Naturalizing Concrete Jungles:

Increasing Access to Mercer County Parks

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I. INTRODUCTION

The benefits of interacting with nature have been well documented by previous research, such as better health outcomes and community interaction, among many other advantages. More importantly, various studies have highlighted a disparity between affluent, suburban neighborhoods and predominantly minority, low-resource urban areas in terms of physical access to natural spaces. While there may not be a drastic discrepancy between the number of parks and green spaces in disadvantaged urban communities and more affluent areas, "the physical availability of parks does not guarantee park utilization."[1] Factors such as crime, outdated amenities, and overall safety have contributed to trends of infrequent use of urban parks by residents of black and Latino neighborhoods.[2] Mercer County, located in central New Jersey, is home to 28,454 acres of preserved open space for the utilization of its over 370,000 residents.[3] The county's 12 municipalities are home to a diverse range of its residents in terms of race, socioeconomic status, and educational attainment. Although Trenton is one of the county's most populated cities and New Jersey's capital, its high crime rate, unemployment rate, and financial instability experienced by its residents are cited to be one of the reasons for the lack of park use in the city.[4] Increasing the use of green spaces and parks in inner-city communities like Trenton requires a holistic approach — examining how residents form relationships with natural spaces and how to support long-term park use. Investigating the park features and type of experiences

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[1] Nie, Wenming & Zhang, Xingyou & Harris, Carmen & Holt, James & Croft, Janet, "Spatial Disparities in the Distribution of Parks and Green Spaces in the USA", *Annals of Behavioral Medicine*, S23
[2] Ibid.
[3] "Mercer County, NJ," *Census/Quick Facts | Mercer County, NJ.*
[4] Alex Rivera, interview by Brayan Mata & Maddie Winter, April 17, 2020.

that users prefer, alongside the qualities of rejected sites, yields applicable recommendations that can help Trentonians establish organic relationships with their community's green spaces.

The positive impacts of the outdoors on the physical and mental wellbeing of people are undisputed, making nature an integral part of a healthy lifestyle. Parks and green spaces are free alternatives for people to engage in exercise, which can decrease the likelihood of certain chronic diseases. For example, exposure to green spaces showed a significant reduction in the incidence of diabetes, diastolic blood pressure, salivary cortisol, heart rate, and all-cause and cardiovascular mortality.[5] Moreover, spending time outside can also improve mental health due to it being a refuge from the sedentary and technologically dependent lifestyles, as well as general life stresses, common to the 21st century. One study titled "The Public Value of Urban Parks" explains how park-like public spaces encourage residents to leave the isolation of their homes, facilitating socialization among the community, which also can be imperative for mental health and a healthy lifestyle.[6] Open spaces serve an important role in promoting overall wellness, both as areas to partake in physical activity as well as social interactions. These mental and physical effects have been associated with feeling "renewed' after using the park, with greater frequency of use linked to better health."[7] At this micro-level, the advantages parks provide help to reduce stress and improve an individual's health status. Urban green space promotes physical activity, psychological well-being and general public health — which are critical to individual and community well being.[8]

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[5] Twohig-Bennett, Caiomhe & Jones, Andy, "The Health Benefits of the Great Outdoors: A Systematic Review and Meta-Analysis of Greenspace Exposure and Health Outcomes" *Environmental Research,* October 2018, 636.

[6] Walker, Christopher, "The Public Value of Urban Parks," *Urban Institute*, 1 Feb. 2017, 3.

[7] Ibid.

[8] Wolch et al, "Urban Green Space, Public Health, and Environmental Justice: The Challenge of Making Cities 'Just Green Enough,'" *Landscape and Urban Planning* 125, 2014, 244.

From a macro-perspective, green spaces and parks improve the safety and conditions of the communities they are located in. Arguably, one of the most important side effects of having multiple parks in an area is the subsequent decrease in crime. One study, "The Impact of Green Space on Violent Crime in Urban Environments," found that vegetated walkways and streets were able to deter urban crime in multiple ways. For instance, "readily visible outdoor recreational spaces provide the opportunity for youth activities and potentially deter gang violence."[9] Having safe and accessible recreational spaces for city youth helps deter them from organized crime involvement. Parks can help serve as alternatives for after school activities and programs that are not accessible to every child, especially in disadvantaged sectors of communities like Trenton, as parks are available to everyone in the community. Furthermore, open natural spaces that contain flora can positively contribute to the area's climate and greater environmental ecosystem. The improved climate also can have social impacts. Researchers have provided evidence that suggests aggression is more likely to occur in higher ambient temperatures.[10] Trees and other green structures reduce the heat island effect, which may reduce the likelihood of crime that may be incited by higher, humid temperatures. Besides helping to alleviate endemic crime, natural spaces can enhance the way residents interact with their community. Keunhuyn Park's study explores human behavior and the preferred methods of transportation when parks are located next to train stations. According to his findings, the odds of walking instead of driving to train stations increased by 3.55 times with a park next to the station.[11] Having natural spaces in the vicinity of transportation hubs encourages walking, which

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[9] Shepley, Mardelle et al., "The Impact of Green Space on Violent Crime in Urban Environments: An Evidence Synthesis," *Int. J. Environ. Res. Public Health*, 2019, 16, no. 24, 10.
[10] Ibid, 11.
[11] Park, Keunhyun et al., "Not Parking Lots but Parks: A Joint Association of Parks and Transit Stations with Travel Behavior," *International Journal of Environmental Research and Public Health*, Vol. 16, 547, 14 Feb. 2019, 6.

is both beneficial for the environment and one's health. The study claims that "a transit station having a park nearby may provide riders with a more pleasant walking environment that anyone in the community can enjoy."[12] The positive conditions that parks and other green spaces generate help foster a stronger and safer sense of community.

II. DEFINING "NATURAL SPACES"

Since nature can have varying interpretations and meaning for each individual, there is not one concrete or universal definition of a "natural space." In fact, one study, titled "Defining Greenspace: Multiple Uses across Multiple Disciplines," investigates these multiple interpretations of what a green space is through reviewing previous literature that fails to define this term. The article comes to the conclusion that the definition of a green space can almost always fall under two major categories. The first interpretation refers "to an overarching concept of nature," which describes bodies of water, areas of vegetation, parks, gardens, and other geological formations.[13] The second regards urban vegetation, including parks, usually relating to a vegetated variant of open space.[14] Both these interpretations interpret a natural space by the characteristic of its inherent "naturalness" — the presence of plants, trees, vegetation, lack of industrial and artificial materials, etc.. Trees, grass, and other forms of vegetations are characteristics of a natural, green space that community residents deem to be most important when considering what constitutes a natural space. The variations in the conceptions of what

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[12] Ibid, 7.
[13] Taylor, Lucy, and Dieter F. Hochuli, "Defining Greenspace: Multiple Uses Across Multiple Disciplines," *Landscape and Urban Planning*, vol. 158, 2017, 29.
[14] Ibid.

defines a natural space manifest themselves in the preferences of park goers, who cite vegetation

to be the most important feature of high-quality park sites.[15] In addition to park greenery, "water

resources, especially lakes and ponds, are the next most frequently mentioned preferred features,

with fields and open space forming a third category of natural features."[16] As the study by

Herbert Schroeder found, natural features were almost always preferred by both urban and

suburban residents as opposed to man-made ones. However, the most frequently mentioned

man-made feature contributing to high site quality in this study was paths.[17] The positive

response to trails reveals the importance of ensuring the ability to move through open, natural

spaces in a safe and comfortable way. In a similar vein, natural spaces are closely associated with

flora, making parks and community spaces with an abundance of trees and grass more likely to

be used for passive recreational use.

At the same, accessibility is another salient factor when defining "natural spaces," as

these areas are meant to be enjoyed by everyone in the community. John Box's and Carolyn

Harrison's article, "Natural Spaces in Urban Places" define green spaces to be "land, water, and

geological features which have been naturally colonized by plants and animals and which are

accessible on foot to a large number of residents."[18] Aside from containing natural features, these

spaces are thought to be close enough to enjoy without traveling very far. From their research,

Box and Harrison conclude that, "an urban resident should be able to enter a natural green space

of at least 2 hectares within 0.5 kilometers of their home."[19] Ease of accessing these natural

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[15] Schroeder, Herbert W., "Preferred Features of Urban Parks and Forests," *Journal of Arboriculture,* 1982, 8(12), 318
[16] Ibid.
[17] Ibid.
[18] Box, John & Harrison, Carolyn, "Natural Spaces in Urban Places. Town & Country Planning," 1993, 62, 232.
[19] Ibid, 234.

spaces is just as important as their quality, due to the circumstances residents encounter in living in an urban area. Public transportation to and from natural spaces must be available for those without cars, and there must be sufficient walkability to encourage park use. Because of the tight budget and space constraints urban city planners work with, the article goes on to suggest possible areas that can be transformed into natural spaces. "Linear sites, such as canals and abandoned railway lines, make good LNRs [Local Nature Reserves] as they form links between wildlife habits isolated by urban development as well as being places where people like to walk." [20] Transforming these urban structures into walkable, green spaces is not only sustainable for cities with fixed resources, but helps make natural spaces like these accessible for many residents. Thinking about "natural spaces" in urban centers calls for a close look at the city's surroundings, and ways to incorporate nature to man-made structures. Ensuring sufficient amounts of foliage, plants, and access to parks will help create identifiable natural spaces in these communities.

While defining "natural spaces" may be subjective, the role that they serve for communities remains relatively consistent. The tendency of people to mention "nature" and "peace and quiet" as desirable attributes suggests that urban parks and forests are seen as opportunities to temporarily withdraw from built-up urban environments and enjoy contact with more natural surroundings.[21] Natural spaces are known for their positive health effects, and should be universally accessible, as every body should have the right to preserve their health. Every urban resident should have the ability to go to an open space in their community where they can find "a sense of peace, a place for quiet reflection, a time to see [their] own concerns in

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[20] Ibid, 233.
[21] Schroeder, Herbert W., "Preferred Features of Urban Parks and Forests," *Journal of Arboriculture,* 1982, 8(12), 320.

better perspective."[22] Creating spaces like those previously described requires an appropriate level of vegetation, prompting urban management efforts to provide the right amount of trees and grass to promote park and space usage. It is important to use man-made objects sparingly and if present, they should be unobtrusive, so they blend into the natural surroundings.[23] Keeping up adequate maintenance of these facilities and spaces is crucial, as litter, garbage, and graffiti can discourage use. Research suggests that this sort of visual chaos (abandoned cars, graffiti, and litter) might create a foundation for more serious crimes — known as the "broken windows" theory.[24] Focusing on what is considered a "natural space" points to strong associations to vegetation, which must be relatively close to residents of urban areas in order for them to enjoy and take a break from their metropolitan lifestyles.

III. WHAT ATTRACTS AND DETERS PEOPLE TO NATURAL SPACES?

As stated, engagement with natural spaces can have significant social, psychological and health benefits. However, it is important to recognize that these benefits are not universally experienced by community members, especially as underprivileged groups (e.g., racial/ethnic minorities, low income individuals, etc) may have limited access to these spaces or face other sociocultural/economic barriers in natural space engagement. In a 2011 examination of disproportionate access to New York City parks in various neighborhoods (many of which were low-income and majority African American), Weiss et al. expanded on the meaning of "access"

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[22] Spencer, Janine. "Natural Open Space – Not Just Another Pretty Place." *Discover Marana*, 16 June 2016, www.discovermarana.org/blog/natural-open-space-not-just-another-pretty-place/.

[23] Schroeder, Herbert W., "Preferred Features of Urban Parks and Forests," *Journal of Arboriculture,* 1982, 8(12), 321.

[24] Shepley, Mardelle et al., "The Impact of Green Space on Violent Crime in Urban Environments: An Evidence Synthesis," *Int. J. Environ. Res. Public Health*, 2019, 16, no. 24, 11.

surrounding urban parks and natural spaces. Weiss et al. distinguished the concept of "spatial access" from that of "social access."[25] Weiss et al. demonstrated that many low-resource areas actually do have access to local parks, challenging the potential popular misconception that disproportionate diagnoses of obesity and hypertension, infrastructural urban blight and overall social instability were endemic in urban, minority communities partially due to the total absence of local parks/natural spaces. Yet, in this instance, while there is "spatial access," many of the communities studied lacked significant "social access," as concerns regarding crime and safety and economic-related time constraints discouraged park visits, ultimately counteracting any "spatial access."

While it is important to acknowledge the issue of "social access" in urban communities, there are also many other factors that can attract people to these parks. Robert Ryan, a Landscape Architecture/Regional Planning professor at the University of Massachusetts Amherst, published a study on people's differential attachment to urban natural areas, which revealed the multiple influences on natural space connections. According to Ryan, "attachment to urban parks and natural areas is a complex construct that is affected by physical characteristics of the landscape itself, the experiences that people have within these natural areas and their knowledge of natural areas in general."[26] In general, the study participants valued spaces that had a more "natural appearance," meaning they were mostly void of features like power lines and chain-link fences, which were perceived to be "incompatible" with natural area settings.[27]

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[25] Weiss et al, "Reconsidering Access: Park Facilities and Neighborhood Disamenities in New York City" *Journal of Urban Health* 88 (2011).

[26] Ryan, Robert L, "Exploring the Effects of Environmental Experience on Attachment to Urban Natural Areas," *Environment and Behavior* 37, no. 1 (2005): 37.

[27] Ibid, 38.

IIIA. AMENITIES

Considering the different features of urban spaces that people may perceive as "natural," many researchers have aimed to identify the preferences and features of natural spaces that promote connections to them. For instance, an evaluation of managed natural spaces' potential to connect people with nature published in *Urban Ecosystems* claimed that the "aesthetic appearance of urban natural space" was much more attractive (in terms of likelihood of engagement) than "high levels of biodiversity," prioritizing a park's perceived "cleanliness" over the "naturalness" of its appearance.[28] Additionally, the study found that in urban areas, some of the most important space features that helped maintain usage included "spaces which are well maintained and contain amenities such as paths, seating, toilets and play equipment."[29] Another important trend discussed in the study was that especially in urban communities, individuals were more likely to visit "relatively open landscapes without dense vegetation, as they feel safer in areas with high visibility," which helps mitigate barriers related to "social access" for many groups. But one of the most significant takeaways from the study was the claim that "providing opportunities for active engagement with natural spaces is more important to local users than passive methods such as providing information,"[30] suggesting "active engagement" is key to fostering connections to natural spaces.

In terms of active engagement, the presence of "recreational facilities" has been cited in an abundance of the relevant literature to be an important factor in engaging community groups. This preference was noted especially in urban communities, as the *Urban Ecosystems* published

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[28] De Bell, Sian, Hilary Graham & Piran C. L. White, "The Role of Managed Natural Spaces in Connecting People with Urban Nature: A Comparison of Local User, Researcher, and Provider Views," *Urban Ecosystems* 21 (2018).
[29] Ibid.
[30] Ibid.

study argued that "unlike rural nature, people expect urban environments to have amenities."[31] A study in the *Journal of Leisure Research* on gender and racial differences in park preferences reported that African Americans and Hispanic subjects rated the "presence of recreational facilities" in a natural space to be of the highest importance when considering interacting with the space.[32] Similar research has supported the idea that a partiality towards "active engagement" is one of the greatest motivating reasons for park use in minority, low-income communities. Dolash et al., in a 2015 qualitative study identified the "motivation to be physically active, using the play spaces in the park, parks as the main place for physical activity, and social support for using parks" as the most prominent themes in their qualitative interviews on park use in African American and Hispanic neighborhoods.[33] While these "recreational facilities" clearly are important for bolstering engagement with natural spaces, they do not necessarily have to be more "traditional" venues for physical activity such as basketball courts, sports fields, or playgrounds. Increasing and diversifying trail availability, as well as expanding green space for larger groups to interact, can also serve as means for increasing "recreational" spaces. Smaller scale play equipment, a variety of seating options and even "average" features such as water fountains and usable restrooms can have positive impacts in attracting individuals to the park.

IIIB. CONNECTION TO NATURE

Although amenities and recreation may facilitate increased engagement between natural spaces and the community, research has also suggested that environmental education and

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[31] Ibid.

[32] Ho, Ching-Hua et al, "Gender and Ethnic Variations in Urban Park Preferences, Visitation and Perceived Benefits," *Journal of Leisure Research* 37, no. 3 (2005).

[33] Dolash, Karry et al, "Factors That Influence Park Use and Physical Activity in Predominantly Hispanic and Low-Income Neighborhoods," *Journal of Physical Activity and Health* 12 no.4 (2015): 462-469.

engagement experiences have had a positive impact on forming personal connections to these

spaces. More attention has been attributed to the fact that people can "experience natural areas in

many ways"[34] beyond traditional active recreational use. For instance, a survey study on urban

nature parks in 2013 found that "watching urban wildlife influenced nonuser attitudes," nurturing

a greater appreciation for biodiversity and natural ecosystems. The authors also suggest

implementing "targeted outreach" to these nonusers to both introduce new users and support

observation of wildlife. While park officials and nature guides in the park can be quite engaging

in creating these environmental experiences for the public, it is not realistic to assume

knowledgeable staff will consistently be on site. Thus, signs and other materials dispersed

throughout the park could be useful in identifying the local wildlife and other interesting features

of the area's ecosystem. Similarly, in Professor Robert Ryan's research, he suggests that

increased knowledge about the benefits of native plants and ecosystems often translates into a

much "stronger appreciation for native plants,"[35] demonstrating that environmental education can

help deepen the public's connection to natural spaces beyond one solely focused on the aesthetic

pleasure of ornamental plants to one that also encompasses the complexity of biodiversity and

regional ecosystems (which particularly may add an element of "uniqueness" for each space by

viewing it through the lens of an individual ecosystem). Essentially, greater environmental and

botanical knowledge often translates into a preference or heightened attraction to native

landscaping in urban spaces.[36] Although research has identified this relationship between

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[34] Ryan, Robert L, "Exploring the Effects of Environmental Experience on Attachment to Urban Natural Areas," *Environment and Behavior* 37, no. 1 (2005): 8.

[35] Ryan, Robert, "The Role of Place Attachment in Sustaining Urban Parks," in *The Humane Metropolis: People and Nature in the 21st-Century City,* ed. Rutherford Platt, 65. Amherst, MA: University of Massachusetts Press, 2006.

[36] Ibid.

environmental knowledge and preference for native species, manicured and well-kept parks were still important factors to those surveyed as they represent "signs of human care" or "intentional management"— meaning park management authorities and other community members valued the conditions of the natural space, which may facilitate user-space connections and encourage the user themselves to value the space.

Additionally, volunteer environmental stewardship activities have been particularly productive in stimulating new relationships between the public and urban natural spaces. Research on environmental engagement has suggested that "continued participation in...environmental stewardship programs, promotes a sense of attachment and increased appreciation for urban natural areas."[37] This engagement may take the form of flower planting and urban gardening or even general park maintenance. As evidenced by the Mercer County Park Commission's flower planting initiative (with community members and supported by local non profit groups like LALDEF), this form of "active" interaction can be quite successful in involving the community in natural spaces.[38] This exemplifies the importance of "active" engagement for fostering and sustaining user-natural space connections, while also demonstrating that "active" engagement does not necessarily have to resemble traditional energy intensive activities like sports or playgrounds. Environmental stewardship programs and educational experiences are able to "hit two birds with one stone" in terms of expanding the community's relationship with natural spaces. These activities not only provide an opportunity for environmental education about indigenous plants and wildlife and even the general benefits of conservation and nature immersion, but also have a "hands-on" element. These programs

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[37] Ibid, 70.
[38] Alex Rivera, interview by Brayan Mata & Maddie Winter, April 17, 2020.

enable individuals to feel as though they are contributing to the preservation of nature and in a broader sense, to the community, as the direct interaction with the space may help provoke feelings of attachment and belonging to the space, instilling a deeper appreciation. Also, activities that consist of completing a physical, but simple task can be quite engaging and stimulating, creating an enjoyable experience (another positive user-space association) for the participant.

The frequency of users' interactions with natural spaces was another prominent variable cited in the research as strengthening relationships to natural areas. A study surveying park users in Ann Arbor, Michigan found that "frequent park users showed significantly higher general attachment to their respective natural areas than did those who only used the parks with moderate frequency."[39] In fact, familiarity with the site and active use were considered to be the "top predictors of attachment feelings" among the subjects of the study. Although repeated use is defined in the study as the primary variable in sustaining more robust community engagement with these spaces, amenities and environmental education are still particularly impactful in creating awareness and personal affinities to certain natural spaces, which ultimately lead to increased usage. The study also supports this association, as it argues the positive relationship between visitation and connection to the space "suggests that attachment is built through experience."[40] However, frequent usage does not always generate the same *type* of attachment. The Ann Arbor study found that neighbors and recreational users (more reflective of the general public that does not know much about the benefits/biology of natural spaces) consistently visited the parks due to a *place-specific* attachment, which was influenced by their previous experiences.

[39] Ryan, Robert L. "Exploring the Effects of Environmental Experience on Attachment to Urban Natural Areas." *Environment and Behavior* 37, no. 1 (2005): 26
[40] Ibid, 38.

Conversely, volunteers, park staff and those with a "high degree of natural-areas knowledge" were found to have a *conceptual* attachment, connecting with these spaces due to an appreciation of their vast and inherent environmental features.[41]

IIIC. SOCIALIZATION POTENTIAL

In analyzing the varied usage of parks, researchers have identified socialization and group activities to be another major motivator in visiting parks. The study on racial and gender differences in urban park preferences in the *Journal of Leisure Research* claimed that "for all ethnicities, visiting parks was largely a social rather than a solitary activity."[42] A similar study on racial disparities in park usage, published in the *Journal of Urban Health* in 2018, did draw some racial distinctions, noting that in a sample of 193 neighborhood parks in 21 US cities, Hispanics had significantly higher odds of visiting the park in family members or in large groups.[43] While this by no means infers that other racial identities do not visit in groups or that Hispanics never engage with natural spaces alone, it draws attention to the role communal gatherings (especially in minority communities) may play in attachment to these spaces. In addition to the benefits of socialization and fostering community or personal relationships, some research has claimed that visiting urban parks in larger groups may be motivated by a desire to increase a sense of personal safety from surrounding issues like crime, helping people to overcome the barriers posed by a lack of social access.[44] Additionally, engagement with local green spaces has been found to

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[41] Ibid.

[42] Ho, Ching-Hua et al. "Gender and Ethnic Variations in Urban Park Preferences, Visitation and Perceived Benefits." *Journal of Leisure Research* 37, no. 3 (2005).

[43] Vaugh, et al, "How Do Racial/Ethnic Groups Differ in Their Use of Neighborhood Parks? Findings from the National Study of Neighborhood Parks," *Journal of Urban Health*, 95 no.5 (2018).

[44] Ho, Ching-Hua et al. "Gender and Ethnic Variations in Urban Park Preferences, Visitation and Perceived Benefits." *Journal of Leisure Research* 37, no. 3 (2005).

increase when there is a greater sentiment of "social cohesion" felt by the user. While the sentiment may vary depending on the visitor, "social cohesion" generally infers that one is welcome or belongs to the space and may feel part of the community with its fellow users. In Seaman et al.'s study examining how community integration affects park use, they conclude that "where a feeling of social inclusion was absent, the self-removal of individuals from community greenspace resources could be observed."[45] Ultimately, this indicates that in order to sustain long term engagement with natural spaces, these natural spaces must be conducive and welcoming to larger groups. For instance, extended family groups may require larger picnic areas and seating, as well as more shelters. Tailoring programming and providing amenities to ensure that there is comfortable space for larger groups to attend is key for supporting community relationships to natural spaces.

In discussing the needs of various groups, it is also important to acknowledge that the individuals consisting of one particular demographic (e.g., family size, age, race, etc.) should not be immediately labeled as having a predetermined set of needs and preferences. People's connections to natural spaces may relate to more generalizable experiences mentioned above, but ultimately are "subjective and dependent on the individual,"[46] as they "view natural areas through the lens of their own different experiences, which, in turn, creates attachments to different qualities of these places."[47] In order to foster relationships to natural spaces, it is important that park managers and program coordinators strive to provide natural spaces that are

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[45] Seaman, et al, "It's Not Just About The Park, It's About Integration Too: Why People Choose to Use or Not Use Urban Greenspaces," *International Journal of Behavioral Nutrition and Physical Activity* 7, no. 78 (2010).

[46] De Bell, Sian, Hilary Graham & Piran C. L. White, "The Role of Managed Natural Spaces in Connecting People with Urban Nature: A Comparison of Local User, Researcher, and Provider Views," *Urban Ecosystem*s 21 (2018).

[47] Ryan, Robert L. "Exploring the Effects of Environmental Experience on Attachment to Urban Natural Areas." *Environment and Behavior* 37, no. 1 (2005): 40.

best suited to the needs of the specific community — whether that be ensuring the park is physically accessible for all bodies, providing translators at events, installing sufficient seating, engaging with local community organizations for public outreach, or supporting more environmental education and engagement programming (flower planting, etc.) for communities that may have few other resources to learn about environmental stewardship.

IV. RECOMMENDATIONS

In Robert Ryan's article on the role of place attachment in sustaining urban parks, he lays out a framework for promoting connections between the public and local parks. The five primary strategies cited entail:

1. Understanding existing park features and uses

2. Improving visibility and perceptions of safety

3. Incorporating design features that promote park use

4. Providing opportunities for the public to adopt their parks as part of volunteer stewardship programs

5. Making small-scale improvements.

These five key tenets also help to provide a temporal framework for improving park access through first identifying current features that are enjoyed by the community and sufficiently meet their needs, then ensuring that core issues like safety are taken care of, and finally implementing amenities and environmental education and engagement programs that can help incite and

sustain individual attachments to natural spaces. While the Mercer County Park Commission has already led several successful initiatives in engaging the Trenton community with county parks, the Park Commission has the potential to facilitate even more Mercer County residents gaining a long term appreciation for the natural spaces available to them in the region. Surveying residents about how frequently they visit the parks, what they enjoy about them, what they dislike, barriers to access, as well as ideas for improvement could be beneficial, as it can direct engagement initiatives to specifically address Trentonians' needs. Without visitor input, it can be difficult to ascertain what specific engagement programs would be the most productive in improving natural space attachment, making it challenging to most strategically allocate resources. As stated, each individual has a personal and unique relationship with nature and documenting a greater variety of Trentonians' experiences can both be useful for this specific project and other future initiatives. Surveys can be done manually through human interviewers in the parks and other community spaces or they can be conducted electronically through emails, social media, etc. (although electronics may pose issues of access for some groups).

Some physical features that may attract individuals to the parks (and thus encourage repeated visits) include a variety of inclusive seating options (benches, picnic tables, etc.) that allow for different sized groups to convene, amenities such as water fountains and ample restrooms, and low-cost venues to purchase food. The installation of picnic tables or simple charcoal grills can be especially attractive to large groups and other social gatherings (which are a major reason for park visits), enabling people to bring/cook their own food (thus being more financially accessible) and introducing more individuals to the natural benefits of green spaces. Engaging with local food trucks and food vendors, as well as festivals, are particularly effective

strategies for increasing park activity and thus can evolve into expanded appreciation for natural spaces and environmental features. In terms of the types of food vendors, festivals and other major events, it may be particularly productive to ensure that some part of the programming is inclusive or appealing to the different cultural communities in the Trenton region, cultivating a sentiment of "belonging" and "social cohesion" for all Trenton residents in the context of the county parks. Recreational facilities and areas that facilitate some "active" form of engagement may also help deepen people's appreciation for the benefits of these natural spaces. More play areas (for children), sports facilities, open grass areas (which can facilitate a variety of activities), and well marked trails and paths can encourage more individuals to come to the park, as they provide an initial, tangible "activity" in which visitors can participate, especially as infrequent visitors may not initially be motivated to travel to local parks for the sole purpose of "nature" experiences. All of these features also encourage group interaction in the parks, which has been documented to promote repeated visits.

Additionally, expansions of environmental programming may be particularly effective in deepening visitors' attachment to natural spaces and appreciation for the benefits of the environment. People are often drawn to these urban parks for "active" recreation and interaction and thus incorporating some form of physical activity into environmental programming can both attract people to the park and foster a deeper appreciation for environmental stewardship. The Park Commission's ventures with flower plantings and local schools and community organizations serve as a current example of successful engagement and expanding these programs to occur on a more regular basis or developing other activities that are less staff/resource intensive may help build on these initiatives' prior success. Other strategies for

increasing environmental education opportunities include installing informative signs or screens throughout the parks that provide information about the history of the region, indigenous plants and wildlife (based on the surrounding community, the information should also be provided in the major languages spoken in the community to ensure the parks remain as an inclusive space). Engagement with nature can also be facilitated without the presence of staff members or others experienced in environmental stewardship. Mobile phone apps[48] increasingly have been used to encourage novel forms of interaction with natural spaces through providing guided walks (with accompanying information about indigenous wildlife and the ecosystem that would traditionally be provided by an employee) and general information about the importance of environmental preservation, ways to contribute to conservation and more detailed information about local tree/plant/animal species. Also, non-traditional activities like a scavenger hunt (facilitated via an app or included in park maps) through these natural spaces could both be engaging and appealing to large families with young children (a major contingent of park visitors) to travel to the park, while also serving as a means for educating the community about the variety of wildlife and fostering an appreciation for the multifaceted benefits of natural spaces. Similarly, photo contests (of certain species, natural landscapes, personal experiences/attachments to nature) supervised by the Park Commission could be another novel initiative that increases engagement, especially among younger generations. However, while technology in these instances clearly has great capability to encourage interactions with nature, smart phones and cellular data may be a luxury for many residents of Trenton, rendering some of these activities to be inaccessible.

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[48] Examples on this review site. "The Best Apps for Exploring the National Parks." Parks & Points.
https://www.parksandpoints.com/the-best-apps-for-exploring-national-parks

V. CONCLUSION

Increasing the accessibility and usage of urban parks and spaces requires specific input from the community's residents, as "natural spaces" can be subjective depending on personal experiences. While studies show general appreciation and preference for greenery and vegetation, some urban park users might prefer more visibility and open space to feel safe. Additionally, man-made objects have proven to be successful at creating personal attachment to parks. Recreational facilities and amenities that facilitate a cohesive and welcoming environment are features urban residents look for in their parks. However, it is a mixture of both natural and artificial park features that can produce the greatest increase in park usage. The perfect blending of vegetation among facilities is necessary to meet the needs of those who want to escape concrete jungles and enjoy a natural, yet comfortable, space. The recommendations provided in this literature review are meant to be implemented in conjunction to increased public safety in urban areas. Multiple barriers exist that inhibit urban families from utilizing local parks, the most important being crime and the parks' conditions. Many of one study's participants, "Perceptions of Nature and Access to Green Space in Four Urban Neighborhoods", pointed to criminal activity as the main reason they did not go to parks located in urban areas, one even saying they are "infested."[49] In order to avoid using these parks, families often drive to parks located in white, suburban areas. Ensuring urban families feel safe at local parks, that meet both their recreational and natural standards, is paramount at making these spaces accessible to all.

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[49] Sefcik, Justine S et al. "Perceptions of Nature and Access to Green Space in Four Urban Neighborhoods." *International journal of environmental research and public health* vol. 16,13 2313. 29 Jun. 2019

WORKS CITED

1. Box, John & Harrison, Carolyn. "Natural Spaces in Urban Places." *Town & Country Planning* 62 (1993): 231-235.
2. "Census/Quick Facts." Mercer County, New Jersey.
    a. www.mercercounty.org/community/about/census-quick-facts.
3. De Bell, Sian, Hilary Graham & Piran C. L. White. "The Role of Managed Natural Spaces in Connecting People with Urban Nature: A Comparison of Local User, Researcher, and Provider Views." *Urban Ecosystem*s 21 (2018).
4. Dolash, Karry et al. "Factors That Influence Park Use and Physical Activity in Predominantly Hispanic and Low-Income Neighborhoods." *Journal of Physical Activity and Health* 12 no.4 (2015): 462-469.
5. Ho, Ching-Hua et al. "Gender and Ethnic Variations in Urban Park Preferences, Visitation and Perceived Benefits." *Journal of Leisure Research* 37, no. 3 (2005).
6. Nie, Wenming et al. "Spatial Disparities in the Distribution of Parks and Green Spaces in the USA." *Annals of Behavioral Medicine* 45 (2013).
7. Park, Keunhyun et al. "Not Parking Lots but Parks: A Joint Association of Parks and Transit Stations with Travel Behavior." *International Journal of Environmental Research and Public Health,* 16, no. 547, (2019). doi:10.3390/ijerph16040547
8. Ryan, Robert L. "Exploring the Effects of Environmental Experience on Attachment to Urban Natural Areas." *Environment and Behavior* 37, no. 1 (2005): 3-42.
9. Ryan, Robert. "The Role of Place Attachment in Sustaining Urban Parks." In *The Humane Metropolis: People and Nature in the 21st-Century City,* edited by Rutherford Platt, 61-73. Amherst, MA: University of Massachusetts Press, 2006.
10. Schroeder, Herbert W.. "Preferred Features of Urban Parks and Forests." *Journal of Arboriculture,* 8 no. 12 (1982): 317-322.
11. Seaman, et al. "It's Not Just About The Park, It's About Integration Too: Why People Choose to Use or Not Use Urban Greenspaces." *International Journal of Behavioral Nutrition and Physical Activity* 7, no. 78 (2010).
12. Sefcik, Justine S et al. "Perceptions of Nature and Access to Green Space in Four Urban Neighborhoods." *International Journal of Environmental Research and Public Health* 16 no. 13 (2019). doi:10.3390/ijerph16132313
13. Shepley et al. "The Impact of Green Space on Violent Crime in Urban Environments: An Evidence Synthesis." *International Journal of Environmental Research and Public Health* 16, no. 24 (2019)
14. Spencer, Janine. "Natural Open Space – Not Just Another Pretty Place." *Discover Marana*, 16. (2016). www.discovermarana.org/blog/natural-open-space-not-just-another-pretty-place/.

15. Taylor, Lucy, and Dieter F. Hochul., "Defining Greenspace: Multiple Uses across Multiple Disciplines." *Landscape and Urban Planning* 158 (2017).
16. Twohig-Bennett, Caiomhe & Andy Jones. "The Health Benefits of the Great Outdoors: A Systematic Review and Meta-Analysis of Greenspace Exposure and Health Outcomes." *Environmental Research* (Oct, 2018).
17. Vaugh, et al. "How Do Racial/Ethnic Groups Differ in Their Use of Neighborhood Parks? Findings from the National Study of Neighborhood Parks." *Journal of Urban Health*, 95 no.5 (2018).
18. Walker, Christopher. "The Public Value of Urban Parks." The Urban Institute.1 Feb. 2017.
    a. www.urban.org/research/publication/public-value-urban-parks.
19. Weiss et al, "Reconsidering Access: Park Facilities and Neighborhood Disamenities in New York City*," Journal of Urban Health* 88 (2011).
20. Wolch et al. "Urban Green Space, Public Health, and Environmental Justice: The Challenge of Making Cities 'Just Green Enough'." *Landscape and Urban Planning* 125 (2014): 234-244.