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ENVI 237

Curated Resource: Green Space Accessibility

Introduction

Here in Macalester-Groveland, we are fortunate to have access to several wonderful green spaces. To name a few, the Mississippi River trail, Mattocks Park, our own Shaw Field and Old Main Lawn, and even the Summit Avenue median. These amenities provide nearby residents with a space to enjoy the outdoors. Many of us exercise, walk our dogs, bring our kids to play, or just spend valuable time in these rich verdant spaces. Just think of how many times you have seen Macalester students outside on campus laying in hammocks or tossing a frisbee, or how many times you yourself have done these activities. People like to study and exercise outside for a reason! Green spaces offer us several health and psychological benefits, as well as provide us with a relatively safe area to interact with each other during a global pandemic.

However, not all St. Paulites share in this fortune. Whereas Macalester-Groveland residents can enjoy plenty of easily accessible green space, folks living across St. Paul in neighborhoods like Frogtown do not have this privilege. To understand why, it is imperative to understand a practice known as redlining. Redlining is a practice that took place predominantly in the 1930s, when the Home Owners' Loan Corporation (HOLC), a government corporation created in the New Deal, adopted a set of appraisal methods and drew up a set of maps that classified neighborhoods in cities across the country. Neighborhoods could be designated "A", "B", "C", and "D", with "A" neighborhoods being the most favorable, and "D" neighborhoods being the least favorable. Macalester-Groveland is an example of an "A"-graded neighborhood. Parts of Frogtown were graded either "C" or "D". Neighborhoods that were designated "D" were colored in red—hence the name "redlining"—and deemed "hazardous." Many of these neighborhoods were labeled as such due to their presence of Black or other minority populations. The United States Federal Housing Administration would later adopt HOLC's appraisal methods and refuse to offer housing loans and mortgages to homebuyers in redlined communities. Consequently, the value of the homes plummeted, and affluent white folks left these areas for the amenity-rich, wide open suburbs, leaving lower-income nonwhite populations in these neighborhoods. Thus, the United States government implemented a deeply racist policy that forced Black folks into poverty and, among other things, limited green space accessibility among minority populations.

Today, as a result of redlining and related successive issues, large discrepancies continue to exist in the distribution of, and benefit from, green spaces. Because of this, many scholars recognize green space accessibility to be an environmental justice issue (Wolch et al., 2014). Green space accessibility issues permeate along various intersectional lines beyond just race, including income, class, education, and occupation. Black and brown communities continue to experience lower access to green spaces, but so too do low-income, lower-class, lower-educated, and blue collar communities. Green space issues also impact people of all ages, starting from youth and lasting throughout our lives, as well as nonhuman species. Green space also impacts us on a variety of levels, from the individual scale to the neighborhood level, community level, ecosystem level,

and beyond. For instance, individually, people gain a lot of health benefits from being able to access green spaces, and neighborhoods with green spaces are cooler, healthier, and less prone to ecological disasters like floods. As an issue, green space accessibility differences are baked into the history of our government and policy, and systemically discriminatory treatment of various groups of people still pervades in a variety of ways directly related to access to green space. This manifests in, among other ways, the sizes of green spaces, how crowded they are, how far they are from communities of color, and where new green spaces are being placed. Green spaces that primarily serve nonwhite populations are much smaller and more crowded. Newer parks are also more prone to being placed in affluent, predominantly white neighborhoods. Even accounting for physical access, minority populations feel less welcome in green spaces as a result of historically ingrained white supremacy. Because green spaces provide a myriad of valuable benefits to their communities, and Black, Latinx, and other populations have been historically systematically denied these benefits, our society renders these folks as expendable. Looking at the green space accessibility issue reveals how our society does not place an equal value on nonwhite lives as it does for white lives. However, many nonwhite communities have taken to the green space accessibility issue by organizing their own movements to bring much-needed green spaces to their neighborhoods. As an environmental justice issue, green space accessibility is incredibly important for planners, policymakers, and communities in general to carefully address when looking to build more sustainable, just, and resilient futures.

Mattocks Park in Macalester-Groveland. The park has a wide open space, plenty of trees, a public playground, and a few tennis courts. Photo credit: Karson Hegrenes

Analysis using CEJ Framework

As an environmental justice issue, we can explore green space accessibility through a critical lens. Environmental justice scholar David Pellow has identified four pillars to his Critical Environmental Justice (CEJ) framework: Intersectionality, scale, embeddedness, and indispensability (2018). By analyzing green space accessibility through this lens, we ask: In what ways is the green space accessibility issue intersectional with relation to environmental justice? On what spatial and temporal scales has the issue of green space accessibility manifested? How embedded are disparities in green space accessibility? In what ways have green space accessibility issues proven how indispensable affected populations are to the creation of a sustainable, resilient and just future?

Intersectionality

Pellow (2018) defines his first pillar of intersectionality as "greater attention to how multiple social categories of difference are entangled in the production of environmental injustice, from race, gender, sexuality, ability, and class to species, which would attend to the ways that both the human and the more-than-human world are affected by and respond to environmental injustice and related forms of state-corporate violence." The green space accessibility issue is very intersectional. Green space disparities exist along many lines—though disparities in green space accessibility exist along racial lines, there are stronger correlations for green space access based on levels of education and income (Nesbitt et al., 2019). Furthermore, many of the populations living with low levels of green space access are blue-collar, working class populations. Lack of green space also impacts younger populations by depriving them of an open space to enjoy recreation that fosters their development. Additionally, green space also offers other animal species a small pocket of nature where they can exist relatively undisturbed in an urbanized and industrialized society and landscape that was largely built without them in mind.

Scale

Pellow defines scale as "both spatial and temporal dimensions of how objects, ideas, bodies, beings, things, and environmental harms and resilient practices are linked, how they are connected ecologically" (2018). The issue of green space accessibility exists on several different scales, both spatially and temporally. Spatially, as a result of having less access to green space, minority and low-income populations continue to receive less benefits from green space. Green spaces offer many benefits to residents, and these benefits have impacts at several levels, such as the individual level, the neighborhood level, and the ecosystem level. Green space accessibility also has impacts on a large temporal scale.

Having sufficient access to green space offers nearby residents many health benefits that affect people at the level of the individual. This especially manifests during the summer, when green space reduces anxiety by providing a cool, shady place for residents to enjoy the outdoors. Proximity to green space has shown a significant negative correlation to self-reported stress and positive correlation to self-reported physical health (Beyer et al., 2014; Cole et al., 2019). People who live near green space tend to be more physically active since the green space provides them

with a cool, public area to exercise. Higher levels of neighborhood green space are also associated with reduced symptoms of mental health afflictions like depression and anxiety (Beyer et al., 2014). By providing shade, green spaces can also reduce the risk of death or heat stroke. During heat waves, every one degree Fahrenheit increase in temperature can increase the risk of dying by 2.5 percent, and heat waves can exacerbate the effects of respiratory diseases like asthma, a disease that sees higher prevalence in Black populations (Akinbami et al., 2012). Black individuals are also 52% more likely to live in areas with higher heat risk (Jesdale et al., 2013). Green space exposure has also been associated with decreases in blood pressure, heart rate, and incidences of diabetes (Twohig-Bennett & Jones, 2018). Furthermore, green space has allowed residents to more safely interact with each other during the COVID-19 pandemic by providing them with open air outdoor space (Shukla, 2020). The Coronavirus pandemic has worsened class and racial inequalities in this way.

Green space also provides several benefits at the neighborhood level. For instance, spaces like parks and tree-lined areas can alleviate what scientists call the urban heat-island effect (Florida, 2019). Because they tend to have less green space and tree cover and more paved surfaces, neighborhoods that were redlined tend to be much hotter in the summer (Hoffman et al., 2020). Understanding how redlined neighborhoods have less access to parks, this makes sense because neighborhoods within close proximity to a park can be up to six degrees cooler than neighborhoods without a park within half a mile (Trust for Public Land, 2020). In 2020, redlined communities were found to be the hottest neighborhoods in 94% of U.S. cities (Hoffman et al., 2020). In some cities, the temperature difference between poorer minority neighborhoods and wealthier, predominantly white neighborhoods can be up to 20 degrees Fahrenheit (Plumer & Popovich, 2020). By providing a lush verdant space with plenty of shade, a green space can disrupt or cancel out this rise in temperature.

In addition to providing benefits at the individual and neighborhood levels, green spaces also provide ecosystem-wide benefits. Green spaces often provide shade, which can drastically lower the temperature of areas. According to the EPA, shade can reduce the temperature of surfaces by up to 45 degrees compared to surfaces in direct sunlight (Shukla, 2020). Both humans and nonhuman species take advantage of the ample shade green space can provide. In addition, as aforementioned, green space can provide nonhuman species with a patch of nature in an urban built environment that was largely constructed without them in consideration. On an ecosystem scale, green spaces can also improve drainage systems and can alleviate flooding (Friar, 2020).

Not only does green space accessibility have effects on various spatial and geographic scales, but green space accessibility also exists on a long temporal scale. Being (un)able to access green space is an issue that has persisted throughout the last 80 or so years and is bound to have serious impacts in the near and distant future. Green space access also affects us from an early age all the way through our lives, and it impacts our children as well. For children, growing up with a high level of green space accessibility was found to reduce the risk of developing a psychiatric disorder by up to 55 percent (Engemann et al., 2019).

Embeddedness

In the case of green space accessibility, Pellow's third pillar of embeddedness is arguably the most important pillar. Pellow outlines embeddedness as "the view that social inequalities – from racism to speciesism – are deeply embedded in society (rather than aberrations) and reinforced by state power, and that therefore the current social order stands as a fundamental obstacle to social and environmental justice" (Pellow, 2018). Redlining and its consequent effects are still evident today and are deeply embedded in many facets of our communities, with green space accessibility being an important facet.

Minority populations continue to feel the effects of redlining in the form of disparities in green space accessibility. For instance, in Atlanta, neighborhoods with a higher concentration of African-Americans have significantly poorer access to green spaces (Dai, 2011). In a study conducted on major cities across the United States, Latinx and African-American residents were found to be negatively associated with access to green space, with the correlations being stronger for the Latinx population. In the opposite direction, however, the share of white residents is positively associated with green space access (Florida, 2019). Racialized residents were also less likely to have access to mixed and woody vegetation in large, dense urban areas where minority individuals make up a larger proportion of the population (Nesbitt et al., 2019; Wolch et al., 2014). However, redlining is not the only contributor to the green space accessibility issue—disparities in green space accessibility exist in general as a result of things aside from redlining. For instance, in predominantly Black cities, there is less green space overall. In Memphis, Tennessee, which is over 60% Black, only 5% of land area is dedicated to parks, and similarly in Baton Rouge, which is about 55% Black, only 3% is dedicated to parks, compared to 15% nationally (The Trust for Public Land, 2020).

Systemically racist green space policy has continued to provide disparate levels of green space to minority populations. In the United States as a whole, parks that primarily serve nonwhite populations are roughly half the size of primarily white-serving parks, with an average size of 45 acres versus white parks' 87 acres (The Trust for Public Land, 2020). Majority- nonwhite parks are also about five times as crowded as parks that serve majority-white populations despite their smaller size (The Trust for Public Land, 2020). In addition to this, after segregation was prohibited, in cities such as Denver, parks continued to be placed in wealthy, predominantly white neighborhoods (Plumer & Popovich, 2020). Moreover, minority and low-income populations continue to be denied equal access through the refusal of these wealthy neighborhoods to build affordable housing (Plumer & Popovich, 2020). Scholars have coined this behavior "Not in my backyard" (NIMBY), and this behavior also applies to other environmental justice issues such as the placement of landfills and recycling centers. Furthermore, Black, Latinx, and other minority populations continue to travel further distances to access the same green space, and these populations tend to have a higher reliance on public transit to access green spaces (Byrne & Wolch, 2009; Dai, 2011). The Coronavirus pandemic has worsened public transit accessibility, and minority populations have experienced reduced green space accessibility as a result.

There are many different forms of green space, but common types of green spaces include parks, forests, rivers and streams, nature preserves, sports fields, green roofs, and community gardens (Wolch et al., 2014; Parker, 2019). However, other spaces such as homeowners' backyards could also be considered green space (Dai, 2011). Scholars have made the distinction between "public" and "private" green spaces. Public green space would be spaces like public parks, nature preserves, or community gardens—spaces that are overseen by a municipal entity or nonprofit that either have no cost or a minimal cost to enter or use (Byrne & Wolch, 2009). Private green space might be your own backyard, or a private-controlled space like a golf course. These spaces typically cost money to access, be it through home buying or paying a fee (Byrne & Wolch, 2009). Systemic injustices have created and worsened disparities in access for both public and private green spaces. Black and other minority populations have been structurally denied equal access to public green spaces through the effects of redlining. Much of the funding that goes toward the creation and maintenance of public parks typically comes from taxes (Byrne & Wolch, 2009). As a result of redlining, the values of homes in formerly redlined neighborhoods have consistently been much lower than those in affluent, white communities, which has meant lower property taxes. As a result, Black and other minority, low-income communities tend to have less public funding to go toward green space creation and maintenance (Wolch et al., 2014). Additionally, these communities have less support from nonprofit organizations than affluent, predominantly white communities to assist in the provision of green spaces (Wolch et al., 2014).

In terms of disparities in private green spaces, Black populations in the United States are the least likely to own a home. In 2019, the nationwide homeownership rate was 64.6%, but the homeownership rate among African-Americans was only 42.1%. Homeownership among white populations was 73.3%, the highest rate for any racial or ethnic group, and the only rate higher than the nationwide average (US Census Bureau, 2020). Thus, Black folks have less private green space access in the form of a yard compared to white folks. Furthermore, low-income, typically minority populations are much less likely to have discretionary income to spend on access to private green spaces like golf courses or parks that require an entrance fee (Byrne & Wolch, 2009). In a nutshell, Black and other minority populations have structurally been denied, in several ways, equal physical access to all forms of green space.

However, physical access to green space is not the only facet of "accessibility" as a whole. Even if Black and other minority populations were to hypothetically have equal access to green spaces, they are much more likely to be discriminated against in green spaces. Minority folks are more likely to end up in confrontations with law enforcement and/or agitated privileged white folks, as evidenced by the case of Christian Cooper, a Black man who had the police called on him for asking a white woman to leash her dog while he was innocently bird-watching in Central Park. Surveyed racial minority city park-goers report feeling discriminated against at a higher level than white park-goers by other users, police, and park staff (Gobster, 2002). This is evidence of how ingrained white supremacy is in our public systems. Thus, minority populations experience green space accessibility disparities both at a structural level and a discriminatory level, and structural

discrimination against these minority populations is embedded in our built environment and, in many cases, our brains.

Indispensability

Lastly, the fourth pillar of Pellow's CEJ framework is indispensability, which he defines as "an intensified focus on the ways that humans and more-than-human actors are indispensable to the present, and necessary for building sustainable, just, and resilient futures" (2018). In the previous sections, I have discussed how Black, Latinx, and other minority populations have been systematically denied equal access to green space, and I have discussed the myriad of benefits that access to green space offers to nearby residents. Accessibility to green space is an important equity issue that is imperative to the resilience of our communities in the future. If people of all identities were to be able to access green space in equal ways, our society would be more just and fair, as well as more healthy. Because Black and brown communities have been systematically denied equal benefits from green space, they have been rendered dispensable by our society. Having less access to green space shows how our society affords nonwhite individuals less value to our society. Additionally, we have learned through the COVID-19 pandemic just how vital blue-collar and service work is to our everyday lives. It is the populations who occupy these jobs who tend to lack sufficient access to green space. It is thus even more fair to these populations to provide them with the green space and associated benefits they so vehemently deserve. Furthermore, as the proportion of our country's population that resides in urban or suburban areas increases ever further, access to green space will become an increasingly important issue. It is thus immensely important that green space be increasingly available and universally accessible.

<u>Taking Action</u>

In many ways, it is difficult to address broad, systemic issues without a broad coalition among city residents. One way to tackle systemic issues is through public policy. However, policy does not come without its critiques, and if implemented improperly, certain policies can exacerbate the structural inequalities they seek to alleviate. Many cities have implemented policies with the intent of increasing the supply of urban green space with an emphasis on neighborhoods that currently have limited green space access. Examples of these policies include greening remnant urban land and reusing obsolete and/or underutilized transportation infrastructure (Wolch et al., 2014). Denver has passed a sales tax to help fund public parks and tree-planting programs, and city officials have said they would like to install more green spaces in formerly redlined neighborhoods (Plumer & Popovich, 2020).

There are many potential negative impacts from policies like these. Creation of new green space to address environmental justice issues can increase neighborhood desirability, housing costs, and property values, and lead to gentrification and a displacement of the low-income and minority residents the green space was intended to benefit (Dai, 2011; Wolch et al., 2014). Conversion of industrial areas into parks and nature preserves can also lead to job loss among working-class residents (Wolch et al., 2014) and displacement of these populations and homeless

populations (Dooling, 2009). Many of these populations are thus forced to move into even more inexpensive neighborhoods that are often even more environmentally harmful (Wolch et al., 2014). This specific type of displacement has been called ecological gentrification (Dooling, 2009). One example of ecological gentrification would be as a result of New York City's "High Line", a run down former elevated railroad line that was converted into a green walkway. Although the project was initiated with the goal of urban sustainability, from 2003 to 2011, nearby property values increased by 103%, and $2 billion had been invested in related property development.

Thus, any policy-sided approach to remedy disparities in green space accessibility should be undertaken with careful consideration to problems of ecological gentrification. Policymakers must find a way to improve green space accessibility for low-income and minority populations without displacing them. This could be done in a way that preserves blue-collar jobs in the neighborhood. Some examples of this could be maintaining land for industrial uses or allocating land for locally-owned businesses (Wolch et al., 2014). Additionally, rent controls, homeownership incentives, and ensuring that affordable housing is constructed in these areas could alleviate possible gentrification by controlling cost of living, curbing displacement, and maintaining the neighborhood as affordable (Wolch et al., 2014). Furthermore, critical race and environmental justice scholar Carolyn Finney argues that incorporating non-white communities as stakeholders in the creation and maintenance of green spaces and related policy can help ensure green spaces to be universally accessible (Shukla, 2020).

Outside of a policy-based approach, a much more accessible way to be involved with green space accessibility issues is by joining local green space nonprofits and community organizations. In green space-deprived neighborhoods across the United States, local nonprofit organizations have been making changes in their communities by bringing attention to green space accessibility issues and building their own green spaces through grassroots approaches. For example, in Richmond's formerly redlined Southside neighborhood, residents in conjunction with local nonprofits built a new community garden (Plumer & Popovich, 2020). Here in St. Paul, Frogtown Green is a great example of such a community nonprofit. Frogtown is one of St. Paul's lowest income neighborhoods, and it is also one of the city's most diverse neighborhoods. After realizing their neighborhood had very little green space relative to population compared to other St. Paul neighborhoods, Frogtown residents campaigned from 2009 to 2012 for the preservation and conversion of 13 vacant acres in the middle of the neighborhood to a public park with an urban farm. After the creation of Frogtown Park & Farm, Frogtown Green has successfully created six smaller parks and gardens throughout the neighborhood, such as Our Village Community Garden and The Lily Pad. They have also launched several programs, such as a tree-planting program that has successfully planted hundreds of trees across the neighborhood (Frogtown Green, n.d.). Several Macalester students have also worked with Frogtown Green to make Frogtown a greener, healthier, and more vibrant community.

Frogtown Park and Farm. It is one of the largest urban farms in the United States. Photo credit: Karson Hegrenes

Resources

Here is a set of links to informative resources to better inform yourself about green space, its benefits, and the green space accessibility issue.

- This link provides a great summary of the green space accessibility issue: culturesofenergy.com/racial-and-socioeconomic-disparities-in-access-to-urban-greenspace/
- This link contains a lot of great information about public green space accessibility issues and how the Coronavirus pandemic has impacted them: https://chicagopolicyreview.org/2020/09/23/racial-disparity-in-access-to-public-green-space/
- This link details the health impacts of green space: https://earthobservatory.nasa.gov/images/145305/green-space-is-good-for-mental-health
- Here is a great New York Times article about how redlining and global warming intersect and make neighborhoods hotter: https://www.nytimes.com/interactive/2020/08/24/climate/racism-redlining-cities-global-warming.html
- Here is a link to the University of Richmond's Mapping Inequality project, where you can look at redlining maps of various cities across the United States: https://dsl.richmond.edu/panorama/redlining/
- Here is a link to the University of Virginia's Racial Dot Map, a great resource that visualizes the racial composition of the United States. Try to find your favorite green spaces and see who lives near them: http://racialdotmap.demographics.coopercenter.org/

- Also, here is a link to Frogtown Green's website: https://www.frogtowngreen.com/

Conclusion

The issue of green space accessibility has disproportionately negatively impacted Black, Latinx, and other minority populations in neighborhoods all across the United States. As a result of systemic racism, minority populations structurally and discriminatorily have less access to green space, and are thus denied many of the benefits offered to affluent, predominantly white populations by ample access to green space Every time you are enjoying any of Macalester-Groveland's wonderful green spaces or any green spaces in your hometown, remind yourself that not all communities are able to share in the privilege of having such a high level of access to such an important resource. For perspective, you could responsibly spend time in an asphalt parking lot during a hot summer day and see for yourself just how fortunate and privileged you might be to have access to the green spaces in your community and how threatening a lack of green space access can be to other more vulnerable communities. If you would like to engage your community about the green space accessibility issue, you can support policymakers who advocate for higher green space accessibility with careful consideration for the populations who need it most. You can also join, volunteer for, or contribute to any variety of local nonprofit and community organizations like Frogtown Green that advocate for higher green space accessibility in their communities.

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