

Date: April 16, 2019
To: State Representative Chris Campbell
From: Green Space for Social Justice
Subject: Urban Green Space Expansion in Indiana

Executive Summary

Green Space for Social Justice has identified that in West Lafayette and around the state of Indiana, citizens of lower socioeconomic status living in urban areas are starved for access to green spaces, places where they can recharge and enjoy the expansive beauty Indiana has to offer.

In this memo, we provide peer-reviewed evidence confirming this problem's physical, mental and economic impact on Hoosiers. With the prioritization of equity and economic efficiency, we believe the Benefits of Urban Green Space Method makes the largest impact with the smallest amount of resources. By adopting this plan, the best interests of communities are accommodated while also responsibly handling tax dollars.

Problem Background

Indiana, which ranks thirty-eighth in overall health of its citizens, needs to prioritize legislative action that promotes the physical and mental health of all Hoosiers ("Annual report: Overall in Indiana in 2018," 2019). Time and time again, scientific studies have proven that "urban green space promotes physical activity and public health" (Wolch, Byrne, & Newell, 2014). The addition and maintenance of these green spaces is one fiscally and socially responsible way we can improve the quality of life for all Hoosiers.

Green space includes publicly accessible areas like parks, sporting fields, trails, community gardens, and conservation areas (Wolch, et al., 2014). These diverse spaces offer a variety of benefits and resources to the community including recreation area, beautification, food stability, and the reduction of air, water, and noise pollution (Wolch, et al., 2014). However, citizens of lower socioeconomic backgrounds, especially people of color, have drastically less access to green space than their more affluent peers (Brulle & Pellow, 2006). This undue burden reduces their ability to climb the socioeconomic ladder and leaves our communities trapped in poverty.

According to Brulle and Pellow, “exploitation of the environment and exploitation of human populations are linked” (Brulle & Pellow, 2006). In their research, Brulle and Pellow found evidence to correlate lax regulations of environmentally harmful practices to populations largely made of minorities, people who historically lack a strong political voice to speak up for better policy. The lack of political persuasion also contributes to a lack of funding for better green spaces and puts communities of low socio-economic status citizens at a disadvantage.

Tackling a systemic issue like environmental justice is a daunting task, but an increase in urban green space, regardless of a community’s currently available revenue, is a step in the right direction. To accomplish this task, however, the government will need to operate with an approach and methodology similar to current non-governmental organizations working with this same issue (Agyeman, Bullard & Evans, 2002). Developing a sustainable and equitable environmental policy means operating outside of the usual policy-making box, considering more than budgeting spreadsheets and political gains.

Our existing urban green spaces are not only sparse, but they are ill-maintained and often planned without community usage in mind. Reduced functionality and potential hazards make current spaces unusable and the prospect of investing in more space unpragmatic. We must improve what we have as well as make investments in new methods so that green spaces are easily accessible to our entire community.

Many current green spaces lack regular maintenance, making them less appealing for visitors and even potentially dangerous to the general public. Uncollected trash, dead foliage, dark spots, dangerous surroundings and poor security all make a green space vulnerable to community abandonment.

These issues are typically a result of poor planning that does not consider the unique community which it will exist within. Considering area traffic, the time of day which a space will be utilized the most, potential polluters in the area and social dynamics within the community can all impact community usage and a space’s appeal. If epidemiology is incorporated into urban green space planning, an area can be tailored to its community and planned in accordance to their needs and desires. When “activists work with scientific professionals to co-produce new knowledge,” that information can “challenge the institutional barriers” that bar access to needed green space (Brulle & Pellow, 2006).

Policy Options

Option 1: Current Policy

Current policy surrounding urban green space is practically non-existent. There are no incentives or aid programs for underfunded communities that hope to expand green space. City by city, policies and prioritization of urban green space differs, and a common factor of this differentiation is the wealth of the community. The lack of current policy is harmful to citizen health, economic growth and the pride people take in their communities.

Option 2: Improvement of Existing Space

Improvement of current resources is the most cost-efficient method to move forward in ensuring accessible green space for our urban communities. Current parks need increased vegetative coverage, improvement of infrastructure (walking paths, picnic tables, recreation equipment) and increased community awareness.

Vegetation not only makes a green space more aesthetically appealing, but it also helps to “filter air, remove pollution, attenuate noise, cool temperatures, infiltrate stormwater and replenish groundwater” (Wolch, et al., 2014). Geographic access and beautification are not enough to incentivize or bring awareness to a space, though. Usage is also dependent on the characteristics and programs of a space. Physical improvements should be accompanied by branding efforts that make the public more aware of a space and the benefits it brings to their community.

To raise money for this cost-efficient approach, a 0.5% increase in state sales tax for a two year period would provide the necessary funding to revitalize parks by pooling the money of communities of all socioeconomic backgrounds so that local governments with lower revenue can receive a fair shot at money for green space revitalization projects.

Option 3: Rooftop Spaces

A creative way to increase urban green space without rezoning and replanning a city's layout is by transforming the rooftops of existing buildings into community gardens. The city of Portland, Oregon has been seeing a boom in the development of these "ecoroofs" (Stiffler, 2010). With a stunning total of three hundred and fifty-one

ecoroofs covering over twenty-six acres, Portland's "organic growth" and promotion of such spaces is a model our state would be smart to adopt (Stiffler, 2010). By utilizing the power of green spaces to reduce stormwater excess and subsequent flooding and stream erosion, the mayor of Portland created an incentive program for private building owners who facilitated rooftop gardens or green spaces (Stiffler, 2010). This incentive program helped reduce the cost of establishing rooftop gardens and has promoted groups like Green Roof Information Think Tank who help to make these possibilities available, accessible, and affordable for communities around the world (Stiffler, 2010).

State legislators can allocate a small amount of the statewide grant budget to allow for businesses and private property owners to be incentivized to transform their properties into more eco-friendly spaces.

Option 4: Benefits of Urban Green Space Method

Indiana is home to many diverse communities, and with this diversity comes a variety of desires and needs. An urban planning method developed in Europe allows planners to take a holistic approach when implementing green spaces that are suitable for each unique community.

The Benefits of Urban Green Space, or BUGS method, takes into consideration many different components of the planning and development process, including "the impact of green space and settlement patterns on urban environmental quality and social well-being" (De Ridder, et al., 2004). This methodology approaches the planning process from the microscale, mesoscale, and socioeconomic aspects of development. While considering the impact of vegetation on "air quality and microclimate," BUGS also considers the accessibility of those green spaces to minority community members and the plan's "economic feasibility" (De Ridder, et al., 2004). In the initial testing of the BUGS method, its favorability of "participatory planning techniques" showed benefit in creating a uniquely tailored and highly utilized space by allowing potential participants the opportunity to provide input on their own space and the needs of their community (De Ridder, et al., 2004).

By utilizing this methodology, we can plan efficient, desirable green spaces for communities while gaining a better understanding of how current policy has affected communities and their access to green space.

Criteria

There are six criteria which we can judge proposed policy options upon.

1. *Equality*: Does this policy make green spaces available to a variety of people from various socioeconomic backgrounds? Is its location, cost and appeal conducive for multiple group usage?
2. *Usability*: Are spaces designed to provide opportunities for recreation and community activities? Are all community members with varying abilities considered in design?
3. *Economic Efficiency*: Is this policy economically responsible? Is the necessary operating cost feasible for the low-income communities it is meant to serve?
4. *Political Acceptability*: Does this policy combine community interests and economic responsibility?
5. *Project Effectiveness*: Does this policy result in more or improved green space? Are underserved communities given equal access to green space? Does it improve usage by the community?
6. *Environmental Impact*: Is there a clear environmental benefit to the spaces created by this policy? Is more than beautification taken into consideration?

While all of the criteria listed above are important, the main goal of policy should be to create or restore green spaces that are usable and accessible to all community members, especially those of low socioeconomic standing. While “*Equality*” and “*Usability*” carry the most weight, “*Economic Efficiency*” is also highly considered as it impacts “*Political Acceptability*” and “*Project Effectiveness*,” both of which are of equal importance. “*Environmental Impact*” is important, but because of the incremental change that each space makes, we must prioritize increasing overall space and usage for considerable environmental benefits to be noticed. See the table below for an analysis of these criterion for each proposed policy alternative.

Criteria Analysis

___ / +++	Equity	Usability	Economic Efficiency	Political Acceptability	Project Effectiveness	Environmental Impact
<i>Current Policy</i>	+	+	+++	+++	+	+
<i>Improving</i>	+	++	+++	+++	++	+
<i>Rooftops</i>	+	++	+	++	++	+++
<i>BUGS</i>	+++	+++	+++	++	+++	++

Option 1: Current Policy

Current policy surrounding urban green space is practically non-existent. It does not support our project's objective of securing urban green spaces for all communities. However, this lack of policy is economically-friendly in the sense that it does not require state budget allocations. The lack of equitable access, usability, and a positive environmental impact of this status quo is harmful to our citizens and the well-being of our state, and we must replace it with a more equitable and well-rounded policy.

Option 2: Improvement of Existing Space

While making improvements to current structures is the most economic and time-efficient method of expanding our urban green spaces, it does not address the issue of inclusiveness and has limited impact on the usability and potential environmental benefits of these spaces. If we only improve what currently exists, communities that do not have accessible spaces will still go without them. With better infrastructure and increased safety, the usability will improve from its current state, but it will still not be as personalized for the community it serves. Increased vegetation will help with pollution control, but the impact will drastically pale in comparison to other proposed plans and would focus mainly on beautification. Because of its small price tag and uncontroversial change in space usage, the political implications are small and therefore highly acceptable.

Option 3: Rooftop Spaces

Because of the associated incentives for private building owners, this plan may come with a substantial price tag, though that cost would be spread out over many years. Rooftop gardens would not provide “recreation” in the sporting sense, but they would provide the opportunity for citizens to learn gardening techniques and create self-sustaining models of food supply. However, while these spaces would be considered public, their perceived accessibility would be small given their location on private property. For those with differing abilities, if the building is not accessible, the space would therefore not be accessible either. The environmental implications of these spaces would be extremely impactful, though, helping to reduce air and water pollution by being a hotbed of oxygen production and serving as a filter for stormwater. Indiana politics center around economic responsibility, but incentivizing private businesses to act in the public interest is often an acceptable practice as long as there’s a clear benefit for the taxpayer. There are many ways this policy could be perceived fiscally, but it would most likely go over well.

Option 4: Benefits of Urban Green Space Method

The BUGS method is economically adaptable, creating the most effective plan for whatever available budget a community has. A large focus of the methodology is considering social implications of space creation, and great awareness is given to those who need access to green space the most. BUGS prioritizes participatory planning techniques, giving the community a voice in what type of green spaces it wants and what resources those spaces need to provide. It also stresses the importance of environmental impact, using advanced engineering techniques to perfect the efficiency of created green spaces. The Benefits of Urban Green Space method combines the community’s interests with economic feasibility, making it a win-win solution for those who prioritize these factors differently.

Recommendation

The Benefits of Urban Green Space Method takes into consideration all of the criteria we have judged the other plans by and makes the largest impact possible with the resources available. It combines the improvement of current infrastructure with the

addition of new spaces, taking a holistic approach that considers economic, ecological, and social implications of urban green spaces. By adopting this plan, you accommodate the interests of your community while also responsibly handling their tax dollars.

References

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