupts someone in a
>
> weak position – for example, someone in one of the improper spaces or
>
> lacking the proper attributes of a member of society – it is likely to
>
> dominate this person and is hard to eradicate." (Caldeira, 2000, p. 90-91)

Caldeira goes on to explain how evil is perceived by residents as something that

can come from anywhere, affect anyone, and thus makes people believe that

everyone requires controlling (Caldeira, 2000, p. 98). Under these perceptions, certain groups of people, namely young men, are characterized as especially susceptible to evil and therefore require even greater controlling.

In my conversations with residents, I found many parallels to the ideologies of evil Caldeira described, though Cambridge does not have crime rates nearly as high as Sao Paolo or of large U.S. cities such as New York or Los Angeles. My interlocutors did not use the word "evil" specifically, but they did share ideas of the spread of crime that matched Caldeira's interlocutors' notions of evil. First, my interlocutors talked of crime as spatially bounded to certain neighborhoods and that if it were to come to their neighborhood, it would be from these external areas. For example, when I asked one resident what crime was like in our neighborhood, she assured me it was very safe and quickly drew comparisons to the Port, another neighborhood in Cambridge, saying how there were always news stories of crime in the Port but not here.

To test this reoccurring assumption, I investigated Cambridge's crime data. It is worth noting that crime statistics can be prone to inaccuracies and often reproduce state perceptions of criminality that lead to over-policing, which impact both crime statistics and feed stereotypes about neighborhoods (Caldeira, 2000). In her own statistical analysis, Caldeira reminds us that statistics are a tool for disciplinary power, defining not only abnormal behavior but how a society should behave normally (Foucault, 1977); that because crime reports are written by the police, an officer's biases impact the details of the report (Paixao, 1983); and that certain cases, like a woman reporting violence, are handled less seriously based

upon who is filing the claim (Mingardi, 1992). Crime statistics can also be inaccurate because not all crimes are reported due to a distrust in the police, to a belief that reporting is ineffective at bringing justice, or to a fear that reporting will bring greater risk of retaliation. Keeping these limitations in mind, it is still beneficial to compare and contrast the City's crime data with claims made by interlocutors about crime. Crime statistics offer an entry point for analysis, but they must be met with healthy skepticism so that they are not mistaken as providing unquestionable truth.

The most detailed, publicly available crime data the City has is a table dataset of all reported crimes since 2009, detailing the type of crime, the address, the neighborhood, and the date. Of the City's pre-determined categories, I calculated 10-year average annual crime rates (incidents per 100,000 people) from 2009 to 2019 for violent crime, disorderly conduct, theft, and total crime using the formula below. The types of crimes attributed to each main category are detailed in Appendix A.

$$crime\ rate = \left(\frac{total\ crime\ over\ 10\ years}{10\ years} \right) \div population\ of\ neighborhood\ \times 100000$$

Because the City's data was not geolocated, I calculated the crime rate by Neighborhood (Table 1) and mapped them (Figure 9). My interlocutor's observations regarding the Port as dangerous are matched by the calculated crime statistics, as The Port has the highest violent crime rate, disorderly conduct rate, and overall total crime rate. But other areas, such as Wellington-Harrington, had similarly high violent crime rates and West Cambridge had the highest theft rate.

Both Wellington-Harrington and West Cambridge are closer to Neighborhood

Nine, the neighborhood my interlocutor lives in, yet these neighborhoods were

never mentioned by her as threats. Crime was instead in a further off

neighborhood, and security is a matter of guarding against outsiders.

Table 1 Average annual crime rates (incidences per 100,000) for the neighborhoods of Cambridge from 2009-2018 data. Rates are organized by frequency for violent crimes.

Neighborhood	Total Population	Violent Crime	Disorderly Conduct	Theft	Total Crime
The Port	7053	1949.5	1070.5	1121.5	4141.5
Wellington - Harrington	6576	1611.9	682.8	552.0	2846.7
Cambridgeport	12621	1346.2	854.1	939.7	3140.0
Cambridge Highlands	1332	1336.3	885.9	1171.2	3393.4
East Cambridge	10336	1211.3	780.8	884.3	2876.4
West Cambridge	8603	1064.7	609.1	1226.3	2900.2
Strawberry Hill	2347	1018.3	379.2	187.5	1585.0
Riverside	12361	867.2	485.4	799.3	2151.9
North Cambridge	13951	808.5	414.3	431.5	1654.4
Mid-Cambridge	13438	663.0	472.5	546.2	1681.8
Neighborhood 9	12034	516.0	287.5	325.7	1129.3
MIT/Area 2	4859	358.1	302.5	386.9	1047.5
Agassiz	5382	345.6	262.0	301.0	908.6
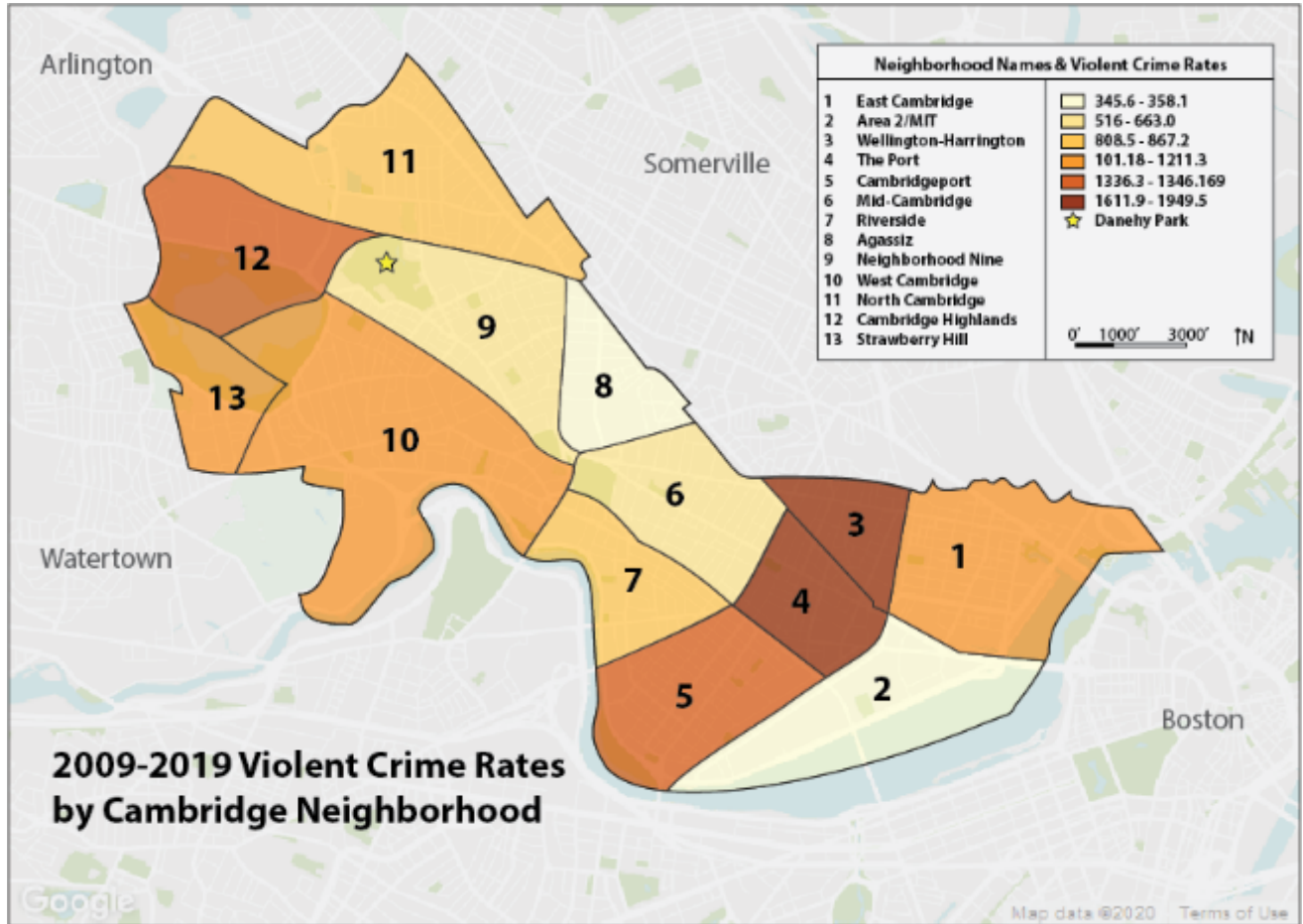
Figure 9 Quantile Map of incidences of violence per capita by neighborhood in Cambridge. Modified from a map generated by GeoDa. The yellow star denotes the location of Danehy Park.

This notion of crime being spatially bounded and from an outside place additionally came up in an interview I had with a former city manager of Cambridge. He remarked that a lot of the serious crimes in Cambridge were drug-related but often were perpetrated by people not from Cambridge. I have seen news articles reflect this sentiment, blaming recent increases in homeless encampments and outbreaks in violence due to a strong police crackdown which dispersed homeless populations that linger on Boston's "Methadone Mile" near Melnea Cass Boulevard and Massachusetts Avenue (Dwyer, 2019). It was never

explained to me in my interviews what bounded crime to certain areas of Boston and Cambridge, and why crime was less of an issue closer to Danehy.

The presentation of crime statistics has been and is increasingly spatialized, establishing and reinforcing the boundaries of areas as safe or unsafe. Comaroff and Comaroff argue that the very mapping of crime statistics belies that victimization is not always structured along spatial lines (Comaroff & Comaroff, 2006). Crime maps highlight supposed hotspot areas of crime, ignore any other common experiences of victimization beyond location, and prescribe necessary precautions to take in these "risky" spaces. This panoptical gaze of crime deems certain spaces as exceptions that warrant the need for more direct and violent police interventions. When communities that have been deemed dangerous attempt to protect themselves from police brutality through added private security measures, such as fencing and surveillance cameras, they are met with suspicion and backlash, having been deemed by the greater public as the source, not the victim, of crime (Vargas, 2006). The spatialization of crime shapes both the crime talks of spaces as well as their policing and fortification.

In my interviews, I also found that eradicating crime was referred to as a weed-out process where peace was most effectively restored by ridding an area of problematic individuals. This was especially the case when discussing issues with crime in the nearby affordable housing complexes of Walden Square and Jefferson Park. I had heard from a resident, who lived in a two-family home neighboring a complex, how they used to see police cars often in Walden Square

but that it had lessened in recent years as they were stricter with who their tenants were. Another interlocutor remarked,

> "Across the tracks there in Jefferson Park, they had a lot of problems. They completely closed it to remodel the whole place, and in doing so some former residents who had some serious behavior issues and who attracted nonresident visitors who also engaged in problematic behavior were not allowed back in. This has resulted in more positive change and enhanced the community life at the development. Sometimes it's weeding certain characters out. It's a tough problem for urban communities that you have to work on constantly."

From my observations, people understood crime as perpetrated or endemic to certain individuals, rather than a product of social circumstance.

Crime perceptions play an integral role in municipal decisions for defining safety and implementing security measures. Were crime to be attributed to social circumstances, then perhaps cities would bolster social programs as a measure of ensuring the security of the social fabric. But because cities like Cambridge view crime as something sourcing from the outside by troubled individuals, these cities choose to support tactics that use surveillance and monitorable spaces. In his book *Seeking Spatial Justice*, Edward Soja remarks on this trend, stating:

> "Fear of potential invasion and violence by what the more powerful perceive as threatening 'others' drives all these processes of spatial control. This almost endemic and security obsessed sense of fear has been reaching a fever pitch over the past thirty years of profound urban

restructuring, hastening the fortressing of urban space and the drenching

of the city with surveillance cameras." (Soja, 2010, p. 43).

Soja's observations describe the relationship between fear and increased

restructuring, fortressing, and surveillance. While Cambridge has not taken up

methods as overt as Soja describes, small acts of defense and demands for greater

measures come up on a regular basis in Northwest Cambridge. As newer

properties have developed, such as the condominiums on nearby Bellis Circle, the

developers put up fencing around the condos, much to the protest of existing

neighbors who enjoyed cutting through the condos' shared sidewalks. Some

Cambridge residents have argued for surveillance cameras in the park, but when

abutters of the park protested it as an invasion of their privacy, the proposal was

dismissed as unnecessary given the current levels of crime.

While Cambridge has not implemented measures of increased video

surveillance nor built prominent fortifications in Danehy Park, the City did put in

place many security features in response to public apprehensions that reinforced

this fear of crime invading from the outside. Overall, Cambridge is home to a

large population of civically engaged, highly educated residents, giving the City

the reputation of being the "People's Republic of Cambridge," a title that came up

unsolicited in my interactions with residents, city officials, and writers of the local

newspaper, *The Cambridge Chronicle*. There are strong constituencies in

Cambridge that have historically shaped the City's proposals and projects. At the

time of Danehy's construction, nearby residents were vocally concerned about the

park becoming a site for unwanted social behaviors and crime. Some of the

residents' hesitations were due to the fact that there were few national examples at that point of landfills being converted into parks. But others were concerned about a mainly quiet, inactive space being given a new purpose. In my interview with a former director of recreation, he remarked on the community process, stating:

> "The community process was long, intense, but good. You know, people just had reasonable questions. Especially people in this neighborhood over here (referring to Bellis Circle). When something is not open for a number of years people start to like that because there is no activity. But there was illegal activity up here at night but active recreation can get rid of that which it did."

This interview highlighted for me how two folk theories of crime – neglected space and criminals coming from the outside – collided and both demanded to be appeased in Danehy's design. Abutting residents dreaded active use, worrying this quiet neighborhood would draw perhaps undesired people or activities should a new public space open. But the City and its designers rebutted that the dump itself hosted some illegal activities which would be eradicated if the space had more active, consistent use. Thus, the park's safety measures were designed to address both of these theories of crime origins, by promoting an active use design with clear guidelines for its appropriate uses, which I will explore in detail in the next section.

To further appease the residents, the City developed a new park staff structure and deployed careful monitoring practices as a promise to residents to keep any external, "bad social elements" out. Because Cambridge was one of the

first cities nationally to convert a landfill into a park, they sought the most innovative spatial design theories that could make this topographically complex landscape into a monitorable sports facility. From my interviews, I found the two most prominent frameworks used were Defensible Space and Broken Windows Theory. These theories together were the drivers for the City to both create a monitorable space and employ a full-time staff as keepers of the park to monitor it.

Defensible Danehy Park

The City drew from a rich discourse of spatial safety strategies in order to design Danehy and define the roles of its park staff. While none of my interlocutors cited the following theories explicitly, my interviews and document analyses suggest that Danehy's designers and planners were drawing their ideas of secure spaces from theories that were popular when the park was designed and continue to be popular to this day. One of the early, modern thinkers in urban planning who discussed safety was Jane Jacobs. In her study of sidewalks, Jacobs argues that safety, and thus social vibrancy, came from regulars, both pedestrians and shopkeepers alike, acting as monitors over the spaces they inhabit (Jacobs, 1961). Her work in emphasizing the imperativeness of monitorability would spur on research about suitable designs of space and effective ways of monitoring them. For Danehy Park, the most predominant theories that informed the City's decisions are Oscar Newman's Defensible Space and George Kelling and James Wilson's Broken Windows Theory.

Defensible Space was introduced in 1972 and created novel design ideas for making spaces more monitorable. Broken Windows Theory was introduced in 1982 and proposed alternate tactics for policing. Since their conception, both theories have played a significant role in parks across the United States, heralding success as well as falling under scrutiny. Below, I explain the principles behind each of these theories and how the City executed them in Danehy Park. In a later section, I will explore how some of these theorists' precautionary statements may have been lost in implementation.

Defensible Space

Architect and city planner Oscar Newman studied the design of residential areas in a time following a massive push to develop greater amounts of dense, public housing. As more high-density housing was built and crime became more of an issue, Newman sought to figure out ways to encourage greater collective community action in the monitoring and defending of spaces. Under a research initiative with the New York University Project for Security Design in Urban Residential Areas, Newman and his team spent three years studying crime location patterns and hypothesizing what could be done to make community members organic defenders of space; leading him to publish his famous book, *Defensible Space.* Newman describes defensible space as "a model for residential environments which inhibits crime by creating the physical expression of a social fabric that defends itself" (Newman, 1972, p. 3). Newman criticizes middle and upper class flight to suburbs and guarded high rises as a "retreat into indifference"

(Newman, 1972, p. 3). As a rebuttal to this phenomenon, Newman recommends creating monitorable spaces that the community themselves could take ownership over and watch. He proposed subdividing residential areas to establish greater proprietary attitudes, increasing the number of windows to strengthen monitoring, adopting design forms so that isolated individuals will not feel as vulnerable to crime, and placing residential areas away from places of repeated threat (Newman, 1972, p. 9).

Newman's proposals were adopted in residential building complexes across the country, as well as in Cambridge residences near Danehy Park. Both Jefferson Park and Walden Square have some of the distinctive attributes of defensible spaces including windowed, shared stairwells, lower building heights that are no more than four or five stories, and building shapes that create small green spaces that can be monitored by the residences immediately surrounding them. Within Danehy Park, the City gave a large percentage of the park's surface clear designations as fields, picnic areas, or playgrounds in order to reinforce desired uses of the park. The City posted large, metal signs which clearly label the fields and state the park's regulations in order to dissuade unwanted, non-traditional uses of these spaces. Few spaces have any ambiguity as to their designed purpose. Further, the park has been made monitorable through the installation of paths encircling and cutting through the park. Homeless individuals used to camp in a small corner in St. Peter's Park that was on the other side of a berm, tucked away in some vegetation with no direct path leading to it. The City responded by clearing the green area of bushes and installing a new path along

that side of the berm. The space is monitored occasionally but remains unlit at night. Regardless, the presence of the path is a reminder that police or passersby could come and ask individuals lingering after dark to leave. Danehy also has a central right of way[1] that can be driven across by park staff vehicles and police cruisers, giving views to most areas of the park. Trees are cut back and branches do not hang below 8 feet so that users and police cars can see past them and individuals cannot sneak up on users. At night, the main walkway through the park is illuminated by streetlights to ensure the visibility and safety of users passing through after dusk. Yet not the entire park is illuminated, as the park formally closes at dusk. Together, these design features communicate to park goers the desired uses of the park and make these regulations enforceable via its monitorability.

Following the implementation of Defensible Space, critics have argued that a well-designed defensible space is not enough to ensure safety. It needs proper monitors as well. Ethnographer Sally E. Merry highlighted that it is key to have people dedicated to monitoring these spaces; that left undefended, areas designed as defensible spaces are still prone to crime and people still live in fear (Merry, 1981). Her ethnographic work of defensible spaces showed that robbers considered how defended a space was before stealing in those areas, forming cognitive maps not just of the spatial layout but of the people guarding it. The

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[1] The City's staff and designers frequently referred to this path as a public right-of-way. The term right-of-way is typically used for public spaces abutting private property (e.g. sidewalks). In the case of Danehy, though it is a public space, the park is considered closed to the public after dark. However, users are permitted to use this central path as a throughway after dusk, inspiring it to be called a right-of-way.

need for consistent monitors presents a new set of questions as to what effective monitoring and enforcement looks like in practice; questions which Broken Windows Theory seeks to answer.

Broken Windows Theory

Broken Windows Theory was first proposed by George L. Kelling, a criminology professor, and James Q. Wilson, a professor in political science, in their article, "Broken Windows," published in *The Atlantic* in 1982 (Kelling & Wilson, 1982). Their work reviewed the discourse of policing in the 1970s and theorized how to make patrols more effective in the coming decade. Prior to this article, a study had been conducted in Washington D.C. comparing the efficacy of foot patrols versus police cars in reducing crime rates. The study had found that there was no difference in crime rates between foot patrols and patrol cars, though residents in neighborhoods with foot patrols felt safer. From this conclusion, Kelling and Wilson believe that the feeling of safety is nearly as important as safety itself, that spaces that feel unsafe will ultimately become unsafe. Their central thesis for "Broken Windows" suggests that disorder left unattended encourages social disorder and crime.

Their thesis was largely inspired by a study conducted by Stanford psychologist, Philip Zimbardo. In his 1969 study, Zimbardo placed one car in a low-income neighborhood in the Bronx and another similar car in an affluent area of Palo Alto, California. Both had their hood up to give the impression of being abandoned. The car in the Bronx was quickly scrapped for parts by families and

individuals. Once all the useful parts were stripped, the windows were smashed, the upholstery was ripped, and soon children started using the car as a playground. Kelling and Wilson found it important to highlight that most who destroyed the car were well-dressed white people. The car in Palo Alto was untouched at first for nearly a week. Zimbardo then intervened and smashed part of the car with a sledgehammer. Within hours, the car was turned over and smashed, again by "respectable whites" (Kelling & Wilson, 1982). Wilson and Kelling argue that disarray, such as a broken window, begets further disarray in a way that is indiscriminate of a neighborhood's class, race, or geographic location. But in practice, applications of this theory disproportionately disadvantages low income neighborhoods and neighborhoods of color. Residents, regardless of their own socio-economic status or address, have been found to have heightened perceptions of disarray in low-income, communities of color (Sampson & Raudenbush, 2004), leading them to be more guarded and distrustful of these spaces, calling for the City to heighten policing.

Kelling and Wilson also argue that disarray not only impacts incidents of property damage but affects the day to day interactions and prevalence of crime itself. They state:

> "We suggest that 'untended' behavior also leads to the breakdown of community controls. A stable neighborhood of families who care for their homes, mind each other's children, and confidently frown on unwanted intruders can change, in a few years or even a few months, to an inhospitable and frightening jungle. A piece of property is abandoned,

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weeds grow up, a window is smashed. Adults stop scolding rowdy children; the children, emboldened, become more rowdy. Families move out, unattached adults move in. Teenagers gather in front of the corner store. The merchant asks them to move; they refuse. Fights occur. Litter accumulates. People start drinking in front of the grocery; in time, an inebriate slumps to the sidewalk and is allowed to sleep it off. Pedestrians are approached by panhandlers.

At this point it is not inevitable that serious crime will flourish or violent attacks on strangers will occur. But many residents will think that crime, especially violent crime, is on the rise, and they will modify their behavior accordingly. They will use the streets less often, and when on the streets will stay apart from their fellows, moving with averted eyes, silent lips, and hurried steps… Such an area is vulnerable to criminal invasion."

(Kelling & Wilson, 1982, p. 4)

Kelling and Wilson argue that disarray leads to the breakdown of social cohesion, causing neighborhoods to lose the civic guardians that Jacobs, Newman, and Merry suggested were vital to ensure the defense of spaces. Monitorable spaces in themselves are not enough. They therefore must be aesthetically preserved, maintained, and protected in order to ensure safety.

In order to give the sense that Danehy is consistently monitored, Cambridge applied the conclusions of Broken Windows Theory to Danehy Park by hiring a full-time staff to oversee the park's maintenance and ensure it stays orderly. This one-of-a-kind park is the only instance in Cambridge where a park is

designated a full-time staff. Typically, in Cambridge, the Department of Public

Works (DPW) oversees the day-to-day maintenance of parks: emptying trash

receptacles, cleaning up the fields, and repairing any broken benches or tables.

But Danehy Park's staff work under the supervision of the Department of Human

Services and the Director of Recreation, executing all of the daily functions of

DPW as well as maintaining the grasses and plants on the hillside in order to

comply with environmental remediation requirements. They are the keepers of the

park. The City built what they call a "comfort station" to house a garage and

offices for the staff as well as public bathroom facilities. There are four full-time

staff that are present at the park from dawn until past dusk, year-round, with some

additional hired help in the summer. The staff also enforce all of the field

permitting. Danehy Park's fields are in extremely high demand by high school

and community athletic groups, so the Department of Human Services issues

permits, and the staff make sure permit holders attend at their proper time and

clean up after themselves. Danehy's staff also have the right to tell users who

want to informally use unoccupied fields to leave if the field needs to be prepared

or preserved for a game. Because Danehy has a lit turf field, in the peak of

summer there are park staff present from 6am to 11pm. The staff also take

responsibility for helping to coordinate large events like the Cambridge Jazz

Festival and the charity Oldtime Baseball Game, both of which draw thousands of

spectators each year. The staff help to meet the needs for things ranging from

sound equipment, transporting coolers, and handling cleanup. While I was never

able to speak to the park staff formally, their presence and impact on the park was clear.

The former director of recreation explained how a critical part of the job as park staff was to quickly address any disarray as it happens. This could include anything from repairing park benches, fixing overturned trash cans, picking up any crushed beer cans, cleaning up graffiti, or patching holes in the fencing. The former director of recreation commented, "If you let it continue, then it expands. If you deal with it and fix it then it doesn't." It is important to note that the untended-to objects do not necessarily point to nefarious activity itself but rather indicate that the space is not monitored well enough. For example, according to the current director of recreation, the main reason wooden park benches break is due to the popularization of box jumping workouts. People will come to the park and attempt full body jumps onto elevated platforms, with the only low platform option being the wooden picnic tables and benches. These structures are not broken out of malicious intent, but the City fears that left unfixed, it could welcome further unwanted behavior.

With the staff's clear presence at Danehy Park, I sometimes got the impression of them acting as the park's all-seeing eye. On one occasion, I brought a friend to the park to help me take photographs of Danehy. My friend had a bike, and because there was no bike rack in close proximity, he decided to try to lock it up to a sign in the park instead. As he attempted to do so, a staff truck pulled up and told us we could not lock up there. The truck proceeded to move forward but lingered until they saw us move away from that signpost. The staff keeps a

maintenance truck parked outside of the garage nearly all of the time, giving the impression that someone is onsite monitoring the space.

At the same time, I have witnessed this ever-present entity turning a blind eye to certain activities. Cambridge has a strict leash law where no dogs are allowed off-leash in any park unless they are in a designated dog park. But I found, both from my experiences of dog walking and observing other dogs and their owners, that playing fetch in the open softball fields was permissible. Even the police officers would bring their K-9 unit dogs to Danehy to release some energy. The park staff would often drive by and not say anything to me or other owners. This appeared to be true for both small and large dogs. This selective tolerance of rule-breaking was something acknowledged in my interviews with both the former and the current director of recreation, though there was no definitive answer as to why this was the case. But unleashed dogs can still pose risks to safety, even unaggressive dogs. In an interview with a Cambridge Youth Soccer coach, he attributed the only breach of safety he's seen being due to a loose dog running onto a field and causing a player to trip in such a way that they broke their ankle and were out for the season. This incident was not at Danehy, and perhaps because of how spread out each of the fields are, a relaxed leash law poses less harm. But still, turning a blind eye to even a leash law can have safety repercussions for other users.

Broken Windows Theory has played a significant role in defining the maintenance priorities and monitoring tactics deployed by Danehy's Park staff. But to understand how these practices of monitoring interact with the presence of

defensible spaces, and see if there are any spaces that remain unprotected in Danehy, I decided to conduct a spatial analysis, which I will discuss in the following section.

Combining Theories: Spatially Analyzing Defensible Danehy Park

Having seen how both the frameworks of Defensible Space and of Broken Windows Theory were present in Danehy, I decided to spatially analyze the dispersal and overlap of various safety infrastructures that came up repeatedly in my interviews; this included paths, benches, maintained trees, and clear sightlines. Under Broken Windows Theory, the paths, the benches, and the trimmed trees deter crime through their very presence of being well-maintained, giving the appearance of a site that is frequently visited and thus well-monitored (Kuo, 2003; Kuo & Sullivan, 2001). And visibility, which I define here as the number of points from which a space can be viewed by the human naked eye, is an integral component for defining a place as monitorable.

The City has a well-curated GIS data dictionary, composed of spatial files for trees, benches, paths, elevation models, as well as myriad other layers which are open to the public to download. I reviewed these layers, confirming their accuracy from my own field observations. For paths, benches, and trees, I created spatial buffers around these features, making distance thresholds and assigning a level of safety to each. These thresholds were determined both by my field observations and finely adjusted as I analyzed the output of my model. Simply, the closer one is to a path, bench, or maintained tree, the more well-monitored the

Table 2 Park features defined by interviews with the City and their corresponding distance thresholds for safety and their weighting.

Analysis Factor	Safety Score 5	Safety Score 4	Safety Score 3	Safety Score 2	Safety Score 1	Weighting
Paths	0-10 ft	11-20 ft	21-50 ft	51-75 ft	75+ ft	30%
Seating	0-20 ft	21-50 ft	51-100 ft	101-200 ft	200+ ft	20%
Viewshed	>1 POV	-	-	-	0 POV	40%
Trees	0-10 ft	11-20 ft	21-50 ft	51-75 ft	75+ ft	10%
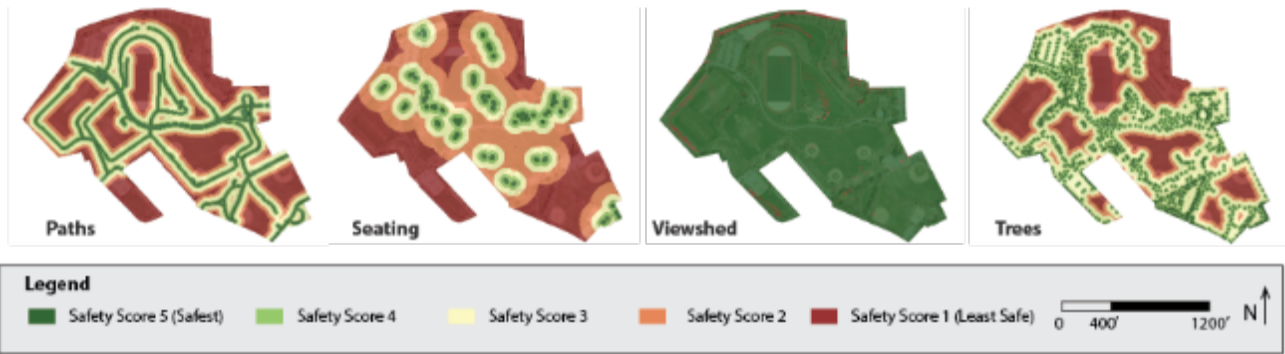
Figure 10 Spatial analysis outputs from each safety feature denoting safe spaces in green and potentially dangerous spaces in red, based upon their distance from that feature.

space is and thus the safer it is. For visibility, ArcMap has a viewshed tool that calculates the visibility of a point from a path based upon elevation data. I categorized spaces that were visible from any point on Danehy's paths as safe, and any that were not visible as unsafe. The distance thresholds for my spatial model can be found in Table 2 and maps of my input safety infrastructure features can be found in Figure 10.

Compiling each of these pieces of data, I conducted a weighted suitability analysis in ArcMap. This allowed me to combine these spatial layers with weighted values and identify spaces on a scale of safety via monitorability as

Figure 11 Weighted overlay map of all four safety features, with safe areas depicted in green and potentially dangerous areas depicted in red. Photos a-f correspond to the highlighted circles, visually confirming the output of the model.

defined by the City. I weighed each in terms of importance based upon what I gathered from my conversations with municipal officials and from analyzing Defensible Space and Broken Windows Theory. I gave viewshed the highest priority, then paths because both users and enforcers frequently use these, followed by benches, and lastly trees with the lowest priority. The map results of my weighted overlay calculating composite safety scores can be seen in Figure 11.

In reviewing my final output map, my suitability model underpins three main themes from my interviews. First, my model shows where the City of Cambridge has put an emphasis on safety. Images c, d and f show areas where safety infrastructure has been installed to discourage unwanted behavior. Image c shows the central path to the park, which operates as a 24-7 public right-of-way and is constantly patrolled by police. Image d shows picnic tables, whose maintenance are believed by the staff to promote safety and order. Image f shows a walking path which, once installed, decreased the congregation of people there at night, as previously discussed. Second, my model shows neutral zones. A majority of the beige, neutral safety zones are athletic fields like the one shown in Image e. I did not account for athletic fields in my model because their presence did not come up in interviews as a deterrent nor an invitation for unwanted activities. Lastly, my model highlights the northern periphery as unsafe. Images a and b show how the outside of the park are the least safe areas due to lack of visibility or safety infrastructure. In a way, this was an intentional strategy of the City. My interviews with city officials and landscape architects of the project made clear how this area where the methane gas vent trenches are was intentionally placed out of sight, so users would not fear the methane off-gassing. Still, some use it as a path (Image c). By placing the vent trenches/informal paths out of sight, they are thus, by the City's definition of safety via monitorability, unsafe. However, according to the City, these paths are intended to be unused and thus are not legitimized as paths. There is no signage, no lighting, or any acknowledgement of these as formal walkways. It is my theory that the City keeps

these paths unmarked to dissuade users from going where the City does not want them to go, a theme I will explore in my next section. Altogether, my spatial mapping analysis of Danehy Park shows how the City's adoption of Defensible Space and Broken Windows Theory was implemented in all corners of Danehy that the City intended for use.

So far, I have shown how the City's perceptions of crime led to the implementation of monitorable, defensible spaces across Danehy Park. The City boasts of its success in making Danehy a safe space and rightly so; the park has had minimal incidences of crime in the past 30 years. But while Cambridge claims success, other areas of the country and the world are scrutinizing the false assumptions that Broken Windows Theory encourages in modern day policies and police practices. In the next section, I will explore some of these critiques and how they have come up in my interviews and fieldwork. While Cambridge is not heavily scrutinized currently, I argue that these security practices can give some users a false sense of safety and that these policing strategies can sanitize spaces, jeopardizing the social vibrancy of public spaces.

False Notions of Safety - Critiques of Broken Windows Theory

During many of my interviews, I observed interlocutors state several notions of safety, many of these inspired by Broken Windows Theory, almost as presumed truths. But I found these ideas to be contradicted and critiqued through my fieldwork and my reviews of the literature. Here, I will focus on three that appeared the most often: the equating of dishevelment with crime, the idea that

monitorability brings safety, and the notion that light brings protection. First, Broken Windows Theory proposes that disarray left unchecked can lead to crime getting out of hand. This has led to unjust police practices which heavily monitor and over-police lower income neighborhoods and neighborhoods of color, as well as support tactics such as "stop and frisk" (Gau & Pratt, 2010). New York City and other municipalities claim that Broken Windows Theory helped eradicate the crime issues of the 1980s by encouraging police officers to focus more on petty crimes and disorder, rather than just on violent crimes. But some have argued that cities that did not practice Broken Windows Theory policing saw the same decreases in crime during the same period (Vedantam et al., 2016). To Wilson and Kelling's credit, their article "Broken Windows" wrestled more with equity than perhaps the policies their work encouraged. They pondered where the threshold of acceptability was for allowing disarray, not knowing where the line was between one drunkard and a thousand (Kelling & Wilson, 1982). In wrestling with this, they write:

> "We can offer no wholly satisfactory answer to this important question. We are not confident that there is a satisfactory answer except to hope that by their selection, training, and supervision, the police will be inculcated with a clear sense of the outer limit of their discretionary authority. That limit, roughly, is this—the police exist to help regulate behavior, not to maintain the racial or ethnic purity of a neighborhood." (Kelling & Wilson, 1982, p. 8)

Critics of Broken Windows Theory argue that these self-imposed limits have not been achieved, but rather have led to unjust police practices. The extent to which

this plays out in Danehy Park was not a question I was able to satisfactorily answer during the scope of my field research but given the socio-economic diversity of Northwest Cambridge it remains an important question to ask.

Second, under Broken Windows Theory, monitorability is equated to safety. But monitorability in itself can be problematic. While monitorability can give a sense of safety, it can also be used to watch people in ways that may be used against them. One resident shared with me a story of how his grandmother, who grew up in the neighborhood, in her retirement loved to walk around the park once it opened. She developed a regular routine of going early in the morning, just after sunrise. Because she grew up there and trusted her neighbors, she often left her back door unlocked. After a few months of consistent walking, she experienced a break-in at her house. She left home at her usual time, but quickly realized she forgot something. When she went back, she came across a stranger in her home, someone she thought she had seen previously in the park, stealing her jewelry. She managed to defend herself and eventually captured the thief using a machete she kept under her mattress for a rare emergency such as this. Her grandson, who told me this story, attributed the crime in part due to the fact that she went walking consistently in Danehy Park. Because she was consistently seen there, her habits created an opportunity for a thief to break in. Monitorability does not give all people equal power, but rather can give certain entities power over others. In this case, it was a sneaking thief, but monitorability can reinforce a more controlling rule of the state (Foucault, 1977).

Finally, as an extension of monitorability, there is from the park user's perspective this notion that lighting brings protection from being able to see and be seen. Danehy Park's users often request increased lighting, especially for the dog park and playgrounds. But lighting can't always guarantee security. As a somber example mentioned in this thesis's introduction, in January of 2019 a man was found unconscious shortly after dusk under a working street light by the New Street entrance to the park (Fisher, 2019b). He was later that evening pronounced dead at the hospital. Suspected to be murder, it is to the City's knowledge the first murder to happen in the 30 years of the park's existence. When I asked a landscape architect who worked on the project about lighting, he was quick to say, "Once you do any kind of lighting, you give people a false sense of security." This idea was echoed by the current director of recreation who said, "When you look at statistics, lighting doesn't necessarily equate to that type of safety." While lighting can illuminate a path, it still only has a certain illuminated area, or cone of influence. Users' eyes adjust to the lighting but are unable to see anything that is outside of the cone of influence. Though this logic was explained to residents at a public meeting following the murder incident, many concerned residents still insisted that more lighting ought to be installed in the park (Fisher, 2019a).

This false sense of safety is part of the reason it was incredibly controversial to put any sort of lighting in the park when it first opened. My interlocutor who was a landscape architect during the design phase explained the park's history of lighting to me. He was quick to echo what many of the signs in the park state: that Danehy is a dawn to dusk park and is not intended for night

use. The idea of lighting the park would send a conflicting message, welcoming users to enter when it is technically closed. Ultimately, the originals designers decided to put in foot candles, low 5-foot lights, on the main path per the request of police patrols who needed lighting to sufficiently see the path as they drove through on patrol, especially on rainy evenings where there was a risk of getting stuck in the mud. Since then, lighting has increased in the park. When the main field was renovated with artificial turf, it could then withstand more games per day than the grass fields. Play time could extend so lighting was put in. Because the games went later into the night, more people traveled through the park after dark and thus the City needed to provide greater lighting on the main paths.

From observing Danehy's lighting installation trends, one could assume that the whole park is bound to eventually be completely lit. But there are numerous reasons to keep the park dark. For one, increased lighting is largely unpopular with abutters of the park. The City had to prove in their environmental assessment reports for the field lighting project that the lights would not increase light levels on the outskirts of the park or for its adjoining neighbors. This is partly why the soccer fields near New Street, though they are turfed and in incredibly high demand, remain unlit due to the apartments nearby. Secondly, the City and its designers intentionally keep parts of the park unlit to discourage users from going there at night. In my interview with the director of recreation, he commented, "And in some ways, you don't want to light an area that's going to draw people to an area that is less safe." When I asked him to clarify what seemed to me like discouraging use, he said:

"Well it's not that it shouldn't be used. It's just like the preference would
be to keep people safe or to not create the opportunity for something bad
like that to happen… The backside of the park is dark, once you get off the
path. It's pretty isolated, at night especially. And if something were to go
wrong down there: number 1, you are out of eyeshot of a lot of people
because you're not on a main path. Number 2, there is sort of a hill that
goes down so if anything did go wrong it could be a little while before you
are found. And then 3, I don't think you could get a firetruck down there,
which is a big concern, or an ambulance down there because of the width
of the path and the turn that you have to make to get onto it. So we
wouldn't want to incent people to make the decision to necessarily to take
that as a mode of transportation. And again, it's a public way so people are
fine to do it and you know we do have patrols that go through and staff
that tries to keep things safe as possible but it wouldn't be something we
would light intentionally to try to direct people through."

Because lighting is associated with safety, even though it does not guarantee
safety, the City uses lighting as a sort of safety signaling to encourage or
discourage use. The City intentionally keeps areas unlit to deter nighttime use in
places they can't sufficiently protect. In a way, a similar tactic is used for the
methane gas vent trench to discourage use: the methane path is left unlabeled to
detract attention from it and deter it as an attractive option. Overall, it seems parts
of the park are left intentionally feeling less welcoming in order to maintain its
designed use structure as a dawn to dusk park.

While Broken Windows Theory strives to address disorder before it becomes prevalent crime, it does so at the cost of creating false equivalencies between disarray and crime, monitorability and safety, and lighting and protection. These can on the one hand make certain users feel a false sense of security in the park. As my conclusion, I will explore how Broken Windows Theory simultaneously can make others feel unwelcomed.

Conclusion – Right to Danehy

Danehy Park's heavy monitoring and permitting run the risk of inhibiting residents' right to the city. With Newman's proposal of defensible space, he was wary of the implications of public spaces no longer feeling open. He argues that defensible space does not necessarily mean that they are removing parks and open space from the public domain. Rather, he argues that spaces that are left too open and too ambiguous are neglected and unused, either because the space is too large or because those who try to use it in any way get interrupted by other groups who want to use the space for another purpose. But when spaces have a clear group that has ownership over it, Newman argues, the people create their own unwritten rules of use and actually make it their own (Newman, 1972). But within the instance of Danehy, the group that oversees the space is the City. The monitorability and the power held by the City conjure images described in Foucault's explanations of the Panopticon (Foucault, 1977). This space that can be monitored and enforce punishment at any time establishes a self-consciousness that is permanent, regardless of whether or not anyone is watching (Foucault,

1977, p. 201). The very fear of being caught is enough to deter unwanted activity. Within the realm of public space, it is a hazy line as to what are activities that warrant control for the sake of public safety and what activities impede one's designated rights to a space. Henri Lefebvre, in his book *Right to the City*, coins this concept of particularly the working class's right to the city, one that has been adopted and expanded upon by thinkers such as Edward Soja. Soja comments that a true right to the city through spatial justice is one where there is a "defense of public space against the force of commodification, privatization, and state interference" (Lumsden, 2016; Soja, 2010) p. 45). Often, the municipal conversations around safety measurements are promoted as a way to ensure safety for all. But in reality, how safety is defined and determined can sanitize spaces and cater them more towards specific groups, mainly the wealthy, white, and the upper class. It is inherently difficult for a space to be neutral in a way that is truly inclusive for all.

In my research, I observed instances of unplanned uses of Danehy Park being viewed as subversive and needing to be eradicated. While birdwatching, my fellow birders would scatter seeds on the concrete slab of a discus throwing field at the edge of the park. It was an ideal spot as the safety fence behind the throwing area would act as the perfect perch for birds, and a perfect viewing angle for birders, before they descended to the ground to gather seeds. The veteran birders would scatter the seeds before we began our walk around the wetland, so that the birds would be present in large numbers by the time we circled back. Sometimes Danehy's field staff would pass through, leaf-blowing away the seeds,

even though it was the off-season for track and field. The veterans would grumble at the staff disrupting their birding. Similarly, acts of graffiti were viewed by the Department of Human Services as disarray that needed to be quickly cleaned up, rather than as acts of self-expression. In my interviews with the Cambridge Arts Council, tagging was perceived as a sign of protest, but they argued the solution was to install more formal, collaborative art pieces, rather than let the informal art continue. In another instance of unplanned use, the holes in the northern fence, that served as a shortcut across the Fitchburg Railroad to Jefferson Park, were a top priority for the staff to quickly patch up, according to the former director of recreation. To date, the holes in the fence remain unpatched because the fence on Jefferson Park's side has been replaced with an unscalable fence. From my interviews, it seemed that this shortcut was viewed as subversive disarray rather than as a form of activism or design feedback to create an accessible path to Danehy, where there is no direct one presently, from the neighboring affordable housing complexes. In the City's attempts to keep Danehy remediated and orderly, they have managed to hinder uses that allow unique interactions between humans and other species, erase forms of creative expression, and ignore messages that advocate for greater accessibility to the park, each compromising residents' rights to the park.

This chapter explored how security ideologies including Defensible Space and Broken Windows Theory shaped design and monitoring decisions as Danehy Park was constructed and opened. Observations brought up by Newman, Kelling, and Wilson stressed the importance of giving users a sense of safety in a space as

this would increase attendance and thus help ensure that the space was safe. Broken Windows Theory establishes a structure where rules and principles define safety. In my next chapter, I will make the case that in practice providing a sense of safety does not come from visual order or top-down monitoring alone. Instead, I suggest we also define safe spaces relationally based upon our social ties with our neighbors. Thus, to sanitize parks in the name of safety is to make some feel welcome and others excluded, jeopardizing the neighborhood's social cohesion and thus undercutting its safety.

Chapter 3

The Senses of Safety

Introduction

Every year in the last weekend of July, Danehy Park hosts the Cambridge Jazz Festival and for 48 hours the sensory experience of Danehy Park changes dramatically. The largest athletic field becomes host to a 30-foot, elevated stage, complete with professional lighting and sound. Sponsor tents and hundreds of blankets overtake the artificial turf field and surrounding hills. Food trucks crowd the parking lot, filling the warm air with the sounds of sizzling meats and the savory smells of Caribbean and soul food. Jazz music dances through the air throughout the entire park, and any resident within a 5-minute walk from the park can hear muffled bass and drumbeats as various acts take to the stage throughout the day. For me, this event embodies the vibrancy of summer in Danehy Park.

When I attended the Cambridge Jazz Festival in July 2019, at one point in the mid-afternoon I decided to take a walk around the park and its back paths. I was curious to see how users were operating in the space with the jazz festival creating this unique sensorial experience. On my walk, I took a quick detour onto one of the back methane vent trench paths. Over the past few weeks, I had grown to enjoy walking back there. Often, it was a place of solitude and peace. The sunlight would hit the treetops, creating an ever-shifting mosaic of light and darkness on the trail's floor as the wind rustled the leaves above me. Here, I felt the freedom to sing and talk to myself, knowing I was alone. But today, walking on the path felt different. The air was still and thick with the humidity of this July

afternoon. I could no longer hear the birds chirping with the hum of the jazz music happening just over the hill from where I was standing. And on this rare occasion, I came across someone 50 feet ahead of me on the path, walking slowly with his bike. He seemed to be wandering aimlessly looking at the bushes and the plants. I was far enough back that he hadn't noticed me. Watching him, I felt my chest tighten and my hands become a little more clammy. I suddenly became more aware of the volume of music, just how tall the trees were, and the extent to which we were alone. I found myself asking, "Is he looking for something? Why is he here? If I were to shout, would someone hear me? Could anyone even see me from here?" As I debated if I should turn around or ignore my fear and try to say hello, the man continued on, mounting his bike and riding off.

Reflecting on this moment, I found myself confused and surprised at how quickly my body had physiologically changed in response to my sensory perceptions in this familiar environment. The hidden solitude of the back path became frightening. The vibrant hum of the band suddenly became a potential muffler to my hypothetical calls for help. And in this environment, a man who could've become a helpful interlocutor or friendly acquaintance became a threatening stranger. In some ways, my fear felt uncalled for. My senses had drawn me down this path before and had always encouraged me that the space was safe. Was it not the middle of the day? Was I not on a path where I could see clearly in front of me and behind me for hundreds of feet? Was I not within a few yards of thousands of people? And yet still, with just the distant presence of a

stranger and the hum of the music, that path went from a sacred space of solitude to feeling like a threat to my safety.

In my last chapter, I explored how Cambridge designed Danehy Park in order to make users feel safe visiting it, largely defining a safe space as a monitorable space. But as I argued in my previous chapter and above, monitorable spaces do not ensure protection from crime, and unmonitorable spaces can either feel like a sacred solitude or like a space that welcomes crime. I also showed in Chapter 1 how the senses can fail to detect sources of danger. In terms of environmental hazards, Danehy's greatest risk to users comes in the form of methane, an odorless, colorless gas that is combustible at room temperature. The sense of safety is subjective, prone to fail to detect risk, and it warrants further investigation. The purpose of this chapter is to uncover how we deploy our senses in order to evaluate safety and to propose a new approach to creating a sense of safety: by strengthening the social bonds between park users. So often, planners and park advocates argue for greater safety measures almost as guarantors for bringing vibrancy and social cohesion to the neighborhood. But I argue that just as safety can foster social cohesion, social cohesion informs our perceptions of safety in parks. This chapter will engage in discussions around the sensorium, arguing that even our most visceral and seemingly natural perceptions of things are socially influenced (Classen, 1997). I will begin by making the connection between popular frameworks of safety and the need to explore more specifically how the senses are used to determine safety. I will then make the case for why it is imperative to use methods from both anthropology of the senses and multi-

species ethnography in order to study how the senses shape our safety perceptions. Finally, I will share my field observations as a dog walker, and how the dogs I walked became canine interlocutors who helped me understand the differences in how people and animals perceive the world, how the ways I and other humans define safety contain visual biases, and how sensing safety is constructed in part by our relationship to the bodies around us, the social cohesion of our neighborhoods.

Readers of this chapter will find that its central content is filled with stories of dog-human encounters, but lacking in many descriptions of human-to-human interactions. So how can a chapter that advocates for social cohesion not include stories of its human residents? As I described in my thesis's introduction, in my efforts to build relationships with interlocutors I witnessed both the strengths and shortcomings of Northwest Cambridge's social cohesion. I met people I never thought I'd have the chance to interview, simply through one referral leading to another. Yet, looking back on my interactions with park users and residents, all were middle class and most were white. It seemed wrong for me in a chapter about social cohesion to elevate the voices of some and inadvertently silence the voices of others who I failed to make contact with during my period of research, potentially re-inscribing some of the same biases and exclusions that planning is prone to. My use of multispecies ethnography as an alternative does run the risk of homogenizing the human experience, but I put forth my stories of personal encounters and of my canine interlocutors not to establish human norms for sensing but to inspire new research questions in the field of sensing safety and

its relationship to social cohesion. As I will argue below, these stories are meant to challenge assumptions, encourage new insights, and provoke policies that promote safety via conviviality.

Connecting Safety to the Senses

Senses are imperative to how safety is defined, both individually and in policy. The popular safety frameworks that heavily influenced Danehy Park, including Broken Windows Theory and Defensible Space as discussed in the previous chapter, engage heavily with the sense of sight but fail to deploy analysis of any other senses. This partnering of safety with sight is prominent in Jane Jacobs's work, who insisted in her discussion of urban sidewalks that there must be eyes on the street, of business proprietors and residents, keeping watch over the city block in order to create a sense of safety for its users (Jacobs, 1961). Oscar Newman echoes the sentiments of Jacobs, arguing that the ability to see and the feeling of being observed by neighbors not only gives an appearance of safety but increases one's sense of safety, calming any of their "irrational fears" (Newman, 1972, p. 78). For both of these authors and the safety frameworks they have inspired, sight is the dominant sense used to define safety.

Extending Jacobs's and Newman's arguments, Broken Windows Theory emphasizes the power of sight in promoting safety or inviting unwanted behavior, arguing that aesthetic disarray can lead to crime. Take for example the following quote, which I shared in the previous chapter, from Wilson and Kelling's "Broken Windows":

"A stable neighborhood of families who care for their homes, mind each other's children, and confidently frown on unwanted intruders can change, in a few years or even a few months, to an inhospitable and frightening jungle. A piece of property is abandoned, weeds grow up, a window is smashed… Teenagers gather in front of the corner store. The merchant asks them to move; they refuse. Fights occur. Litter accumulates. People start drinking in front of the grocery; in time, an inebriate slumps to the sidewalk and is allowed to sleep it off. Pedestrians are approached by panhandlers." (Kelling & Wilson, 1982, p. 4)

The language of disarray is intertwined with the unwanted human behaviors. "Fights occur. Litter accumulates. People start drinking…" Kelling and Wilson flash back and forth between visual images of disheveled materials and unwanted human actions that feel out of the concerned user's control; the teenagers ignore authority and the panhandlers approach unsolicited. This shifting back and forth equates the disarray to the crime. The images that Kelling and Wilson depict leave worried readers and policymakers desiring to seize control of what they feel they have power over: the aesthetics of the neighborhood such as the weeds, the windows, and the litter. As I discussed in the previous chapter, Broken Windows Theory has been largely adopted by cities and municipalities across the country. The wide adoption of it demonstrates how sensory perceptions can be culturally influenced, in this case linking culturally specific visual cues of "disarray" with crime, prescribing unwanted aesthetics as "matter out of place" (Douglas, 2003).

This invites the question, how else have the senses been culturally influenced to shape definitions of safety?

Aesthetics-based policies have not only shaped the individual's perception of safety but have also been formally codified into law and policy. In the last few decades, acts that threaten the socially constructed aesthetic of safety have increasingly been treated as criminal violations, rather than civil. Such punishable actions include panhandling, loitering, publicly urinating, or drinking alcohol in public, which are now called quality-of-life crimes. Anthropologist Asher Ghertner has been on the forefront of describing and analyzing this hegemonic rule of aesthetics. In one of his earlier studies, Ghertner explored how New Delhi's pursuit to become a world class city inspired the passing of aesthetics-based codes which at the time ignored land titles and determined the illegality of a building based upon its appearance (Ghertner, 2011). Under this rule by aesthetics, a precariously constructed house in a slum with all the proper land titles will be cleared because it appears illegal and it does not fit the world class aesthetic. But an affluent shopping mall built without proper permits or land titles will not be challenged in its legality because it promotes the City's desired world class aesthetic (Ghertner, 2011).

These new laws not only altered how contentious land use cases were handled but it also shaped the values held by slum dwellers, who in turn began to support a world class aesthetic even though it meant the destruction of their homes. This support manifested itself both in their interviews as well as in the ways they chose to decorate their homes. In the same year these slum clearing

policies passed, slum residents began to purchase and put up photos on their walls of single-family homes, displaying them as the ideal and showing their desire to attain a new aesthetic of a world class city. Ghertner establishes in his theoretical frameworks that aesthetics have the power to shape policy and people in a way where bodies are simultaneously influencers and influenced by sensorial experiences in their community (Ghertner et al., 2020).

For researchers studying the influence of aesthetics, it remains difficult to explain judgements and perceptions of interlocutors in academic works especially when interlocutors cannot articulate it themselves. After noticing the prevalence of these posters, Ghertner began to ask his interlocutors about them. While they had meaningful stories to share of family photos or pictures of deities on their walls, when asked about the home posters they often were surprised at the question and simply answered "'I like it,' 'it is pretty,' or 'it is nice to look at.' These seemed to them to be obvious answers to a stupid question" (Ghertner, 2011, p. 295). Using just his methods of interviewing, it was difficult for Ghertner to capture the perceptions of his interlocutors beyond the existence of this trend of single-family home posters.

In the next section, I will explain how anthropology of the senses, when deployed alongside multispecies ethnography, provides a useful framework which gives narrative to the senses, including and extending beyond sight, in order to understand how culture shapes sensory aesthetics and informs safety design policy and planning. I will argue how these methods could be a promising frontier for security aesthetics research.

Building a Sensorial Safety Framework – Key Insights from the

Anthropology of the Senses and Multispecies Ethnography

Anthropology of the Senses

Anthropology of the senses is a relatively new field of research, finding its

beginnings in the early 1990s. This discipline came at a time when some

anthropologists were critiquing their colleagues for focusing too much on the

visual and on text such that other sensorial elements were lost. Leaders in this

field include Constance Classen and David Howes, who published a number of

works establishing and transforming the field. In one of his books explaining the

basis for anthropology of the senses, Howes outlines how the rise of cameras and

audio recording devices made anthropological notetaking more heavily focused

on sight and sound-based analysis, neglecting the other senses. The 1900s had

brought prominent anthropologists like Clifford Geertz who established models of

regarding cultures "as texts," and Paul Ricoeur who asserted that fieldwork ought

to be an act of "reading" the subjects. Howes argued these scholars' models

imparted visual and verbal biases to analyses (Howes, 2003, p. 18-19). Howes

remarks:

> "Was not the original idea, as Geertz put it, that 'the culture of a people is
>
> an ensemble of texts, which the anthropologist strains to read over the
>
> shoulders of those to whom they properly belong'? Given that it is now
>
> the informant who gazes over the anthropologist's shoulders… it seems
>
> that the positions have indeed been reversed… This in turn raises the issue
>
> of whether those original words of Geertz's should not be viewed as

having sprung a trap, a "trap of the text," a trap that has effectively cut off

anthropologists and anthropology from the world outside the text."

(Howes, 2003, p. 25-26)

Howes is arguing that anthropologists' attempts to read and create text that

accurately captures the interlocutor's perspective has led to critical sensory

elements getting lost. As a response, Howes invites researchers to become more

"sensible," deploying and asking questions about the senses beyond just sight and

sound. The anthropology of the senses was thus established as a discipline that

both uses anthropology to study the senses and uses the senses as a means of

inquiry to study other research fields and avenues (Pink & Howes, 2010). The

anthropology of the senses from the start was interdisciplinary, engaging with

cultural studies, visual studies, evolutionary sciences, and other disciplines

seeking to use and understand the senses.

In her article "Foundations for an anthropology of the senses," Constance

Classen outlines three critical conceptual impediments that must be overcome to

create a viable framework for the discipline, which I found informative for my

research (Classen, 1997). The first notion that must be overcome is that senses are

pre-cultural windows on the world. Rather, our senses are culturally constructed

to determine what sensory behaviors are appropriate and thus what different

sensory experiences mean. I alluded to this earlier in the chapter with Kelling and

Wilson's cultural shaping of the sight of litter, re-defining dishevelment to equate

it to crime (Kelling & Wilson, 1982). The second impediment Classen identifies

that must be overcome is that sight is dominant, or the only sense of major

importance. Some scholars, such as Martin Jay, have reflected on the history of the perception of the senses and identified how especially Western cultures have valued sight as dominant and equated it to knowledge, understanding, and power (Jay, 1993). This is evident in the ways Western speech patterns, including even this thesis, are inundated with sight-focused speech patterns such as "illuminations" or "drawing conclusions." The notion of sight as dominant prevails in evolutionary theories that promote the eye as the most advanced sensory organ, thus deeming any other cultures with other dominant senses as primitive (Classen, 1997; Jay, 1993). Promoting the visual as dominant runs the risk of neglecting other important sensory phenomena when analyzing in the field. Classen gives the example of studying Navajo sandpaintings. By simply looking at the sandpainting one wouldn't know that the sandpaintings are pressed into bodies for healing ceremonies, healing through its touch and visual destruction (Classen, 1997, p. 403). Classen's third impediment that must be corrected is the idea that visual models ought to be replaced with other sensory models. Classen argues that trying to create alternate sensory models does not allow for variation in these models across cultures. Instead, Classen, and later Howes, suggests that the senses ought to be studied in relationship to each other, including sight with the other senses however they may be defined (Classen, 1997; Howes, 2003; Pink & Howes, 2010). Classen summarizes the discipline's goals well by saying, "the objective of the anthropology of the senses, however, is neither to assume that smell, taste, and touch will be dominant in a particular culture, nor to assume that

they will be marginal, but to investigate the ways in which meanings are, in fact, invested in and conveyed through each of these senses" (Classen, 1997, p. 405).

In recent years, there have been some debates with regard to the future of the field and some proposed off-shoots of the discipline. Sarah Pink, a more contemporary scholar in the field, has argued for the field of anthropology of the senses to take a new form through what she calls sensory ethnography, expanding beyond what Howes and his colleagues have theorized, and suggesting an incorporation of Tim Ingold's approach of re-focusing research on experience and perception (Ingold, 2000, 2011; Pink & Howes, 2010). Following the dominant trends in this work, this chapter deploys an anthropology of the senses that is interdisciplinary, uses the senses as a means of inquiry, analyzes the senses in relationship to each other, and embraces both the individual responses and cultural influence on the senses (Pink & Howes, 2010). Howes has advocated for more anthropology of the senses research in the West, rather than seeking cultures where sight is not dominant, as early anthropology of the senses researchers did (Howes, 2003). He has also supported exploring exciting modalities as participant observers, exploring the senses in contexts such as clubbing, dancing, and fighting (Pink & Howes, 2010). But Pink has argued that even the practice of walking can be a fruitful avenue for exploring the senses and reaching a meaningful sensory understanding of one's research site (Pink, 2008; Pink & Howes, 2010).

Anthropological methods encourage researchers to explore their subject areas with the intent to "make the strange familiar, and the familiar strange." In doing so, anthropological works can challenge long-accepted systems and bring

value to perspectives previously dismissed or ignored. While I agree with Pink that walking can invoke profound sensory revelations, I questioned the ability of researchers such as myself to be able to have such revelations in areas which we are familiar with; in my case, Danehy Park. My ethnographic work on the safety aesthetics in Danehy Park answers Howes call for exploring the relationship between the senses in the West using Pink's proposed method of walking. But in order to experience Danehy with new senses, I used dogs as my key informants, taking note of how they used their senses to define safe and unsafe spaces so that I could then critique human perceptions of safety. This practice of using other species as key informants is common in the practice of multispecies ethnography, which I explain below.

Multispecies Ethnography

Multispecies ethnography came about in part from the animal rights movement, asking why some species were considered objects (that were "killable") while others were regarded as subjects (that were "less killable") (Ogden et al., 2013, p. 8). The mission of multispecies ethnography is to explore spaces and frameworks through lenses beyond the human perspective. As one academic review summarized it, "multispecies ethnography centers on how a multitude of organisms' livelihoods shape and are shaped by political, economic, and cultural forces" (Kirksey & Helmreich, 2010, p. 1). Behind many contributions in this field is a goal of researchers' "becoming human in relation to other species" (Ogden et al., 2013, p. 13). In the context of my research, it was

through walking dogs and studying how they determined safety that I came to profoundly understand the degree to which sight defined my sense of safety.

My analysis for my fieldwork was largely inspired by Donna Haraway and her publication, *The Companion Species Manifesto* (Haraway, 2003). Quite frankly, when I began my ethnographic work walking dogs, I had done so with the intent to use dogs as common ground to socialize with the dog owners in Danehy's dog park. But both of the dogs I established regular walking routines with were not dog friendly, and one was even afraid to set foot in the park on most days. It was in this time that I began to look to my dogs as interlocutors instead of viewing them as avenues to reach human interlocutors. As I did so, Haraway's work discussing domesticated dogs as companions for multispecies ethnography spoke well to my intentions as well as refined my analysis. Most significantly, Haraway discourages the conceptualizations common in the Western world that view domestic canines as furry children or as objects that exist for the purpose of delivering unconditional love to owners. For Haraway, multispecies ethnography was about establishing companion species in "significant otherness," where knowledge comes from vulnerable, on-the-ground work that acknowledges the companions' disparate history and their joint futures (Haraway, 2003, p. 7). As Haraway describes her relationship with her dog in agility training, she comments on how training comes from dogs being given rights including the right to be respected. She comments that possession is about reciprocity and that in training, all participants are shaped and remodeled (Haraway, 2003 p. 53-54). Haraway's work establishes a framework for exploring

the significant otherness of species while at the same time not anthropomorphizing them or situating her findings only for the benefit of humans. When I first began to walk these dogs, I at first criticized their mannerisms whenever they seemed illogical to me. But in applying Haraway's framework, I began to analyze their unique vantage point and use it to call into question what I assumed as the correct perception of our shared surroundings.

While Haraway does not directly relate multispecies ethnography with the anthropology of the senses, her thick descriptions in *The Companion Species Manifesto* distinctly engage the senses. In writing about her companion species, Cayenne, Haraway writes:

> "Her red merle Australian Shepherd's quick and lithe tongue has swabbed the tissues of my tonsils, with all their eager immune system receptors. Who knows where my chemical receptors carried her messages, or what she took from my cellular system for distinguishing self from other and binding outside to inside?
> We have had forbidden conversation; we have had oral intercourse; we are bound in telling story upon story with nothing but the facts. We are training each other in acts of communication we barely understand. We are, constitutively, companion species." (Haraway, 2003, p. 2-3)

Haraway through her thick description identifies sensuous and sensual links that tie her to her companion. Eva Hayward executes similar practices in her work with corals, deploying the senses with a focus on touch to develop her companion species relationship and defining her companions as having "fingereyes" of

"tentacular visuality" that establishes their sensuous way of understanding one another (Hayward, 2010). While my descriptions and analyses are not as sensuous nor biologically focused, I view Haraway and Hayward's sensory descriptions as an invitation to dovetail multispecies ethnography to anthropology of the senses.

Encounters as a Dog Walker

While Haraway was the designated partner to her companion species, my role with my companion species was neither to be their primary caregiver nor trainer. Instead, I was an hourly dog walker for one dog named Sofie, an eight-year-old, friendly Havanese lap dog, who lived down the street with an elderly neighbor who could no longer take Sofie on long walks consistently. I also was a short-term dog sitter for a total of 6 weeks over 7 months for another dog named Jerry, a skittish nine-year-old, four-pound Chihuahua. What was unique about my positionality with these already-trained dogs was that I learned who these dogs were as I walked them. Older in years, they already had distinct personalities, unique ways of perceiving the world, and triggers that made them determine a space as unsafe that I played no part in constructing. I believe that because I did not raise them, it was easier for me to have a mindset of humble respect for my companions like Donna Haraway suggested rather than a desire to train them into submissive obedience. As we got to know each other and settled into a routine, I felt and experienced a joint becoming in our relationship as we negotiated our definitions of social spaces and safety with each other.

Getting Acquainted – Exploring a New Cognitive Map

The first time I walked Sofie, I didn't know quite what to expect. I had been introduced to Sofie and her owner through an interlocutor who grew up in the neighborhood but had since moved away. Before moving away, he would walk Sofie and sometimes take her to Danehy Park. Before our first outing, I had in mind the route I would take to get her to the park the fastest so that we could optimize our time in Danehy. When her owner handed me the leash, Sofie, with her puppy-like energy, bounded down the concrete floor hallway with her paws scrapping and slipping on the concrete, determined to keep her pace though her leash held her back.

Once we were outside, Sofie led the way. She raced down the sidewalk, not stopping until we reached the bodega at the end of the street, where she and her owner normally would stop and chat with the owner. Once Sofie noticed that I wasn't slowing down to go in, she proceeded to cross the intersection, heading in the direction of the park. When we reached the end of the next block, I began to walk straight, taking the shortcut I knew through a parking lot of an apartment complex. But Sofie insisted on turning left, going down the residential side streets to get to the park. This would add five to ten minutes of non-park time to our walk. I tugged with Sofie for a short moment but eventually succumbed to her will.

On our journey to the park, Sofie would stop at intervals, sniffing trees and fence posts and leaving a scented mark of urine after careful examination. It was as if she was walking signpost to signpost, checkpoint to checkpoint. Her

nose was constantly to the ground, leading her to her next sensory stopping point. Some of the structures were predictable to me and matched my preconceived notions for dogs marking their territory; they were all tall, protruding structures like hydrants, trees, and lampposts. But then there were structures she would halt at and linger on that surprised me, because they did not match the visual description of desirable sensorial spots that I had constructed in my mind. Sofie would stop at street corners that had only grass and a chain link fence. More surprisingly, Sofie loved to stop at a street corner where the building's wall was rounded. To my visual cues, there was no appropriate corner at which Sofie was to stop. But to Sofie, the entire curve around the turn was still a sniffing landmark where information was exchanged. When we got to the park, the paths were no longer structured like the street sides. The trees were further from the paths, as were the lampposts. I noticed her walking was more lackadaisical, without any direction as there were no periodic sniffing points to go between. Every so often, Sofie would find a smell of interest and begin wiggling on the ground, rubbing her back on it. I would tug the leash to tell her to stop and she would begrudgingly continue our walk.

As I chatted with Sofie's owner after the walk, we began talking about how Sofie knew the way to the park and practically walked me there. I commented on how she was constantly sniffing, going from landmark to landmark, stopping to leave her scent mark. Sofie's owner remarked, "Well of course, it's her getting the gossip!" By this, she was perceiving Sofie's sniffing habits as part of a social network, sending and receiving messages, perhaps to

dogs and other animals she has never physically seen but recognized through their scent. On future walks, I noticed the way that Sofie did not stop at every tree, but often stopped at the same trees each walk, though each tree was similar in size, structure, and placement. She would take her time at her preferred trees, sniffing around the perimeter before carefully leaving her own message. With this logic, it clarified why it seemed Sofie's walk through the fields of Danehy Park was aimless: There were no predetermined smelling signposts or social spaces of gossip to exchange information, only sporadic surprise scents that welcomed a rubbing in.

Through walking Sofie in the neighborhood we share, I saw how she used her senses to create a cognitive map of landmarks that was different from mine. While I relied on visual cues to navigate and tried to use them to anticipate her navigation, Sofie used olfactory cues in relationship with loose visual cues to navigate her world. In realizing this, I soon became curious as to how both Sofie and Jerry used their senses to determine safe and unsafe environments.

Sensorially Defining Safety

Jerry and Sofie varied greatly with regard to their demeanor and their levels of cautiousness. Sofie was generally friendly and sociable to human strangers but was more guarded around other dogs. Her owner said she was friendly with male dogs around her size, but was intimidated by females and larger male dogs. Jerry, on the other hand, was extremely skittish. He disliked other dogs regardless of size, was terrified of large groups, and didn't like human

strangers petting him. Given Jerry's demeanor, this section is largely informed by my walks with him. Sofie demonstrated some instances of skittishness, which I will speak on, but Jerry's hesitancies were clearer. When encountering an overwhelming number of stimuli, Jerry would turn around and insist on returning home, regardless of if we had just come outside, if it was a nice day, or if he was familiar with the area. But in all of his skittishness, there were moments when Jerry was unexpectedly brave, causing me to question my own visual biases of safety and how I link other senses to their sight.

With his incredibly small size, Jerry was very good at attracting spectators and greeters, despite his own desires to avoid strangers. The worst admirers of all were children, who would rush up to this nine-year-old "puppy," without any concept of keeping a respectful distance. To avoid them towering over him or accidentally stepping on him, I would pick Jerry up. He often would begin shaking and I would playfully explain to the children that Jerry was afraid of everything bigger than him, including them. I would politely tell them to say goodbye to Jerry and we would part ways.

But as I walked Jerry more and more, I found that my default statement to children was not entirely true. I had assigned to him a sense of fear determined by a visual cue—anytime Jerry saw something bigger than him—when, in actuality, he was more often triggered by sounds. The jingle of a collar would cause Jerry to look nervously in all directions for an approaching dog. The engine of garbage trucks would startle him and disorient him. The sounds of children playing at the playground would dissuade him from going through the nearby entrance to the

park. Once there was a large dump truck idling on the road, next to the sidewalk we were on. Though it was not moving, the sound was so loud and percussive that Jerry refused to walk by, even though through my visual perspective the dump truck posed no risk to us.

Feeling like I had to be his keeper in his ineptitude, I began trying to anticipate what areas Jerry would enjoy and steer him away from areas that would scare him. But in Jerry's old age, he had a bad back and weaker legs and thus couldn't be led by tugs of a leash or he'd topple over. I would often have to give up my desire to lead and give direction, instead letting him choose our path, even if it meant circling a parking lot eight times and going home. But on these haphazard walks, Jerry's boldness surprised me. At one point, the City was doing construction on a parking lot near Danehy. On an idle Sunday walk when no work was being done, Jerry curiously sniffed around a bulldozer tire ten times his size and investigated the bright yellow traffic cones, unafraid. Another time, the housing complex had taken apart an old playground and installed a new one. The disassembled slide remained sideways on the sidewalk next to the new playset. Jerry curiously sniffed around it, again unafraid. I came to realize that the safety biases I had projected onto Jerry attributed his fear to visual cues, not the olfactory or auditory stimuli that truly frightened him. I had seen how Jerry had been afraid of the idling dump truck and assumed that he would be fearful of the parked bulldozer and bright traffic cones that are associated with loud construction. Or that Jerry's dislike for boisterous children playing at recess would equate to him disliking all playgrounds, even unused ones. But Jerry didn't

have the same visual memory pairings that I did. Size was not to blame for Jerry's skittishness, but rather the unfamiliar and overly stimulating sounds. My walks with Sofie reflected these findings. It was in moments with unfamiliar sounds, such as a young child doing his best to imitate a fire siren while scootering at the playground, that Sofie wanted to change course. Even Sofie, who normally loved getting attention from children, became fearful in moments of auditory confusion and wanted to take another route.

My revelation of the extent of my visual biases made me more cognizant of how such biases were present both in public meeting comments and my own personal observations for how lighting shaped sensorial definitions of safety in the park. As mentioned in the previous chapter, despite the fact that the Danehy Park murder victim was found under a working streetlight, the public insisted on installing more lights in the park to increase safety. On one of my first night walks through the park in the early stages of my fieldwork, I brought a headlamp. As I walked on one of the unlit paths, I noticed how I surprisingly felt less safe with the light on as I could only see what was directly in front of me and had no peripheral vision. In turning the headlamp off, my night vision, while still not the best, gave me a better viewing window which made me feel safer as I walked.

In walking Jerry, it was often tempting at first to mock Jerry's perceptions and critique what I perceived as his blind spots in determining safe spaces. But within Donna Haraway's companion species framework, I as the human am not assumed to be superior, and my sensory perceptions are not to be taken as any more advanced. Through multispecies sensory analysis, I discovered the extent to

which my visual cues pervaded not only my definition of safety but the predictions I had for Jerry and Sofie's sensory perceptions of safety, leading me to inaccurate judgements of my companion species.

I have shown through policy and now through sensory theory the pitfalls to having a hyper-emphasis on sight to determine safety. But if not sight, what is the way forward? I propose that rather than choosing a new dominant sense to define safety, we allow our sensorial perceptions to be shaped by an external factor that I will argue already influences our sensorial perceptions: each other.

Sensing as Relational

My fieldwork exploring the sensorium suggests that sensing is a relational act. Granted, the academic notions of "relational" senses or senses being "social" are common in foundational writings of anthropology of the senses, but not in the way I propose. Howes's work of relational senses discusses how the senses ought to be studied in relationship to each other (Howes, 2003). Further, he argues that sensory relations are social relations, meaning that the degree to which a sense is elicited carries meaning, such as the degree of flavorful spices in a meal prepared for a guest is indicative of the level of importance that guest has (Howes, 2003, p. 55). But my assertion that sensing is relational is that what I sense, how I perceive safety, and how I physiologically respond are determined in part by the bodies around me in space and the relationship we share or lack thereof.

I first noticed this phenomenon when noting the difference in my attentiveness between my walks with Sophie and with Jerry. With Jerry's

skittishness, I became acutely aware of sights and sounds that I believed might trigger Jerry. I kept a conscious look out for other dogs and I tried to guide Jerry down quieter streets. I believed that in order to have a successful walk with Jerry, I had to reduce potentially traumatic encounters. Importantly, I noticed that my demeanor as a person changed when encountering strangers. Typically, on my own, I enjoy spontaneous, positive interactions with people in public places. But because Jerry wasn't friendly with strangers, I ignored my own inclinations when passing kids and families who might want to greet Jerry. Instead of delivering my usual, audible hello, I would minimize eye contact and, if I was feeling generous, I would offer a soft smile in hopes that this would dissuade further interaction. In comparison, whenever I walked Sofie, I remained social with other individuals and I was not as vigilant with deploying my senses to determine safety. Sofie's sociality made me feel comfortable and less guarded. At times because of this ease, I would fail to notice dogs who would put Sofie on edge until they approached us in close contact.

I also noticed that the degree to which I was guarded was determined not only by my companion species, but by other dogs and their owners as well. Usually just by nature of my schedule, I walked Sofie on days when there were few dogs in the park. The first time I walked Sofie on a Sunday afternoon, there were lots of dogs and their owners out. We came across, or were in the near vicinity of, six or seven dog-owner pairings and none of them asked to engage with Sofie. Quite the opposite, upon making eye contact, I would see the body posture of these owners tense up. They would shout to their dog, hold their collar,

and get very still. Any dogs that got too close were critically reprimanded by their owner and were told to move on. The dog owner would then apologize as they continued walking, never truly breaking their gaze from their own dog. There was one dog on the softball field as we began to cut through the field. We weren't within 1,000 ft of them, but I noticed that the owner ceased to play fetch, held their dog, and waited for us to be out of their dog's line of sight. I had no verbal interaction with this owner but I knew that I should not get too close to their dog. In reading their body language, I tensed up, walking more upright and pulling in Sofie's leash so that she was closer to my side. This dog was so far away that I could not tell the breed let alone how the dog was physiologically responding to our presence. Still, I remained guarded, keeping the dog and their owner in my peripheral vision for as long as I could.

Interestingly, I found that just because there is a sensorial response due to another's physical display of acting guarded, it does not mean that the responder has accurately captured the feelings of the other, even though they both ultimately responded with fear. On one Saturday when I was dog sitting Jerry, I was determined to get him into and acclimated to the park. I physically carried him into Danehy, went to the top of the hill, deposited him on a blanket, tethered him to a leash, and invited him to sniff around while I read a book. Still thinking at the time that his fears were sight-based, I had hoped a panoramic view of the park would calm his nerves. Instead, he was scared when a couple of young kids kicking a soccer ball on a nearby field saw Jerry and decided to run up the hill to say hi. The speed with which they approached startled Jerry, causing him to

immediately jerk back, growl, and show his teeth. The kids were then frightened, and I began my usual spiel of "Jerry is afraid of everything larger than him." To that, the older boy who seemed around ten years old asked in timid confusion, "He's afraid? He looks angry to me." I then tried to explain how he only looks angry because he's scared. Both Jerry and this boy arrived at the same physiological response of fear, but both had interpreted the other's motives as threatening to their own safety. Their postures affected each other, but not due to accurate understandings of the other's intentions.

When I began my research for this thesis, I was under the impression that park use and perceptions of safety were largely individualized experiences; each person sees and responds to their environment uniquely. Therefore, the goal of park safety is to make masses of individuals feel safe as they go about the park. Foundational urban planners seemed to support me in this presupposition. Both Jane Jacobs and Oscar Newman described cities as places full of strangers living among one another. Newman remarked, "We are witnessing a breakdown of the social mechanisms that once kept crime in check… The small-town environments, rural or urban, which once framed and enforced their own moral codes, have virtually disappeared. We have become strangers sharing the largest collective habitats in human history" (Newman, 1972, p. 1). Jacobs said, "The bedrock attribute of a successful city district is that a person must feel personally safe and secure on the street among all these strangers" (Jacobs, 2011, p. 38). Both sought to design spaces that gave the impression that they are well-looked after in the midst of urban anonymity. Newman described his plans for defensible

space as "the physical expression of a social fabric" (Newman, 1972, p. 3). Both seem to assume a large degree of unfamiliarity among residents and seek to bolster monitoring to foster safety as strangers pass by each other.

But if perceptions of safety are shaped by relationships to others, then the goal of park safety should not just be protection of the individual but bring conviviality of the neighborhood. Sociologists and anthropologists have challenged this static notion of cities simply being full of strangers, arguing instead that significant meaning can come from chance encounters in public spaces (Lofland, 1998), that these encounters can lead to healthier views of multiculturalism (Peters & de Haan, 2011), and that these interactions can lead to deeper connections amongst residents (Cattell et al., 2007). My research suggests that the City should seek to invest more in promoting events and activities that tie the surrounding neighborhood together.

Currently, Danehy Park hosts popular events such as the jazz festival, an old-time baseball game, and a family day. And while these events are popular, they are open to and attract people from all across Cambridge and surrounding cities, but do not necessarily bring immediate neighbors together. Were the City to plan smaller events that are intended for its nearby residents, it could more effectively tie the neighborhood together. Northwest Cambridge is continuing to change, with new building developments going up in Fresh Pond, renovations pending for nearby Rindge Towers, and stand-alone homes continually increasing in price and attracting more affluent families. With new waves of strangers

coming into the neighborhood, public park programs that bring neighbors together will be as imperative as ever.

Conclusion

Towards a More Convivial Danehy Park

Danehy Park is an exceptional space, in both meanings of the word. First, Danehy Park has been recognized as outstanding. The City has been the recipient of awards for its innovation in civil and environmental engineering and the park has been nationally and globally recognized as a novel case study for other organizations to follow. But Danehy Park is also exceptional in that it is unusual. Its innovative engineering and environmental remediation prompted the City to form new bureaucratic structures to guard and maintain the space. In its exceptionality, Danehy proves to be an interesting case study for analyzing the repurposing of land, discussions around spatial security, and the ways in which people define their feelings of safety. Danehy Park can provide cities with profound insights for how to go about fostering safety and conviviality within their parks.

In *Illuminations of Safety,* I examined the relationship between security and conviviality in Danehy Park. Security measures foster a sense of safety, which can increase visitation and use. But heightened security can also sanitize the space, limiting cultural inclusion through restricting park uses for the sake of "maintaining order" (Merry, 2001). This decrease in cultural diversity may put at risk opportunities for conviviality. By implementing security measures at the cost of conviviality, I argue that the city of Cambridge has limited the space's potential for making users feel safe; for safety comes not from physical security measures alone, but from a mutual trust between neighbors. In this conclusion, I will

summarize the main points from this thesis and then, from these insights, propose policy recommendations that advocate for loosening security regulations and diversifying park use to increase attendance, user ownership of the space, and conviviality in order to foster a stronger sense of safety built on neighborhood trust. While many of my recommendations will be specifically for Danehy Park, there are also broader recommendations that other municipalities can also draw from.

Overview of Chapters

In Chapter 1, I examined Northwest Cambridge's transformation over the past 150 years and Danehy's remediation into a park, highlighting the City's daring and innovative leadership. As Northwest Cambridge transitioned from the urban fringe of clay pits and tanneries to middle-class residential neighborhoods, Danehy's plot transformed from a 30-foot deep clay pit into a 30-foot high mound of trash to a topographically distinct 50-acre recreational facility. The City put in great effort to remediate the site's landfill, something that was still a novel practice at the time. In their endeavors to prove to both MassDEP and surrounding residents that the park would be safe, the City took calculated risks in their use of solutions when controversies arose around ground water contamination, methane gas ventilation, and deploying artificial turf fields. But in their attempts to create a park that people could feel safe in, the City erased the site's history such that people forget that it is a landfill. This erasure of the past raises issues when Cambridge residents unknowingly tamper with vegetation that acts as erosion

control measures and petition for greater infrastructure in the park, not realizing that some projects risk the escape of significant pockets of methane gas, a threat to safety that is imperceptible to humans senses.

There are lessons to be learned from both Cambridge's innovative leadership as well as from their aesthetics-focused design approach. Danehy's environmental remediation proves that there can be great benefits from considering expert opinions, taking calculated risks, and being willing to face public scrutiny in order to improve life for residents. Because the City "did their homework," as many of my interlocutors stated, they were able to create an award-winning park. At the same time, their attempts to make the park aesthetically pleasing and safe came at the cost of honoring the history of the site. The sanitization of the landfill inadvertently put the park's environmental remediation at risk by the very users the City was trying to provide security for.

In Chapter 2, I analyzed how the City went about ensuring the safety and security of Danehy Park given its large size and topographically complex layout. First, I began by connecting talks of crime in Cambridge to Teresa Caldeira's work studying "crime talk" in Sao Paolo (Caldeira, 2000). In both locations, crime, and the evil behind it, is viewed as infiltrating from an outside place and influencing anyone with a weak disposition to succumb to it. These ideas of crime as endemic, rather than a product of social circumstances, led the City to deploy spatial security measures that denote clear, intended uses for the park and allow for the space to be more monitorable, defending it from outside threats. In addition to applying best design practices in landscape architecture, the City's

planners and design consultants were inspired by the theories proposed by Jane

Jacobs, who emphasized that sidewalks required eyes on the street in order to be

safe (Jacobs, 1961); Oscar Newman, who designed defensible spaces that

assigned intended uses and made them easy to monitor (Newman, 1972); and

George Kelling and James Wilson, who proposed Broken Windows Theory which

argued that physical disarray and untended spaces lead to the exacerbation of

crime (Kelling & Wilson, 1982). The City applied each of these concepts by

establishing a full-time park staff, the only one like it in the entire city.

While the park staff has been praised for helping operations run smoothly,

their actions may infringe on Cambridge residents' rights to the city. In their

attempts to make the space feel safe, the City and its staff sanitized it such that

there is little room for creative, unplanned uses. Much like the City's

environmental remediation strategy causing the erasure of the landfill, their

attempts to make the park feel safe from crime inhibited users from innovatively

using the park to meet their own needs for recreation and self-expression. Further,

these spatial defense theories create false notions of safety, overemphasizing the

sense of sight with security.

In Chapter 3, I elaborated on the ways that cities have hyper-emphasized

sight as the determining sense of safety and the pitfalls of this approach. I

revisited the theories of Jacobs, Newman, and Kelling and Wilson, this time

surveying the attention they give to visual cues of crime and order. By promoting

visual cues as indicators of safety, security policies are largely being formed by

aesthetics (Ghertner et al., 2020). The issue with studying aesthetics is that often

times it is difficult to capture the meaning and effects of an aesthetic through just interviews and conversations; they must be sensed, experienced, and felt by the researchers who wish to write about them. Acknowledging this, I practiced methods of anthropology of the senses by becoming a participant observer who strived to sense safety beyond sight. To gain new wisdom on a familiar place to me, I became a dog walker and treated my dogs as key informants, drawing upon methods from multi-species ethnography. Through my experiences as a dog walker, I noticed the differences between how I formed cognitive maps of my surroundings using visual cues in comparison to my dogs' use of scents; I realized the profound extent to which the visual informed what I perceived as safe for both myself and my dog companions; and most profoundly I discovered the extent to which sensing is relational, that my demeanor, alertness, and guardedness were determine based upon which dog I was walking and the strangers I came into contact with.

My analyses re-evaluated the relationship between fostering a sense of safety and conviviality. From the theories I researched and the interviews I conducted, it seemed at first that their relationship was unidirectional: in order to have convivial parks, they must first be safe. But if sensing safety is a relational act, then how we define our sense of safety in a space is significantly shaped by how convivial our neighborhoods are and how much neighborhood users trust each other. Therefore, in order to truly promote safety, cities must invest in making neighborhoods more convivial, in addition to ensuring their spatial security.

Policy Recommendations for Danehy Park

Because I am arguing that conviviality shapes one's sense of safety, the following recommendations are largely focused on improving a sense of identity, belonging, and ownership for those who use Danehy Park. Were municipal planning practices to be more culturally inclusive, more people will be drawn to regularly visit the park, bringing more eyes to the space and encouraging a greater sense of conviviality and trust amongst neighbors. These policy recommendations range from modifying park rules to commissioning infrastructure projects. While varying in their levels of investment, I believe each is important for encouraging a conviviality that can nurture a sense of safety in Danehy Park.

Honor History and Identity Through Art

The design of Danehy Park has, up until this point, erased much of the history of the site and Northwest Cambridge. Most new users do not know that it is a capped dump. Cities, including Cambridge, should strive to honor the history of the site through various public art displays that are more tangible than its present works. Some ideas could include installing plaques that show photos of the site's former uses and designing ornate methane off-gassing chimneys (Figure 12) (Brandes, 2003). Structures like these would both celebrate the past and remind users to honor the present-day limitations of the park, fostering gratefulness for what this remediated landfill is able to provide to residents and respect for the erosion control measures that keep the park environmentally safe.

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Figure 12 A modern methane off-gassing chimney in Kendall Square that doubles as a bench. Photo courtesy of KMDG.

In addition to honoring land history, parks should also celebrate the histories of the people who presently and have historically resided in the surrounding neighborhoods. Anthropologist and park advocate Setha Low argues that if a group's history is erased from a space, they are less likely to use the space (Low et al., 2005). As an example, Northwest Cambridge has been home to so many people with rich histories that tie them to the area, including French-Canadian, Italian, and Irish immigrants, as well as black middle-class families. While many descendants of these residents remain in the area, their families'

histories are not known to new residents. Sponsoring the Ukeles' Fourth Phase for Danehy, intended to celebrate the cultural diversity of the area by inviting residents to offer up personally meaningful items to be part of a preserved display, could be an important first step (Ukeles, 2002). This would help make people feel that the park acknowledges their presence and that they have a claim to the space. However, the City should also go beyond this by encouraging greater dynamic, spontaneous forms of self-expression to be shown in the park. While collaborative art installations like Ukeles' are admirable, they still only manage to capture a singular moment in time. Informal art displays allow for constant change, negotiation, and collaboration as new pieces are done, undone, and redone, reflecting the everchanging dynamics of the neighborhood itself. Danehy and other parks could designate spaces for informal, collaborative art, much like Central Square's Graffiti Alley (Figure 11). Or they could encourage art on existing structures that don't significantly impede their intended use, such as decorating the spectator stands or detailing the pedestrian pathways. Doing so will allow history and cultural to be created as it happens, rather than displaying fixed moments in time.
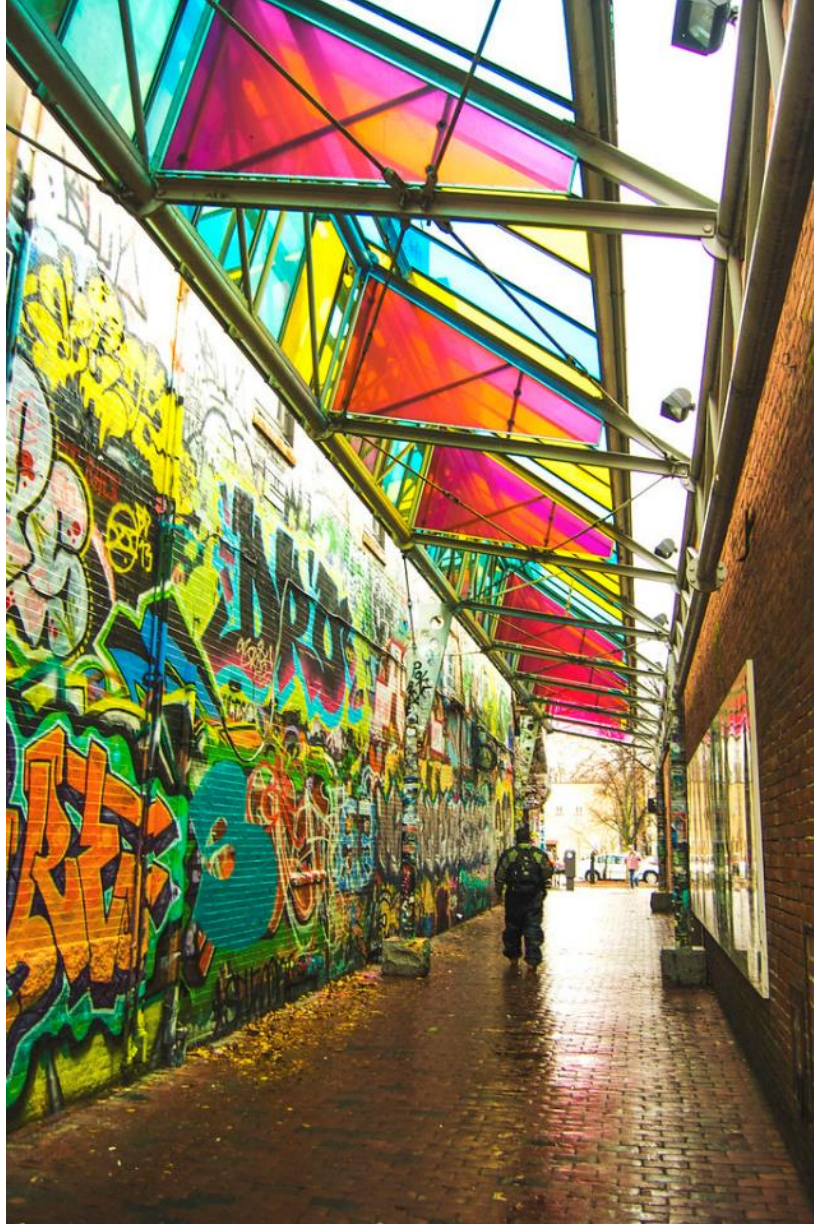
Figure 13 Graffiti Alley in Central Square, Cambridge, MA. Image courtesy of Justin Ladia via Flickr, permitted for reuse.

Improve Access

Park access is essential for promoting conviviality especially across class.

The Trust for Public Land has recently been a strong advocate for ensuring that

every child be within 10-minutes walking distance of a park. In the case of

Northwest Cambridge, there are four apartment complexes within 500 feet of Danehy Park's perimeter, but only two of them are within a 10-minute walk of the park, due to a railroad cutting off access. Not only are two complexes not within 10-minutes walking, but the walk is also significantly less pleasant, requiring users to walk along noisy freeways, down an informal path, and through a shopping mall parking lot. This is in stark contrast to the pleasant residential streets along the route for most of the middle-class homes bordering the park to the south and east. Residents of the housing complexes have expressed a clear desire for a faster path to the park, as illustrated by the numerous, frequently occurring holes in the northern fence. The City has interpreted these holes as subversive, but they ought to be interpreted as activism, providing the City feedback on where better access is needed. While there are some pocket parks that are within a 10-minute walk of these complexes, they are not comparable to the exceptional athletic and recreational facilities present in Danehy. In order to foster conviviality, cities should ensure that parks serve as a common meeting space of all of its neighbors. This means giving more legitimate access in the form of signage, formal pathways, and bike racks that greets users entering from any entrance. In the case of Cambridge, the City recently announced that it would be investing $15 million into preserving the affordability and quality of Rindge Towers (Sennott, 2020). The City ought to allocate funds to provide more suitable access to residents, via a pedestrian bridge over railroad tracks. They will have to overcome some structural hurdles to make this possible, but with Cambridge's history of innovative leadership it seems like a challenge that can be overcome.

Entrust the Park More to Residents

While it is common in the Boston area for large parks to have neighborhood coalitions that take care of it, Danehy Park has no such coalitions or "Friends of" groups because this role is largely filled by the City's park staff. Often these coalitions are formed in response to eras of disarray and neglect of the space. But Cambridge has tightly managed Danehy to ensure this wouldn't happen. While the City's efforts should be commended, it has come at a cost of discouraging local residents from taking ownership of the park. The City could form a committee or invite residents to form a coalition from the residents surrounding Danehy that gives them the power to plan events for the park and make suggestions on how to improve the space. Other cities could adopt a similar model, even if a "Friends of" coalition exists. Often these organizations are predominately white and can disregard the voices of the surrounding neighborhoods. By striving to form more representative coalitions, more users can take more responsibility for what happens in their park, desiring to maintain it and ensure that users are able to enjoy it.

Lastly, the City could also give residents an increased sense of ownership by providing opportunities for less restricted use. To start, the City should create a publicly available calendar where residents can know when fields have planned sporting events and when they are open for spontaneous use. People tend to not linger on the softball fields, even when they are empty for hours at a time, fearing that they may get told to leave in a moment's notice. The City could also modify their programming schedule. As an example, they could start having Freeform

Tuesdays, where the fields are not booked for athletic games for the entire day and residents are free to use the park in whatever way they wish, within reason. There have been moments when either the park is closed or it is the off-season where I have seen isolated instances of visitors making creative uses of the park, including teens making an impressive ski jump, a woman practicing her bagpipes, and soccer players kicking trick shots in an empty toddler playground. Rather than keeping these wholesome subversive uses as isolated instances, the City should encourage more of these creative uses to happen in conjunction with one another: kids flying kites across the softball fields, pick-up volleyball games, musicians playing instruments, picnics, and birthday parties all happening in the same space. It may be a bit chaotic and it may require residents to negotiate with each other to compromise their uses, but that is all part of forming convivial spaces.

For municipalities beyond Cambridge, many of the lessons learned from examining Danehy Park still apply. *Illuminations of Safety* argued that strong security measures can come at the cost of conviviality and they can lead to inaccurate perceptions of safety and danger. Cities ought to invest in their neighborhood's conviviality through honoring the neighborhood's history, increasing access, and giving greater residential ownership of the park. This conviviality could act as a steppingstone for social cohesion and forming democratic spaces, building neighborhood ties that make parks safer.

Appendix A – Crime Type Designations
Total Cases – 24600+

Violent – 10,791 cases
- Aggravated assault
- Homicide
- Kidnapping
- Mal. Dest. Prop.
- Simple assault

Disorderly – 6,267 cases
- Annoying and accosting
- Disorderly
- Drinking in public
- Drugs
- Gambling
- Harassment
- Indecent exposure
- Noise complaint
- Peeping and spying
- Stalking
- Suspicious package
- Threats
- Trespassing

Theft – 7,575 cases
- Larceny cases
- Street robbery

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