

GREENING LEGACY CITIES

Recent Research on Local Strategies for Reclaiming Vacant Land

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City of Baltimore Source: J Schilling

Dozens of older industrial “legacy” cities—Baltimore, Buffalo, Cleveland, Detroit, Youngstown—are repurposing hundreds of vacant lots into emerging networks of community gardens, urban farms and forests, pocket parks, and green infrastructure projects to address concentrations of neighborhood abandonment. Urban greening initiatives have rapidly become vital policy and planning strategies as part of broader urban regeneration initiatives, such as Detroit Future City and Reimagining a More Sustainable Cleveland. Recent research documents that public, private and nonprofit entities are leading initiatives to green post-industrial landscapes that can achieve a wide range of public goals and objectives (e.g., aesthetic, infrastructure, recreational, ecological, etc.) while offering local governments and neighborhood residents’ potential health, economic, social and civic benefits. [1] Part of the challenge for practitioners and researchers is how best to determine, document and describe how, when, and where urban greening can provide these multiple benefits and then implement those initiatives in an effective and equitable manner. This research translation brief is designed to help practitioners, policymakers, and researchers better develop and use applied research to further urban greening initiatives.

The Vacant Property Research Network’s “research and policy brief” series bridges the traditional divide between research and practice by explaining the methods behind recent research along with the context and findings so that practitioners and community leaders can better understand what the research says, what the research does not say, and how it might be relevant to their respective vacant property initiatives. By understanding how current research may or may not apply to local efforts, we believe practitioners and policymakers will be better equipped to make better decisions, improve policy and program, implementation, and ultimately facilitate the regeneration of their communities.

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Scope of Translation Brief

What is it? How to use it?

The VPRN's Urban Greening research brief inventories and synthesizes relevant social science and public health research on the greening of vacant land/properties from peer reviewed academic journals of the last 10 years. While the brief's primary focus is on the greening efforts within the context of legacy cities, it also discusses relevant research from the broader field of urban greening, such as green infrastructure, climate change and the socio-psychological benefits from living/interacting with green space. It summarizes where the research was done, who did it, and key findings and factoids from these studies while offering observations and ideas on how community based organizations, public officials, and civic leaders can leverage this research to expand and enhance urban greening as an effective treatment for vacant land.

Practitioners and policymakers can extract relevant conclusions and insights from the research on urban greening initiatives in other cities to support their own local programs or identify creative approach they could tailor to local conditions. They can share research findings with civic and community leaders to help build momentum around urban greening. Communities can also commission their own research, partnering with local universities and engaging graduate students to document the value of local initiatives.

The VPRN website's Urban Greening page (<http://vacantpropertyresearch.com/translation-briefs/greening>) offers a host of supplemental resources, including additional studies not cited in the brief, a typology of urban greening strategies, a matrix of common research methods, and the brief's complete bibliography. Readers can also access these academic articles on their own through VPRN's online database (https://www.zotero.org/groups/vacant_property_research_network_vprn).

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What is Urban Greening?

Urban greening means the creation of green spaces within a city’s built environment as well as the preservation, protection and enhancement of existing natural areas within a city.^[1] As with any emerging concept, urban greening has multiple meanings but understood by the range or types of urban greening activities, interventions, and treatments. Greening, while often connected to environmental and sustainability initiatives, can loosely include the production, preservation and development of parks, public green spaces, gardens, natural habitats, greenways, etc.^[1] More than individual sites or strategies, urban greening often encompasses a network of natural and engineering elements that work together in providing ecosystem services—which often means the socio-economic, cultural, and environmental benefits that people derive from such natural systems.^[48] Within the context of regenerating older industrial “legacy” cities, urban greening takes on a special meaning often in the context of applying diverse treatments and interventions for reclaiming hundreds or thousands of vacant and abandoned properties (e.g., lots, homes, businesses, and industrial plants) left behind by decades of depopulation and decline.^[2]



For a more detailed discussion of these six types of urban greening—including a matrix on strategic considerations for common urban greening programs, initiatives, and treatments—see the Urban Greening Typology section in the [VPRN Urban Greening webpage](#)

Common Strategies & Treatments

For purposes of this translation brief, we classified urban greening research into six common strategies and treatments:

1. Park, trails, and open space;
2. Community gardening and greening (e.g. street landscaping, tree plantings, etc.);
3. Greening of under-used, abandoned or vacant land/lots as primarily neighborhood stabilization strategies;
4. Temporary pop-up interventions;
5. Business/productive harvesting, such as urban agriculture and urban forests, at commercial scale; and
6. Green infrastructure with almost exclusive focus on storm water management.

Each of these categories includes a range of primarily local programs and policies and diverse blends of urban greening strategies and treatments (in the traditional context of landscape architecture and urban ecology, treatment means the site-specific design techniques and tools used to implement the broader urban greening policies, programs). With so many different types of urban greening interventions, what it means to be effective or successful varies among these different types of programs and policies. Local context and ecological conditions matter when reviewing research findings and determining how they may or may not apply to other places.

What Does Existing Research Say about Contemporary Urban Greening?

This section outlines the type of research we found and how researchers generally examine contemporary urban greening strategies, programs and policies. It also highlights some of the key studies we found which document the core benefits derived from urban greening initiatives.



Additional research studies can be found at the [VPRN Urban Greening webpage](#)

Research Approaches

This translation brief relies on a general scan of the academic literature primarily in the fields of planning, urban policy, public health, environmental/ecological studies, and landscape architecture. It is NOT an in-depth literature review (certainly that might be a useful next step). We identified over 80 articles based on our own publications and dissertations, searches of academic databases, and contributions from colleagues and peer reviewers of this brief. The majority of these sources were published in well respected and relevant, peer-reviewed journals, such as the American Planning Association, Planning Education Research, Landscape and Urban Planning, American Journal of Public Health, Environment and Behavior, etc. Our research also includes several books and studies/reports by government agencies and nongovernmental organizations.

Most of the existing urban greening research studies the impacts and influences of a particular urban greening strategy, intervention or specific treatment. Successful greening projects, whether temporary or permanent in nature, can bring underused land back into productive use and reduce or eliminate many undesirable community problems (e.g., crime, litter, junk, rodents, dangerous buildings, etc.) often associated with abundance of vacant lots. The research often focuses on one or more of benefits (environmental, social/health, and economic) Research on economic benefits is perhaps more prevalent than the other two measures. Some researchers are now exploring how to document and measure multiple benefits from the same intervention or treatment.

Scholars typically examine a particular program in a particular city or neighborhood and document the benefits using a variety of research methods, such as econometric analysis and environmental data from a sample of individual sites or projects. Most of the current research does not examine the impacts and influences of deploying multiple greening strategies over the course of time.

What is critical for practitioners and policymakers is to recognize that research about one program intervention or policy may not directly translate to another intervention. Thus, practitioners should carefully understand the context of a particular study—the dynamics of a particular practice and how it compares with their local context, such environmental, political, legal, and social and community conditions.



In addition to the references included at the end of this brief, the [VPRN Urban Greening webpage](#) has the complete bibliography, as well as the [Zotero database](#)

General Research Findings

Below we organize the key research findings into three general categories of how urban greening impacts communities: 1) community and economic development/neighborhood stabilization; 2) social and public health; and 3) environment and ecosystem. Although these categories may not apply to each and every research report or article (certain exceptions apply), we found it does offer a convenient way to organize and frame the range of impacts and benefits that researchers have found from urban greening programs on vacant land.

We should take note of the subtle meanings with the language that qualifies the applicability of the findings from these articles and studies. In some cases we describe the key findings using “can” while in other places we say “may.” Use of the word “can” implies that such findings might be more generalizable or applicable while “may” implies more preliminary conclusions drawn from a single study.

1. Neighborhood Stabilization & Community/Economic Development

Research often examines the economic impacts from urban greening interventions, such as increases in property values, that can help stabilize distressed real estate markets and serve as a catalyst to attract residents and investment back into declining neighborhoods. Beyond property values, more scholars are beginning to take a broader look at the social benefits from neighborhood greening efforts as well as jobs created or the value of food produced from urban agriculture. Within the community development literature, we also noted a trend in the programming of Community

Development Corporations (CDCs) and Community Based Organizations (CBOs) to move beyond housing to include different dimensions of urban greening.

Increases in Surrounding Property Values

With respect to vacant lots and the management of urban vacant land, much of the *existing research demonstrates that even simple greening of vacant lots can increase surrounding property values*. Much of the groundbreaking research on urban greening has been done in Philadelphia with a focus on the treatments and urban greening strategies pioneered by the Pennsylvania Horticultural Society (PHS).

- Three studies of the PHS LandCare program’s simple clean and green treatment—where they remove debris, plant grass and trees, and construct a split rail fence to prevent dumping—showed that property values nearby green lots increased. One neighborhood study examined homes immediately adjacent to the green lot and found that they were worth 30% more than other homes in the same neighborhoods.^[3] Another city wide replication study found adjacent property values increased 11%.^[34] The third study looked at price differences for properties within 500 feet of green lots before and after greening and compared these to changes in price for lots that were not greened. Results showed that values increased more rapidly for properties in the vicinity of the greened lots.^[4]
- One study compared property values around vacant lots before and after they became community gardens in New York City and found a significant increases in property values within 1,000 feet of the garden, with positive gains increasing over found a significant increases in property values within

1,000 feet of the garden, with positive gains increasing over time [35]. Researchers also found that neighborhood conditions influence the increase in property values in low income areas but not in high incomes areas.

Supplements Food Security Initiatives

Another new area of research examines the economic and community development potential from urban agriculture and other types of productive urban greening strategies. Using vacant land as a resource for local production is expanding worldwide as a response to community food insecurity and urban food deserts.[25, 6]

- An ethnographic study of gardens in New York City's Loisada neighborhood noted that many gardeners see economic resources as the primary motivation for growing food.[36]
- A study of Oakland's vacant lots, open spaces, and underutilized parks found that agricultural use of these spaces could contribute between 2.9% and 7.3% of the city's current consumption depending on production methods.[43]
- Early data suggest that in some markets urban specialty crop cultivation could yield 2-7 kg/m² depend on the type of crop and conditions. [42]
- A study of the Mantua neighborhood in Philadelphia --using observations and interviews with gardeners-- noted that gardeners tended to share their produce with neighbors and members of their churches. [41]

Assists with Neighborhood Stabilization & Community Engagement

Within the fields of community development and urban regeneration, we also found research on emerging examples of pioneering community based organizations and community development

corporations expanding their neighborhood stabilization and vacant property efforts to include a wide array of urban greening strategies.

- A yearlong case study of Groundwork USA—a national network of 20 community-based intermediaries or “trusts” examines how Groundwork integrates the physical restoration of brownfields, vacant lots, and polluted urban rivers with community renewal programs, such as training youth in urban natural resources stewardship.[31] Acting as green intermediaries, the Groundwork Trust model offers researchers, policymakers, and practitioner's new insights into the expanding role of community-based nonprofits in the greening of Legacy Cities.
- Recent research further documents that public gardens, as cultural institutions, are emerging as a nontraditional community development partner in providing resources for urban greening interventions, engagement, and education.[39]

Encounters Policy Challenges

Researchers are also documenting common policy problems that prevent the scaling of urban greening initiatives, such as complex vacant land acquisition processes, out dated zoning regulations, and inadequate resources for long-term ownership and maintenance.[5, 6]

In order to expand, enhance, and scale these emerging models and partnerships, it becomes critical to document the benefits of these strategies and present them in a way that will build further support for urban greening initiatives as well as promote adaptation of these innovative policy and program actions across cities.

2. Public and Social Health

More studies are looking at the health and social benefits that green spaces and urban greening activities can offer individuals and neighborhoods.

Improves Physical & Mental Health

With respect to individual health, long standing environmental psychology research suggests that green space availability can contribute significantly to the physical and psychological well-being of individuals.^[7] Most of this evidence concerns short-term restorative health benefits from a particular place and surveys of participants from a single visit or experience with nature, as opposed to consistent and objective measures of both exposure and long-term health related outcomes (e.g., working in a particular community garden over two years reduced certain health risks or risk factors, etc.).

- Passive experience of a green environment has been linked to a greater sense of safety and wellness, reduced stress, and diminished driving frustration. ^[10-12]
- Living and playing in a green space can improve children school performance and lessen the symptoms of Attention Deficit and Hyperactivity Disorder (ADHD). ^[13, 14]
- Exercising while being directly exposed to nature has a positive effect on self-esteem and mood. ^[15]
- Several studies report how abundance of green space is incentivizes physical activities, promotes relaxation, increases positive emotions, and aids stress recovery.^[8]

Facilitates Social Interactions

Several studies also document the role of greening projects in facilitating social interaction. These

findings suggest the impacts of urban greening go beyond mere physical improvements. The general idea is that green spaces can provide both physical space and a purpose for neighborhood cohesion and identity. Of course the social dynamics of greening can be complex and may lead to disagreements or resentments within communities.

- A survey of community gardeners of four greening sites in Chicago found positive outcomes, a sense of ownership in the neighborhood and feelings of empowerment, but that social cohesion does not automatically happen at the community garden but organizers and participants must be mindful and active in creating the right atmosphere and activities that can support and nurture social cohesion. Methods of implementation and degree of participation of many diverse community members are part of the recipe for success. When residents felt involved and received support, they felt empowered and thus it enhanced a sense of community. ^[9]
- Another Chicago study found that residents living closer to common green spaces, in comparisons with those that do not, tended to enjoy and engage in more social activities, know their neighbors, etc. Common green spaces facilitate the development and preservation of social ties. ^[17, 18]

Supports Social Justice & Equity

While some recent research also calls into question the potential negative impacts from urban greening related to social justice, affordable housing and gentrification, other research from legacy cities seems to support positive influences on social justice and social equity.

- A study of the Philadelphia LandCare program found that more than 45,000 people of diverse racial and ethnic backgrounds and 16,000 households in the city now have access to green space within a half mile of their residences [47].
- Research on displacement and gentrification from high profile, large scale urban greening projects (such as the Highline in New York City) seem more prevalent in cities and neighborhoods already undergoing rapid growth and redevelopment. However, the lessons from these projects raise legitimate concerns about social justice if greening leads to neighborhood change that causes displacement of existing residents. [19]
- The Philadelphia study is consistent with the literature that examples the relationship between vegetation and crime in inner city neighborhoods under the concept of Crime Prevention Through Environmental Design (CPTED). For example, crime rates for 98 apartment buildings with varying levels of nearby vegetation found that public housing buildings with high levels of vegetation has 48% fewer report property crimes and 56% fewer violent crimes than buildings with low levels of vegetation. [12, 38]

Positive Impacts on Neighborhood Crime

Another strand of the social/public health literature is urban greening's positive impact on neighborhood crime. While greening vacant spaces cannot reduce crime *per se*, changing the physical appearance of a neighborhood can make it more difficult for people to conduct illegal activities, creating a neighborhood where people feel safer. This is consistent with social and psychological research on physical and social disorder under the rubric of the Broken Window Theory [36].

- A study of the impacts of the PHS LandCare program in Philadelphia found that incidence of police-reported crimes decreased around greened lots when compared to areas surrounding vacant lots that had not been greened. Regression modeling showed that vacant lot greening was linked with consistent reductions in gun assaults across four sections city.[16]
- Interviews to residents surrounding green and non-green lots in Philadelphia found the residents felt safer after greening had occurred [37].

Approaches & Applied Research Methods Considerations

Some researchers examine a particular program in a particular city or neighborhood and document the benefits from the particular treatments using a variety of research methods, such as econometric analysis and gathering environmental data from a sample of individual sites or projects. Existing urban greening research, often case studies, offers us a snapshot in time and typically do not examine the impacts and influence of deploying one or more urban greening strategies over the course of time. For social analysis, the research might engage local residents in focus groups, surveys and tell their perspective and narrative using social science ethnographic methods or perhaps social network analysis to examine the collective impact of organizations and individuals. Policy and program evaluations often lend themselves to case studies that describe how new practices and policies are adopted and implemented in cities. For example, classic public policy program evaluation might attempt to assess the return on investment of public or nonprofit funds and estimate the other economic benefits that flow from the urban greening strategy or treatment.

3. Environment & Ecosystem

The expanding field of urban greening continues to include new studies that document the environmental and ecosystem benefits of greening vacant land. Ecosystem services are direct and indirect benefits provided to humans by functioning ecological systems. [22] These services encompass provisioning of food and water, as well as regulating climate, air and water quality; cultural services, such as recreation and aesthetic enjoyment, and supporting services, i.e. activities that contribute supporting ecosystems, such as pollination and soil formation. [23, 24]

Address Stormwater Runoff & Combined Sewer Overflows

In many “legacy” cities, green infrastructure is emerging as a viable strategy to address policy challenges associated with stormwater runoff and aging combined-sewer systems) often combined with other types of site specific, low impact development strategies, such as green roofs. Recent research documents that green infrastructure can help improve the infiltration of stormwater as a natural system. Stormwater management is one of a wide range of “ecosystem” services that vacant lot greening specifically can provide.

- Vacant lots can be transformed into lot-scale rain gardens or aggregated into larger scale landscape features that incorporate constructed wetlands and retention ponds can provide stormwater mitigation and alleviate combined sewer overflows [46]
- A study of 52 vacant lots (former urban demolition sites) in Cleveland, OH demonstrated that properly designed and managed infiltration type green infrastructure on vacant lots can have sufficient capacity for detention of average. annual rainfall volume. Improvements in demolition and maintenance

rules and processes, such as removal of superstructure debris, can improve infiltration capacity [28].

Benefit Local Wildlife & Address Aspects of Climate Change

Other potential environmental and ecosystem benefits include habitat for local wildlife and addressing aspects of climate change, such as mitigating urban heat island effects. Much of this research, however, does not take place only on vacant lots, but in a wide variety of urban settings. It is important to recognize and leverage these expanding areas of urban greening and urban sustainability research that could apply to the context of reclaiming vacant land in legacy cities.

- Underutilized urban land can be converted into vegetated open space that serve multiple functions and provide multiple ecosystem services; community gardens support biodiversity and habitat conservation and allow residents to cultivate for flowers, fruit, and vegetables.[25]
- With growing concerns about climate change, there is also research about the value of green roofs and urban forests to mitigate urban heat island effects and to provide biological benefits by the recycling of carbon to help reduce GHG emissions. [20, 21]
- Urban forested areas contribute to carbon sequestration and storage and to air temperature reduction. [20, 29].Vegetation can be used to cost-effectively remediate mildly contaminated brownfields sites. A whole body of literature exists on brownfields remediation techniques using plants (phytoremediation) and fungi (myco-remediation) to stabilize or reduce soil pollution. [5, 30]
- Parks and green infrastructure projects offer recreation and enjoyment opportunities [26] and help manage quantity and quality stormwater runoff.[27, 28]

What Can Policy Makers, Practitioners & Researchers Do In Light of These Research Findings?

In light of the existing research discussed in this brief, policy makers and practitioners have a wide range of macro (big picture) actions and micro adjustments they could take. Below are a few observations for practitioners when translating how this research can support their own urban greening practices and policies:

Engage in Collaborative and Holistic Planning Processes

Much of the research discussed in this brief documents what practitioners know first-hand—that planning and implementation of urban greening projects is complex, difficult, and sometimes controversial. Thus, urban greening initiatives require the meaningful engagement from various levels of government, the private sector, and local nongovernment organizations (NGOs). [1] Given the wide range of urban greening strategies and the complex and dynamic nature of implementing initiatives for greening vacant land in urban areas (e.g., the community, political, strategic, and technical dimensions of urban greening initiatives, etc.) holistic, inclusive planning processes can help ensure that green reuse of urban vacant areas will happen in ways that are suitable and useful for the entire community. [32]



Additional information on each recommendation is available in [VPRN Urban Greening webpage](#) under Recommendations and Next Steps

Develop Mechanisms for Documenting, Tracking and Disseminating the Multiple Benefits Derived from Urban Greening

Since a large share of the urban greening research discusses the multiple environmental/ecosystem and socio-economic benefits from different strategies and treatments, local governments and community-based organizations involved and leading many urban greening initiatives should document, track and assess the short and long term benefits of their urban greening projects, policies, and programs. Ideally, they would establish baseline data from the outset of the project and track it over time. Philanthropy, a key partner in the urban greening movement, can also support these data efforts by providing resources and technical expertise for program evaluation as it becomes important to examine long-term outcomes along with the short-term outputs. Beyond the benefits, urban greening proponents must also examine the potential negative side effects that could likely emerge from some urban greening strategies along with acknowledging the limitations of such efforts. Meanwhile practitioners and policymakers can certainly rely on research from other places that generally document and discuss these benefits; however, at some point it may be critical to establish regular and consistent program evaluation mechanisms for enumerating those benefits for local greening projects and programs

Tailor Outreach and Communication on Urban Greening Research to Match Regional and Local Political & Community Priorities

Urban greening proponents would be wise to highlight those relevant socio-economic and environmental benefits discussed in the current research that seem more relevant for local policymakers. For example, where economic development appears to be a major priority, urban greening proponents and community advocates might want to lead with how urban greening research documents increases in property values to adjacent properties. Proponents should also discuss how emerging research discusses the breadth and potential of urban greening strategies to provide multiple social, psychological, and public health benefits. This approach could also assist practitioners in seeking policy changes to overcome or address several of the barriers that make urban greening more difficult, such as land banking and other legal structures for assisting CBOs in acquiring, maintaining and managing vacant lots and vacant land.

An emerging challenge for urban greening efforts is how to communicate effectively about the multiple ecosystem benefits at the community or neighborhood level. For example, a local government and/or community greening group may select sites ideal for green infrastructure and

open space using native habitat while adjacent residents want these vacant lots regularly mowed and maintained. Here the community's priorities and expectations for a greened vacant lot(s) might be different and actually provide less benefits when compared to other types of urban greening treatments.

Expand Resources and Capacity for Urban Greening Intermediaries & Community Based Organizations (CBOs)

Current research highlights that a wide range of CBOs along with national NGOs and regional intermediaries are leading many of the urban greening initiatives in collaboration with local government and community/civic leaders. Such CBO capacity comes at a time when public funding and capacity for managing and maintain green space continues to decrease; thus, policymakers should consider new and creative ways for investing in and expanding CBO capacity that would build civic infrastructure and new expectations for citizen/local business engagement in caring for and reclaiming public green spaces as well as perhaps developing a learning network of green CBOs.

Translation of Applied Policy Research

Policymakers and practitioners may have different ways of defining success that can influence the translation, use and communication of urban greening research. Thus, it is important to understand what the research says and does not say as well as acknowledge the general limits of what can be reasonably extrapolated or interpreted from the research. Note that many peer-reviewed academic articles focus on a particular program in a particular place—such individual context/local dynamics could generate different results in different communities or settings. Although research translation and policy innovation is often more art than science, applied research can help policymakers and practitioners facilitate the transfer and adoption of innovative strategies and practices.

Overcome Environmental and Local Land Use/ Land Development Policy and Program Barriers

CBOs and nonprofits leading urban greening initiatives confront a wide range of policy barriers, but some of the most common obstacles to expanding urban greening efforts—taking it to scale—involve various land use and environmental policies and programs that can inhibit their ability to acquire the vacant or underused land and/or restrict the potential green uses of the vacant land. Thus, urban greening organizations should consider engaging in state and local policy discussions to change and reform existing policies and programs so they can better accommodate, access and eventually encourage urban greening efforts. They should also develop more internal land use policy expertise and/or partners with organizations that can offer that expertise, so they can be more effective policy advocates. Many of the articles and studies we found confirm that

greening in legacy cities is hindered by a variety of obstacles, including land acquisition. [1]

Establish Pilot Project(s) BEFORE taking Urban Greening Strategies to Scale

A common approach identified in the research is developing pilot projects for testing particular urban greening strategies. These projects can experiment with different conditions in different neighborhoods in order to gain experience and determine ideal conditions for replication. For example, reclaiming vacant lots for neighborhood stabilization (clearing of debris, disposing of waste, planting trees and grass to improve blighted conditions). These stabilization strategies are a critical first step for converting vacant lots to more long-term green space.



City of Baltimore Whitelock Community Farm

Source: J Schilling

Conclusion

Urban greening bridges many divides. Fast growing cities and legacy cities are each adopting and adapting urban greening strategies and treatments as part of broader initiatives to create more sustainable, healthy and just communities. Legacy cities can deploy urban greening to reclaim vacant lots and abandoned properties that help stabilize declining neighborhoods and dysfunctional economic markets while many growing cities, especially those on the coasts, are beginning to view urban greening as a front line response to mitigate the impacts of a changing climate. Urban greening work and research also involves diverse fields (e.g., public health, planning, policy, design, engineering, etc.) and seems to span the divide of academic inquiry and practice. As a specialty field urban greening now has a strong following among groups of local leaders, CBOs, NGOs, and academic institutions.

Any time researchers and practitioners explore the landscape of such a complex and dynamic topic as urban greening our thoughts drift to posing outstanding questions to which existing research does not or has not yet given us clear answers. In some fields of inquiry the gap is wide between intriguing intellectual questions and those issues that plague practitioners and policymakers. With respect to urban greening, its practical nature and emerging community of practice has a strong connection between academic inquiry and work on the ground. We have compiled a preliminary list of [Future Research Topics](#) that we believe would be relevant for practitioners and researchers to work

together to answer. Many of these ideas again are derived from our own research activities and publications along with a few contributions from our colleagues and peer reviewers of this brief. It is neither comprehensive nor complete, but certainly this list could serve as the preliminary foray into developing a more robust urban greening in legacy cities research agenda.

One major conclusion from our brief is the promise of urban greening to deliver multiple benefits to communities from increasing property values and reducing stormwater runoff to facilitating social cohesion. Certainly some of the research in this brief merely confirms what practitioners perhaps intuitively already know—the collaborative power of urban greening as diverse communities coalesce around its ethos and goals. In many respects this body of research provides an objective and reliable second opinion that practitioners and policymakers can point to when making the case for supporting or expanding urban greening initiatives in their communities.

Despite the positive news from these studies, it becomes critical to ensure the reliability of the data, acknowledge the limitations of the research, and document the problems and potential negative impacts along with the benefits. In order to unleash the environmental, economic and social psychological benefits of greening urban spaces, practitioners and researchers will need to develop a common understanding about the research itself and find new partnerships for expanding the research on policy analysis and decision-making. We believe this translation brief is one major step in that direction.



What do we not know? What would we like to know more about?

Information on [Future Research Topics](#) is available in the [VPRN Urban Greening webpage](#)

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