Activate Brush Creek: Strategies for activating the Brush Creek Greenway in Kansas City, Missouri, as community health infrastructure

by

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A REPORT

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Abstract

Although the health benefits of outdoor recreation are widely recognized, studies show significant disparities in the accessibility and quality of available greenspace across racial and socioeconomic lines, often due to historic urban planning practices that promoted and reinforced segregation (Rigolon 2016, Gordon-Larsen et al. 2006). Such is the case in Kansas City, Missouri (KCMO), where parks in neighborhoods with majority-Black populations and lower socioeconomic statuses often have fewer amenities, more deferred maintenance issues and aging infrastructure, and receive less capital funding than parks in wealthier and majority-White neighborhoods (Vaughan et al. 2013). This disparity has received increased attention in recent years, as numerous studies, planning efforts, and community organizations have pointed to the need for greater equity in the Kansas City Parks and Boulevards system, emphasizing the need for parks to be treated as community health infrastructure (Rep. *Parks and Boulevard System* 2020). Located in the heart of KCMO, offering 285 acres of public green space and crossing through neighborhoods with the lowest life expectancies in the city, the Brush Creek Greenway (BCG) has potential to serve as a vital asset to support community health, but currently lacks the amenities or investment to do so. This poses the question, "How can the Brush Creek Greenway in Kansas City, MO, serve as health infrastructure for the local community?" To answer, site analysis, park audit, interviews, and precedent studies were used as methods to understand the current state of the BCG, its capacity to support community health, and best practices for community-centered park planning and design. Findings expose a critical need for community-driven infrastructure improvements, community-engaged programming, and collaborative stewardship. Recommendations provide a framework that can be used by community stakeholders to invest in the future of the BCG as a vibrant piece of community health infrastructure.

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Although the health benefits of outdoor recreation are widely recognized, studies show significant disparities in the accessibility and quality of available greenspace across racial and socioeconomic lines, often due to historic urban planning practices that promoted and reinforced segregation (Rigolon 2016, Gordon-Larsen et al. 2006). Such is the case in Kansas City, Missouri (KCMO), where parks in neighborhoods with majority-Black populations and lower socioeconomic statuses often have fewer amenities, more deferred maintenance issues and aging infrastructure, and receive less capital funding than parks in wealthier and majority-White neighborhoods (Vaughan et al. 2013). This disparity has received increased attention in recent years, as numerous studies, planning efforts, and community organizations have pointed to the need for greater equity in the Kansas City Parks and Boulevards system, emphasizing the need for parks to be treated as community health infrastructure (Rep. Parks and Boulevard System 2020). Located in the heart of KCMO, offering 285 acres of public green space and crossing through neighborhoods with the lowest life expectancies in the city, the Brush Creek Greenway (BCG) has potential to serve as a vital asset to support community health, but currently lacks the amenities or investment to do so. This poses the question, "How can the Brush Creek Greenway in Kansas City, MO, serve as health infrastructure for the local community?" To answer, site analysis, park audit, interviews, and precedent studies were used as methods to understand the current state of the BCG, its capacity to support community health, and best practices for community-centered park planning and design. Findings expose a critical need for community-driven infrastructure improvements, community-engaged programming, and collaborative stewardship. Recommendations provide a framework that can be used by community stakeholders to invest in the future of the BCG as a vibrant piece of community health infrastructure.

TABLE OF CONTENTS

List of Figures

List of Tables

Acknowledgements

Preface

This project was born out of a collaborative studio effort in the fall of 2020 that sought to envision a future for Martin Luther King Jr. Square Park (MLK Park), which sits within the Brush Creek Greenway in Kansas City, Missouri (KCMO). The studio collaboration was a response to a request for proposals from the Kansas City, Missouri, Department of Parks and Recreation for a destination playground on the site.

During the site analysis process, I was appalled to learn of gaping disparities in life expectancy between neighborhoods across KCMO. The census tract with the lowest life expectancy rate in Jackson County was located just south of MLK Park, while a neighborhood in the top 20th percentile sat just one half-mile away across Troost Avenue.

While a single park cannot correct the harm done by decades of unethical planning and design practices, this realization drove me to investigate how the recent investment in MLK Park might serve as a catalyst to support healthier outcomes for the neighbors of the Brush Creek Greenway.

The following report assesses the potential of the Brush Creek Greenway—in light of its current conditions, recent attention, and promised investment—to serve as a valuable piece of community health infrastructure.

Figure 1.01 The Brush Creek Greenway in February, 2021

1 | INTRODUCTION

Kansas City, Missouri

For better and worse, Kansas City, Missouri (KCMO) has been shaped by three formative planning efforts of the early twentieth century: the development of the Parks and Boulevards System by George Kessler in 1892, the widely adopted practice of racial redlining by the Home Owners Loan Corporation (HOLC) in the 1930s, and the exclusive neighborhood developments of J. C. Nichols (Rep. *Parks and Boulevard System* 2020). The former ensured the implementation of 12,242 acres of greenspace and 135 miles of tree-lined streets into the foundation of the developing city; the latter two—with the help of the Federal Housing Administration (FHA), the National Association of Real Estate Boards (NAREB), and local homeowners' associations—used these green spaces as buffers to racially segregate up-and-coming neighborhoods (Gotham 2014). The legacy of this racial segregation is embedded into the present-day fabric of KCMO, resulting in drastic disparities between rates of Black and White home ownership, life expectancy, and income (*Rep. Parks and Boulevard System* 2020).

Figure 1.01 continued

Although the Parks and Boulevards System ensured that public greenspaces were incorporated throughout the urban core of KCMO, in the decades since, the parks in low-income neighborhoods have not received the same level of attention, investment, or amenities as the parks located in higher-income neighborhoods (Vaughan et al. 2013, 18).

This disparity was recently highlighted by two planning reports:

1. The 2019 *Parks and Boulevard System, Kansas City, Missouri: Providing a More Equitable Approach to Investing in Parks and Recreation* report from the Urban Land Institute Advisory Services (ULI), which investigates the inequitable distribution of resources within the Parks and Boulevards System (*Rep. Parks and Boulevard System* 2020),

2. And the 2021 *Kansas City Physical Activity Plan* (*KCPA Plan*)*,* which proposes priorities and strategies for addressing health disparities in KCMO through cross-sector efforts, including parks and recreation (KCPA Plan Core Work Group 2021).

In order to equitably manage public parkland, the ULI Advisory Services report proposes recommendations for restructuring the funding priorities of the Kansas City, Missouri, Parks and Recreation Department (KC Parks) (*Rep. Parks and Boulevard System* 2020). KC Park's current budget structure prioritizes funding in areas that demonstrate "demographic growth patterns," which directs its focus and resources outward to the rapidly sprawling suburbs. The ULI report suggests doing the opposite by prioritizing investment in

deferred maintenance projects at existing parks in the urban core, specifically in ZIP codes with the lowest life expectancy rates (*Rep. Parks and Boulevard System* 2020, 23 & 26). Among their recommendations is a charge to "work with residents to create healthier neighborhoods by treating parks as health infrastructure...to coordinate investments around indicators of need...[and] better understand existing social equity activities happening in neighborhoods and citywide...and incorporate them into KC Parks and other municipal partners' work" (*Rep. Parks and Boulevard System* 2020, 19). ***How do parks serve as community health infrastructure?***

WHAT IS COMMUNITY HEALTH INFRASTRUCTURE?
While the field of public health broadly includes efforts towards disease prevention and achieving positive health outcomes among the public, community health "focuses on the intersection of the community's needs, the community's understanding of and priorities for health," and strategies for engaging and addressing those priorities (Goodman 2014, S60). Health infrastructure, then, "provides...the capacity to prevent disease, promote health, and prepare for and respond to both acute (emergency) threats and chronic (ongoing) challenges to health" ("Public Health Infrastructure" 2020). While hospitals and public health agencies like the Center for Disease Control (CDC) are often the most visible forms of health infrastructure, community health infrastructure includes the community spaces, institutions, and resources that support healthy lifestyles and risk reduction, such as public parks and greenways. Public green spaces can offer opportunities for outdoor recreation and physical activity, gathering

spaces to support a community's social life, and even foster mental wellness and stress reduction through contact with nature, all of which contribute to positive public health outcomes and quality of life.

The crucial role of neighborhood parks as community health infrastructure is highlighted in the *KCPA Plan*, a multi-sector collaboration by public health experts, city officials, local physicians, and community leaders around the Kansas City dedicated to promoting community wellness through physical activity. The recommendations from their Parks and Recreation Sector specifically prioritize recreational programming, gathering neighborhood input and participation data,

and developing sustainable investment and funding strategies in maintenance and connective infrastructure (KCPA Plan Core Work Group 2021, 4, 46-54).

Brush Creek Greenway

Located along the banks of Brush Creek, which flows from west to east through the heart of KCMO, the Brush Creek Greenway (BCG) offers 285 acres of urban greenspace and trails from Brookside Boulevard to the Blue River. It has the potential to serve roughly 14,000+ KCMO residents within a 10-minute walk, many of whom reside in two of the lowest life-expectancy zip codes in the city, 64128 and 64130 (*Rep. Parks and Boulevard System* 2020, 23).
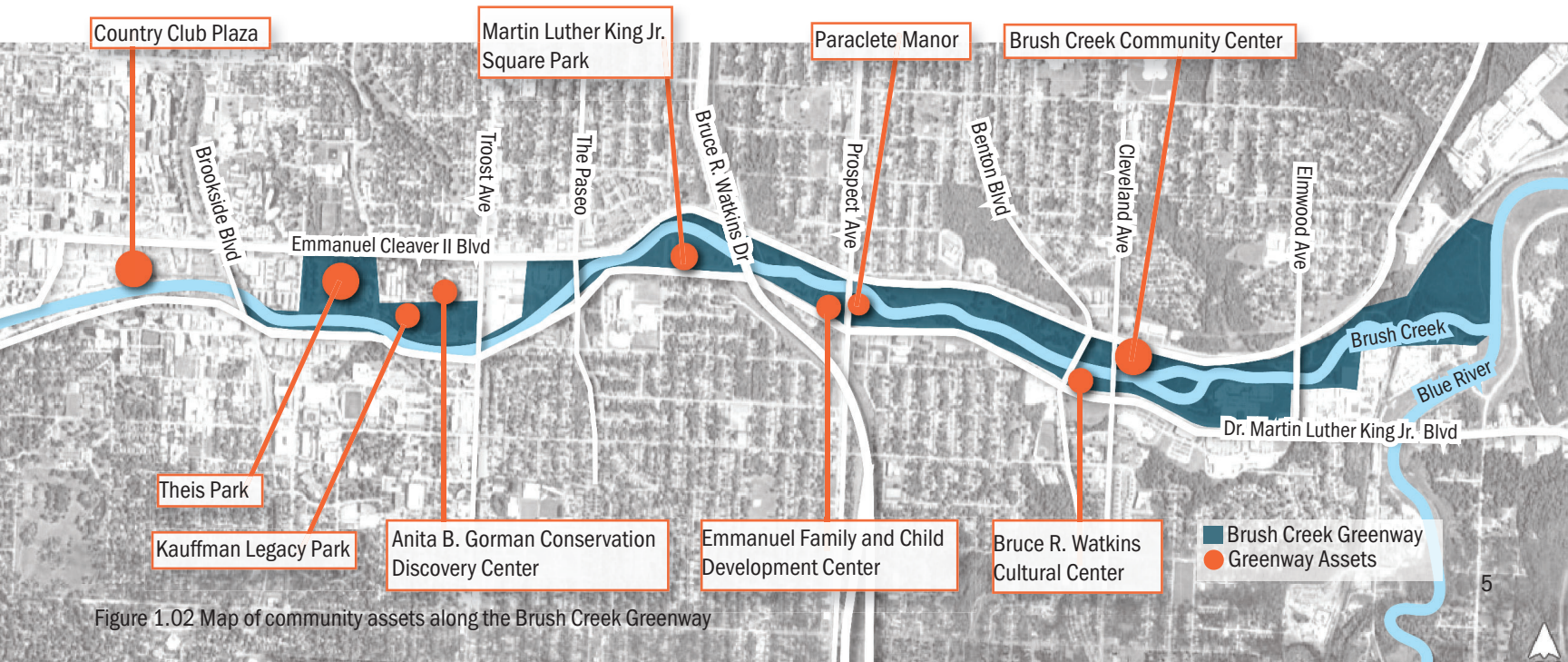
Figure 1.02 Map of community assets along the Brush Creek Greenway
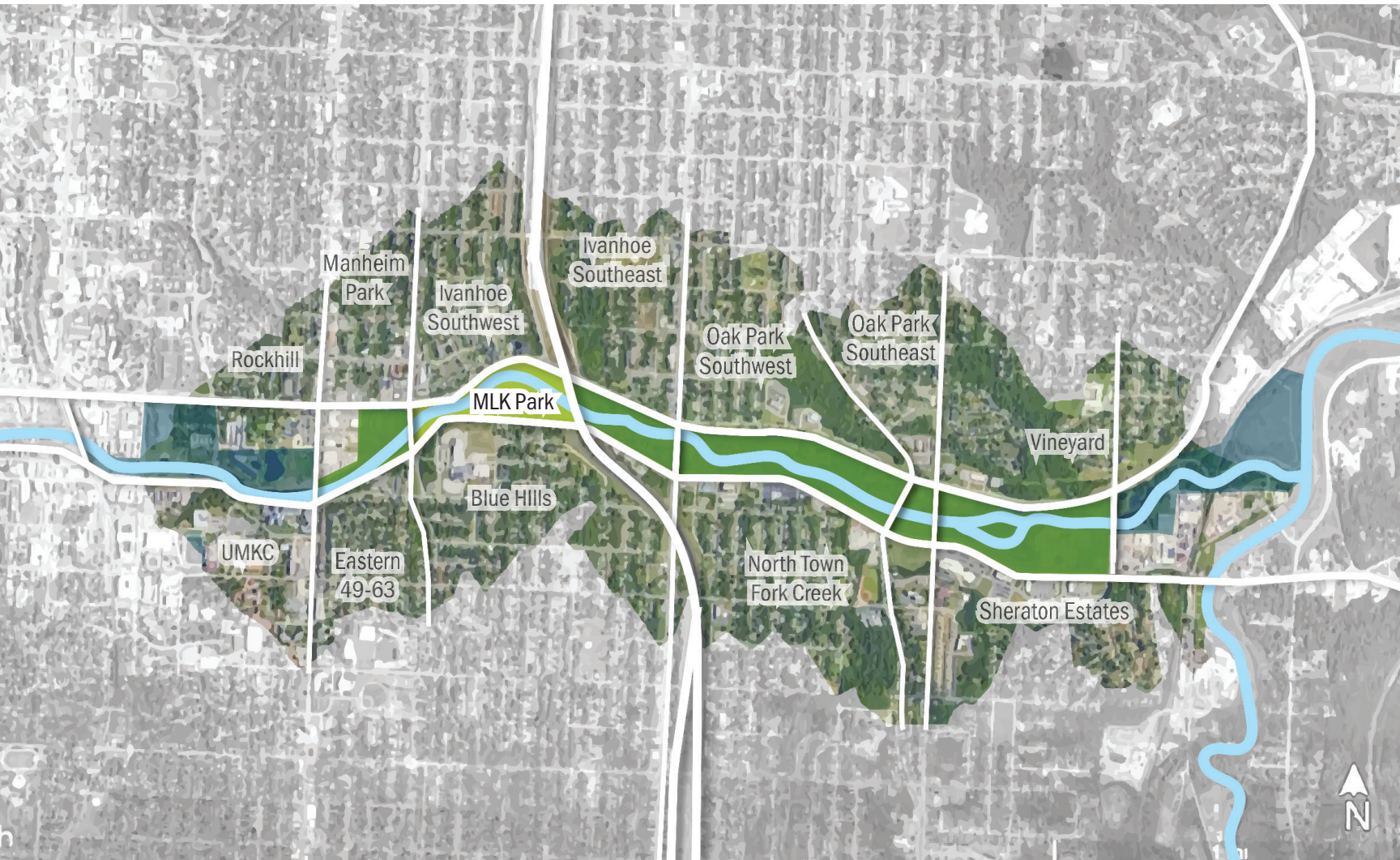
Figure 1.03 Brush Creek Greenway (BCG) and adjacent neighborhoods within a 10-minute walk.

Although the BCG's location and acreage suggest potential to become a vibrant public greenspace, the BCG is currently failing in its capacity to serve as community health infrastructure. Bordered on both sides by intimidating traffic and lacking the amenities and connective infrastructure needed to support active use, the BCG does little to support mental health, social wellness, or physical activity.

In recent years, the BCG has received attention from both public and private investment activity. In the 2020-2021 fiscal year, the Water Services Department allocated $31.8 million for green stormwater infrastructure (GSI) implementation as part of their Overflow Control Program, which includes replacing and supplementing the city's deteriorating combined sewer system with GSI within the Brush Creek watershed, where sewage overflow into the creek is common after minor storm events (Rep. *Parks and Boulevard System* 2020, 26). By reducing the sewage overflow, these GSI projects will improve the water quality of the creek, creating a healthier environment for physical activity and recreation along the BCG. This is good news for Martin Luther King Jr. Square park (MLK Park), which is centrally located within the BCG, between The Paseo and Bruce R. Watkins Drive/U.S.-71. In 2020, the 15 and the Mahomies Foundation—established by the NFL Chiefs quarterback Patrick Mahomes—committed to funding "an all-inclusive destination play site" at MLK Park. ("MLK Park Ready for Rebirth" 2021).

With the promise of necessary GSI improvements and a destination playground on the horizon, it would be prudent, if not imperative, to consider how future investment by KC Parks can, and should, prioritize the BCG as a vital piece of community health infrastructure.

As the western portion of the BCG has benefitted from its proximity to the Plaza and received more consistent attention during previous creek "beautification" and flood prevention upgrades, the following chapters will focus on how the eastern portion of the BCG, between Troost and Elmwood Avenues, can serve as community health infrastructure (Figure 2.03).

RESEARCH QUESTION

How can the Brush Creek Greenway in Kansas City, MO, serve as health infrastructure for the local community?

SECONDARY QUESTIONS

- How do parks serve as community health infrastructure?

- How is the Brush Creek Greenway currently serving or neglecting to support community health?

- What planning and design-based strategies are needed for the Brush Creek Greenway to fulfill its role as community health infrastructure?

Figure 1.04 Overview of research questions

PROJECT GOALS

- Strengthen the case for future investment in the Brush Creek Greenway and build on the momentum around MLK Park improvements to promote active lifestyles.

- Organize a management model for the BCG that responds to and advocates for community needs and interests.

- Explore how key recommendations and findings from the KCPA Plan and ULI Report could be applied to the BCG, and learn from local subject experts who are leading the charge to improve community health outcomes in KCMO.

- Understand how the built environment shapes public health outcomes, for better and for worse.

- Develop an applicable framework of recommendations for community leaders seeking to promote park-based physical activity in their neighborhoods.

Overview of Report

This report investigates park-based strategies for leveraging the recent investment in the Brush Creek corridor as a catalyst for promoting physical activity and community health along the BCG. Chapter 2, Background, reviews the current literature on the benefits, facilitators, and barriers to activity in urban public parks, as well as current planning efforts toward promoting active lifestyles. Chapters 3 and 4, Methodology and Findings, look at how those factors affect the BCG and surrounding neighborhoods through site analysis, a park audit, interviews with local subject experts, and precedent studies of other community-centered park planning efforts. In light of the literature and findings, Chapter 5, Recommendations, proposes a series of BCG-based strategies for promoting park-based physical activity along the corridor, and Chapter 6, Conclusion, discusses potential applications for the report, project limitations, and suggestions for future research.

Figure 2.01 The Brush Creek Greenway Trail at Troost

2 | BACKGROUND

Green Space as Health Infrastructure

By understanding the connection between the built environment of our cities and community health, landscape architects and urban planners can play an intentional role in designing for healthier, more equitable, and more active communities.

Extensive research has shown the positive impact of urban nature and public parks on public health outcomes by improving mental and physical health, fostering a community's social life, and supporting active lifestyles. While many biological health benefits can be gained *directly* from the natural environment— like the mitigation of urban heat by shady street trees (Ballinas and Barradas 2016)—the incorporation of green space into urban environments can also *indirectly* promote positive health outcomes through reducing risk or influencing healthy behavior (Shanahan et al. 2015).

Figure 2.01 continued

THE IDEAL

Green Space as Health Infrastructure

Direct biological benefits from nature (Ballinas and Barradas 2016; Livesley, McPherson and Calfapietra 2016)

HOW?

Indirect benefits (Shanahan et al. 2015)

physical activity "strongly related to health outcomes" (US DHHS 2008, cited in Carlson et al. 2011)

Barriers to Park-based physical activity

Barriers affect people of different ages, genders, abilities, racial identities, and ethnic backgrounds differently (Stanis et al. 2009; Babey et al. 2005; Groshong 2020; Lange 2021; Carlson et al. 2010, Lapham et al. 2015)

HOWEVER...

Perceptions of safety and access

Both real and perceived threats to safety affect rates of park use (Crowe 2000; Cozens and Love 2015; Sampson and Raudenbush, 1999; Heinze et al. 2018; Molnar 2004)

Traffic, car-oriented city planning (Kaczynski et al. 2014; Binns et al. 2009; Carlson et al. 2011; Frumkin et al. 2004)

Threats to personal safety, fear of violence (Groshong 2020; Molnar 2004)

Physical and environmental hazards (Sampson and Raudenbush, 1999; Heinze et al. 2018)

Mental Health and Exposure to Nature

Social Wellbeing and Public Space

Physical Activity and accessible green space

Attention Restoration Theory (Kaplan, Kaplan and Ryan 1998)

Stress Reduction Theory (Ulrich et al. 1991; Yamaguchi, Deguchi and Miyazaki 2006).

Emotional wellness, place-based identity and belonging (Irvine et al 2013)

Design of public spaces may play a role in decreasing social division and enhancing community life (Carmona 2010, Hester 2010, Sennett 2004, Jacobs 1961, Gehl 2011, Coley et al. 1997, Sullivan et al. 2004, Whyte 2001)

"Conversation landscapes," Triangulation of physical features and programs that attract and gather people (Gehl 2011)

Key drivers of park-based physical activity fit into 3 categories:

A park's **physical features**, aesthetic, conditions, safety, and ease of access (Bendimo-Rung, Mowen, and Cohen 2005, 164-165)

Policies, funding, **management**, maintenance and marketing (Bendimo-Rung, Mowen, and Cohen 2005, 164-165)

Social environment, programming, safety and trust of other park users (Bendimo-Rung, Mowen, and Cohen 2005, 164-165)

a focus group of KCMO residents emphasized the presence of other friendly park users, such as families with children or dog-walkers, as a key factor in providing a sense of personal safety (Groshong 2020)

Community stewardship and participation (Shankar 2013; Whyte 2001)

Maintenance as a signal of neighborhood care (Heinze 2018; Jacobs 1961; Lawson 2001)

People attracted to vegetation (Sullivan et al. 2004; Coley et al., 1997)

"Programming, walking loops, play areas, and marketing" (Cohen et al. 2018, 1)

Studies show that programming has a higher impact on active park use than merely infrastructural changes (Schultz et al. 2016; Cohen et al. 2009; Cohen et al. 2016)

Figure 2.02
Literature Map

BUT RECENTLY...

Current Efforts Toward equitable access to Park-Based physical activity

National efforts

Local efforts

Legacy of inequity

"10 Minute Walk" Movement ("10 Minute Walk" accessed 2020)

Walkable communities and active transportation promoted by the Office of the Surgeon General (Office of the Surgeon General 2015)

National Physical Activity Plan ("National Physical Activity Plan" 2016)

Kansas City Physical Activity Plan (KCPA Plan Core Work Group 2021)

ULI Advisory Services Report: *Parks and Boulevard System, Kansas City, Missouri: Providing a More Equitable Approach to Investing in Parks and Recreation* (Rep. Parks and Boulevard System 2020)

Redlining and housing discrimination from FHA and HOLC (1930s) (Rep. Parks and Boulevard System 2020)

Spotlight on Brush Creek

Manipulative real estate practices like "blockbusting" promoted by NAREB to drive "white flight" toward suburban development (1950s-1970s) (Gotham 2014)

Significant disparities in accessibility, quality, and quantity of available greenspace across racial and socioeconomic lines (Rigolon 2016; Gorden-Larsen et al. 2006)

Consent decree from EPA initiates Smart Sewer program in Brush Creek Watershed ("Smart Sewer" 2020)

"Brush Creek Innovation Corridor" conceptualized as priority district for economic development and green infrastructure ("RESOLUTION NO. 210269" 2021)

Blue Parkway, Swope Parkway and Volker Boulevard renamed "Martin Luther King Jr. Boulevard", along the southern bank of Brush Creek (Kaut 2021)

MLK Park, within Brush Creek Greenway, receives donated destination playground and park shelter from 15 & the Mahomies Foundation and Gunter Construction Company ("MLK Park Ready for Rebirth" 2021)

Use of Troost by the KCMO School District to segregate schools *after* Brown v. Board (1950s-1970s) (Gotham 2014)

Disproportionate environmental hazards, such as industrial land uses, landfills, and high risks of flooding in low-income and minority neighborhoods (Taylor et al. 2007)

Drastic disparities in life expectancy between predominantly Black and predominantly White neighborhoods (Archer et. al. 2020)

Brush Creek Greenway as Community Health Infrastructure

Figure 2.02 Literature Map, continued

MENTAL HEALTH AND EXPOSURE TO NATURE

Spending time in, or near, nature is widely regarded to have a positive impact on mental health. One of the most prominent explanations of this phenomenon is the Attention Restoration Theory (ART), developed by Rachel and Stephen Kaplan, which suggests that "natural settings...facilitate recovery from mental fatigue through softly fascinating stimuli that are compelling without mental effort" (Irvine et al 2013, 419; Kaplan, Kaplan and Ryan 1998, 18-22). This is reinforced by the Stress Reduction Theory (SRT), which "demonstrates [through experimental research] that being in a non-threatening natural environment reduces measures of sympathetic outflow, such as blood pressure [and] heart rate...suggesting a physical mediator of the health benefits of nature" (Irvine et al 2013, 420; Ulrich et al. 1991; Yamaguchi, Deguchi and Miyazaki 2006, 158). ART and SRT both point to the ability of non-threatening nature to both positively affect one's mental state and moderate the biological functions triggered by stress.

In addition to improving mental health and relieving stress, the presence of local, accessible green spaces and neighborhood landmarks reinforces emotional wellness through fostering a sense of place-based identity and belonging. Many "studies examining 'favorite places' suggest that people may seek these places, particularly ordinary natural environments such as parks, for management of feelings and the self [56–58]" (Irvine et al 2013, 419). This identification of local parks and green spaces as meaningful and restorative "favorite places" highlights the way in which parks foster both community identity and a personal sense of belonging.

SOCIAL WELLBEING AND PUBLIC SPACE

Beyond fostering mental wellness, public spaces are essential for maintaining social health. Many sociologists and public life scholars propose that the physical design of public spaces may play a role in decreasing social division and enhancing community life (Carmona 2010, Hester 2010, Sennett 2005, Jacobs 1961, Gehl 2011, Coley et al. 1997, Sullivan et al. 2004, Whyte 2001). To this end, Richard Sennett proposes that social estrangement may be weakened by "living edges," or public spaces where the daily lives and habits of strangers can intertwine (Sennett 2005, 46-47). As described by Jane Jacobs, "When you see the same stranger three or four times on Hudson Street, you begin to nod. This is almost getting to be an acquaintance, a public acquaintance, of course" (Jacobs 1961, 54). Jan Gehl explores this

Figure 2.03 Literature review revealed the ways that parks can support community health.

idea in *Life Between Buildings*, where he dubs the term "conversation landscapes," asserting that "the design of places for sitting and standing, and their relative location, can have a direct influence on the opportunities for conversation" (Gehl 2011, 169). Conversation landscapes are built from the triangulation of physical features and programs conducive to attracting and gathering people, increasing the likelihood of conversation-sparking situations.

The presence and use of vegetation in urban spaces is one such feature; not only can it offer ecosystem services (shade, carbon sequestration, stormwater infiltration, cooling) (Livesley, McPherson and Calfapietra 2016, 120), but also become a magnet for city-dwellers. When deciding whether to linger in a public space, pedestrians show a strong preference for green public places (Sullivan et al. 2004). Observational studies show that outdoor spaces with even just a few trees gathered "more individuals and larger groups of people…than in spaces with no trees (Coley et al., 1997)" (Sullivan et al. 2004, 680). Coley elaborates: "Trees are an important variable in creating sociopetal outdoor spaces-spaces that attract people to them. The presence of trees in the two public housing developments under study consistently predicted greater use of outdoor spaces by all people, young and older, as well as groupings of people consisting of both youth and adults together. Larger groups of people were found in treed areas than areas without trees, and in Ida B. Wells, no adults at all were observed in areas devoid of nature" (Coley et al. 1997). Not only does the presence of trees attract more people, but responses from residents suggest that "the more vegetation was associated with a resident's building, the

more she socialized with neighbors, the more familiar she was with nearby neighbors, and the greater her sense of community" (Sullivan et al. 2004, 681).

However, not all vegetated spaces will foster a positive view of the community: maintenance is essential to signal neighborly investment and provide a sense of safety and care. (Heinze 2018, 101). For a public space to support a healthy social environment, there must be community stakeholders dedicated to maintaining it. The impact of this is three-fold: First, as mentioned above, the appearance of maintenance improves the actual and perceived safety of an area (Heinze 2018, 101). Second, the presence of people maintaining the space allows for more eyes on the street, which provides accountability and sets an example of positive neighborly behavior (Jacobs 1961; Lawson 2001, cited in Carmona 2010, 108). Third, community-led maintenance and volunteer initiatives provide a sense of investment from participating neighbors, creating a healthy territoriality that turns gardeners, custodians, and vendors into the hosts and hostesses of the space (Shankar 2013, Whyte 2001). Prioritizing small signs of physical care and community presence play a crucial role in activating and sustaining a healthy public place.

PHYSICAL ACTIVITY AND ACCESSIBLE GREEN SPACE
While having access to nearby nature has been shown to improve aspects of mental health, and public green space is conducive to fostering a healthy social life, the ability of park and greenway environments to promote physical activity is dependent on many factors that can vary from community to community (Kaczynski and Henderson 2007). As noted in the introduction chapter,

life expectancy in Kansas City varies drastically by ZIP code, with low-income neighborhoods having significantly lower life expectancies than their wealthier counterparts. Though not the sole contributor to life expectancy, physical activity is "strongly related to health outcomes," as it "can lengthen and improve quality of life and reduce risk for dozens of physical and mental health conditions, including those most common causes of death, disability, and suffering among Americans" (US DHHS 2008, cited in Carlson et al 2011, 34). Although the benefits of physical activity are widely acknowledged, few Americans meet the daily and weekly recommendations for exercise (Carlson et al 2011). If neighborhood environments do, in fact, influence residents' rates of physical activity, then it is essential for landscape architects and planners to understand how design decisions can positively or negatively impact a community's quality of life and life expectancy.

One conceptual model of parks' contribution to rates of physical activity suggests that there are six aspects to consider: a park's *features* (which they define as the physical facilities, organized programs, and the diversity of "park facilities, programs, users, and location"); a park's *condition* (quality and frequency of maintenance, and safety of park equipment); *access* to and throughout the park; a park's *aesthetics*, (through the placement and treatment of built and natural features); a park's *safety* (both objective and perceived levels of safety); and a park's *policies* (related to the park's management, funding, and governance) (Bendimo-Rung, Mowen, and Cohen 2005, 164-165). The degree to which each of these factors can increase or decrease park-based physical activity has been the subject of numerous studies by sociologists,

public health scholars, environmental design researchers and planners.

Over the course of two years, researchers from the City Parks Alliance, RAND Corporation, and The Trust for Public Land observed the characteristics and use of 174 neighborhood parks in 25 cities across the United States "to identify to what degree neighborhood parks in America's cities encourage people to be physically active" (Cohen et al. 2018, 1). Based on their observations, the National Study of Neighborhood Parks suggests four key factors that had the strongest influence on park use: *programming, walking loops, play areas, and marketing*. Specifically, they found that "each additional supervised activity increased park use by 48% and physical activity by 37%," with the added benefit of reaching specific user groups that are commonly underrepresented, such as elderly adults and adolescent girls (Cohen et al. 2018, 1). This is reinforced by an earlier study in 2009 which observed the impact of park renovations on park use and found that physical improvements and park safety ratings did little to increase park activity compared to the effect of programmed activities and outreach (Cohen et al. 2009). Another study by Cohen and her team found that after observing and surveying users at 48 parks across low-income neighborhoods in Los Angeles, "the strongest predictors of park use were the presence of organized and supervised activities" (Cohen et al. 2016). Similarly, marketing efforts to promote awareness of park facilities and programs, such as "on-site banners, posters and sign...experienced a 62 percent increase in users and a 63 percent increase in physical activity" (Cohen et al. 2018, 1-2).

Additionally, the presence of walking trail loops doubled the number of elderly adult park users and led to "90% higher levels of moderate-to-vigorous exercise" than parks without (Cohen et al. 2018, 1). Play areas were also found to be a significant motivation for visiting a park: "bringing children" was cited as the "most common reason for going to a park," with designated play areas contributing to "25% of children's park use," and increasing park use by 50% for "every play element added" (Cohen et al. 2018, 1).

Similarly, a 2016 study examined the impact of improved park access by observing park use before and after implementation of a new signaled crosswalk (Schultz et al. 2016, 598). While shown to increase general park use, the presence of the new crosswalk did not increase the rates of vigorous physical activity in the park, suggesting that programming may have higher impact on active park use than merely infrastructural changes (Schultz et al. 2016, 599). This is important to note in response to the construcion of a destination playground within the BCG at MLK Park, as studies show that park improvement projects alone do not guarantee an increase in physical activity or park usership. While the new playground will likely attract new park users, coupling the physical improvements with well-advertised park programs, supervised activities and consistent stewardship greatly increases the odds of achieving higher rates of park-based physical activity. (Figure 2.03).
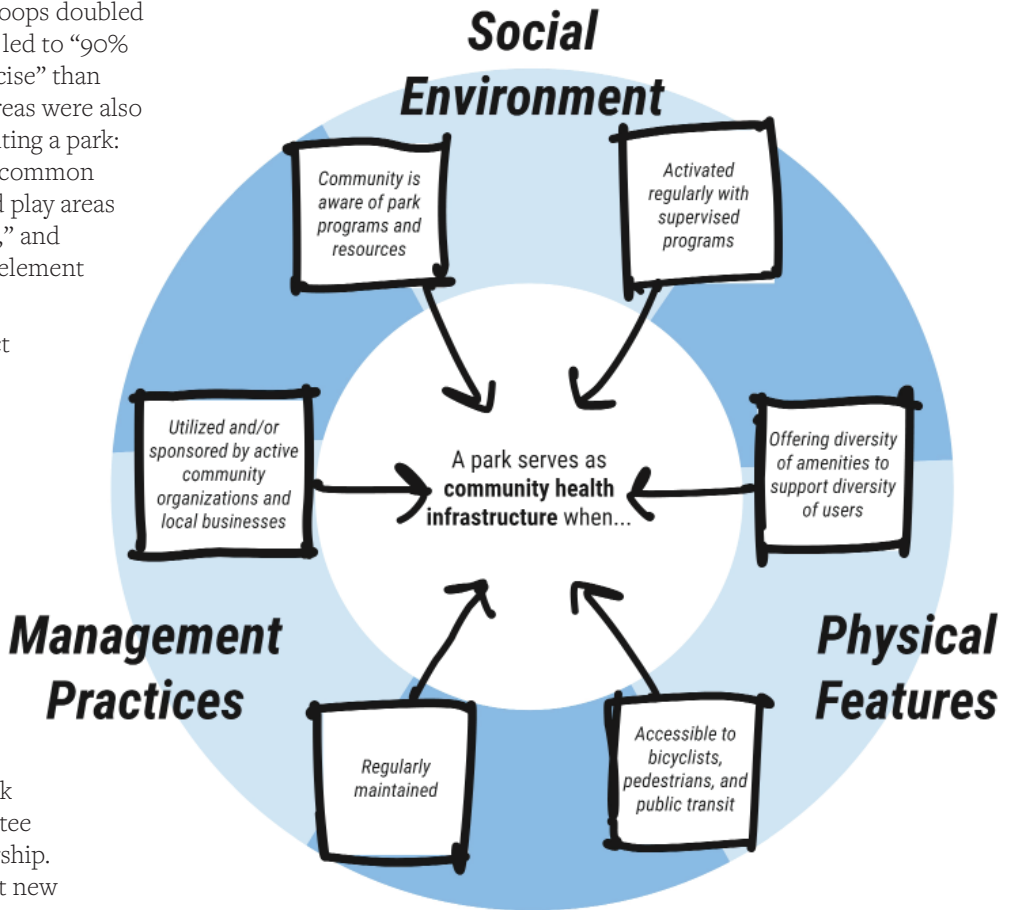

Figure 2.04 A park's capacity to support community health depends on its on its physical features, management practices, and social environment.

Barriers to Park-based Physical Activity

It is important to acknowledge, however, that there are many social, cultural, and situational factors that can discourage or limit opportunities for physical activity and park use. When surveying park users on their park-based physical activity, a 2009 study reported that the most common constraint to park use across all demographics was "not enough time" (Wilhelm Stanis et al. 2009, 86). However, when responses were controlled for each of the four survey locations (two in Minneapolis and two in Los Angeles), the frequency of reported constraints began to differ between ethnic and racial identities. Hispanic/Latino park users reported the most constraints to park use on average, while White respondents reported the least. Specifically, after controlling for age, gender, and education, as well as site location, "Black and Hispanic/Latino respondents were more constrained than White respondents on four items: not enough energy, fear of racial conflict, location is not close enough to home, and feeling unwelcome" (Wilhelm Stanis et al. 2009, 86). A "fear of sexual assault" was also more likely to be reported among Asian and Hispanic/Latino park users than White users, and Black and Hispanic/Latino respondents were more likely than Asian or White respondents to report that "this area does not offer activities I want" (Wilhelm Stanis et al. 2009, 86). Additionally, teenagers, specifically teenage girls, are particularly constrained by a lack of nearby park spaces that cater to their desired uses (Babey et al. 2005; Groshong 2020; Lange 2021). Although the rates of specific constraints in KCMO are likely to differ, it is worth noting that community members of different age groups, racial and ethnic backgrounds may experience the same park in different ways. Another study in 2010 inquiring about barriers to park use reported that the non-Hispanic Black and Hispanic survey respondents were more likely to report "either personal safety concerns or inadequate or poorly maintained facilities as being barriers to park use" than among non-Hispanic White survey respondents, according to a national survey with a similar "demographic distribution...to US Census population projections, except for differences caused by oversampling of low-income households and households with children" (Carlson et al. 2010, 3, 5).

PERCEPTIONS OF SAFETY AND ACCESS

While landscape architects may be unable to increase an individual's energy level or amount of leisure time, planners and designers can influence the environmental factors that have been shown to impact rates of park use and physical activity. The relationship between the physical environment and safety is one such example, specifically as it relates to crime. Crime Prevention Through Environmental Design, or CPTED, is an entire field of study dedicated to reducing both the "fear and incidence of crime" through environment-based strategies that encourage "a sense of ownership, community, and responsibility" among neighbors (Crowe 2000; Cozens and Love 2015, 393, 395). While theories about the direct effect of the physical environment on crime rates have sometimes led to controversial applications—namely the "Broken Windows Theory," which proposes that a visibly neglected environment directly encourages risky and

criminal behavior—studies are clear that the physical environment does strongly affect an individual's *perception* of safety, regardless of actual crime rates. (Sampson and Raudenbush, 1999; Heinze et al. 2018; Molnar 2004).

As noted in the in the surveys by Wilhelm Stanis and Carlson, a resident's perception of safety has a strong relationship with the likelihood of visiting a park or participating in park-based physical activity. A 2004 study of perceived safety across neighborhoods in Chicago provides evidence "for the hypothesis that neighborhood safety and order are important in promoting healthy physical activity among youth, above and beyond individual and family differences," when controlling for differences in race and income (Molnar 2004). In a 2015 survey of park neighbors in four different U.S. cities, women, elderly, and "those who self-reported being in fair or poor health" were significantly more likely to report a lower perception of their neighboring park's safety (Lapham et al. 2015 2625, 2633). Interestingly, Cohen's 2016 observation of park use across low-income neighborhoods in Los Angeles suggested that presence of supervised park activities had a stronger positive influence on park use than the negative impact of perceived threats, recommending that "focusing resources on programming may be more fruitful than targeting perceived threats," when trying to improve rates of park use (Cohen et al. 2016, 230). This recommendation echoes the earlier writings of Jane Jacobs and her call for increasing the presence of "eyes on the street," as one of the most effective ways to foster a sense of interpersonal safety in public spaces (Jacobs 1961). In a focus group of KCMO residents, participants emphasized the influence of friendly park users, such as families with children or dog-walkers, as a key factor in providing a sense of personal safety (Groshong 2020). On the other hand, the threat of encountering intimidating individuals, gangs, or violence was widely mentioned among participants as a significant barrier to park use (Groshong 2020).

However, perceptions of safety are not only related to crime. Heavy traffic can be a serious deterrent to active transportation, such as walking or biking, and discourage neighbors from using nearby parks or walking in their neighborhoods (Kaczynski et al. 2014). This is specific concern of parents, who cite "traffic danger" as the second most common reason why their children do not walk to school (distance being the most common) (Binns et al. 2009). Traffic is a particular issue for residents near high-speed roads and in areas with lower street connectivity, where blocks are often long and crosswalks are sparse (Kaczynski et al. 2014). This is due, in part, to the auto-centric infrastructure and single-use zoning in modern cities, which offer few accessible walking destinations (Carlson et al. 2011; Frumkin et al. 2004). Single-use zoning separates residential areas from the businesses, schools, grocery stores, and community destinations that support daily life. While separated land uses may be helpful for keeping industrial hazards away from residents, the physical distance between home and work fosters a reliance on cars and de-incentivizes investment in pedestrian infrastructure. (Carlson et al. 2011; Frumkin et al. 2004). This is particularly common in sprawling cities, and neighborhoods along Brush Creek are no exception. A home available for rent on East 48th Street

in the Blue Hills neighborhood (just two blocks south of MLK Park), was listed in 2021 with a Walk Score rating of 41/100 ("car-dependent: most errands require a car"), a Transit Score rating of 41/100 ("some transit: a *few* nearby public transportation options"), and a Bike Score rating of 49/100 (somewhat bikeable: minimal bike infrastructure"), due to a lack of nearby amenities ("1814 East 48th Street Kansas City" 2021).

A LEGACY OF INEQUITY

Poor land use planning is not the only practice to blame for isolating KCMO neighborhoods. Nationwide, studies show significant disparities in accessibility, quality, and quantity of available greenspace across racial and socioeconomic lines (Rigolon 2016; Gorden-Larsen et al. 2006). This is often due to urban planning practices that promoted and reinforced segregation, disproportionately burdening low-income and minority neighborhoods with environmental hazards, such as industrial land uses, landfills, and high risks of flooding (Taylor et al. 2007). Such is the case in KCMO, which continues to experience the negative effects of segregation today. While the city is saturated in greenspace--thanks to the Parks and Boulevards system—parks in neighborhoods with lower-incomes often have fewer amenities, more deferred maintenance issues due to aging infrastructure, and receive less capital funding than parks in wealthier and majority-White neighborhoods (Vaughan et al. 2013). This disparity is particularly glaring along Troost Avenue, a historic racial and socioeconomic divide that has long scarred Kansas City. Home ownership and residence west of Troost were reserved exclusively for White,
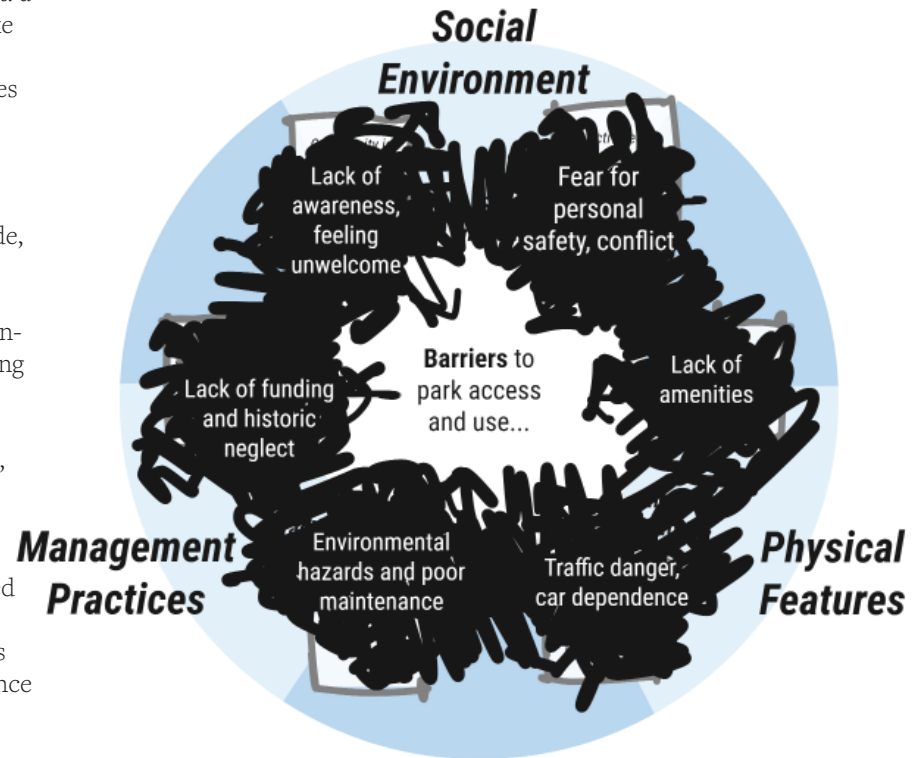

Figure 2.05 Just as a park's physical features, management practices, and social environment can support community health, the absence or neglect of those same elements can create barriers to park use.

non-Jewish families for over half of the 20th century, while neighborhoods east of Troost were redlined by the Home Owners' Loan Corporation (HOLC), which limited opportunities for Black homeownership and wealth accumulation (United States Government Printing Office 1938; Gross 2017). Today, the residual effects of this segregation are reflected in drastic disparities in not just home values, but in life expectancy. In some ZIP codes east of the "Troost Wall," the average life expectancy is fifteen years less than the neighboring ZIP codes west of Troost (Archer et. al. 2020). This disparity has received increased attention from the city in recent years, as numerous studies, planning efforts, and community organizations have shed light on the the negative impacts of inequity on public health and the need for greater equity in the KC Parks and Boulevards system.

Current Efforts toward Park-based Physical Activity

To bridge nationwide gaps in health equity, mayors across the United States have committed to the "10 Minute Walk" movement, seeking to ensure that every urban resident lives within a ten-minute walk of a quality park or green space ("10 Minute Walk" accessed 2020). Kansas City is one of hundreds of cities that has adopted the initiative, thus integrating the 10 Minute Walk campaign into the Parks and Boulevard System's future planning agendas. Since 2015, the Office of the Surgeon General has promoted the importance of walkable communities, challenging all parties involved in the planning, design, and management of

their communities to consider how they can provide more accessible active transportation environments (Office of the Surgeon General 2015). A U.S. National Physical Activity Plan was developed in 2016 with the vision that "all Americans will be physically active, and they will live, work and play in environments that encourage and support regular physical activity" ("National Physical Activity Plan" 2016). Following the National Plan's vision, the *Kansas City Physical Activity Plan* (KCPA Plan) was developed in coordination with Weighing In, a community program at Children's Mercy Hospital dedicated to reducing rates of childhood obesity in the KCMO region. Through their leadership and a multi-sector, interdisciplinary effort, the KCPA Plan was published in March of 2021, with the goal of promoting physical activity as a top public health priority through the creation of "Kansas City-focused, sector-specific strategies and tactics that will foster a culture of physically active lifestyles" (KCPA Plan Core Work Group 2021). Their four overarching principles are to prioritize "equitable access to safe places for physical activity...evidence-based approaches...community-informed strategies...[and] systems-wide policy and environmental change" (KCPA Plan 2021). This plan is particularly pertinent in the context of the recent findings from the Urban Land Institute's Report on the Kansas City Parks and Boulevards System, which addressed the need for intentional prioritization of park investment in historically neglected neighborhoods (Rep. *Parks and Boulevard System* 2020).

SPOTLIGHT ON THE BRUSH CREEK GREENWAY

Brush Creek has long been a liability to KCMO, with a history of hazardous flooding and combined sewer overflow (CSO) that pollutes the creek, litters the greenway with debris, and wreaks havoc on neighboring homes and businesses during major storm events, dating back to the early 1930s. After a consent decree was issued by the EPA in 2010, "requiring Kansas City to reduce the volume and frequency of wastewater overflows into the environment," the KC Water's "Smart Sewer" program was developed to invest in flood mitigation within Brush Creek watershed, which included funding for green stormwater infrastructure (GSI) ("Smart Sewer" 2020). Alongside the Smart Sewer program's effort to improve Brush Creek's water quality,

the Brush Creek Greenway has been promoted as a corridor for potential economic development, with the promise of investing in both park space and community amenities ("RESOLUTION NO. 210269" 2021) As the downstream portion of Brush Creek Greenway crosses through neighborhoods with some of the lowest life expectancies in the city, it is imperative that any new investment respond to the needs and desires of the neighbors and prioritizes the potential public health impact of future development.

Martin Luther King Jr. Square Park (MLK Park) is located within the south side of the Brush Creek Greenway between The Paseo and US-71/Bruce R. Watkins Drive. In 2020, KC Parks received funding
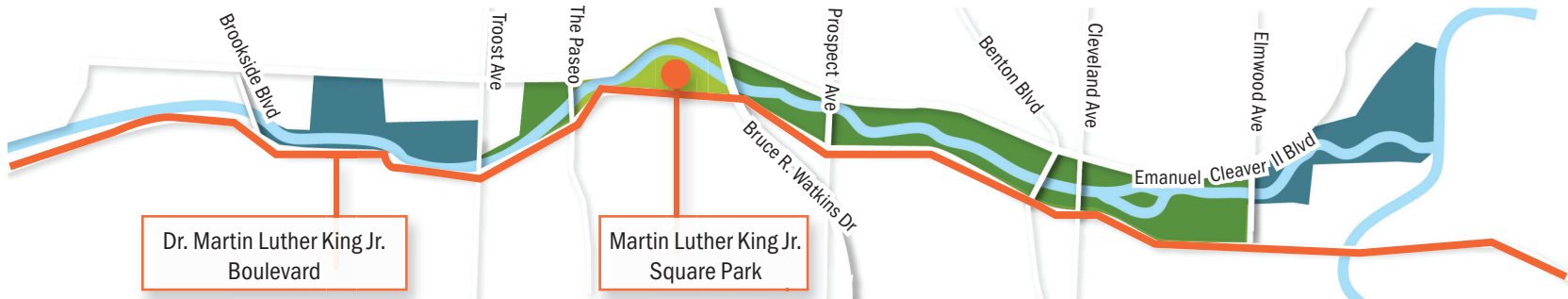
Figure 2.05 The Brush Creek Greenway corridor has received renewed attention with the recent renaming of MLK Boulevard.

from the 15 & the Mahomies Foundation and Gunter Construction Company to construct a destination playground at MLK Park, which is set to open in the fall of 2021. Until 2021, this formerly neglected piece of green space—containing tennis courts, bathrooms, and a crumbling parking lot along Brush Creek—was the only piece of land in KCMO named for Dr. Martin Luther King Jr. After much public discussion on how to best honor King's legacy, the KC Parks Board of Commissioners approved renaming the "stretch along Brush Creek that is now Blue Parkway, Swope Parkway and Volker Boulevard," to Dr. Martin Luther King Jr. Boulevard, adjacent to the Brush Creek Greenway and MLK Park (Kaut 2021). The momentum from these recent efforts could be leveraged to catalyze additional investment in the neighborhood's infrastructure, since the census tract with the lowest life expectancy in KCMO is located directly adjacent to MLK Park across from MLK Boulevard.

Summary

While upheaving systemic inequality requires systematic multidisciplinary efforts, there are some tangible ways that landscape architects and urban planners can catalyze change at the neighborhood scale to support healthier community outcomes. Life expectancy and quality of life are closely tied to economic, social, physical, and mental health, all of which can be supported to varying degrees through access to a quality green space or park for physical activity, mental restoration, and social engagement (Ward Thompson 2010). The BCG's prime location in the heart of KCMO offers an incredible opportunity to serve the adjacent neighborhoods as a piece of community health infrastructure—becoming a vibrant corridor for physical activity, community recreation, and social connectivity. Future efforts to promote physical activity along the BCG should consider how perceptions of neighborhood and park safety, ease of pedestrian access, and the implementation of park-based programs and activities could impact higher rates of park use by neighbors.

Figure 3.01 View of Brush Creek from the Euclid Bridge, September 2020

Figure 3.01 continued

3 | METHODOLOGY

Approach

A mixed-methods approach was used to gain a better understanding of the BCG's current conditions, neighborhood context, and potential to serve as community health infrastructure. This included a site analysis of contextual conditions, a park audit of the BCG from Troost to Elmwood, precedent studies of other community health-oriented park planning projects, and interviews with local subject experts on their experiences navigating the barriers and faciliators to park-based physical activity in KCMO. The goal of this mixed-methods approach was to understand :

- How the BCG is currently serving or neglecting to support community health,

- Identify barriers to park use that may limit neighbors from accessing the benefits of recent investment in the corridor, and

- Learn how other organizations have addressed inequities in park quality and access to support community health.

How is the Brush Creek Greenway currently serving or neglecting to support community health?

What does it look like for a park to serve as community health infrastructure?

What planning and design-based strategies are needed for the Brush Creek Greenway to fulfill its role as community health infrastructure?

Site Analysis

Park Audit

Interviews

Precedent Studies

What historic, demographic, and environmental characteristics along the Brush Creek Corridor may affect community health and rates of physical activity?

What environmental features affect access to and through the greenway?

How does the physical condition of the Brush Creek Greenway support or discourage park use and physical activity?

What organizations in KCMO are actively promoting community health and wellness? What strategies have been effective for engaging neighborhood participation?

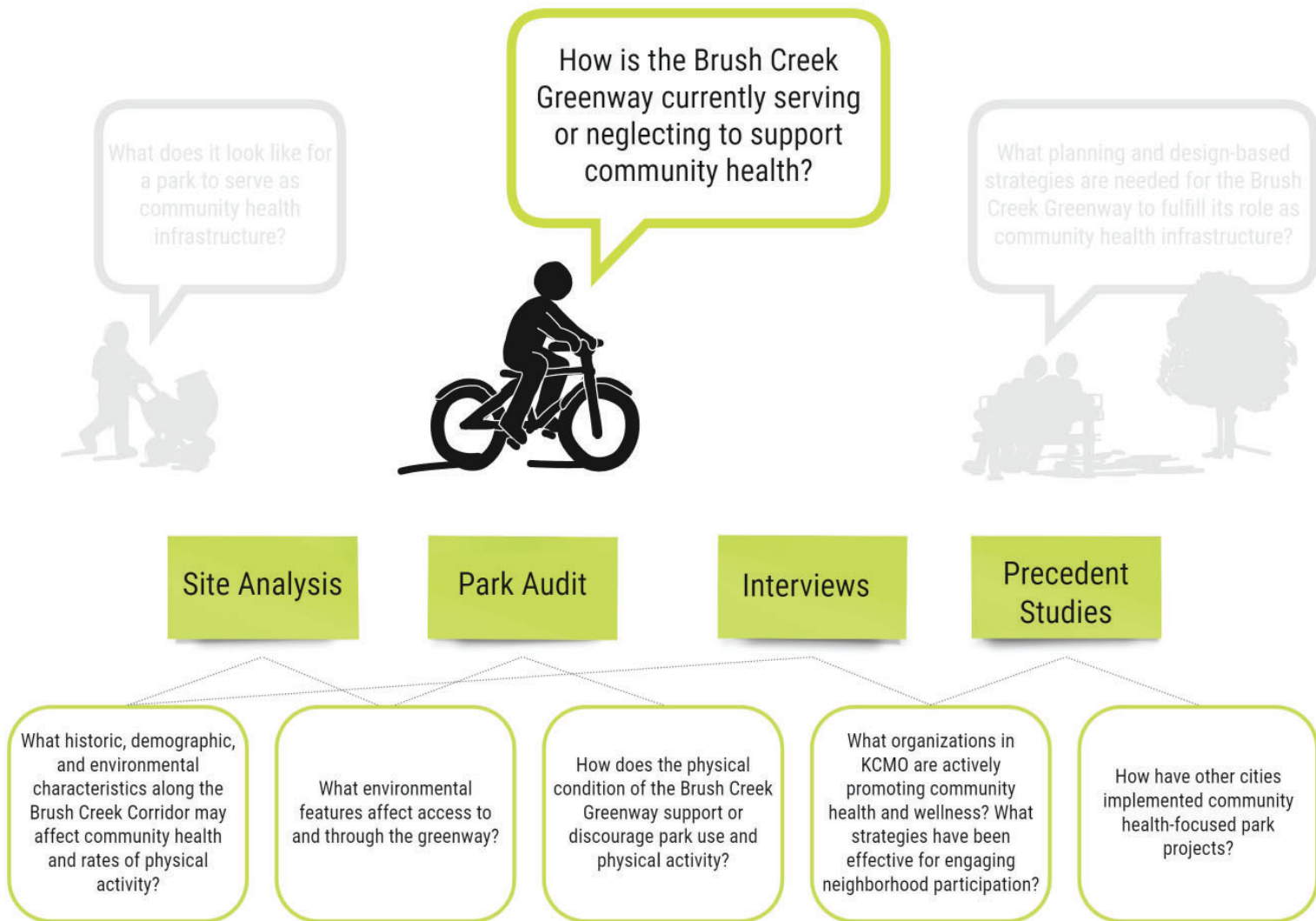How have other cities implemented community health-focused park projects?

Figure 3.02 Methods used to answer research questions and sub-questions

26

Site Analysis

PURPOSE

Site analysis was chosen as a method in order to understand what contextual characteristics may affect community health, rates of physical activity, and access to and through the greenway. In this report, site analysis considers demographic data, historic planning practices, and physical characteristics that influence the site. Site analysis was used to investigate the BCG's context, while the subsequent park audit looks more closely at on-site character and features.

PROCEDURE

The literature review revealed neighborhood characteristics that can faciliate or discourage park access and use, including a neighborhood's social environment, management practices, and physical features. In order to understand how these contextual factors may influence use of the BCG, a series of maps were made by layering selected data sets in ArcGIS Pro:

Social environment:

- Demographic characteristics, including the distribution of residents' age, race, and language spoken at home;

- Socioeconomic characteristics, such as income, ratio of owner-occupied housing to renter-occupied housing, rates of housing vacancy, percent of residents living below the poverty line, and percent of residents without access to a car

Management practices:

- Planning context, including history of redlining, flood management, and agency jurisdiction over the BCG

Physical features:

- Environmental characteristics, including topography, flood risk, water quality, air pollution,

- And infrastructure, such as sidewalk connectivity, public transit stops and routes, and traffic incidents.

For data regarding demographic and socioeconomic characterstics, a percentage or median value was determined for each census tract or block group and represented with graduated colors using the 5-class Jenks method setting (Appendix B). Darker colors were used to represent higher values, and lighter colors reflect lower values for each characteristic.

Maps were then compared side-by-side to visualize what physical, social, or management factors may influence use of the BCG and its potential to support community health.

Data Sources:

- Mid America Regional Council (MARC)

- City of Kansas City, Missouri

- Trust for Public Land

- Environmental Protection Agency

- Center for Disease Control

- American Community Survey

- KCATA

Park Audit

PURPOSE

A park audit is a structured approach to inventorying the presence and quality of select park features. This method was chosen in order to assess the BCG's capacity to support community health and physical activity through its physical features and characteristics.

COMMUNITY PARK AUDIT TOOL (CPAT)

The Community Park Audit Tool, or CPAT (Kaczynski, Wilhelm Stanis, and Besenyi 2012), was utilized to document park character and features. This particular audit tool was selected because each question highlights a park feature or condition that has been recognized in literature as contributing to rates of park usership and physical activity. Developed and tested in KCMO, the six-page CPAT contains a list of questions concerned with a park's accessibility, amenities, activity areas, and the quality of maintenance and safety. CPAT questions are categorized into four sections: *Park Information* (park name and address, date, time, and weather on day of audit), *Access and Surrounding Neighborhood* (physical features immediately surrounding the park that affect access, such as sidewalks, bike routes, transit, land uses, signage and entry points, as well as "safety or appearance concerns") *Park Activity Areas* (recreational amenities and activities within the park, such as playgrounds, sports fields and courts, recreational water features, trails and open spaces), and *Park Quality and Safety* (physical features and character within the park that support park use, such as restrooms and drinking fountains, seating, lighting and shade, signage, visibility, "quality or safety concerns," as well as "aesthetic," "beautiful," or "pleasing" features (Kaczynski et al. 2012).

PROCEDURE

A park audit was conducted on-site along the eastern stretch of the BCG (from Troost Ave to Elmwood), during the afternoon of February 3, 2021, using the CPAT. Existing features and amenities along the BCG that promote health and physical activity were documented. To organize the park audit process and findings, the BCG was divided into ten segments, using the adjacent bridges, boulevards, and creek as the boundaries for each (with the exception of segments *I* and *J*, which span both sides of the Cleveland Avenue bridge) (Figure 3.04). A paper copy of the CPAT assessment was filled out for each segment while walking the BCG trail and photographing park conditions and amenities. Portions of the audit for segment H had to be completed remotely due to its disconnected trail. A fellow classmate assisted in taking additional photographs and providing a second opinion for determining whether amenities met quality critera, such as "Are the ___ useable / in good condition / near activity areas?"

The findings were translated into a spreadsheet (Appendix C), where each CPAT question was assigned either a positive or negative point value.

- For the presence of a feature that supports park function for physical activity, +1 point was alotted.

- For the presence of a feature that discourages park function for physical activity, -1 point was alotted.

- If a feature was not present, zero points were alotted.

- If a feature that should support park use for physical activity was technically present, but not fulfilling its full purpose, it would be allotted only +0.5 points. For example, question 7 ("Is there an external trail or path connected to the park?") could technically be answered "yes" at segment H, but since the eastern trail connection from segment J drops off into the creek, it is not fulfilling its purpose.

- For open-ended questions about the *visual* quality of the park, 0.5 points were either given or deducted for each box checked, as shown in figure 3.03.

Each segment of the BCG received a subscore for each of the CPAT sections (access and surrounding neighborhood, activity areas, and quality and safety) according to the presence of features that positively and negatively affected park use for physical activity. Scores were then mapped onto the BCG and paired with site photographs to spatially identify the challenges and opportunities for each segment to support park use for physical activity. While the scoring process used for this report was not a formal aspect of the CPAT tool, the subscores provided a window into the challenges and opportunities facing each segment of the BCG.

Figure 3.03 Example of scoring the responses from segment I, which received -2 points for question 28, and +2 points for question 29.
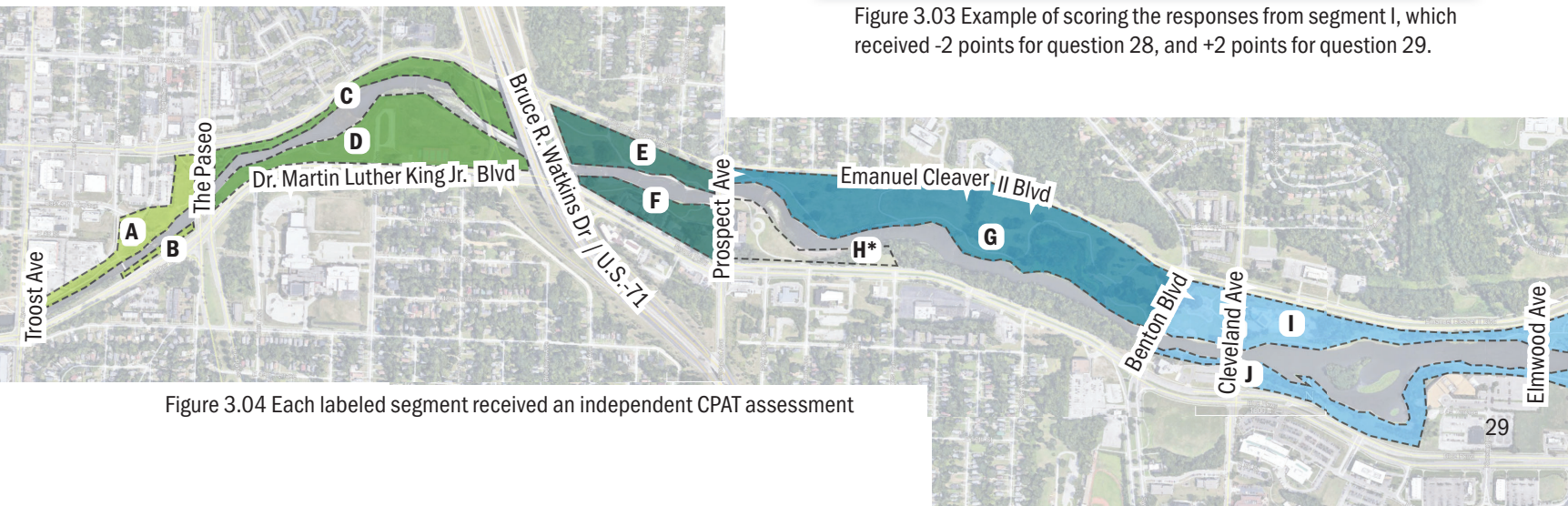

Figure 3.04 Each labeled segment received an independent CPAT assessment

Interviews

PURPOSE

Semi-structured interviews were conducted with subject experts on parks, community health, and community health initiatives in KCMO. Interviews were chosen as a method in order to gain a better understanding of:

- the role of parks and public recreation spaces in contributing to healthy lifestyles and physical activity

- common barriers to healthy lifestyles and physical activity in KCMO,

- the current programs and partners working to support community health and community health in KCMO and the neighborhoods around the BCG,

- the current patterns of [recreational] activity along the BCG and their associated user groups or community organizations,

- the status of any existing initiatives or plans related to the BCG, and

- any demographic or health data/insights available regarding the neighborhoods along the BCG.

PROCEDURE

Interviews were conducted via Zoom and Microsoft Teams during the spring semester of 2021. Interview subjects were selected via snowball sampling in order to reach local subject experts on the topics of community health, physical activity, the KC Parks system, and the BCG. Interviews were semi-structured, allowing for follow-up questions, and lasted between 30-60 minutes. Questions were tailored per interview to each of the subject's expertise, but consisted of the following:

- *What is your role within your organization?*

- *What are common barriers to healthy lifestyles/physical activity, and park access? Economic barriers? Social barriers? Physical, environmental, or infrastructural barriers? Specific to East KCMO?*

- *Who are local organizations, community leaders, or programs that have been influential to supporting community health?*

- *How do you approach community engagement? Do you partner with KC Parks/other community organizations?*

- *How are you responding to the recommendations of the 2020 ULI report on the Parks and Boulevards System?*

Interview protocol was approved by IRB (Appendix D).

SUBJECTS INTERVIEWED

- Dr. Jordan Carlson, CHLNKC, on physical activity, walkable communities, community engagement

- Amanda Grimes, UMKC ActiveLab, on park usership and the pandemic

- Shelly Summar (Weighing In) and Matt Kleinmann, (Weighing In, Dotte Agency), on their work, the KCPA Plan, and challenges to community engagement and park use

- Roosevelt Lyons and Jennifer Jutte, on their response to the ULI report, background on the MLK park, and funding structure of KC Parks

Precedent Studies

PURPOSE

The challenges and opportunities facing the BCG are not unique to KCMO; urban greenspaces across the country face similar contextual conditions: underutilized and neglected public land, inequitable or insufficient public park funding, and legacies of segregation. Additionally, as the impacts of park use and outdoor activity on community health become more apparent, cities have begun to prioritize investment in accessible public green spaces. To better understand how these issues of park access and investment have been addressed in other communities, precedent studies were conducted of four urban greenspace projects that prioritize community health and community partnerships. Each of these embody the KCPA Plan's strategies for Parks and Recreation and the ULI's charge to treat parks as health infrastructure, prioritize investment around community need, and partner with active community partners who are committed to equity and engagement. Findings influenced what types of community-engaged park planning strategies may be most effective for the BCG.

How have other cities implemented community health-focused park projects?

What strategies have been effective for engaging neighborhood participation?

PROCEDURE

Each precedent was analyzed using the following questions:

- Why was the project necessary? (What were the "before" conditions that warranted the project?)
- What were the project's intended outcomes and goals?
- How did the project team gather input and involve the community in the process? (See "The Spectrum of Community Engagement to Ownership" assessment tool in Appendix)
- What was the outcome of the project (the "after")? How have they sustained investment and involvement in their efforts?

PRECEDENTS STUDIED

- Tennessee Riverline "652 to You"
- Franklin Park Action Plan
- Living Cully Coalition
- Active Living Trails

Figure 4.01 View of Brush Creek from MLK Boulevard near the Paseo, September 2020

Figure 4.01 continued

4 | FINDINGS

Overview of Methods

The findings documented in this chapter were the result of a mixed-methods approach to understanding the current state of the Brush Creek Greenway as community health infrastructure. First, **site analysis** explored how various aspects of the site's context and history, may be influential to community health, physical activity, and park use. Second, the **park audit** accounted for the presence and condition of on-site features and amenities within the Greenway that may encourage or discourage physical activity. Third, **interviews** were conducted with local subject experts on park access and community health in order to learn about current planning and public health efforts around park-based physical activity in KCMO. Lastly, a series of **precedent studies** illustrates how other park planning and design efforts have centered community engagement in their efforts to improve access and use of public green space. Together, the findings answer: *How is the Brush Creek Greenway serving or neglecting community health?* and *What can we learn from other community-centered efforts to promote park use and physical activity?*

Site Analysis

Social Environment

DEMOGRAPHIC CHARACTERISTICS

- As shown in figure 4.02, the BCG is bisected by Troost Avenue, the north-south street marking a sharp demographic divide in KCMO. Neighborhoods along the eastern portion of the BCG have predominantly Black populations, while the western portion of the BCG have predominantly White populations. This is the result of manipulative "blockbusting" practices by realtors from the 1950s-70s and the KCMO school district that redrew its boundaries to resist integration after *Brown v. Board* (Gotham 2014).

- While most households around the BCG speak English at home (~98.4%), as shown in figure 4.03, a few neighborhoods along the periphery of the BCG's 10 minute walk radius have greater linguistic diversity, with 1.61-19.4% of their residents speaking a language other than English at home. This is important to note for future community engagement and outreach to ensure that all residents feel invited to and informed of opportunities and resources available in their neighborhoods.

Black/African American | White | Asian | American Indian/ Alaska Native | Native Hawaiian/ Pacific Islander | Multi-racial
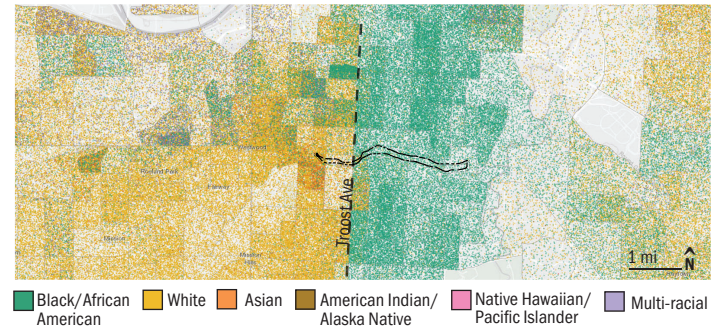
Figure 4.02 Population distribution by race shows the persisting segregation across Troost Avenue (Census Block Groups 2010)

0.0-1.6% | 1.61-5.9% | 5.91-19.4% | 19.41-57.7% | 57.71-91.2%
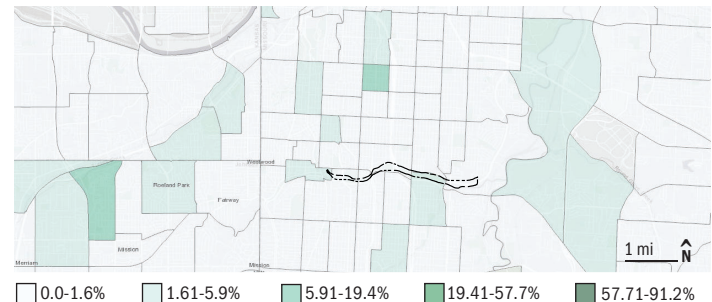
Figure 4.03 Percent of the population over the age of 5 speaking a language besides English at home (Percent of Population 5+).

SOCIOECONOMIC CHARACTERISTICS

- Neighborhoods around the BCG have a comparatively low rate of owner-occupied housing averaging under 44% (figure 4.05), and high rates of vacancy (ranging between ~9-46%) (figure 4.06), which can be lower levels of trust and familiarity between neighbors and lower perceptions of neighborhood safety (Heinze et al. 2018).

- Median income is also lowest and percent of residents living below povertyl level is highest in same neighborhoods with low rates of owner-occupied housing and high rates of vacancy. (Figures 4.05, 4.06, 4.07). Figure 4.04 also shows the BCG sitting within neighborhoods with >27% of residents living below the federal poverty level (as of 2016), This is consistent with KCMO's history of discriminatory housing policies that limited opportunities to build generational wealth through homeownership (Gross 2017).

0.0-23.74% 23.75-43.64% 43.65-59.82% 59.83-74.41% 74.42-100.0%

Figure 4.05 Percent of housing units in each block group that were owner-occupied in 2018 (Owner Occupied Housing Units, 2018)

0.0-9.103% 9.104-16.74% 16.75-26.96% 26.97-45.66% 45.67-100%
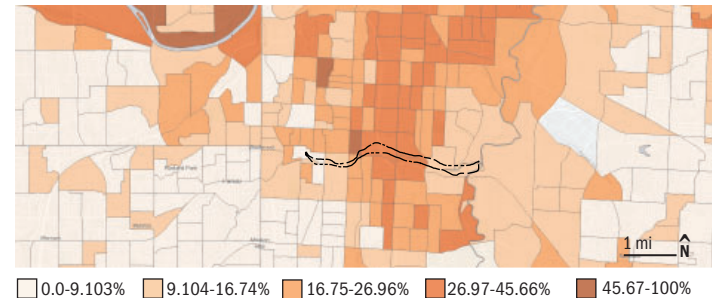
Figure 4.06 Percent of housing units in each block group that were vacant in 2018 (Vacant Housing Units 2018)

0-9.54% 9.45-17.91% 17.92-27.94% 27.95-41.03% 41.04-100%

Figure 4.04 Percent of population living below poverty level in 2016 (Estimated Population 2016).

<$36,940 $36,940-57,453 $57,454-84,820 $84,821-125,901 $125,902-200,001
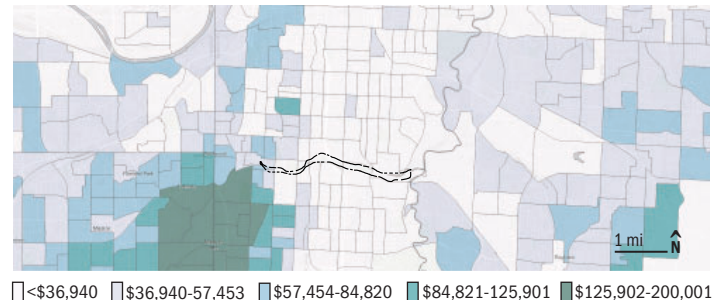
Figure 4.07 Median income of each block group in 2018 (Median Household income 2018)

Management Practices

REDLINING

As noted in the Introduction and Background Chapters, neighborhoods in KCMO, and across the United States, were given ratings in the 1930s by the Home Owners Loan Corporation (HOLC) to assess the "risk" for mortgage lenders. Risk factors included not just "the neighborhood's quality of housing, the recent history of sale and rent values," but also "the racial and ethnic identity and class of residents" (Nelson & Connolly n.d.).

Neighborhoods along Brush Creek received a mix of ratings from HOLC when maps were drawn in 1938, with many of them receiving C and D grades (shown in yellow and red, respectively). Common themes among the descriptions of C and D rated neighborhoods in the corridor point to the steep terrain, the proximity to "unsightly Brush Creek" (figure 4.11) cheap housing, rates of vacancy, working class populations, and proximity to Black or "foreign" neighbors.

Figure 4.08 Close up of HOLC's Residential Security Map legend from 1939 (Robert K. Nelson et al.)
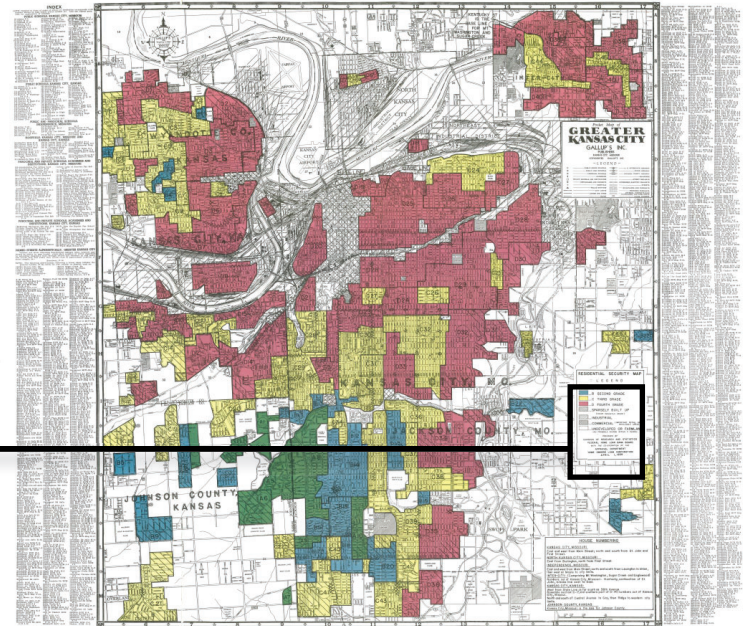
Figure 4.09 HOLC Residential Security Map of KCMO in 1939 (Robert K. Nelson et al.)
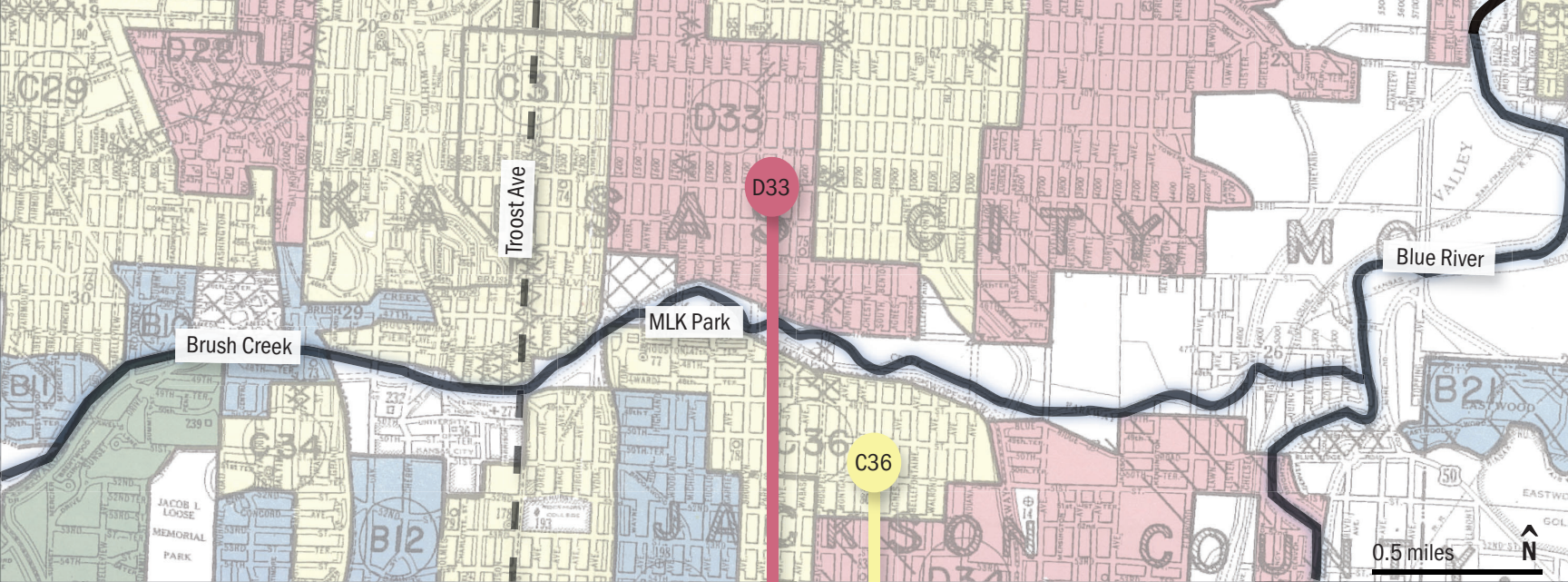
Figure 4.10 "Redlining" map of neighborhoods along Brush Creek, from 1939 (Robert K. Nelson et al.)

Lying immediately south of the rather unsightly Brush Creek bottoms this is a spotty and poor third-grade section. The ground is hilly. The majority of houses are frame, those east of Prospect being a cheap variety, only a short distance from the negro area in D-34. There are

Figure 4.11 Description of neighborhood C36 (present-day Blue Hills and North Town Fork Creek) (Robert K. Nelson et al.)

ravines in the area which detract from its desirability. Near the south end the houses are particularly cheap. For years there was an open sewer along Brush Creek which hurt the neighborhood and forestalled any possibility of this becoming a fair section. Some streets are good, deserving a third-grade rating, but the cheaper homes detract from the neighborhood. Wage earners occupy these neighborhoods entirely. There is very little demand for property, a large num-

Figure 4.12 Description of neighborhood D33 (present-day Ivanhoe) (Robert K. Nelson et al.)
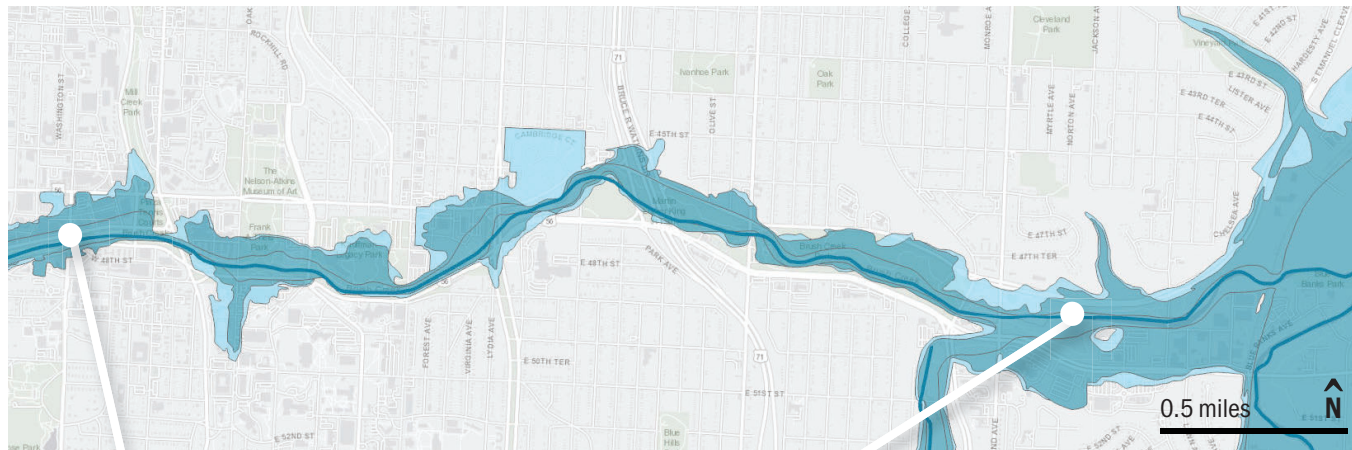
Figure 4.13 Neighborhoods along Brush Creek are prone to severe flooding during large   storm events (Floodplain 2021)

■ 100 year storm floodplain
■ 500 year storm floodplain
▬ Stream channel

Figure 4.14 (*Brush Creek before Paving,* 1933)

Figure 4.15 Signage along the creek warns trail users to avoid contact with the water, especially within 3 days after a rain storm

FLOOD "MANAGEMENT"

Brush Creek was channelized in 1935 under the premise that paving over the creek bed would prevent flooding downtown ("Our Watershed" 2017). That disastrous decision was followed by a series of historic and deadly floods in 1951, 1977, 1993, and 1998 ("Our Watershed" 2017). Due to the area's combined sewer system, sewage overflows into the creek during storm events, leading to its nickname of "Flush Creek" ("Our Watershed" 2017). After many mixed attempts to manage the creek, the City of Kansas City coordinated a multi-billion dollar plan with the EPA to reduce the flooding and separate the sewer system. Included in this consent decree is an allowance for the use of green stormwater infrastructure (GSI) as a means of flood mitigation.

AGENCY JURISDICTION

One of the challenges to managing an urban greenway like the BCG is the sheer number of agencies with jurisdiction over on-site activity. Since both of the adjacent roadways have status as boulevards, they are considered part of the Parks and Boulevards System and fall under the authority of KC Parks, who must coordinate responsibilties with local and federal agencies concerned with the transportation corridor (Department of Public Works for Roadway Improvements, MODOT) and urban streams (KC Water Services, Army Corps of Engineers, EPA). This overlap slows down the approval process for potential park initiatives and can over-complicate the process for community members seeking to voice their concerns or request department services, such as reporting a maintenance hazard or reserving a park space for a community picnic.

Dr. Martin Luther King Jr. Boulevard

Brush Creek Greenway

Emmanuel Cleaver II Boulevard

Department of Public Works for Roadway Improvements

Missouri Department of Transportation (MODOT)

KC Water Services, Overflow Control Program (Smart Sewer Program) & Stormwater Services

Army Corps of Engineers

Environmental Protection Agency (EPA)

Department of Public Works for Roadway Improvements

Missouri Department of Transportation (MODOT)

Kansas City Parks & Recreation Department (KC Parks)

Figure 4.16 Six government agencies (seven departments total) oversee development, maintenance, funding, construction, and management of the Brush Creek Greenway.
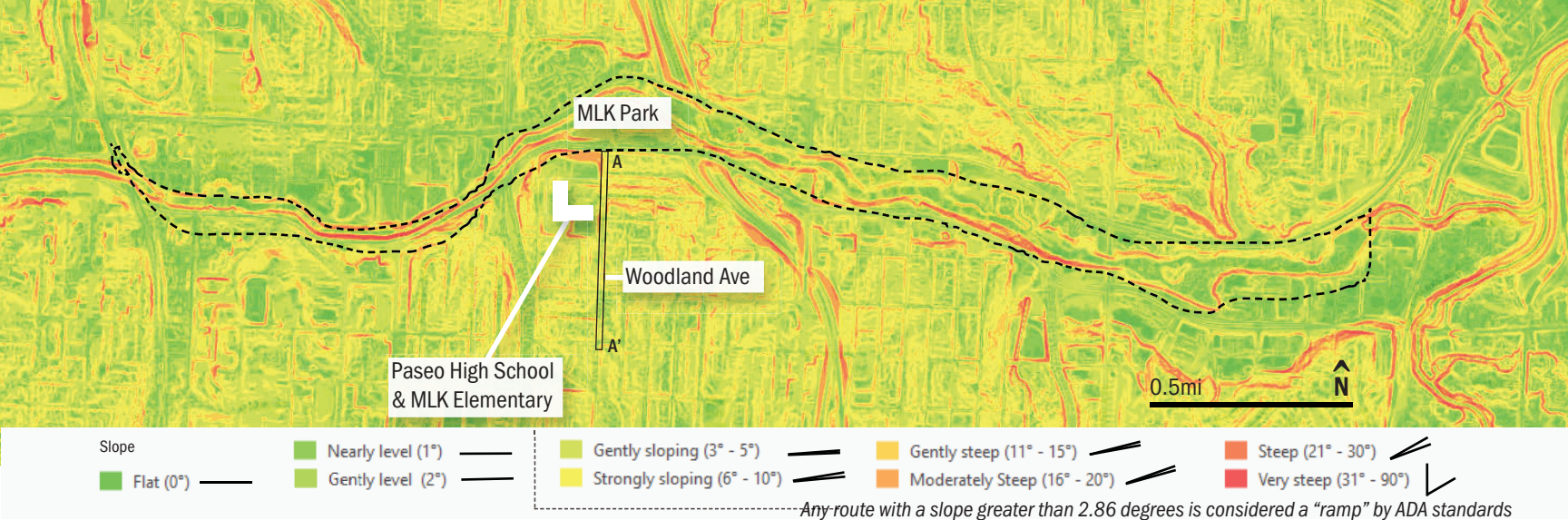
Figure 4.17 Intense topography throughout and around the BCG (Terrain).

Physical Features

Topographic maps (figure 4.7) reveal intense slopes around Brush Creek, which can affect neighbors' ability to walk to nearby destinations, such as a park, school, or bus stop. The section shown in figure 4.18 shows the dramatic slope at Woodland Avenue, with a 97 foot increase in elevation and average slopes falling in the "gently sloping" range, which exceeds ADA standards of less than 5%, or 2.86 degrees.
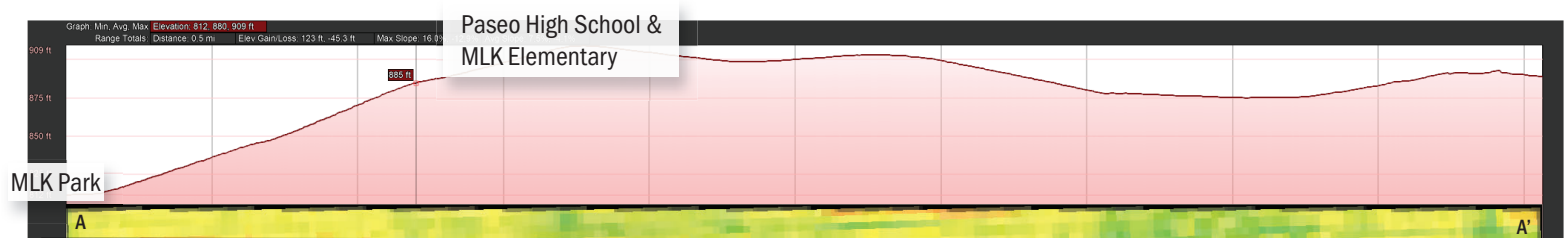
Figure 4.18 Elevation profile along Woodland Avenue, from MLK Park to the south, adapted from Google Earth

Slope

| | Nearly level (1°) ——— | Gently sloping (3° - 5°) ━━━ | Gently steep (11° - 15°) ━━ | Steep (21° - 30°) |
| Flat (0°) ——— | Gently level (2°) ——— | Strongly sloping (6° - 10°) ═══ | Moderately Steep (16° - 20°) | Very steep (31° - 90°) |

Any route with a slope greater than 2.86 degrees is considered a "ramp" by ADA standards

Percent of population in each census tract without a vehicle

☐ 0.0-5.0%   ☐ 5.01-11.5%   ☐ 11.51-20.7%   ☐ 20.71-35.6%   ■ 35.61-73.7%
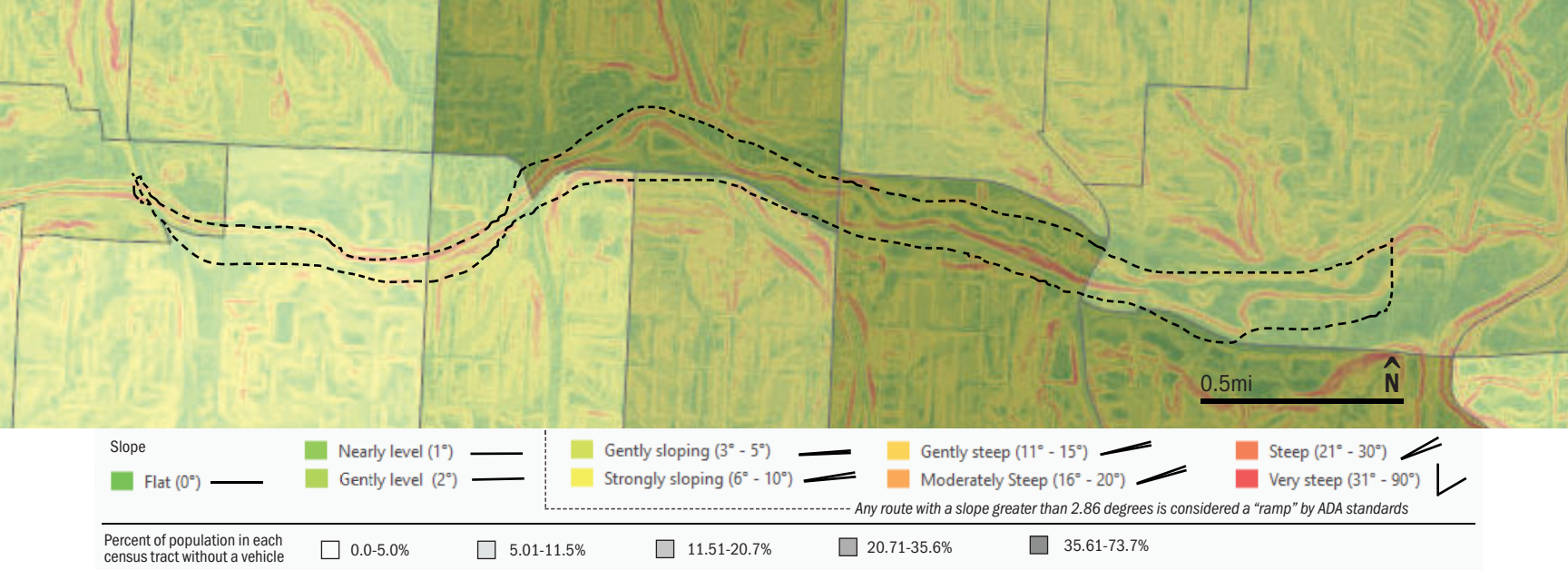
4.19 Overlaying the slope map with the percent of households in each census tract without a vehicle (Terrain; Percent of households)

☐ 0.0-5.0%   ☐ 5.01-11.5%   ☐ 11.51-20.7%   ☐ 20.71-35.6%   ■ 35.61-73.7%
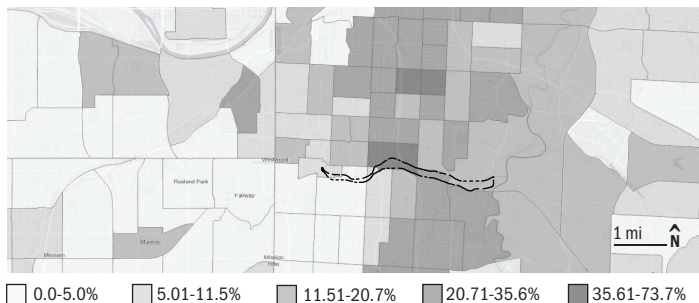
Figure 4.20 Percent of population in each census tract without a vehicle (Percent of households)

The intense slopes are a particular concern in census tracts with higher rates of car-less households, as public transit depends on pedestrian connectivity to and from stops. 20-73.7% of neighbors along the BCG do not have access to a personal vehicle, making pedestrian access to local transit essential.

INFRASTRUCTURE
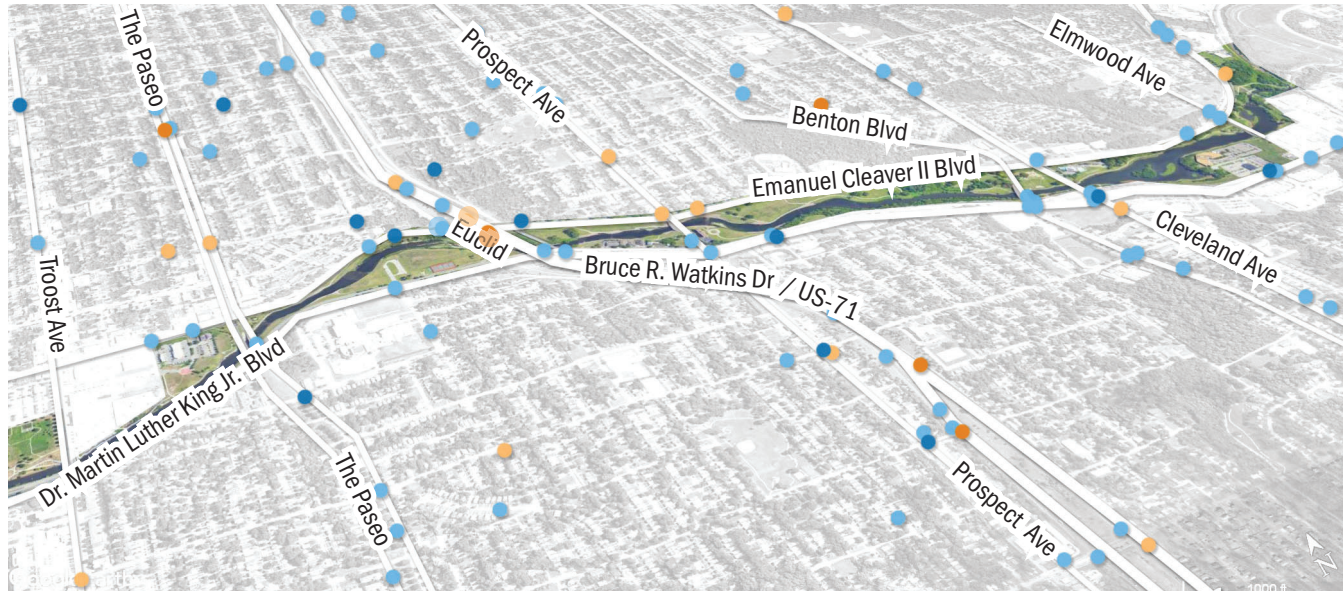
Figure 4.21 Serious and fatal traffic collisions (2015-2019)
(adapted from KC Crash Data Dashboard 2021)

● Fatal pedestrian or bicycle collision ● Serious pedestrian or bicycle collision ● Fatal vehicle collision ● Serious vehicle collision

Figure 4.22 Existing sidewalk network within a 10-minute walk of the BCG, shown in yellow (Adapted from Google Earth)

Many of the sidewalks in the surrounding neighborhoods come to an abrupt end, excluding hundreds of households that should sit within the 10-minute walk network buffer of the BCG (figure 4.22). The high traffic intersections along the BCG corridor make this a critical conern, as many collisions occurred along the U.S. 71 corridor and Euclid exit ramps, where there are few crosswalks (fig 4.21).

42

Park Audit

CPAT SECTION 1: PARK INFORMATION

Figure 4.23 Beginning the audit at Troost (Titus 2021)

The park audit was conducted between 2:30-5:30pm on Wednesday afternoon, February 3, 2021, with the assistance of August Titus. The weather was sunny with some clouds, and 55 degrees Fahrenheit. Nine of ten segments were audited by observing the park on foot while walking the Brush Creek Trail and adjacent sidewalks. The Brush Creek Trail does not pass through segment H (between Prospect and Benton), so features in that segment were documented by observing segment H from across the creek (while standing in segment G), driving along MLK Blvd, and through remote observation using Google Earth and Streetview imagery.

COMMUNITY PARK AUDIT TOOL

Instructions

Before you begin, try to locate a map of the park. Next, review the CPAT training guide and audit tool. It is important to make sure each question and response is clear when you are marking your answer. Then, go to the park and fill out this audit tool. The tool (6 pages) is divided into four sections that focus on different parts of the park. Further instructions are at the top of each section.

Tips for Using the Community Park Audit Tool (CPAT)

- Drive, bike, or walk around the park to get a feel for what's in the park and the neighborhood around the park.
- The focus of the audit should include outside environments only. Do not include any indoor facilities. If facilities such as bathrooms are on the outside of the building and freely accessibly to the public, they may be included.
- Please note that there are two sections of the audit that ask similar questions. In Section 2: Access and Surrounding Neighborhood, questions about safety or appearance focus on environments *surrounding* the park. In Section 4: Park Quality and Safety, park quality or safety concerns questions focus on what's *inside* the park.
- Questions on the CPAT are grouped in sections in the order that you might come across them in a park. However, you may need to switch between sections or pages as you complete the park audit. Therefore, it is important to look through the tool before you begin.
- When you are finished, go back and make sure you have completed all the sections and questions.
- There is space at the end of each section where you can write down comments as you complete your audit.
- If you see anything that requires immediate attention, contact the local parks department.

About the Community Park Audit Tool

The Community Park Audit Tool (CPAT) was developed in 2010 in Kansas City, Missouri by Andrew Kaczynski (Kansas State University) and Sonja Wilhelm Stanis (University of Missouri) in collaboration with the City of Kansas City Missouri Parks and Recreation Department. Development of the CPAT was supported by a grant from Active Living Research, a national program of the Robert Wood Johnson Foundation.

Section 1: Park Information

Park Name: _____   Observer Name or ID: _____

Park Address/Location: _____

Was the park easy to find onsite? ❏ No ❏ Somewhat ❏ Yes

Date (m/d/yr): ___ /___ /_____

Temperature: ___ °F

Weather: ❏ Clouds ❏ Clear ❏ Snow ❏ Rain ❏ Drizzle ❏ Thunderstorm

Start Time: _____ am or pm (circle) End Time: _____ am or pm (circle) Length of visit: ____ min

Comments on Park Information:

Figure 4.24 Section 1 of the CPAT (Kaczynski et al. 2012)

Figure 4.25 Access and Surrounding Neighborhood

Figure 4.26 There is no crosswalk to reach the bus stops at Woodland Avenue and Emanuel Cleaver II, where cars exceed the 35mph speed limit

Figure 4.27 Trail along segment F is hidden behind streetfront businesses, and one of the few segments without lighting (Titus 2021)

44

Figure 4.28 Looking south up Woodland Avenue from MLK Park, one of many streets with steep topography

Figure 4.29 Looking west at the six-lane MLK Boulevard crosswalk

ACCESS AND SURROUNDING NEIGHBORHOOD

The first 11 questions of the CPAT address the accessibility of the BCG from the surrounding neighborhoods. Most of the BCG was found to be accessible on foot via the crosswalks at each adjacent traffic light, whereas only six out of the ten audited segments offered parking or adjacent bus stops, and neither Emanuel Cleaver II Boulevard or Dr. Martin Luther King Jr. Boulevard offer bike lanes.

It should be noted that the segments with two of the lowest accessibility scores, G and H, are two of the most critical community assets. Home to Paraclete Manor apartments and *six* bus stops, segment H is an essential connection for individuals who rely on active and public transportation. However, the path along MLK Boulevard abruptly ends between Prospect and Benton Avenues, requiring commuters to dart through six lanes traffic or

risk walking along the shoulder of MLK Boulevard if they wish to catch the bus at segment H.

East of Prospect at segment G, the sidewalk along Emanuel Cleaver veers toward the creek and away from the street, offering few points of access and low visibility for adjacent neighbors to safely cross and visit the BCG on foot. Segment G is the largest continuous green space within the BCG, but will remain underutilized without needed pedestrian infrastructure to encourage use.

Figure 4.30 Park Activity Areas

Figure 4.31 Tennis Courts at MLK Park, September 2020

Figure 4.32 Swimming pool at the Brush Creek Community Center, overlooking the BCG Trail, February 2021

Figure 4.33 Entry sign at MLK Park

Figure 4.34 There is a series of educational signage along the trail through segment G (between Prospect Ave and Benton Blvd)

PARK ACTIVITY AREAS

The next section of the CPAT inventories park activity areas, such as playgrounds, sports fields and courts, swimming pools, lakes, dog parks, or other outdoor recreation facilities. Beyond trails, there are very few designated park activity areas present along the BCG. There are tennis courts at MLK Park (figure 4.31), where we witnessed someone roller skating, and the new playground was not yet under construction at the time of our visit. The only other activity areas were a series of educational signage along the trail through segment G, and the fenced outdoor swimming pool (figure 4.32) located at Brush Creek Community Center.

While not every square inch of the BCG needs to equipped with recreational programming, the segment scores for section 3 offer insight into which segments

currently offer the most potential for supporting physical activity. Segments B, C, H, and J scored lowest, as the limited green space is best suited for connective infrastructure that serves pedestrians and bicyclists. Segments D and I scored highest, as they currently have the most ingredients for promoting physical activity, and would benefit from social programming and a wider range of recreation amenites to support a wider range of park users. Segments A, E, F, and G have a strong foundation of open space and connected trails, providing a blank canvas for flexible community programming if enhanced with essential comfort amenities such as seating, picnic shelters, restrooms, drinking fountains, and friendly signage.

Troost Ave

The Paseo

Prospect Ave

Benton Blvd

Cleveland Ave

Elmwood Ave

4

2.5

7

C

2.5

D

1.5

E

F

1.5

4.4

G

4.5

H

I

3.5

J

B

0

A

Bruce R. Watkins Dr

Emanuel Cleaver II Blvd

Dr. Martin Luther King Jr. Blvd

Figure 4.35 Park Quality and Safety

Figure 4.36 Trash accumulates in the creek

Figure 4.37 A shopping cart of belongings sits at the end of the trail in segment *H*, suggesting that individuals experiencing homelessness may be sheltering along the BCG.

48

Figure 4.38 Benches and lighting along the BCG Trail in segment *I,* near the Brush Creek Community Center

Figure 4.39 Benton Boulevard Bridge.

PARK QUALITY AND SAFETY

The final section of the CPAT addresses the quality and safety of BCG conditions and amenities. Overall, the BCG offers very few basic park amenities, such as seating or trash cans, which are sparsely and inconsistently distributed throughout the park. Segments *I* and *J* were the only trail segments that offered multiple, evenly spaced seating areas along the trail (figure 4.38). There is one public restroom at MLK Park (which was closed and locked during our visit), and no public drinking fountains.

Light posts are consistently placed along the trail (figure4.38), with the exception of segments F and H, both of which have residents living on site and would likely benefit the most from additional night lighting.

Noticeable amounts of trash have accumulated within the creek and along its banks, which collects wind-blown litter and debris pushed downstream from the Plaza (figure 4.36). Segments C, H, and I, however, had collections of intentionally accumulated items, where it appears that people experiencing homelessness may be utilizing the BCG for shelter. It would be valuable to include them in future community engagement efforts.

The natural scenery along the creek and architectural character of the bridges create a beautiful setting for outdoor recreation, if maintained and sustained appropriately.

Key Findings from the Community Park Audit Tool

SUMMARY OF FINDINGS

While the BCG east of Troost offers ample green space and trails, the most significan issue with the BCG is its lack of features and limited points of access.

"Access and Surrounding Neighborhood" conditions show promise for the BCG as a location that could support community physical activity and wellness, due to it's moderately-well connected trail system and many intersections. However, without any clear signage, few options for parking, and a lack of bike infrastructure, the existing pedestrian trails are uninviting, and could easily be perceived as inaccessible to neighbors.

"Park Activity Areas" shows a significant lack of programmed activity areas or amenities that would attract users or encourage physical activity. However, many of the segments have at least one acre of open green space that could be an asset for community programming or other activities.

"Park Quality and Safety" reveals a lack of internal park amenities that would make for a safer and more comfortable park experience. However, the BCG has a strong foundation of trails, lighting, and aesthetically pleasing natural features that could support a quality park environment, if well maintained.

Table 4.01 Challenges and opportunities for each segment

SEGMENT	CHALLENGES	OPPORTUNITIES
A	Brush Creek trail disconnected from the Paseo sidewalk, no indication of publc access	Adjacent to commercial area, parking, and strong location for trailhead connection, signage, and gathering space
B	Limited space and low visibility from the street	Best suited as a connecting corridor with wayfinding signage along MLK blvd to advertise trail connection
C*	**Bus stops difficult to access, trail disconnected from Euclid crosswalk**	**Crosswalks sorely needed across Emanuel Cleaver II Blvd at Woodland avenue or Concord court, and a sidewalk connection from the Euclid intersection to the Trail**
D**	*Little to attract potential users due to traffic, and only one functioning activity area (tennis courts)*	*Acreage, parking, and upcoming MLK playground make this the strongest segment for community health programming / activity, potential for adding more sports facilities*
E	Missing connections from intersections to Brush Creek Trail	Scenic trail for walking and biking, but desperately needs crosswalk connections along Emanuel Cleaver II Blvd
F	No trail lighting, low visibility from street	Potential for seating areas and gathering spaces along the creek
G**	*No sidewalk along Emanuel Cleaver II, and no cues pointing to trailheads*	*Expansive and scenic green space, Opportunity for native plantings and picnic areas along sloping lawns*
H*	**Six bus stops within a 0.6 mile stretch along MLK Blvd between the nearest crosswalks, no sidewalk**	**Sidewalk, bus shelters, and intermediate crosswalks are the highest priority. Back lawn has potential for valuable gathering space for Paraclete Manor**
I	Trail and amphitheatre maintenance needed to remove debris from Creek	Densest collection of community amenities and great potential for outdoor programming
J	Low trail visibility from street	Coordinate programming with Bruce R. Watkins Cultural Center

*Priority to address access   *******Priority to address amenities*

Interviews

Dr. Jordan Carlson, PhD, MA

45 minute interview conducted February 17, 2021
Dr. Jordan Carlson is the Director of Community-Engaged Health Research at Children's Mercy Hospital in Kansas City and a member of Children's Healthy Lifestyles and Nutrition Kansas City (CHLNKC). The goal of this interview was to better understand how parks and public recreation spaces contribute to healthy lifestyles and physical activity, as well as best practices of community-health-focused public engagement.

- One study of neighborhood walkability and residents' body mass index (BMI) showed that living close to a park is associated with a healthier BMI in moderate to high income areas, but the same link is absent in lower income neighborhoods. This could be due to issues of park quality and safety, which are key determinants of park use. *"What's going on on the streets?...How safe do* [*residents*] *feel? From traffic? From crime?*

- One of the biggest challenges to community-engagement and community-driven work is sustaining public interest and investment over long term projects. Achieving tangible progress early on in a community-driven project is essential to building trust and continuing neighborhood interest.

- Recommended I speak with Dr. Amanda Grimes about park use during the pandemic

- Recommended I speak with Matt Kleinmann and Shelly Summar about their community work

Dr. Amanda Grimes

30 minute interview conducted February 23, 2021
Dr. Amanda Grimes is a physical activity and active transportation researcher involved with physical activity interventions at Kansas City Public Schools. I was referred to speak with her by Dr. Carlson because of her work with the University of Missouri, Kansas City Active Lab and recent intercept surveys regarding the pandemic's effect on local park use. The goal of this interview was to understand common barriers to park use and physical activity in KCMO.

- Crime, and the perception of crime, is a major barrier to park use in KCMO; residents will drive across town to safer or higher quality parks outside of their neighborhoods, if they feel the park on their street is unsafe.

- Park user intercept surveys were conducted in 2020 to understand how the pandemic may affect attitudes toward park use and physical activity in KCMO. Results showed that the closure of playgrounds and courts due to the pandemic was associated with a perception by park users' of prevented physical activity.

Shelly Summar & Matt Kleinmann

45 minute nterview conducted together, February 26, 2021

Shelly Summar is a registered and licensed dietitian, manager of the Weighing In program at Children's Mercy Kansas City, and a member CHLNKC. Matt Kleinmann is also a member of CHLNKC and a co-founder of Dotte Agency, "a multi-disciplinary design collaborative" based out of the University of Kansas, dedicated to "engaging neighborhoods to shape the built environment in order to improve public health" ("About" accessed 2021). The purpose of this interview was to gain insight into the challenges and barriers to neighborhood park use in KCMO and learn about their strategies for community engagement.

Common barriers to park use and physical activity in KCMO:

- Concern for safety
- Lack of functioning amenities, such as bathrooms, drinking fountains:

"If you have things [at the park] but they don't work... then **you start driving people away from using that park. If you don't care for it, you demonstrate that nobody really cares about it.**.. [Community members] could assume: 'you don't care about the community in which I live, because you're not taking care of it' " - *Shelly Summar, on how poor maintenance practices and neglect of park amenities are a strong deterrants to park-based physical activity*

- Insufficient variety of equipment or available activities for different age groups
- Perceived distance/inaccessibility due to high traffic streets along park, which creates an impression that the space is not for neighbors/pedestrians.

Other notes on community-driven design:

- Neighbors tend to have more pride and sense of ownership over small neighborhood green spaces, rather than spaces like the BCG, which is isolated by six-lanes of heavy traffic.
- Accessibility issues are difficult to asses from remote research using aerial imagery, and require on the ground analysis.
- Park updates are ineffective if they are designed by people who will not be using the space, without community request or direction.

"To be successful, it needed to be bottom-up—it needed to be led by the residents who are most impacted" - *Matt Kleinmann, discussing what he learned from his previous work developing a mobile grocery store*

- When organizing community health interventions, do not tell people what to do; ask what they want or need and respond accordingly
- Recommended I speak with Roosevelt Lyons and Jennifer Jutte from KC Parks

Roosevelt Lyons & Jennifer Jutte

40 minute interview conducted together, April 12, 2021

Roosevelt Lyons is the Deputy Director of Operations for Kansas City, Missouri, Parks and Recreation (KC Parks), and Jennifer Jutte is the Superintendent of Recreation for KC Parks. The purpose of this interview was to discuss the city's current plans for the BCG, response to the 2020 ULI report, recent investment in MLK Square Park, and the maintenance funding structure of KC Parks.

Regarding funding

- Equity in the parks budget and maintenance requires a balance between investing in new capital projects and deferred maintenance. Deferred maintenance projects are often concentrated in the oldest part of the city, called the Quality of Life Investment District (QLID), which consists of 38 parks in the six zip codes with the lowest quality of life, often with the oldest infrastructure.

- Most of the capital money for new projects or deferred maintenance come through the city's Public Improvements Advisory Committee (PIAC) process. KC Parks is currently working with the UMKC Center for Neighborhoods to host workshops on how neighbors and community leaders can submit good quality PIAC requests, so that their projects are more likely to get funded.

- The Kessler Society recently changed its name to the KC Parks Foundation, which the KC Parks hopes to recognize as an official partner to act in a city-wide conservancy role.

Regarding MLK Jr. Square Park

- 15 and the Mahomies Foundation approached KC Parks about funding a new playground, and MLK Jr. Square Park was a "top-of-the-list suggestion" for a park location, in order to promote more a equitable distribution of parks across KCMO.

- The playground has been a catalyst for other investment; J.E. Dunn is contributing a park shelter, and the city is investing funds toward further improvements.

Regarding the BCG

- The BCG currently functions as a passive recreation space. The biggest complaint is the amount of trash that accumulates in the creek east of Paseo and the smell of the creek, particularly in the summer, due to CSO. Without improving on the creek's water quality and reducing the stench, any investment in recreation along BCG trail will not yield much benefit.

Key Findings from Interviews

- Neighborhood walkability is a major contributing factor to rates of physical activity and park use by neighors. High traffic volume and inadequate pedestrian infrastructure (poorly maintained or absent sidewalks, lack of crosswalks) adjacent to a park, such as the BCG, can be a significant deterrant to the park's use by neighbors.

- Other deterrants to park use include crime and perceptions of crime, poor maintenance, and a lack of quality amenities.

- The BCG is currently a passive recreation space, but has recently received investment toward developing a playground and pavilion at MLK Jr. Square Park.

- It is most helpful to prioritize investment that will catalyze other investment or activity (host a program that will attract sponsors, which can fund then fund other programs or improvements, and so on).

- Any effort to support the community's health and wellbeing must center the community's voices and priorities.

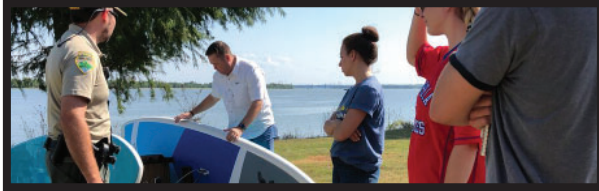# *Precedent Studies*

Project Type: **REGIONAL WATERWAY**

Figure 4.40 (Tennesee RiverLine)

The **Tennessee RiverLine "652 to YOU"** project was initiated by the University of Tennessee, as a regional effort to improve the quality of public access and recreational use of **652 miles of the Tennessee River** and riverfront through a rigorous community engagement and pilot projects across five river-adjacent counties.

Project Type: **CITY PARK**
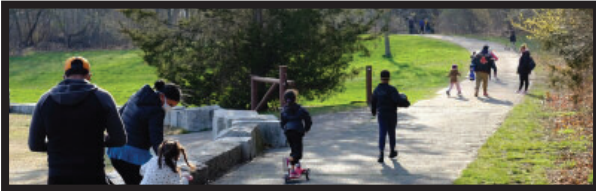
Figure 4.41 (Franklin Park Action Plan and Reed Hilderbrand 2020)

The **Franklin Park Action Plan** is a collaboration between three Boston-area planning and design firms and the city of Boston, with the goal of gathering public input toward revitalizing Franklin Park, Boston's **527-acre urban green space.**

Project Type: **NEIGHBORHOOD GSI**
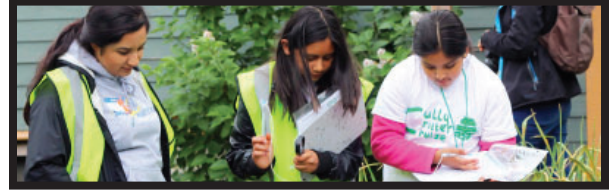
Figure 4.42 (Living Cully 2021)

The **Living Cully Coalition** is a neighborhood-based coalition that uses **community-driven GSI projects** to improving neighborhood quality and safety, while reducing the risk of displacement for residents of Cully, one of Oregon's most ethnically and racially diverse census tracts.

Project Type: **NEIGHBORHOOD PARK TRAIL**

Figure 4.43 (Dotte Agency 2017)

The **Active Living Trails** project is a park improvement initiative organized by the Dotte Agency, a University of Kansas based design collaborative committed to promoting public health through environmental design.

Figure 4.44 Tennessee RiverLine Partnership (Tennesee RiverLine)

Figure 4.45 Pilot Community Engagement Program (Tennessee RiverLine)

Tennessee RiverLine "652 to YOU"

Location: Tennessee River, Benton County, Tennessee
Project Type: Regional Waterway
Organization: Tennessee RiverLine Partnership
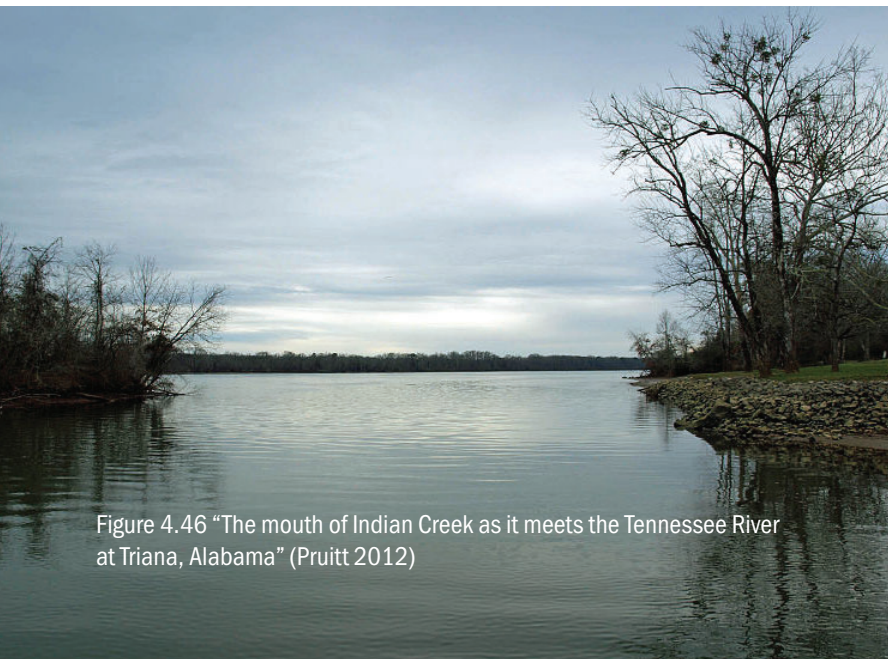
Figure 4.46 "The mouth of Indian Creek as it meets the Tennessee River at Triana, Alabama" (Pruitt 2012)

HOW DID THE PROJECT COME ABOUT?

Originating as a project through the University of Tennessee River Studio, the Tennessee RiverLine is a collective effort to treat the 652 mile segment of the Tennessee River—from Knoxville, Tennessee, to Paducah, Kentucky—as a large public park.

WHAT WERE THE PROJECT'S INTENDED OUTCOMES AND GOALS?

The Tennessee RiverLine aims to "improve public health, promote economic development, and foster stewardship of the Tennessee River's fragile ecosystems," through improving community access to the river and growing awareness of the river's value to the neighboring counties. (Tennessee RiverLine Partnership 2019, 4).

HOW DID THE PROJECT TEAM GATHER INPUT AND INVOLVE THE COMMUNITY IN THE PROCESS?

Counties along the Tennessee River could apply to participate in their 652 to YOU pilot program, which selected 5 county applicants to initiate the planning and engagement process. The pilot projects also included leadership workshops and community engagement events, which helped to inform the recommendations made my the planning committee.

WHAT WAS THE OUTCOME OF THE PROJECT ? HOW HAVE THEY SUSTAINED INVESTMENT IN THEIR EFFORTS?

In Benton County, their recommendations included fostering "local paddle culture," leveraging and enhancing existing assets, such as their beach front and available gear, while advocating for diversified sources of funding and building relationships with local agencies and sports affinity groups to promote physical activity.

Figure 4.47 Spring at Franklin Park (Franklin Park Action Plan and Reed Hilderbrand 2020)

Figure 4.48 Franklin Park Action Plan Workshop (Agency Landscape and Planning)

Figure 4.49 Ellicott Arch at Franklin Park (Lyons 2016)

Franklin Park Action Plan

Location: Boston, Massachussetts
Project Type: City Park
Organization: Reed Hilderbrand in collaboration with Agency Landscape and Planning and MASS Design Group

HOW DID THE PROJECT COME ABOUT?

The recent sale of the Winthrop Square Garage provided $28 million for the city of Boston to put directly toward Franklin Park, the largest park in the city ("Franklin Park Master Plan Announced" 2019). As the largest piece of Fredrick Law Olmsted's historic "Emerald Necklace" system of Boston public parks, Franklin Park plays a critical role in providing accessible urban green space to its high-density adjacent neighborhoods ("Franklin Park Master Plan Announced" 2019). According to the Executive Director of the Franklin Park Coalition, Janna Cohen-Rosenthal, "This is a generational opportunity to protect and enhance the public health benefits of our beloved park, while also developing creative new opportunities in partnership with the Parks and Recreation Department" (quoted in "Franklin Park Master Plan Announced" 2019).

WHAT WERE THE PROJECT'S INTENDED OUTCOMES AND GOALS?

"The team's goal is to understand the planning efforts that have come before it, what is working and isn't working in the park, and what the franklin park neighborhood wants to see in the future," through an "equitable and inclusive planning and decision-making process" (Franklin Park Action Plan 2021). The central goals of the process are to "generate comprehensive and actionable recommendations that will honor the park's design heritage, expand and engage its users, and strengthen the connection of the park to the city and the community" (Franklin Park Action Plan 2021).

HOW DID THE PROJECT TEAM GATHER INPUT AND INVOLVE THE COMMUNITY IN THE PROCESS?

The project team was led by Reed Hilderbrand in collaboration with Agency Landscape and Planning and MASS Design Group. Their 18-month process consists of five phases—Orientation, Inventory, Synthesis, Visioning, and Taking Action—which each incorporate opportunities for gathering community feed back through ongoing dialogue with neighbors, pop-up stations at local events, digital outreach, and community workshops (Franklin Park Action Plan 2021).

WHAT WAS THE OUTCOME OF THE PROJECT ? HOW HAVE THEY SUSTAINED INVESTMENT IN THEIR EFFORTS?

As of March 10, 2021, they are currently in the "Visioning" stage of the project, and recently completed the third of four community workshops. This third workshop highlighted the team's current programming and design proposals based on the community input thus far, and offered opportunities for the community to share their own priorities and feedback.

Figure 4.50 Documenting neighborhood GSI (Living Cully 2021)

Figure 4.51 Celebrating the transformation of the Sugar Shack

Figure 4.52 Engaging Cully kids in planting activities (Living Cully 2021)

Living Cully Coalition

Location: Cully, Portland, Oregon
Project Type: Neighborhood Green Storm water Infrastructure
Organization: Verde, Hacienda Community Development Corporation, Native American Youth and Family Center (NAYA), Habitat for Humanity Portland/Metro East, Portland State

HOW DID THE PROJECT COME ABOUT?

Cully was in sore need of infrastructural improvements—green infrastructure in particular—to address its "flooding streets, limited sidewalks, poor street lighting, and few high-quality parks", but like many low-income urban communities, is at risk for gentrification and displacement (Wilson 2018, 142).

WHAT WERE THE PROJECT'S INTENDED OUTCOMES AND GOALS?

"The Living Cully coalition formed to ensure that low-income residents receive equitable access to the benefits of ecological restoration in the Cully neighborhood... green infrastructure improvements create jobs, provide public health benefits, and are often implemented along with streetscape improvements that increase pedestrian safety" (Wilson 2018, 145-146). "Ideally, local knowledge will inform the public infrastructure improvements; thus the space will reflect the values of the community and make residents feel welcome," rather than contribute to involuntary displacement (Wilson 2018, 146).

HOW DID THE PROJECT TEAM GATHER INPUT AND INVOLVE THE COMMUNITY IN THE PROCESS?

Living Cully was formed as coalition of multiple local/regional organizations: Verde, Hacienda Community Development Corporation, Native American Youth and Family Center (NAYA), Habitat for Humanity Portland/Metro East, and Portland State University, each of which are dedicated to partnering with local residents to help them achieve their goals through community design processes and photovoice feedback.

The Living Cully team, specifically through Verde, is committed to investing back into the neighborhood by employing and training residents in the construction and landscaping projects happening in their community while equipping each individual crew member with the necessary English classes, personal finance plan, professional certification and test preparation they may need to succeed. This program provides "leadership development and job training that allow lower-income residents to contribute to positive change in their communities, while also building their own capacity to stay as revitalization occurs" (Wilson 2018, 142).

WHAT WAS THE OUTCOME OF THE PROJECT ? HOW HAVE THEY SUSTAINED INVESTMENT IN THEIR EFFORTS?

They developed a leadership program, Líderes Verdes, to train residents in advocacy for their neighborhood. Additionally, Living Cully Walks and Andando en Bicicletas en Cully (ABC) support community physical activity, safety, and organized active transportation initiatives. Their community-documented walking audit led to the creation of wayfinding signage in 2015, and with the support of Habitat for Humanity Portland/Metro East, they were able to buy the Sugar Shack, a former strip club and convert it to the Living Cully Plaza Community Center (Wilson 2018, 158-163). Community organizing has continued in an effort to promote and protect the development of affordable housing and maintain the integrity of the neighborhood in the face of rising costs of living.

Figure 4.53 Gamifying community engagement (Dotte Agency 2017)

Figure 4.54 A bilingual "Totem" aids wayfinding (Dotte Agency 2017)

Figure 4.55 "Kids found creative ways to use park elements" (Dotte Agency 2017)

Active Living Trails

Location: Wyandotte County, Kansas
Project Type: Neighborhood Park Trail
Organizations: Dotte Agency, YouthBuild KCK, Groundwork NRG, NBC Community Development Corporation, Parkwood Colony Neighborhood Association, Communities Creating Opportunities, the Gehl Institute, and the Health Care Foundation of Greater Kansas City

HOW DID THE PROJECT COME ABOUT?

Heathwood and Parkwood parks were in dilapidated shape, particularly along the bank of Jersey Creek which suffered from combined sewer overflow. Additionally, adjacent industrial zoning and a lack of sidewalks, lighting, or pedestrian infrastructure between park destinations made the site unwelcoming to users.

WHAT WERE THE PROJECT'S INTENDED OUTCOMES AND GOALS?

The Active Living Trails project is part of Wyandotte County's Healthy Community Corridor, a collaborative effort "to improve the health of our community by improving access to our public parks" (Kleinmann, 2021). Dotte Agency's approach to the Corridor centered "using design to promote greater awareness and access to physical activity" (Kleinmann, 2021).

HOW DID THE PROJECT TEAM GATHER INPUT AND INVOLVE THE COMMUNITY IN THE PROCESS?

To engage the community and involve them in the design process, team members spent time in the park talking with neighbors, observing park activity and inviting park users to participate in a mapping game using the Gehl Institute's Twelve Urban Quality Criteria. Dotte also teamed up with YouthBuild KCK—a skill building and mentorship non profit—to design and build temporary play amenities and signage to be installed in the park alongside community members.

WHAT WAS THE OUTCOME OF THE PROJECT ? HOW HAVE THEY SUSTAINED INVESTMENT IN THEIR EFFORTS?

The Active Living Trails project resulted in a number of community-supported additions to the park: replaced benches, built play equipment, mulched new trail connections, installed bilingual signage and community "totems", painted sidewalk graphics to encourage physical activity, connected students with professional mentors, and led a CPTED oriented cleanup with the community. However, vandalism became a significant challenge to the project outcomes, as much of their signage was tampered with or destroyed, and new lighting installed in the community shelter was stolen shortly after installation (Kleinmann, 2020).

Key Findings from Precedent Studies

- Implementing early pilot projects can be useful for both testing out proposed improvements, such as signage or new park programs, and for gathering public attention, support, and feedback.

- The most successful projects combine grassroots leadership and top-down funding, with dedicated neighborhood groups advocating for and driving the project, and funding for both capital projects and deferred maintenance from committed community partners.

- Training and employing residents and neighbors, particularly youth, in the design, organization, and implementation processes can build a more meaningful connection between the community and public space project.

- Signage can be a simple, but powerful tool for transforming underutilized public spaces, encouraging physical activity, and fostering a sense of community stewardship.

- Temporary installations may be especially prone to vandalism, weather, and aging. If a temporary installation becomes a permanent feature, maintenance regimes will need to be adjusted to accommodate.

Key Takeaways from Findings

SOCIAL ENVIRONMENT

Literature, interview, and precedent study findings suggest that supervised park programming and community involvement in the park's planning and activity are the best ways to encourage park use and park-based physical activity.

Findings also show that partnering with trusted community organizations and existing programs is important for building trust and sustaining involvement, rather than starting from scratch and expecting neighbors to adapt. Work with what is already going well, build on it and support it.

MANAGEMENT PRACTICES

Interviews and precedent studies pointed to the importance of centering park-based projects around the welfare and livelihoods of the *people* in the community, rather than the potential of the physical property alone. Successful planning efforts that support community health emphasize community place-making, not just enhancement of facilities. Projects built without regard for community concerns or desires will likely be neglected by neighbors—who have no use for the imposed addition to their neighborhood—or catalyze gentrification—spurring economic growth for incoming developers but forcing out residents who can no longer afford to live there. Having an advisory group of community representatives—such as a "Friends for the Brush Creek Greenway" organization—to advocate for local neighborhood priorities and facilate community engagement and park stewardship would be mutually beneficial to both KC Parks department and neighbors of the BCG.

PHYSICAL FEATURES

Regarding environmental features, literature points to the need for walkable neighborhoods and accessible nearby park spaces to promote physical activity. Site analysis revealed dramatic slopes, a patchwork of disconnected sidewalks, a lack of bike lanes, and heavy traffic, which could pose significant challenges to pedestrian access for neighbors who live within "walking distance" of the park.

Within the park, the CPAT findings demonstrate that the current state of the BCG does not offer much to support physical activity. The addition of connected walking trails/loops, accessible play equipment, and spaces for recreational team sports would greatly improve the capacity of the park and greenway to support physical activity, along with the addition of park furniture and comfort amenities such as benches, restrooms, drinking fountains, picnic shelters, and shade trees.

SUMMARY

The presence of so many factors shown to discourage park-based physical activity requires that additional steps be taken to ensure that park investment actually serves the neighboring community as intended. By prioritizing community-driven programming, collaborative stewardship, and community-identified infrastructural improvements, the recent investment in MLK Park could catalyze increased park-based physical activity and active transportation, establishing the BCG as a vital piece of community health infrastructure.

Figure 5.01 The Brush Creek Greenway Trail at the Brush Creek Community Center, February, 2021

Figure 5.01 continued

5 | RECOMMENDATIONS

Overview

The collective findings from the literature review, site analysis, park audit, interviews, and precedent studies point to three strategies to equip the BCG as community health infrastructure:

1. Invest in **community-driven infrastructure improvements** that align with the community's priorities,

2. Activate the BCG with **community-engaged programming**, and

3. Establish **collaborative stewardship** of the BCG between the KC Parks department and community stakeholders.

Together, these community-centered strategies can shape a welcoming social climate, equitable management practices, and physical environment that can equip the BCG as a vital piece of community health infrastructure (Figure 5.02).

ESSENTIALS OF COMMUNITY HEALTH INFRASTRUCTURE

Literature review and Findings point to the importance of a healthy social environment, equitable management practices, and inviting physical features for a park to effectively serve as community health infrastructure. While the BCG currently lacks those qualities, community-centered strategies for programming, stewardship and improving greenway infrastructure could shift the BCG from a community health liability to a community health asset (figure 5.02).

For the BCG to serve as community health infrastructure, it must provide essential services to the community and invite community leadership and participation in park programming and management (5.03). Both are critical: without following neighborhood guidance, the BCG will not offer adaquate or relevant services; if the BCG is not serving neighborhood interests, neighbors will neglect the BCG.
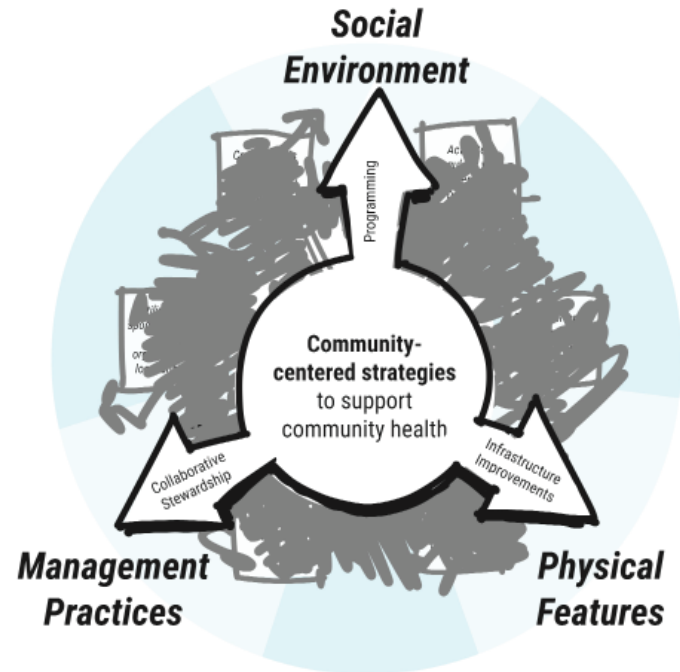
(Above) Figure 5.02 Community-centered strategies can mitigate barriers to park use and support a healthy social environment, management practices, and physical features that positively contribute to community health.

(Left) Figure 5.03 A cycle of inclusion and investment is necessary to effectively support community health.

PHASING & STRUCTURE OF INCLUSIVE INVESTMENT

As noted in Figure 5.03, a park or greenway must provide a service to the community *and* respond to the leadership and participation of the community.

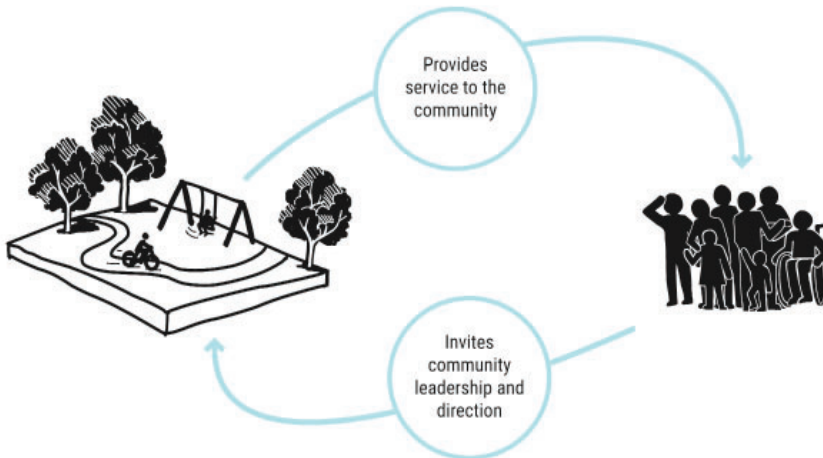Figure 5.04 demonstrates how each of the following strategies revolve around this cycle of inclusion of and investment into the community, beginning with community-driven infrastructure improvements, which provides a platform for activating the BCG through community-engaged programming and establishing collaborative stewardship that will support a healthy future for the BCG and surrounding neighborhoods.

2 Community-Engaged Programming

Gather community perspectives

Activate the BCG

Invite community into project design, implementation, and management

Coordinate programs, partners and volunteers

Collaborate with community organizations

Advocate for funding, maintenance, and amenities

START HERE!

1 Community-Driven Infrastructure Improvements
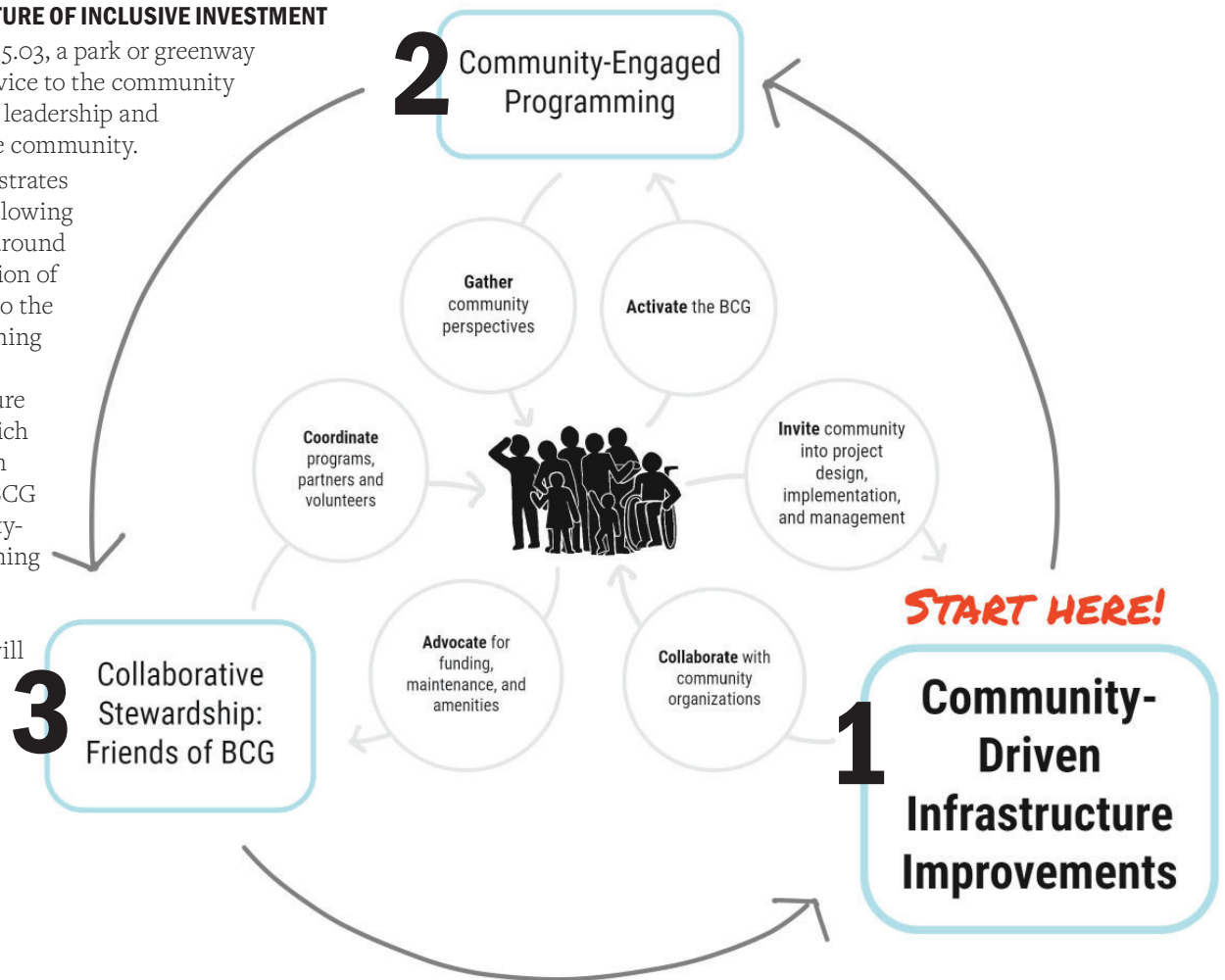
3 Collaborative Stewardship: Friends of BCG

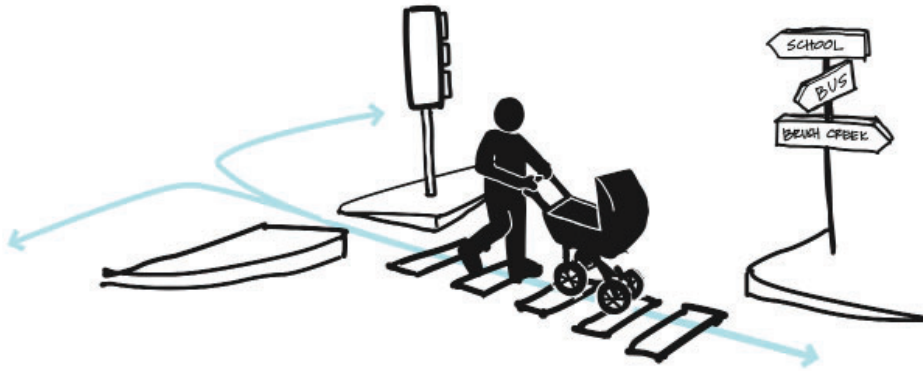Figure 5.04 Phasing of recommended strategies.

Strategy 1: Community-Driven Infrastructure Improvements

While consistent programming and stewardship are each important for fostering park use and healthy community activity, a park without amenities cannot support either. Between the BCG trail, MLK Park, Bruce R. Watkins Cultural Center, and Brush Creek Community Center, the BCG has the potential to serve as a vibrant corridor for community recreation and physical activity, but currently lacks the amenities and pedestrian infrastructure that would facilitate neighborhood acccess or use. The following recommendations highlight potential park infrastructure projects that would support the BCG's role as community health infrastructure.

Figure 5.05 Community-driven infrastructure is centered on park access and diverse amentities

Neighborhood Access to the BCG

Improve **awareness** & **safety** of neighborhood pedestrian environment

SAFETY → Traffic-Calming, Transit Shelters, Lighting

→ Sidewalk Network & Bike-Ped Infrastructure

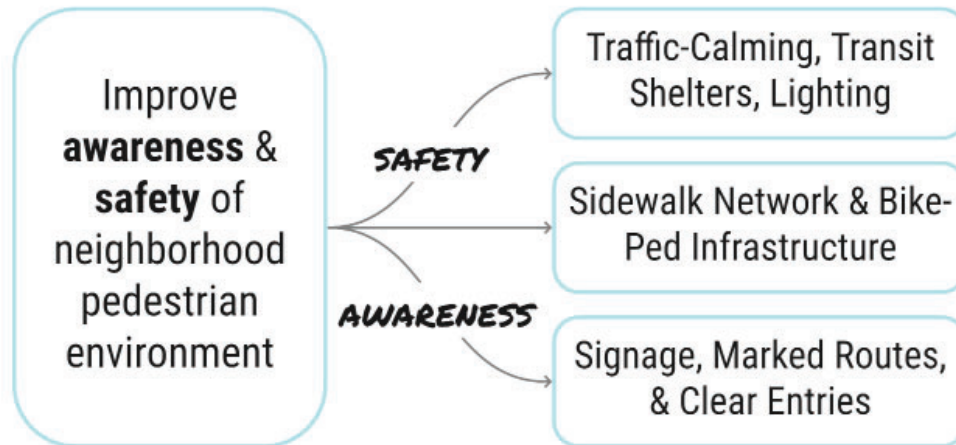*AWARENESS* → Signage, Marked Routes, & Clear Entries

Figure 5.06 First step: improve awareness and safety of neighborhood access to the BCG.

Neighborhood Access

Improving awareness and safety of neighborhood access ot the BCG is the necessary first step to promoting park use. Between steep slopes, heavy traffic, and a patchy network of sidewalks, the neighborhoods along the BCG corridor is in need of a friendlier pedestrian environment that will broaden access to the BCG and neighboring community assets.

Traffic danger was noted by multiple sources as a signficant deterrent to bicycle or pedestrian access to parks, as well as a local concern in KCMO. This is important to note for the BCG, which is bordered by five-lane and six-lane boulevards to the north and south. To facilitate safe access to the park, existing crosswalks, traffic signals, and trail entrances should be distinguished with additional traffic calming features

that prioritize pedestrian safety. Recommended features include:

- curb extensions at the intersections with on-street parking,
- highlighting crosswalks with contrasting pavement/paint and signaged to draw attention to bicyclists and pedestrians,
- the addition of median refuge islands at boulevard crossings.
- and shelter/seating at all bus stops along the BCG.

While the park audit did not address night-time lighting conditions (only the presence of lighting infrastructure), additional lighting should be considered at intersections and crosswalks, particularly

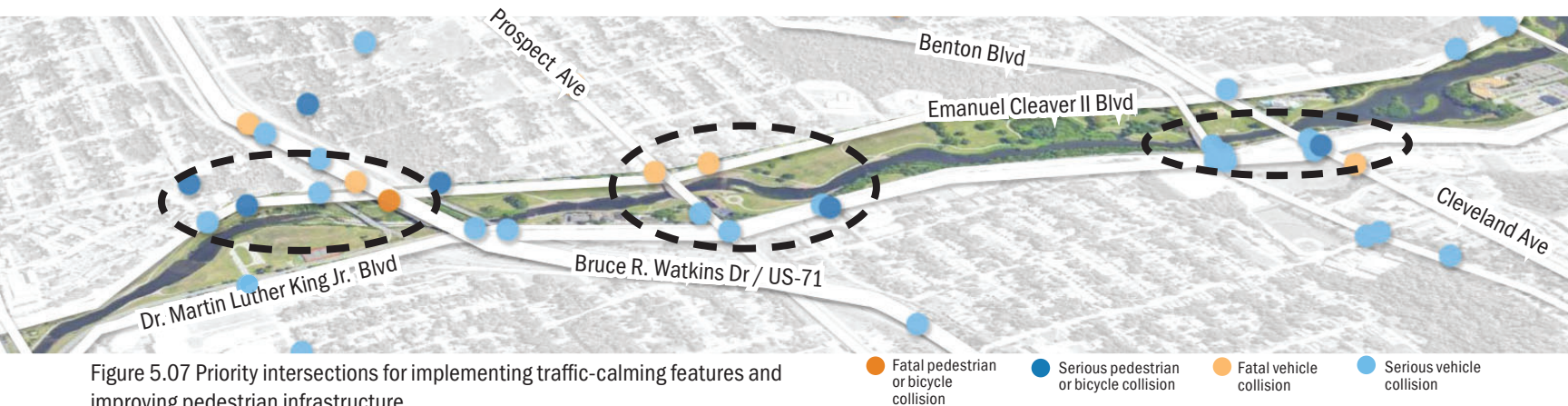Figure 5.07 Priority intersections for implementing traffic-calming features and improving pedestrian infrastructure

Fatal pedestrian or bicycle collision • Serious pedestrian or bicycle collision • Fatal vehicle collision • Serious vehicle collision

under US-71 overpass, where low visibility could pose a risk to bicycle and pedestrian safety.

In addition to the high traffic along Dr. Martin Luther King Jr. and Emanuel Cleaver II Boulevards, many of the sidewalks in the surrounding neighborhoods are incredibly steep, in poor condition, or end abruptly, creating gaps in pedestrian access and discouraging neighbors from walking or biking to the park. Filling in these sidewalk gaps will not only facilitate walkable routes to the BCG, but will also provide safer routes to the schools, businesses, and bus stops around the neighborhood. This presents an opportunity to partner with Safe Routes to School and advocate for improved and extended sidewalks on blocks with identified gaps in pedestrian access. Figure 5.06, for example, shows how the addition of just 0.3 miles (1584 linear feet) of sidewalk could bring 154 more households within a 10-minute walk of the BCG. Most importantly, the addition of 0.6 miles of sidewalk to the north side of MLK Blvd, between Prospect and Benton would provide safe access to the six essential bus stops that are used daily by commuters.

Additionally, colorful signage and sidewalk graphics can be used to identify neighborhood routes that connect nearby destinations, such as King Elementary/ Paseo High School, to points of entry along the BCG. These visual cues can assist in wayfinding, celebrate existing community institutions, foster a visual identity between the neighborhood and the park, and encourage confident pedestrian activity along the marked routes.
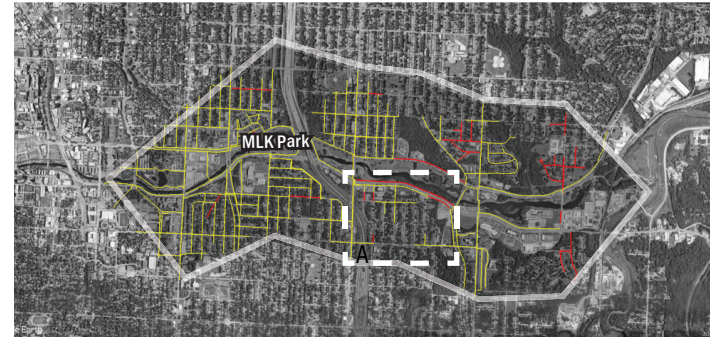

Figure 5.08 Proposed sidewalk segments to fill gaps in 10-minute walk access to the BCG, shown in red

Figure 5.09 Expanded 10-minute walk access to the BCG if gaps in sidewalk connectivity were filled, shown in pink
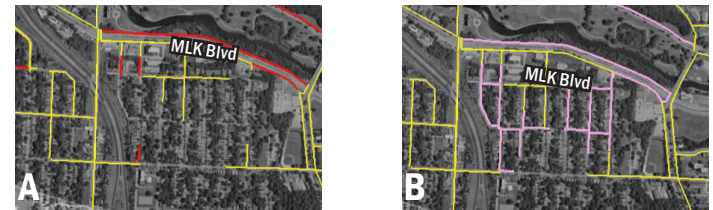

Figure 5.10 By filling in 0.3 miles of neighborhood sidewalk, (red), approximately 154 households within a 10 minute walk south of the MLK Blvd would gain access to the BCG. 0.6 miles along MLK Blvd would provide access to six bus stops that currently lack sidewalk connections.

COMMUNITY COLLABORATION FOR NEIGHBORHOOD ACCESS

- Invite BikeWalk KC, Girls on the Run, and Black Women Get Fit to host a group walk/bike/run with BCG corridor neighborhoods.

- Partner with local neighborhood association or community organization to host a neighborhood walk audit. A trained community representative can lead a walk audit orientation for interested neighbors, who can conduct the audit for their street and submit their observations. The BCG Collective (or whichever entity coordinates the audit) can collect the findings and apply for needed maintenance and new sidewalks, bike lanes, or crosswalks, as requested by neighbors.

- Invite students and residents to be a part of the creation of neighborhood signage. Residents can identify important destinations and walking routes through their neighborhoods, determine necessary signage locations, and contribute sign content. Neighborhoods can host "chalk your walk" weekends, where residents can collaborate in painting/chalking neighborhood sidewalks and routes aroundt their homes and schools..

POTENTIAL PARTNERSHIPS

- Girls on the Run Kansas City
- BikeWalkKC
- Black Women Get Fit - Nia Project
- KC Healthy Kids
- UMKC Active Lab
- National Center for Safe Routes to School, Safe Routes Partnership
- Active Transportation Programming Committee (MARC)
- Bicycle–Pedestrian Advisory Committee

FUNDING MECHANISMS & OPPORTUNITIES

- Safe Routes To School (SRTS)
- Transporation Alternatives Set-Aside
- Surface Transportation Program (STP)
- PIAC Funding (Public Improvements Advisory Committee)

BCG Environment & Amenities

provide **amenities** & **environment** to support activity within the Greenway

ENVIRONMENT

AMENITIES

Shade Trees & Native Plantings

Trail: Signage, Seating & Public Art

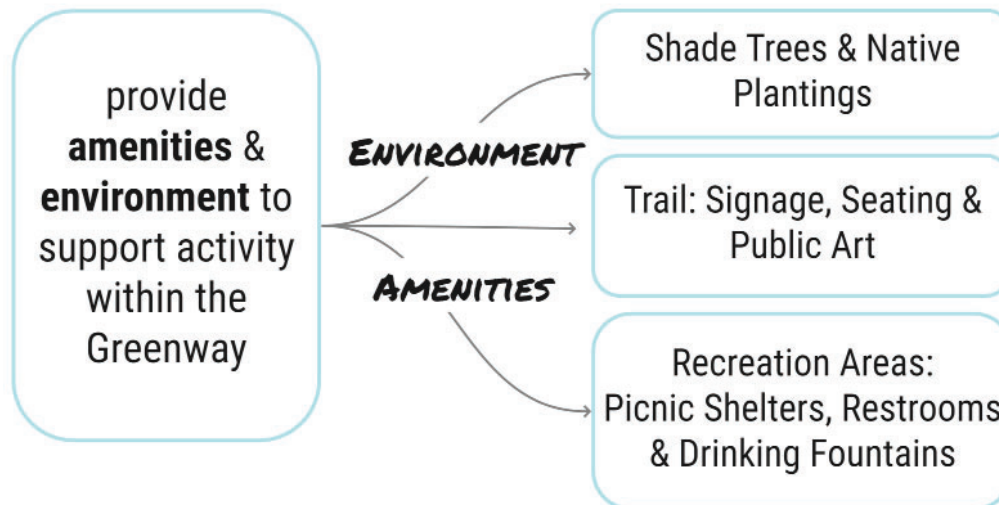Recreation Areas: Picnic Shelters, Restrooms & Drinking Fountains

Figure 5.11 The BCG needs amenities in order to support community health.

Brush Creek Greenway Environment & Amenities

In its current state, the BCG has few features that would signal to neighbors or passersby that they are welcome to use the park. The installation of a signage and wayfinding system, playful seating, and community murals throughout the BCG would encourage park use and foster a friendlier park environment.

Most of the sparse, existing signage only contain negative instructions, such as, "Do not feed the wildlife," "No swimming," "No skateboarding," or "No smoking."As the Active Living Trails and Living Cully project teams found, welcoming, positive signage can encourage physical activity and help neighbors feel like they belong in the space, rather than being told what they cannot or should not do.

Work with neighbors to identify areas in the greatest need of amenities. Install benches, fitness stations, drinking fountains, and trash receptacles throughout the trail. Few sections of the BCG offer seating options, with only a handful benches or picnic tables around the Brush Creek Community Center, Spirit of Freedom Fountain, and MLK Jr. Square Park. Seating and sheltered picnic areas should be installed along the trail to offer places to stop and rest. Activity signage near the benches can suggest activities, games, and exercises utilizing the bench and surroundings. Outdoor play and fitness equipment can be incorporated at seating areas along the trail to create recreation stations.
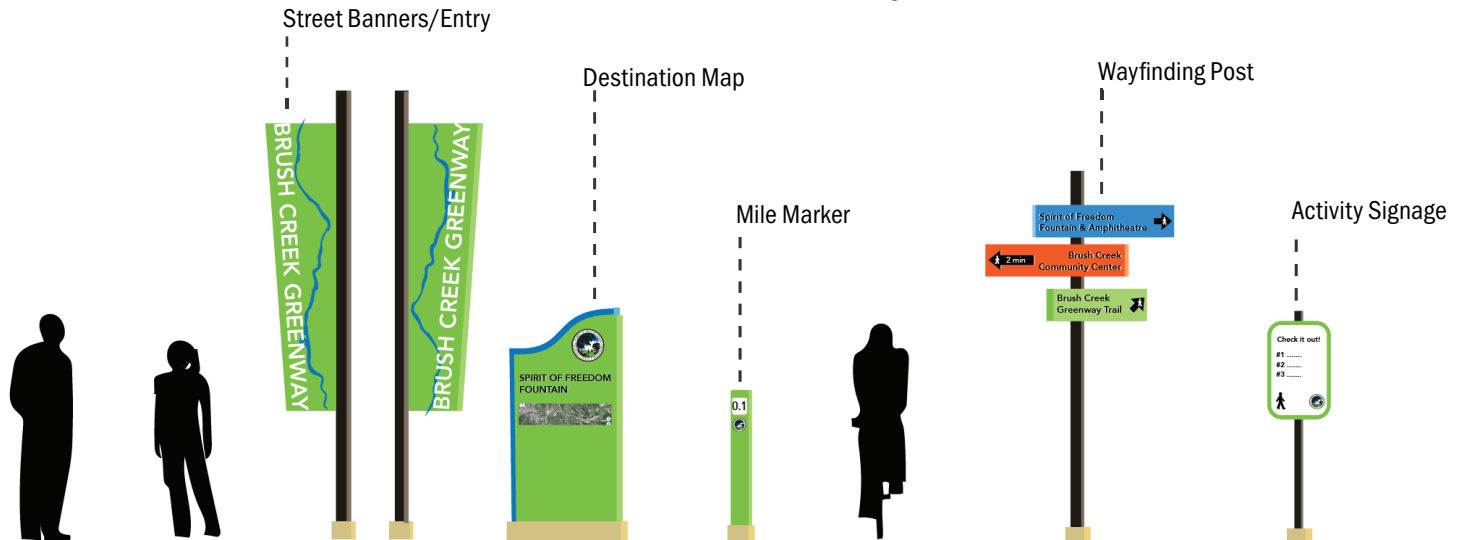
Figure 5.12 Proposed signage family for the BCG

The segments of the BCG along US-71/Bruce R. Watkins Drive are rated by the EPA as having a high percentile of air pollution and traffic compared to the region. For the health and welfare of park users and neighbors, it is critical that these factors are addressed alongside the implementation of other activity areas along Brush Creek. The BCG would benefit from the addition of shade trees along park trails and activity areas to filter air pollution, reduce noise pollution, and create a more comfortable microclimate for summertime physical activity.

As Brush Creek collects both the sewer overflow and surface runoff from the watershed, it would be beneficial to replace portions of the mown turf along the BCG with native plantings and swales to slow and filter polluted water before it enters the creek. As the Smart Sewer Program continues its work along the watershed, it would be valuable to consider how its GSI improvements could also benefit the pedestrian environment along the BCG trail and adjacent boulevards.

COMMUNITY COLLABORATION AND POTENTIAL PARRTERSHIPS

Planting and maintaining new landscaping features can be a community activity and training opportunity. The Green Stewards Program, through non-profit Bridging the Gap, employs and trains skilled workers from at-risk neighborhoods in the implementation and maintenance of local GSI projects. The Heartland Tree Alliance with Bridging the Gap also coordinates volunteers for community tree planting and creek clean up events.

During the first three months of installation, signage along the trail can include a temporary plaque with instructions for how neighbors can contribute to a community mural by submitting their stories, photographs, and drawings. Local neighborhood associations and schools near the BCG can advertise and distribute the surveys, to ensure representative participation from all interested communtiy members. Responses will be collected and put out to a community vote. The winning mural submissions will be translated by a local artist onto one of the BCG trail's many concrete retaining walls, such as the one near the Paseo, and the community will be invited to participate in painting the mural together (figure 5.14).

FUNDING MECHANISMS & OPPORTUNITIES

- Transporation Alternatives Set-Aside
- Surface Transportation Program (STP)
- Bridging the Gap and Heartland Tree Alliance

Summary

The aforementioned infrastructure improvements are based on the findings from literature, site analysis, audit, interviews, and precedent studies as to what features may be most influential in contributing to park use and physical activity. Recognizing that community engagement will reveal priorities from the community that have not been addressed in this document, this is not an all-inclusive collection of possibilities, but a framework that can be adapted to include other opportunities for community involvement, potential partnerships, and funding mechanisms.

Figure 5.13 What would it look like to prioritize cyclists and pedestrians along MLK Boulevard?

Figure 5.14 How could the community's vision for their neighborhood shape the future of the BCG?

Strategy 2: Community-Engaged Programming

Activate the Brush Creek Greenway

For the BCG to support *community* health, it is essential that the BCG is understood as a *community* space. Background literature revealed that park programming is one of the most effective ways for increasing park use, increasing rates of physical activity, and raising perceptions of safety among park users (Cohen et al. 2016; Schultz et al. 2016; Groshong 2020).

Build on local activity and momentum. As the playground at MLK Park opens, use the momentum to invite existing community organizations to conduct programs and special events at the BCG. This can establish a rotating schedule of "hosts" to activate the park and attract neighbors to participate. It is most effective if activities are led by or in partnership with trusted local leaders or groups who are already familiar to the neighborhood. Brush Creek Community Center and Bruce R. Watkins Cultural Center are both located within the BCG and could serve as home-base facilities for indoor-outdoor activity, particularly during winter months. Paraclete Manor, which offers affordable housing for seniors, and Emmanuel Family and Child Development Center, which provides early childhood education, are both located within the BCG and would benefit from curated programming for their residents and families on-location, allowing opportunities for intergenerational collaboration.

RECOMMENDED COMMUNITY PARTNERS

While far from an exhaustive list, the following local organizations currently offer programs that align with the vision for supporting community health along the BCG corridor:

- The Nia Project - a local nonprofit that hosts *Black Women Get Fit,* an annual gathering to foster community and health among Black women in Kansas City.

- Temple Made Fitness - a local fitness training program that offers a variety of youth sports clubs and *Animal Movements*, a workshop that teaches kids how to be physically active

- Girls on the Run KC - offers after-school and summer programs for girls in grades 3-8, with a local team based nearby at Martin Luther King Jr. Elementary

- "Pop in at the Park" - KC Public Library

- BikeWalkKC

- KC Healthy Kids

- Weighing In - (Children's Mercy Hospital)

- UMKC - Center for Neighborhoods, ACTIVE Laboratory

BCG-based programs could include BCG Trail walking and cycling groups, MLK Park field days with team sports, arts and crafts programs, day camps, and after school programming. Special events could include food truck weekends, neighborhood BBQs, live music, outdoor movie nights, craft fairs for local artists and small-business owners, seasonal holiday festivities,

and partnerships with local institutions like the Kansas City Public Library, which offers "Pop in at the Park" events in local KCMO parks.

The New York City-based nonprofit, Street Lab Programs for Public Space, is a great example and resource for pop up community programming, such as the example in Figure 5.15. *Check out streetlab.org for community programming kits and tools.*

Figure 5.15 A pop-up library in St. Mary's Park in the Bronx, as part of the Uni Project by Street Lab (Street Lab Programs for Public Space)

Gather Community Perspectives

During the programming, get to know park users:

What do they enjoy most about the BCG? What do they think of the new MLK Park playground? What concerns or excitement have they expressed?

How do they get to the park? Do they drive from across town or do they walk from down the street? Do they live down the street but still choose to drive because of traffic/safety/ sidewalks/danger/distance?

Provide opportunities during programs for input, where attendees can share their thoughts about the park, their recreation preferences, what they value most about their neighborhood, or what types of programs activities, or amenities they would like to see in their community. This could involve a passive program installation--where neighbors can respond to prompts, vote, or write their thoughts on a physical (or virtual) bulletin board at their convenience--or a scheduled activity facilitated by a community leader or KC Parks representative.

While park users will have helpful insights about the BCG, it is equally important to survey neighbors who may not use the greenway, as they likely have different opinions of the BCG or face different barriers to use. Work with neighborhood associations, schools, and nearby organizations and businesses to gather other perceptions and thoughts of the BCG and new playground:

Do they ever use the space? Why or why not? How does/could it align with what they want/need? Would they be more likely to use the park/greenway if ___ were there?

Strategy 3:
Collaborative Stewardship: Friends of the Brush Creek Greenway

Having a park "friends" organization coordinating advocacy and operations of the BCG would not only facilitate park improvements, but involve and represent community members in the decision making process. Throughout the programming and input process, identify neighbors and stakeholders who are interested in the future and management of the BCG. Since the BCG is under the jurisdiction of so many different agencies and crosses through so many neighborhoods, it would be helpful to have an organizational body that advocates for community interests and can facilitate park activity.

The *Friends of Brush Creek Greenway* (*BCG Friends*) would be a collective of engaged neighborhood representatives whose primary goal is to represent local community interests and oversee the BCG as opportunities for development and investment arise. *BCG Friends* would work in conjunction with the KC Parks Foundation/Conservancy, which would manage funds, but would serve as a "Park Friends" organization, coordinating volunteers, community events, and bringing awareness of community concerns to governing agencies.

Their primary reponsibilities would include:

- Advocating for priority maintenance projects and facilitating the submission of PIAC requests.

- Representing community requests and concerns to KC Parks, KC Parks Foundation, and other agencies governing the BCG (each of the agencies governing the BCG will have a designated representative to the Alliance, who will be informed of and consulted for BCG projects that require agency approval, streamlining the process).

- Working with the KC Parks Foundation to direct and advise future investment. As the BCG receives more attention as part of the Brush Creek Innovation District, the KC Parks Foundation should consult the BCG Alliance on where to invest new funds for GSI or other infrastructural improvements in order to best support community health priorities.

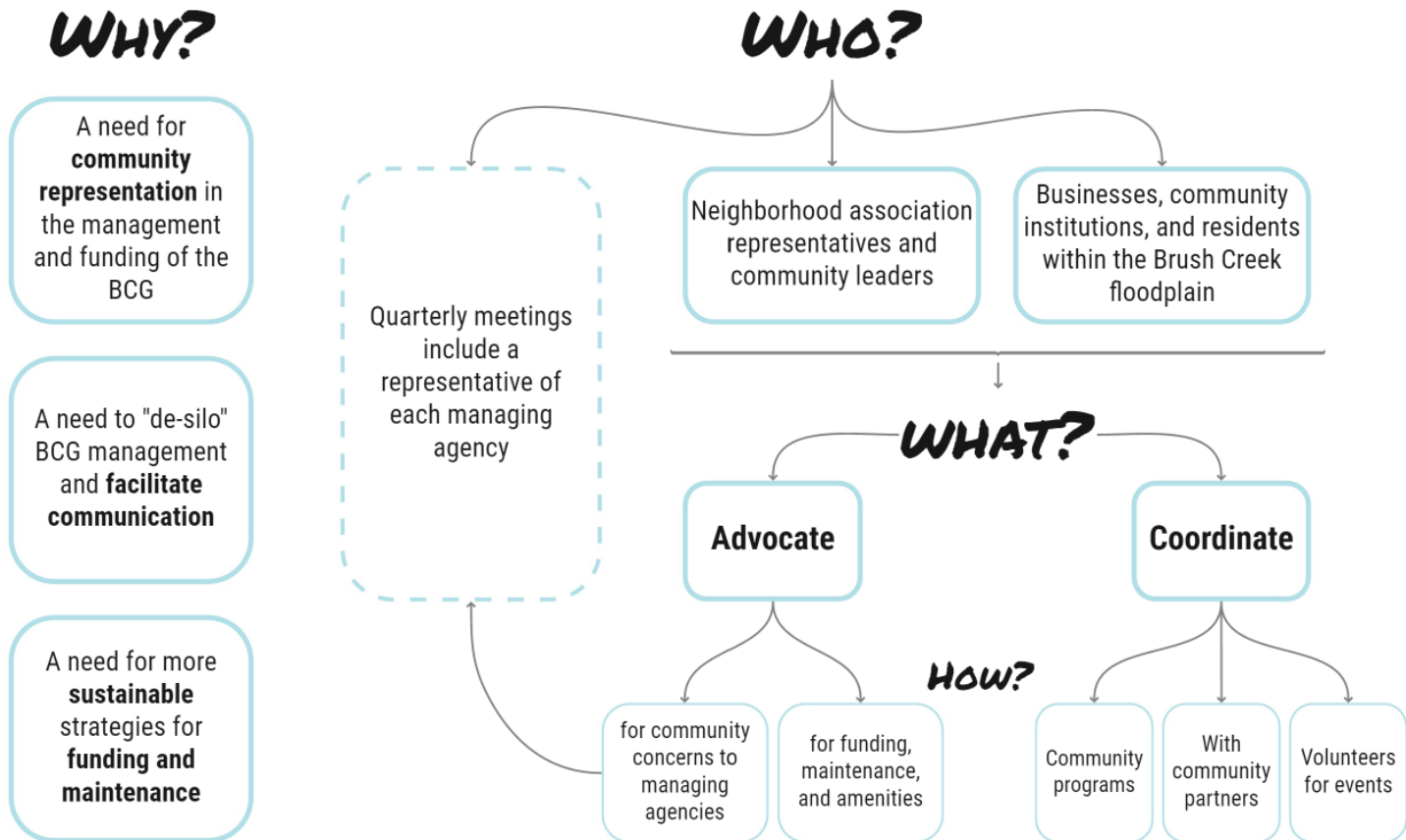- Coordinating volunteers and park programs along with KC Parks, serving as a community liason.

WHY?

A need for **community representation** in the management and funding of the BCG

A need to "de-silo" BCG management and **facilitate communication**

A need for more **sustainable** strategies for **funding and maintenance**

WHO?

Neighborhood association representatives and community leaders

Businesses, community institutions, and residents within the Brush Creek floodplain

Quarterly meetings include a representative of each managing agency

WHAT?

Advocate

Coordinate

HOW?

for community concerns to managing agencies

for funding, maintenance, and amenities

Community programs

With community partners

Volunteers for events

Figure 5.16 Organization of Friends of the BCG

Figure 6.1 The Brush Creek Greenway in February, 2021 (Titus 2021)

Figure 6.1 continued (Titus 2021)

6 | CONCLUSION

Summary & Application

The recent attention to the BCG Corridor is a laudable step toward addressing the inequitable distribution of resources across green spaces in KCMO. However, a new playground or 'smart sewer' project alone will do little to lower barriers to neighborhood wellness and physical activity without corresponding efforts to foster an active social environment, healthy management practices, and welcoming physical features that will encourage park access and use by the community.

To support local community health, the BCG requires investment in community-driven infrastructure improvements, community-engaged programming, and collaborative stewardship from both community stakeholders and governing agencies.

Findings suggest that developing pedestrian friendly infrastructure and amenities throughout the BCG corridor can improve neighborhood access to the park, while partnering with active community organizations

to host park-based programming is one of the most effective ways to increase rates of neighborhood physical activity and park use. Programs serve to engage neighbors in the park planning process and direct future investment toward projects prioritized by community members. Due to the numerous agencies and organizations involved in the management of Brush Creek Greenway, it would be foolish not to establish a "BCG Friends" coalition that can facilitate communication and responsibilities between community stakeholders and agencies.

All three pieces are critical to the BCG's function as community health infrastructure:

1. Without essential physical features that support access and use for physical activity, the BCG fails as a park.

2. Without a social environment spurred by community activity, the BCG fails as a community space.

3. Without dedicated, collaborative leadership that responds to neighborhood voices and coordinates responsibilities between stakeholders, the BCG remains a liability, rather than an asset.

While the community context will differ, the need for community-engaged programming, collaborative stewardship, and community-driven park improvements is not unique to the BCG. This framework can be applied to other neighborhoods seeking to build their local green spaces' capacity to support community health and park-based physical activity.

Limitations

There were limitations to the research methods chosen. Site analysis was conducted remotely utilizing public data sets from various city agencies, which varied in resolution (some by census tract, others by block group) and the most recent year available.

While the park audit was conducted in person, portions had to be completed remotely due to inaccessibility (segment H, between Prospect and Benton), or the need for additional tools (measuring park acreage and trail length). The most recent Google Earth aerial and Streetview imagery were used for the portions conducted remotely, but may not account for detailed quality or personal safety concerns that can only noted by an on-site walk through segment H.

Interviews were conducted via snowball sampling with local subject experts on park access, physical activity, and community health. While incredibly insightful, the four interviews represent only a small portion of the current activity in KCMO addressing community health and wellness through environmental design, policy, and programming.

Precedent studies offered insight into four different park planning processes, each at a different stage of implementation. The outcomes of the Franklin Park Action Plan and the Tennessee RiverLine are currently unfolding, so this report provides a snapshot of their progress as of spring of 2021.

Recommendations in Chapter 5 are given based on best practices that came from project findings and literature regarding barriers and faciliators of physical

activity and park use, and are not an all-inclusive list. Community-centered strategies will ultimately depend on community input, to be gained from future research.

Future Research

Future research should consult the UMKC Center for Neighborhoods and neighborhood association leaders (Vineyard, Sheraton Estates, North Town Fork Creek, Oak Wark Southeast, Oak Park Southwest, Ivanhoe Southeast, Ivanhoe Southwest, Blue Hills, Eastern 49-63, Manheim Park, Rockhill, and UMKC), to gain a broader perspective on the various approaches to and impacts of community health policy and programming. Additionally, gathering observational data on park usage (via SOPARC) and engaging with neighbors within the 10 minute walk network of the BCG will be essential to understanding community-specific insight on the factors affecting rates of neighborhood physical activity. While preliminary site analysis suggested that communities along the western portion of the BCG (Brookside Boulevard to Troost Avenue) have fewer barriers to park use than neighborhoods along the eastern corridor (Troost to Elmwood), further investigation may reveal a need for similar investment in infrastructure, programming, and collaborative management to the west.

ADDITIONAL RESOURCES

To learn more about supporting park-based physical activity, community health, and resident engagement in your neighborhood, check out the following:

In KCMO

- https://www.kcphysicalactivityplan.org/
- https://www.lisc.org/kansas-city/what-we-do/affordable-housing/health-v/
- https://bridgingthegap.org/

Funding opportunities

- https://healthforward.org/grantees-and-applicants/what-we-fund/foundation-defined-grants/healthy-communities/
- https://www.kcmo.gov/programs-initiatives/public-improvements-advisory-committee-piac
- https://connectedkc.org/wp-content/uploads/2020/04/STP_2023_24_Guidebook.pdf
- https://connectedkc.org/wp-content/uploads/2020/04/TA_2023_24_Guidebook.pdf

National Efforts

- https://www.streetlab.org/
- https://www.saferoutespartnership.org/
- https://healthyplacesbydesign.org/
- https://10minutewalk.org/
- https://www.tpl.org/
- https://www.facilitatingpower.com/spectrum_of_community_engagement_to_ownership

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Appendix A | ArcGIS Pro Settings
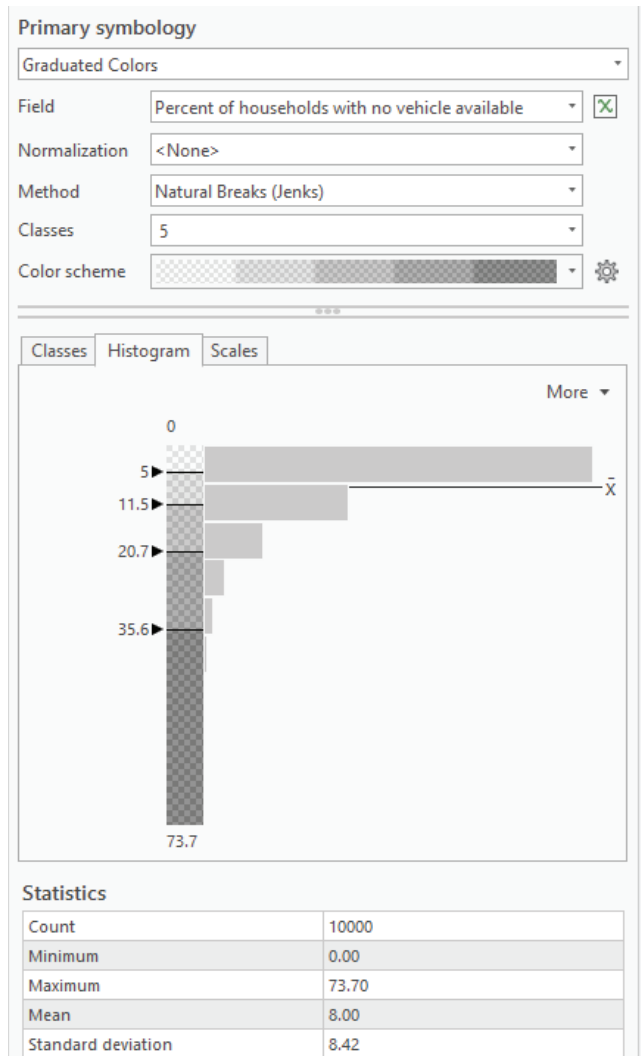
Primary symbology

Graduated Colors

Field	Percent of households with no vehicle available
Normalization	\<None\>
Method	Natural Breaks (Jenks)
Classes	5
Color scheme	

Classes | Histogram | Scales

More ▾

0

5 ▶

11.5 ▶ — x̄

20.7 ▶

35.6 ▶

73.7

Statistics

Count	10000
Minimum	0.00
Maximum	73.70
Mean	8.00
Standard deviation	8.42

Appendix B | Community Park Audit Tool (CPAT)

COMMUNITY PARK AUDIT TOOL

Instructions

Before you begin, try to locate a map of the park. Next, review the CPAT training guide and audit tool. It is important to make sure each question and response is clear when you are marking your answer. Then, go to the park and fill out this audit tool. The tool (6 pages) is divided into four sections that focus on different parts of the park. Further instructions are at the top of each section.

Tips for Using the Community Park Audit Tool (CPAT)

- Drive, bike, or walk around the park to get a feel for what's in the park and the neighborhood around the park.
- The focus of the audit should include outside environments only. Do not include any indoor facilities. If facilities such as bathrooms are on the outside of the building and freely accessibly to the public, they may be included.
- Please note that there are two sections of the audit that ask similar questions. In Section 2: Access and Surrounding Neighborhood, questions about safety or appearance focus on environments *surrounding* the park. In Section 4: Park Quality and Safety, park quality or safety concerns questions focus on what's *inside* the park.
- Questions on the CPAT are grouped in sections in the order that you might come across them in a park. However, you may need to switch between sections or pages as you complete the park audit. Therefore, it is important to look through the tool before you begin.
- When you are finished, go back and make sure you have completed all the sections and questions.
- There is space at the end of each section where you can write down comments as you complete your audit.
- If you see anything that requires immediate attention, contact the local parks department.

About the Community Park Audit Tool

The Community Park Audit Tool (CPAT) was developed in 2010 in Kansas City, Missouri by Andrew Kaczynski (Kansas State University) and Sonja Wilhelm Stanis (University of Missouri) in collaboration with the City of Kansas City Missouri Parks and Recreation Department. Development of the CPAT was supported by a grant from Active Living Research, a national program of the Robert Wood Johnson Foundation.

Section 1: Park Information

Park Name: _____ Observer Name or ID: _____

Park Address/Location: _____

Was the park easy to find onsite? ❏ No ❏ Somewhat ❏ Yes

Date (m/d/yr): ___ /___ /_____

Temperature: ___ °F

Weather: ❏ Clouds ❏ Clear ❏ Snow ❏ Rain ❏ Drizzle ❏ Thunderstorm

Start Time: _____ am or pm (circle) End Time: _____ am or pm (circle) Length of visit: ____ min

Comments on Park Information:

Section 2: Access and Surrounding Neighborhood

This section asks about accessing the park and about the neighborhood surrounding the park. Several questions include follow-up responses if you answered yes. There are spaces for comments at the end of the section. When thinking about the surrounding neighborhood, consider all areas that you can see from inside of the park.

When rating the access and surrounding neighborhood, please use the following definition:
- **Useable:** everything necessary for use is present and nothing prevents use (e.g., sidewalks are passable)

1. Can the park be accessed for use? (e.g., not locked/fenced, available for activity, etc.) ❏ No ❏ Yes

2. Are there **signs** that state the following (could be same sign)? *(check all that are present)* ❏ None present
      ❏ Park name   ❏ Park hours   ❏ Park contact information   ❏ Park/facility rental information
      ❏ Park rules   ❏ Park map   ❏ Rental equipment information   ❏ Event/program information

3. How many **points of entry** does the park have? ❏ More than 5 (or park boundary is open) ❏ 2-5 ❏ Only 1

4. Is there a **public transit stop** within sight of the park? ❏ No ❏ Yes

5. What types of **parking** are available for the park? *(check all that are present)*
      ❏ None   ❏ Parking lot   ❏ On street parking   ❏ Bike rack

6. Are there **sidewalks** on *any* roads bordering the park? (could be on opposite side of road) ❏ No ❏ Yes
      If yes … Are they useable? ❏ All or most are useable ❏ About half ❏ None or few useable
      If yes … Are there curb cuts and/or ramps on *any* sidewalks bordering or entering the park? ❏ No ❏ Yes

7. Is there an external **trail or path** connected to the park? ❏ No ❏ Yes
      If yes … Is it useable? ❏ No ❏ Yes

8. Are there **bike routes** on *any* roads bordering the park? *(check all that are present)*
      ❏ None   ❏ Marked lane   ❏ Designated route sign   ❏ Share the road signs/markers

9. Are there nearby **traffic signals** on *any* roads bordering the park? (e.g., crosswalk, stop light/sign) ❏ No ❏ Yes

10. What are the main **land use(s)** around the park? *(check all that apply)* ❏ None present
       ❏ Residential ❏ Commercial ❏ Institutional (e.g., school) ❏ Industrial (e.g., warehouse) ❏ Natural

11. Which of the following **safety or appearance** concerns are present in the **neighborhood surrounding the park**?
    (check all that are present in the surrounding neighborhood within sight on any side of the park)
       ❏ Poor lighting (e.g., low or no lighting on surrounding neighborhood streets)
       ❏ Graffiti (e.g., markings or paintings that reduce the visual quality of the area)
       ❏ Vandalism (e.g., damaged signs, vehicles, etc.)
       ❏ Excessive litter (e.g., noticeable amounts of trash, broken glass, etc.)
       ❏ Heavy traffic (e.g., steady flow of vehicles)
       ❏ Excessive noise (e.g., noticeable sounds that are unpleasant or annoying)
       ❏ Vacant or unfavorable buildings (e.g., abandoned houses, liquor store)
       ❏ Poorly maintained properties (e.g., overgrown grass, broken windows)
       ❏ Lack of eyes on the street (e.g., absence of people, no houses or store fronts)
       ❏ Evidence of threatening persons or behaviors (e.g., gangs, alcohol/drug use)
       ❏ Other _____
       ❏ None present

Comments on Access or Surrounding Neighborhood Issues:

Section 4: Park Quality and Safety

This section asks about factors related to comfort and safety when using the park. Several questions include follow-up responses if you answered yes. There are spaces for comments at the end of the section.

When rating the quality and safety features of the park, please use the following definitions:
- **Useable**: everything necessary for use is present and nothing prevents use (e.g., can get into restrooms, drinking fountains work, etc.)
- **Good condition**: looks clean and maintained (e.g., minimal rust, graffiti, broken parts, etc.)

13. Are there public **restroom(s) or portable toilet(s)** at the park? ❏ No ❏ Yes
    If yes …
    Are the restroom(s) useable? ❏ All or most are useable   ❏ About half ❏ None or few are useable
    Are they in good condition? ❏ All or most in good condition   ❏ About half ❏ None or few in good condition
    Is there a family restroom? ❏ No ❏ Yes
    Is there a baby change station in any restroom? ❏ No ❏ Yes

14. Are there **drinking fountain(s)** at the park? ❏ No ❏ Yes
    If yes …
    Are the fountains useable?   ❏ All or most are useable   ❏ About half ❏ None or few are useable
    Are they in good condition? ❏ All or most in good condition ❏ About half ❏ None or few in good condition
    Are they near activity areas? ❏ All or most are near   ❏ About half ❏ None or few are near

15. Are there **bench(es)** to sit on in the park? ❏ No ❏ Yes
    If yes …
    Are the benches useable?   ❏ All or most are useable   ❏ About half ❏ None or few are useable
    Are they in good condition? ❏ All or most in good condition ❏ About half ❏ None or few in good condition

16. Are there **picnic table(s)** in the park?   ❏ No ❏ Yes
    If yes …
    Are the tables useable?   ❏ All or most are useable   ❏ About half ❏ None or few are useable
    Are they in good condition? ❏ All or most in good condition ❏ About half ❏ None or few in good condition
    Is there a picnic shelter in the park? ❏ No ❏ Yes
    Is there a grill or fire pit in the park? ❏ No ❏ Yes

17. Are there **trash cans** in the park?   ❏ No ❏ Yes
    If yes …
    Are they overflowing with trash? ❏ All or most overflowing   ❏ About half ❏ None or few overflowing
    Are they near activity areas?   ❏ All or most are near   ❏ About half ❏ None or few are near
    Are recycling containers provided? ❏ No ❏ Yes

18. Is there **food/vending machines** available in the park? ❏ No ❏ Yes
    If yes …
    Are fruits and/or vegetables available in the park?   ❏ No ❏ Yes

19. If the sun was directly overhead, how much of the park would be **shaded**? ❏ <25% ❏ 25-75% ❏ >75%

20. Are there rules posted about animals in the park? (e.g., dogs must be leashed)? ❏ No ❏ Yes

21. Is there a place to get **dog waste pick up bags** in the park?   ❏ No ❏ Yes
    If yes … Are bags available at any of the locations?   ❏ No ❏ Yes

22. Are there **lights** in the park? (not including neighborhood street lights) ❏ No ❏ Yes
    If yes …
    How much of the park could be lit? ❏ <25% ❏ 25-75% ❏ >75%
    Are the activity areas lit? ❏ All or most are lit ❏ About half ❏ None or few are lit

23. Is the park **monitored**? (e.g., volunteer or paid staff, patrolled by police, cameras, etc.) ❏ Unsure ❏ Yes

24. Are there any **emergency devices** in the park? (e.g., phone, button, emergency directions) ❏ No ❏ Yes

25. From the center of the park, how **visible** is the surrounding neighborhood? ❏ Fully ❏ Partially ❏ Not at all

26. Are there **road(s)** of any type through the park? ❏ No ❏ Yes
    If yes … Are there traffic control mechanisms on the roads within the area? (e.g., crosswalk, stop light or sign, brick road, speed bumps, roundabouts) ❏ No ❏ Yes

27. What buildings or structures are present in the park? *(check all that are present)*
    ❏ Community/recreation center
    ❏ Amphitheater
    ❏ Other _____
    ❏ None present

28. Which of the following **park quality or safety concerns** are present **in the park?** *(check all that are present)*
    ❏ Graffiti (e.g., markings or paintings that reduce the visual quality of the area)
    ❏ Vandalism (e.g., damaged signs, buildings, equipment, etc.)
    ❏ Excessive litter (e.g., noticeable amounts of trash, broken glass, etc.)
    ❏ Excessive animal waste (e.g., noticeable amounts of dog waste)
    ❏ Excessive noise (e.g., noticeable sounds that are unpleasant or annoying)
    ❏ Poor maintenance (e.g., overgrown grass/weeds/bushes or lack of grass in green areas)
    ❏ Evidence of threatening persons or behaviors (e.g., gangs, alcohol/drug use)
    ❏ Dangerous spots in the park (e.g., abandoned building, pit/hole)
    ❏ Other _____
    ❏ None present

29. What aesthetic (i.e., beautiful/pleasing) features are present **in the park?** *(check all that are present)*
    ❏ Evidence of landscaping (e.g., flower beds, pruned bushes)
    ❏ Artistic feature (e.g., statue, sculpture, gazebo, fountain)
    ❏ Historical or educational feature (e.g., monument, nature display, educational signs, etc.)
    ❏ Wooded area (e.g., thick woods or dense trees)
    ❏ Trees throughout the park (e.g., scattered trees)
    ❏ Water feature (e.g., lake, stream, pond)
    ❏ Meadow (e.g., natural, tall grassy area)
    ❏ Other _____
    ❏ None present

Comments on Park Quality and Safety Issues:

General Comments/Notes:

Before you are finished, please make sure you have answered all questions in the tool.

98

This section asks about the activity areas in the park. For each activity area type:

i. **First**, mark the number (#) of areas that are present in the park (if none, write "0").
ii. **Then**, respond to questions about up to three of those activity areas. If there are more than three areas for a specific activity area type, rate the first three you come across during the audit. If there were no activity areas of that type present in the park, move on to the next type.
iii. **Finally**, use the space provided to note any additional comments about each type of activity area.

When rating the activity areas, please use the following definitions:
- **Useable**: everything necessary for use is present (excluding portable equipment - rackets, balls, etc.) and nothing prevents use (e.g., are there nets up for tennis courts, goals for sport fields, are trails passable, etc.)
- **Good condition**: looks clean and maintained (e.g., minimal rust, graffiti, broken parts; even surface; etc.)

12. Activity Areas	# of Areas	Area 1	Area 2	Area 3
a. Playground	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Distinct areas for different age groups		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Colorful equipment (i.e., 3+ colors)		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Shade cover for some (25%+) of the area		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Benches in/surrounding area		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Fence around area (i.e., half or more)		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Separation or distance from road		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				
b. Sport Field (football/soccer)	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				
c. Baseball Field	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				
d. Swimming Pool	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				
e. Splash Pad	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				
f. Basketball Court	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				
g. Tennis Court	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				
h. Volleyball Court	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				

12. Activity Areas	# of Areas	Area 1	Area 2	Area 3
i. Trail	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Connected to activity areas		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Distance markers/sign		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Benches along trail		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
What is the trail surface? *(check one)*		❏ Paved ❏ Crushed stone ❏ Dirt/mulch	❏ Paved ❏ Crushed stone ❏ Dirt/mulch	❏ Paved ❏ Crushed stone ❏ Dirt/mulch
Trail length (in miles):		❏ <1 ❏ 1-3 ❏ >3 miles ❏ Unsure	❏ <1 ❏ 1-3 ❏ >3 miles ❏ Unsure	❏ <1 ❏ 1-3 ❏ >3 miles ❏ Unsure
Comments:				
j. Fitness Equipment/Stations	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				
k. Skate Park	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				
l. Off-Leash Dog Park	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				
m. Open/Green Space	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
What is the approximate area in acres of the open/green space? (1 acre ≈ 1 football field without end zones)		❏ <1 ❏ 1-3 ❏ >3 acres ❏ Unsure	❏ <1 ❏ 1-3 ❏ >3 acres ❏ Unsure	❏ <1 ❏ 1-3 ❏ >3 acres ❏ Unsure
Comments:				
n. Lake	(# :_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Is there a designated swimming area?		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				
o. Disc Golf	(#:_____)			
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				
p. Other (*fill in a type description for each*)		_____	_____	_____
Useable		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Good condition		❏ No ❏ Yes	❏ No ❏ Yes	❏ No ❏ Yes
Comments:				

Comments on Park Activity Areas:

Appendix C | Raw Data from CPAT

KEY	+1 point for present	+0.5 points per additional criteria met	half credit for partial completion	no point value assigned / absent	-1 point if present	-0.5 points per additional negative criteria met

	ACCESS AND SURROUNDING NEIGHBORHOOD	**1 – NORTH TROOST/GATES BBQ**	**2 – SOUTH TROOST WATERFRONT**	**3 – NORTH MLK PARK**	**4 – MLK PARK**	**5 – NORTH OF EC CHILD DEVELOPMENT CENTER**
1	Can the park be accessed for use?	yes	yes	yes	yes	yes
4 (1 if present, 0.5 for each additional type)	Are there signs? If so, do they state the park name, hours, contact information, facility rental information, park rules, park map, or event/program information?	none present	none present	none present	yes, (3/8)park name, maintenance contact information, park rules (smoke-free zone, no wheels or basketball on the tennis courts)	none present
1	How many points of entry does the park have?	more than 5/park boundary is open	2	2 to 5	more than 5/park boundary is open	2 to 5
1	Is there a public transit stop within sight of the park?	yes	no	yes	no	no
1 if present, 0.5 for each additional type	What types of parking are available for the park?	parking lot, on street parking	none	none	parking lot	none
1	Are there sidewalks on any roads bordering the park? Useable? Are there curb cuts or ramps?	yes, all/most are useable, yes to curb cuts/ramps	yes, all/most are useable, yes to curb cuts/ramps	yes, all/most are useable, yes to curb cuts/ramps	yes, all/most are useable, yes ot curb cuts/ramps	no
1	Is there an external trail or path connected to the park? Useable?	yes, useable	yes, useable	yes, useable	yes, useable	yes, useable
1 if present, 0.5 for each additional type	Are there bike routes on any roads bordering the park?	none	none	none	none	none
1	Are there nearby traffic signals on any roads bordering the park? (crosswalk, stop sign/light)	yes	yes	yes	yes	yes
0.5 res / 0.5 com / 0.5 inst 0.5 nat / -0.5 industrial	What are the main land uses around the park?	commercial, institutional, natural	residential, commercial, institutional	residential, commercial, natural	residential, institutional	residential, commercial (gas station), natural
-0.5 per concern (max deduction of -0.5 points)	What safety or appearance concerns are present in the neighborhood surrounding the park?	(3/10) excessive litter, heavy traffic (and noise from traffic)	(3/10) graffiti, heavy traffic, lack of eyes on the street	(4/10) excessive litter, heavy traffic, excessive noise (traffic), smells like weed on the Euclid Bridge crossing	(3/10) heavy traffic, excessive noise, lack of eyes on the street in some portions	(2/10) heavy traffic, excessive noise (traffic)
16 maximum possible		6.5 of 16	5 of 16	5.5 of 16	7.5 of 16	4.5 of 16

KEY	+1 point for present	+0.5 points per additional criteria met	half credit for partial completion	no point value assigned / absent	-1 point if present	-0.5 points per additional negative criteria met

	ACCESS AND SURROUNDING NEIGHBORHOOD	6 – EC CHILD DEVELOPMENT CENTER	7 – BCG PARK	8* – PARACLETE APARTMENTS	9 – BCC AND AMPHITHEATRE	10 – BR WATKINS CULTURAL CENTER AND LAND BANK
1	Can the park be accessed for use?	yes	yes	no - difficult	yes	yes
4 (1 if present, 0.5 for each additional type)	Are there signs? If so, do they state the park name, hours, contact information, facility rental information, park rules, park map, or event/program information?	none present	yes, (1/8) educational (internally)	Paraclete Manor Entrance signage and advertising	yes, (1/8) park rules (no smoking, no feeding the wildlife, no swimming, no boating, swimming or skating in the fountain or creek)	none present
1	How many points of entry does the park have?	2 to 5	2 to 5 (open border but no sidewalk along Emanuel Cleaver)	1 connected to trail, 1 on busy street without crosswalk	more than 5/park boundary is open	2 to 5
1	Is there a public transit stop within sight of the park?	yes	no	yes	yes	yes
1 if present, 0.5 for each additional type	What types of parking are available for the park?	parking lot, street parking	none	parking lot	parking lot	parking lot
1	Are there sidewalks on any roads bordering the park? Useable? Are there curb cuts or ramps?	yes, all/most are useable, yes to curb cuts/ramps	not on the park side, some sidewalk on the north/neighborhood segments	yes on prospect and across swope, none along the park edge on Swope	yes on the amphitheatre portion (9), no the BCC side	yes, all/most are useable, yes to curb cuts/ramps
1	Is there an external trail or path connected to the park? Useable?	yes, useable	yes, useable	yes, but it ends east of Prospect	yes, useable	only the sidewalk on the street
1 if present, 0.5 for each additional type	Are there bike routes on any roads bordering the park?	none	none	none	none	none
1	Are there nearby traffic signals on any roads bordering the park? (crosswalk, stop sign/light)	yes	yes	yes	yes	yes
0.5 res / 0.5 com / 0.5 inst 0.5 nat / -0.5 industrial	What are the main land uses around the park?	residential, commercial, institutional	residential, natural	residential, commercial	residential, commercial, institutional, natural	industrial, commercial, institutional
-0.5 per concern (max deduction of -0.5 points)	What safety or appearance concerns are present in the neighborhood surrounding the park?	(4/10) heavy traffic, excessive noise (traffic), lack of eyes on the street (trail backs up to back of buildings, blocking street), lack of lighting	(3/10) heavy traffic, excessive noise (traffic), lack of eyes on the street/park	(3/10) heavy traffic, poor lighting, lack of crosswalks or sidewalks,	(2/10) heavy traffic, lack of eyes on the street	(3/10) heavy traffic, lack of eyes on the street, tendency to flood
16 possible points		7 of 16	4 of 16	4.5 of 16	8.5 of 16	5.5 of 16

101

KEY	+1 point for present	+0.5 points per additional criteria met	half credit for partial completion	no point value assigned / absent	-1 point if present	-0.5 points per additional negative criteria met
	PARK ACTIVITY AREAS	**1 – NORTH TROOST/GATES BBQ**	**2 – SOUTH TROOST WATERFRONT**	**3 – NORTH MLK PARK**	**4 – MLK PARK**	**5 – NORTH OF EC CHILD DEVELOPMENT CENTER**
1	Playground	none	none	none	under construction	none
1	Sport Field (football/soccer)	none	none	none	none	none
1	Baseball Field	none	none	none	none	none
1	Swimming Pool	none	none	none	none	none
1	Splash Pad	none	none	none	none	none
1	Basketball Court	none	none	none	none	none
1	Tennis Court	none	none	none	yes, useable, good condition	none
1	Volleyball Court	none	none	none	none	none
1	Trail	yes, paved surface, debris near creak, <1 mile, not fully connected to activity areas	yes, paved surface, debris near creak, <1 mile	yes, paved surface, debris near creak, <1 mile	yes, paved surface, decent condition -- lots of geese poop, some sections not connected to activity areas	yes, paved surface, some debris near creak, <1 mile
1	Fitness Equipment/Stations	none	none	none	none	none
1	Skate Park	none	none	none	none	none
1	Off-Leash Dog Park	none	none	none	none	none
1	Open Green Space	~3 acres	buffer, not useable	buffer, not useable	~10 acres	~5 acres
1	Lake	none	none	none	none	none
1	Disc Golf	none	none	none	none	none
1	Other	none	none	none	none	none
15 maximum possible		2 of 15	1 of 15	1 of 15	4 of 15	2 of 15

KEY	+1 point for present	+0.5 points per additional criteria met	half credit for partial completion	no point value assigned / absent	-1 point if present	-0.5 points per additional negative criteria met
	Park Activity Areas	**6 – EC Child Development Center**	**7 – BCG Park**	**8* – Paraclete Apartments**	**9 – BCC and Amphitheatre**	**10 – BR Watkins Cultural Center and Land Bank**
1 Playground		none	none	none	none	none
1 Sport Field (football/soccer)		none	none	none	none	none
1 Baseball Field		none	none	none	none	none
1 Swimming Pool		none	none	none	yes, attached to BCC	none
1 Splash Pad		none	none	none	none	none
1 Basketball Court		none	none	none	none	none
1 Tennis Court		none	none	none	none	none
1 Volleyball Court		none	none	none	none	none
1 Trail		yes, paved surface, <1 mile	yes, paved surface, debris/waste near creek, educational signage along internal path, ~1 mile	trail ends here	yes, paved surface, debris near creak, <1 mile, benches along trail!	yes, paved surface, debris near creak, <1 mile, not connected to activity areas
1 Fitness Equipment/Stations		none	none	none	none	none
1 Skate Park		none	none	none	none	none
1 Off-Leash Dog Park		none	none	none	none	none
1 Open Green Space		<1 acre	~25 acres	~1 acre	~3 acres	buffer, not useable
1 Lake		none	none	none	none	none
1 Disc Golf		none	none	none	none	none
1 Other		none	none	none	none	none
15 possible points		**2 of 15**	**2 of 15**	**1 of 15**	**3 of 15**	**1 of 15**

	Park Quality and Safety	1 – North Troost/Gates BBQ	2 – South Troost Waterfront	3 – North MLK Park	4 – MLK Park	5 – North of EC Child Development Center
1	Are there public restrooms?	no	no	no	yes, but locked	no
1	Drinking fountains?	no	no	no	no	no
1	Benches?	no	no	yes, next to bus stops, useable	yes	no
1	Picnic Tables?	no	no	no	yes	no
1	Trash Cans?	no	no	yes, by Paseo	yes	no
1	Food/Vending machines?	directly adjacent to Gates BBQ, across street from fast food	no	no, fast food across the street	no	no
1	If the sun was directly overhead, how much of the park would be shaded?	<25%	<25%	<25%	<25%	<25%
1	Are there rules posted about animals in the park?	no	no	no	no	no
1	Is there a place to get dog waste pick up bags in the park?	no	no	no	no	no
1	Are there lights in the park? How much fo the park could be lit? Are activity areas lit?	yes, 25-75% coverage, all activity areas lit	yes, 25-75% coverage, all activity areas lit	yes, 25-75% coverage, all activity areas lit	yes, <25%, all/most activity areas	yes, <25%, all/most activity areas lit
1	Is the park monitored?	unsure	unsure	unsure	unsure	unsure
1	Are there any emergency devices in the park?	no	no	no	no	no
1	How visible is the center of the park to the surrounding neighborhood?	partially	not at all	partially	partially	partially
1	Are there any roads through the park?	no	no	no	no	no
1.5 +	What buildings or structures are present in the park?	none present	none present	entry pergola at the Paseo intersection	bathrooms	none present
-0.5 points per feature (for max deduction of 4 points)	What park quality or safety concerns are present in the park?	(3/8) graffiti, excessive litter, excessive animal waste (geese),	(4/8) graffiti, excessive litter, poor maintenance, dangerous spots (under bridge - dark, low visibility)	(4/8) graffiti, excessive litter, excessive animal waste (geese), smells like weed by Euclid bridge	(1/8) excessive animal waste (geese)	(1/8) some litter/waste along creek trail nearest bridge
0.5 points per feature (max of 3.5 points)	What aesthethic (ie beautiful/pleasing) features are present in the park?	(4/7) evidence of landscaping, artistic feature (wall detail), scattered trees, water feature (creek sounds)	(2/7) trees, water feature (creek)	(4/7) evidence of landscaping, artistic feature, wooded area, scattered trees, water feature (creek sounds,)	(3/7) wooded area, trees throughout park, water feature (creek)	(3/7) artistic feature (nice stonework by creek), trees scattered, water feature (creek)
19.5 maximum possible		2.5 of 19.5	0 of 19.5	4 of 19.5	7 of 19.5	2.5 of 19.5

	Park Quality and Safety	6 – EC Child Development Center	7 – BCG Park	8* – Paraclete Apartments	9 – BCC and Amphitheatre	10 – BR Watkins Cultural Center and Land Bank
1	Are there public restrooms?	no	no	no	no (but inside BCC, probably)	no
1	Drinking fountains?	no	no	no	no (but inside BCC, probably)	no
1	Benches?	seat walls	yes	yes, at bus stops	yes! Along trail, fountain	yes, along trail
1	Picnic Tables?	no	yes, 1 in a very inconvenient location	no	no	no
1	Trash Cans?	no	yes	yes, near bus stop/prospect	no	no
1	Food/Vending machines?	no	no	no	no	Sonic on adjacent property
1	If the sun was directly overhead, how much of the park would be shaded?	<25%	<25%	>75%	<25%	<25%
1	Are there rules posted about animals in the park?	no	no	no	yes, don't feed the wildlife	no
1	Is there a place to get dog waste pick up bags in the park?	no	no	no	no	no
1	Are there lights in the park? How much fo the park could be lit? Are activity areas lit?	no, <25%	yes, <25%, all/most activity areas lit	no, <25% only along road	yes, <25%, all activity areas lit	yes, <25%, all/most activity areas lit
1	Is the park monitored?	unsure	unsure	unsure	unsure	unsure
1	Are there any emergency devices in the park?	no	no	no	no	no
1	How visible is the center of the park to the surrounding neighborhood?	partially to not at all (only through back windows of residences/businesses)	not at all	not at all	partially to not at all	not at all
1	Are there any roads through the park?	no	no	yes, driveway to Paraclete Manor	yes, Cleveland Avenue	yes, Cleveland Avenue overpass
1.5+	What buildings or structures are present in the park?	child development center, job corps, residences	none present	Paraclete Manor elderly housing	Brush Creek Community Center	Bruce R. Watkins Cultural Center, Land Bank of Kansas City, USPS, Sonic
-0.5 points per feature (for max deduction of 4 points)	What park quality or safety concerns are present in the park?	(3/8) excessive noise (traffic), poor sightlines, no lighting	(2/8) poor maintenance near creek/bridge, poor sightlines	(4/8) trail dead ends, densely wooded, poor visibilty from the street, lack of sidewalks/crosswalks to reach bus stops	(4/8) poor maintenance near creek/bridge, poor sightlines to street, excessive animal waste by creek, excessive noise (traffic)	(4/8) poor maintenance near creek - debris and waste on path, lack of sightlines, shopping cart and someone's belongings under the Benton Avenue Bridge, trail dead ends
0.5 points per feature (max of 3.5 points)	What aesthethic (ie beautiful/pleasing) features are present in the park?	(3/7) trees, artistic stonework by creek, water feature (creek)	(4/7) educational signage feature (nature display), wooded area, scattered trees (especially the old sycamore), water feature (creek)	(2/7) water feature (creek), wooded area	(4/7) artistic features (spirit of freedom fountain, stonework/landscaping along creek, beautiful bridge under Benton Avenue), water feature (creek)	(2/7) artistic stone fountain water feature, creek
19.5 maximum points		1.5 of 19.5	4.5 of 19.5	1.5 of 19.5	4 of 19.5	3.5 of 19.5

	1 – North Troost/Gates BBQ	2 – South Troost Waterfront	3 – North MLK Park	4 – MLK Park	5 – North of EC Child Development Center
50.5 maxium possible	11	6	10.5	18.5	9

	1 – North Troost/Gates BBQ	2 – South Troost Waterfront	3 – North MLK Park	4 – MLK Park	5 – North of EC Child Development Center
Other comments on park quality, safety, and use	2 pedestrians and 1 cyclist observed	1 pedestrian (runner)		1 pedestrian, 1 roller skater on tennis courts, 1 under the Paseo bridge	1 bicyclist with a dog

	6 – EC Child Development Center	7 – BCG Park	8* – Paraclete Apartments	9 – BCC and Amphitheatre	10 – BR Watkins Cultural Center and Land Bank
50.5 possible	10.5	10.5	7	14.5	10

	6 – EC Child Development Center	7 – BCG Park	8* – Paraclete Apartments	9 – BCC and Amphitheatre	10 – BR Watkins Cultural Center and Land Bank
Other comments on park quality, safety, and use		cyclist and runner	audited using google earth streetview and imagery, segement was not accessible during site visit	family fishing under cleveland avenue bridge, runner and cyclist	

Appendix D | IRB Approval

KANSAS STATE
U N I V E R S I T Y | University Research
Compliance Office

TO: Dr. Jessica Canfield   Proposal Number: 10351
        Landscape Architecture/Regional and Community Planning
        Seaton Hall

FROM: Rick Scheidt, Chair
        Committee on Research Involving Human Subjects

DATE: 12/22/2020

RE: Proposal Entitled, "Activate Brush Creek"

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written – and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §104(d), category: 2, subsection: ii.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.