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Great parks should not uproot communities

GREEN GENTRIFICATION RISK FACTORS AND ANTI-DISPLACEMENT OPTIONS

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COVER: A family enjoy Renaissance Park, in Dallas, TX © Jason Flowers

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Executive summary

Urban green space—including parks, greenways, green schoolyards, and other vegetated areas—provide numerous benefits to cities, especially in relation to human health and climate change mitigation and adaptation. Green spaces, however, tend to be inequitably distributed. Low-income communities and communities of color generally have a lower quantity and quality of green space than less disadvantaged communities. Many cities and their nonprofit allies have sought to address these inequities by implementing new greening initiatives or policies that prioritize underserved communities. These efforts have the potential to improve health, climate resilience, community bonds, and quality of life in underserved communities. Nevertheless, some green space projects in underserved neighborhoods have contributed to **green gentrification**, which includes an influx of more affluent residents to such communities, increases in housing prices, and broader sociocultural changes. (Gentrification does not invariably accompany a new park or green space, nor does the term "green gentrification" imply that a park or greenspace is the only contributor; other factors, such as transit infrastructure, may also play a role.) In some cases, green gentrification can lead to the **displacement** of longtime renters and businesses. These processes have created a challenging conundrum for cities and nonprofits: How can underserved communities become greener without displacing the very residents who should benefit from health-promoting green spaces?

In this paper, we review the growing literature on green gentrification, focusing on two objectives. First, we identify **green gentrification risk factors** related to the characteristics of green space projects, such as park size, and neighborhood contexts, like park location. Second, we summarize **strategies to limit displacement** near new green spaces and report evidence about their effectiveness.

Green gentrification and related displacement have created an important conundrum for cities and nonprofits:

How can underserved communities become greener without displacing the very residents who should benefit from health-promoting green spaces?

The good news is that, based on existing research, **not all new green spaces result in gentrification and displacement**, and we are starting to uncover patterns that indicate when green gentrification and displacement are more likely to occur. Specifically, the two types of urban greening projects that are associated with gentrification are large greenway parks and new parks near downtowns. Research on the effect of park size shows mixed findings, so building smaller parks rather than larger projects may not always reduce the risk of gentrification and displacement. Studies show that other types of greening initiatives (such as community gardens, tree planting programs, and brownfield cleanups) are consistently linked to gentrification, albeit with smaller effects. Other research has provided more nuances about the role of green space in explaining gentrification, including studies finding that parks can interact with other factors, such as real estate development, in fostering gentrification, and studies

Tree planting event at Lakeview Terrace in Cleveland, OH. © Joshua Dobay

finding that gentrification may both precede and follow greening.

We also found that cities, nonprofit partners, green space funders and communities have developed several strategies and tools to limit displacement in underserved communities when green space projects are newly built or renovated. These strategies focus on housing (protecting renters, producing new affordable housing, preserving existing affordable housing), small businesses and jobs, hiring practices in green space agencies, community empowerment, and green space designs and programs that reflect the diversity of communities. Importantly, green space agencies (for example, parks and recreation departments), environmental nonprofits, and communities can implement many of these anti-displacement strategies (such as community empowerment or targeted hiring practices), whereas they may need to partner with other public agencies and nonprofits to carry out other strategies (such as those related to housing, small businesses, and job creation). Thus, we present anti-displacement strategies related to new green spaces based on the type of agency that is more likely to take the lead in implementing them, (for instance,
green space agencies, planning and housing agencies, or green space funders).

Research about the effectiveness of anti-displacement strategies has been relatively limited, with most academic research focusing on strategies not related to green gentrification (for instance, gentrification related to tight housing markets in job-rich regions). Some promising results have emerged from research on such strategies in neighborhoods experiencing green gentrification, but systematic policy evaluations will take more time. We argue that public agencies and nonprofits need to make decisions based on what they know now and not let a lack of evidence paralyze them. However, green space equity and anti-displacement advocates should be cognizant of evidence gaps in current research, work to strengthen the evidence by studying the impact of what they do, and commit to constantly improving policies and practices over time.

Visitors tour the Children's Playground Garden along the Visitacion Valley Greenway in San Francisco, CA.

Introduction

Across American cities, thriving neighborhoods include a number of amenities that promote community well-being and resiliency. Urban green space is one of these amenities. In this paper, we describe green spaces as areas that include significant clusters of vegetation: places like public parks, greenways, green schoolyards, community gardens, tree-lined streets, and private yards.[1–3] Green space is a fundamental part of sustainable and resilient cities due to its benefits for human health (physical and mental), social well-being, climate adaptation and mitigation, economic prosperity, and other ecosystem services, such as clean water and air and noise reduction.[4–9]

Decades of research have shown that the provision of green space is inequitable in the United States and other countries. Compared to more privileged groups, low-income communities and communities of color have, on average, fewer acres of parks, fewer acres of parks per capita, and parks that have fewer amenities, lower maintenance, and lower safety.[4,10,11] In the U.S., several cities, states, and nonprofit partners (including Trust for Public Land) have taken action to address green space inequities. On-the-ground initiatives have included the creation of new green spaces in low-income communities and communities of color, including new parks, greenways, schoolyards, and tree planting programs.[12–15] Other efforts have involved the adoption and implementation of policies intended to direct green space funding to underserved communities; facilitate the creation of new parks in such communities; or include diversity, equity, and inclusion values in how green space agencies are run.[15–18] These green space equity initiatives have resulted in significant funds being invested in underserved communities,[12,15,19,20] but they can also lead to unintended effects, such as green gentrification and related displacement.[21–23]

Families enjoying Lanier Playground in the Grey's Ferry neighborhood of South Philadelphi, PA. © Elyse Leyenberger/TPL Staff

Defining the issues: Green gentrification and displacement

Green gentrification describes the influx of more affluent residents and capital (for instance, new real estate development) to previously underserved communities due, in part, to the creation of new green spaces, such as parks, green schoolyards, and trees.[12,19,20,24,25] Wealthier households that move in can outcompete longtime low-income households for the available housing in these neighborhoods, which can lead to the displacement of those longstanding households, especially renters.[12,19,20,24,25] **Displacement** can refer to

both the physical departure of existing residents or the cultural replacement of norms with those of new residents.[26] Along these lines, new businesses might move into these neighborhoods, potentially pushing out locally-owned small businesses.[25,27] Additionally, new market-rate housing development in those neighborhoods might lead to the demolition of older, more affordable housing units and commercial buildings, which can also displace longtime, low-income renters and small businesses.[25,27]

Because green gentrification and related displacement have in some circumstances severely affected low-income areas and/or communities of color,[25,28–32] these communities have at times fought the addition of new green spaces, fearing that such changes would contribute to displacing existing residents.[18,33,34] On the other hand, some low-income areas or communities of color have asked how they can benefit from gentrification, embracing economic change as "self-gentrification."[35] Thus, displacement fostered by new green space creates a conundrum for park agencies and advocates: How to create amenities like parks that improve health and well-being without displacing the very people they were intended to serve? The challenge of green gentrification and displacement needs to be seen within the broad landscape of housing policy, prices, and production: rising housing prices across the

Fitness Zone opening at Olympic Park in Miami, FL. © Allana Wesley White

U.S., housing supply falling far behind demand, income inequality growing, and weak affordable housing policies (such as lack of tenant protections and inadequate support for subsidized housing).[36,37] All these factors create pressure on housing for lower-income people and place these communities at risk when property values are driven up.

Desirable outcomes when greening low-income communities and communities of color

Green gentrification and related displacement have created many complex impacts on some low-income communities and communities of color, which have been the object of significant research.[28–32] As the author and reviewers of this paper, we lay out a few desirable outcomes when greening occurs in low-income communities of color:

1. Empower longtime residents to lead greening projects and other neighborhood initiatives.
2. Prevent or limit the displacement of longtime residents, especially low-income renters.
3. If green gentrification is likely to happen, work to ensure that:
    a. Green gentrification does not lead to the displacement of low-income renters.
    b. New green space improves neighborhood quality of life in an inclusive way and benefits existing residents.
    c. Existing small businesses (especially those owned by people of color) remain in the neighborhood.
    d. The design and recreational programming of n ew green spaces reflect the cultural identity of longtime residents and foster their sense of community so that longtime residents feel welcome and perceive that new green spaces are for them.
    e. New green spaces create opportunities for interaction and building connections between longtime residents and newcomers.
    f. The increasing wealth generated by new green spaces also benefits longtime, low-income residents.

Objectives of the green paper

Given this context, this green paper seeks to advance practitioners' understanding of green gentrification and displacement, including risk factors and policy solutions to address displacement. Specifically, the remainder of the paper is organized into two distinct sections, in which we seek to:

1. Identify green gentrification risk factors related to the characteristics of green space projects (for instance, park size) and neighborhood contexts (such as park location).
2. Summarize strategies to limit displacement near new green spaces and report evidence about their effectiveness.

Community Center manager Latonia Grant points to a map showing the location of the Cromwell Apartments along an in-progress route of the South Chickamauga Creek Greenway on the wall of the apartments' recreation center on Tuesday, Jan. 28, 2020, in Chattanooga, Tenn. Once completed, the public housing complex will be connected to a miles-long trail system that travels to downtown Chattanooga and East Ridge. © Doug Strickland

LA River & Aliso Creek Confluence Park, CA.
© David Garden

Green gentrification risk factors

In the first part of this green paper, we review the international literature to identify green gentrification risk factors. It is important to note that most of the studies we reviewed measured green gentrification (the influx of new, more affluent residents to underserved neighborhoods) rather than displacement, which is significantly harder to model than the former.[38] Yet these studies generally implied that residential displacement is a likely consequence of green gentrification, and other research has established connections between green gentrification and displacement.[25] Some of the mechanisms by which green gentrification can result in displacement include[21,22,39]: direct residential displacement from illegalizing and/or demolishing homes; indirect residential displacement from increases to land, property, or rental value, and costs of living within and in proximity to neighborhoods that are undergoing green gentrification; loss of local businesses and subsequent harm to community economic power; and displacement from community, place, and other sociocultural impacts. Further research is needed to establish more precisely when and how green gentrification plays a role in displacement.

We conducted literature searches in Scopus and Google Scholar using keywords such as "green gentrification," "environmental gentrification," and synonyms for those terms. We included publications in peer-reviewed journals and other outlets that reported the findings of quantitative studies on whether greening projects led to subsequent gentrification or displacement. Thus, we excluded qualitative case studies focused on individual greening projects. Based on our literature search process, we identified 35 publications that provide some evidence about the circumstances under which gentrification follows greening (see Table 1).

As shown in Table 1, we categorize green gentrification risk factors according to 1) those related to green space characteristics (such as type and size) and 2) the neighborhood features where new green spaces are built. We conclude this section with a discussion of the role of greening in gentrification and a brief overview of what we do not know yet about green gentrification risk factors.

Risk factors related to green space characteristics

Gentrification risk factors related to green space projects involve the type of green space being built (for instance, a park vs. a community garden) and some characteristics of green spaces (such as a park's size). In this context, different types and characteristics of green space constitute gentrification risk factors because of the amenity effect that new green space investments create in neighborhoods; for example, one would expect that a larger park with more amenities would have a stronger amenity effect on a neighborhood.[39–41] Table 1 includes a summary of studies that focused on green space risk factors. Overall, more studies focused on parks than other types of green spaces, but in recent years, more and more studies have focused on these other types, including tree planting programs, community gardens, and more. Before discussing the findings, it is important to note that we also classified findings in each row based on their level of literature coverage (see Table 1), as done in another publication.[42] To that extent, we are more confident in the findings regarding risk factors that have higher levels of literature coverage—that is, findings with more studies providing evidence about such risk factors.

TABLE 1. GREEN GENTRIFICATION RISK FACTORS

CATEGORY	RISK FACTOR	FINDINGS	LITERATURE COVERAGE LEVEL
Green space	Park	Not all parks built in low-income communities lead to green gentrification.[23,24,43–50]	HIGH
Green space	Park: size	Mixed findings: Two studies found no associations between park size and gentrification,[24,50] two others identified stronger gentrification effects for larger green spaces,[41,51] another found stronger gentrification effects for medium-sized parks,[52] and two others found no associations between larger regional parks and subsequent gentrification.[48,49]	MEDIUM
Green space	Park: type, greenway	Large greenway parks (e.g., Atlanta BeltLine, Chicago's Bloomingdale Trail) are consistently linked to green gentrification.[24,44,53–56] In another study, smaller greenways had mixed associations but more consistent associations between greenways and gentrification in Europe and the U.S. than in Canada.[47]	HIGH
Green space	Park: type, nature park (e.g., forest preserve)	Mixed findings: One study found that nature parks led to gentrification,[52] another found no associations,[57] and yet another found that nature parks decrease the likelihood of gentrification.[47]	LOW
Green space	Tree planting	Studies find positive yet small associations between tree planting and gentrification,[58,59] and between tree canopy and home prices.[60] One of the studies finding gentrification impacts notes that the demographic changes in places with new trees are limited, suggesting that displacement has not been widespread.[59]	LOW
Green space	Community gardens	Four studies found that community gardens were associated with at least some gentrification indicators,[46,61–63] whereas another found no associations.[64] Yet another study identified inconsistent results across cities but more consistent associations between gardens and gentrification in Canada than in other countries.[47]	HIGH
Green space	Greenness (vegetation)	One study found associations between greenness and gentrification[65] and another did not.[66]	LOW
Green space	Green stormwater infrastructure	Two studies found that green stormwater infrastructure was associated with subsequent gentrification,[67,68] and another study found that the installation of stormwater infrastructure (including green infrastructure) was associated with the displacement of people of color.[69]	LOW

CATEGORY	RISK FACTOR	FINDINGS	LITERATURE COVERAGE LEVEL
Green space	Brownfield cleanup	Two studies found associations between brownfield cleanup and gentrification.[44,70] Another study found no associations,[71] and yet another one showed mixed findings: In tracts with brownfield redevelopments, there was a slight increase in white residents (whose income rose), a slight decrease in Latino residents (whose income also rose), and no change in Black residents (whose income did not change).[72]	MEDIUM
Neighborhood	Proximity to downtown	New green spaces close to downtown are more likely to foster gentrification than those farther away.[23,24,43,47,48,60,73,74] Most of these studies focused on new parks[23,24,43,47,48] and one focused on trees.[60]	HIGH
Neighborhood	Proximity to gentrifying communities	New green spaces located near neighborhoods already experiencing gentrification are associated with gentrification in their surroundings.[52,78]	LOW
Neighborhood	Proximity to transit stations	Proximity to transit stations was found to be a vulnerability factor for green gentrification[73] in one study[75] but not in another.[48]	LOW
Neighborhood	Provision of existing green space	The lack of existing green space increases the odds that new green space will foster gentrification.[49,50]	LOW
LOW	Provision of subsidized housing	The provision of subsidized housing reduces the odds that a new, large green space will foster gentrification.[49]	LOW

Note: Literature coverage for each risk factor was classified as LOW if 1–3 studies were identified, as MEDIUM if 4–5 studies were identified, and as HIGH if >6 studies were identified.

One of the key findings in Table 1 is that not all new parks built in underserved communities are associated with subsequent gentrification. Several studies in the U.S. and other countries find that only certain parks are linked to ensuing gentrification.[23,24,43–47] The question is, then, which parks lead to gentrification? Several studies show consistently that large greenway parks—projects such as New York's High Line, Atlanta's BeltLine, and Chicago's Bloomingdale Trail—foster gentrification in surrounding communities.[24,44,53–56] These highly publicized projects tend to receive significant media attention, rely in part on private money, and be touted by elected officials as transformative.[75–77] As a result, they fundamentally transform the neighborhoods around them. Thus, anti-displacement strategies need to be prioritized for these types of projects.

The literature on parks and gentrification shows mixed risk factors for some characteristics, such as park size and nature parks. Regarding park size, academics and practitioners have recently debated the merits of the "just green enough" theory, which argues that small, scattered parks are less likely to generate gentrification in their surroundings.[4,78] The results of empirical quantitative studies on park size do not lend support to this theory. Specifically, two studies found that larger

green spaces had stronger gentrification effects,[41,51] another found that medium-sized parks had stronger impacts than smaller and larger parks,[52] and yet two others found no correlations between park size and gentrification.[24,50] Two additional studies found no associations between larger regional parks and subsequent gentrification.[48,49] For nature parks, such as forest preserves, one study found that such parks led to gentrification,[52] another found no correlations between such parks and gentrification,[57] and yet another found that nature parks decrease the likelihood of subsequent gentrification.[47] Given the mixed findings in these areas, more research is needed to determine whether larger parks and nature parks constitute risk factors for green gentrification.

We also identified research that focused on several other types of greening initiatives in underserved communities other than parks (see Table 1): tree planting programs, community gardens, greenness, green stormwater infrastructure, and brownfield cleanup and redevelopment. Research is rather limited for tree planting programs: three studies found significant yet modest associations between tree planting and gentrification, but one of these studies found limited evidence of displacement.[58–60] More research focused on community gardens, with four studies finding associations between the creation of such gardens and subsequent gentrification,[46,61–63] another showing no associations,[64] and yet another identifying inconsistent results across cities.[47] Overall, research points to both tree planting programs and community gardens being modest risk factors for green gentrification, but more research is needed, especially for tree planting programs.

Few studies have focused on green gentrification fostered by greenness or green stormwater management (see Table 1). Among studies focused on greenness (vegetation on public and private land), one found associations between greenness and gentrification[65] and another did not.[66] Research on green stormwater management shows more consistent findings: Two studies found associations between green infrastructure

Tree planting in Dallas, TX. © Mark Graham/Courtesy of The Nature Conservancy

and subsequent gentrification,[67,68] and another one found that stormwater infrastructure (including green infrastructure) was associated with the displacement of people of color.[69] Thus, green stormwater infrastructure can be considered a modest green gentrification risk factor, with the caveat that limited research has focused on this greening type.

Finally, at least four studies focused on the gentrification effects of brownfield cleanup and redevelopment (see Table 1). Two studies found that brownfield cleanup was linked to subsequent gentrification.[44,70] Another study found no associations between brownfield cleanup and gentrification in Portland, Oregon.[71] Yet another study identified mixed findings: In census tracts with brownfield redevelopments, the number of white residents slightly increased (and their income rose), the number of Latino residents slightly decreased (and their income also rose), and the number of Black residents did not change (and their income did not change).[72] Taken together, this research suggests that brownfield cleanup and redevelopment may be a green gentrification risk factor due to the removal of environmental hazards, but as for other elements in Table 1, more research is needed.

Risk factors related to neighborhood characteristics

Green gentrification risk factors related to neighborhoods describe neighborhood conditions that, in conjunction with the creation of new green spaces, may facilitate gentrification. Research about neighborhood risk factors has been rather limited so far (see Table 1). Among this scant research, most studies indicate that new green spaces located near downtowns are more likely to be associated with subsequent gentrification than new green spaces located farther away from downtowns.[23,24,43,47,48,60,73,74] Most of these studies focused on new parks,[23,24,43,47] and one study focused on trees.[60] Further, two other studies found that new green spaces located near neighborhoods already experiencing gentrification can trigger gentrification in their surroundings,[49,79] and a recent one identified proximity to transit stations as a vulnerability factor for green gentrification.[73] Two studies also found that new

The Cromwell Apartments on Tuesday, Jan. 28, 2020, in Chattanooga, TN. When the next section of the South Chickamauga Creek Greenway is completed, the public housing site will be connected to miles of trails that reach downtown Chattanooga and East Ridge. © Doug Strickland

parks are more likely to foster gentrification when they are located in neighborhoods with little existing green space,[49,50] and one of them also highlighted that a low provision of subsidized housing is a risk factor.[49]

Overall, our review of studies found that new green spaces (especially parks) located in underserved communities near downtowns can be considered a green gentrification risk factor. However, more research is needed to determine the distance-to-downtown threshold within which new parks create a higher green gentrification risk.

To what extent can greening explain gentrification?

Several other studies have sought to understand the circumstances in which greening is the driver of gentrification. In short, these studies find that greening is one of several types of neighborhood transformation that can cause gentrification (for instance, new transit and real estate development) and that in some cases gentrification might both precede and follow greening.[48,66,80–82] These considerations are important when examining green gentrification risk factors because they add important nuances, such as determining the importance of greening in gentrification processes and determining whether gentrification might also precede greening in addition to following greening.

At least three studies implicitly call into question the importance of greening in gentrification processes.[73,80,82] The most important contribution is an analysis of green gentrification in 28 cities in Europe and North America by Anguelovski and colleagues.[80] The authors find that, in the 17 cities (out of 28) where green gentrification is occurring citywide, greening can play a "lead," "integrated," or "subsidiary" role in explaining gentrification"[80] (p. 1). This key distinction shows that greening can have different degrees of importance in promoting gentrification, suggesting that other aspects may play a role in gentrification processes, such as the neighborhood risk factors described in Table 1.

Anguelovski and colleagues describe "lead green gentrification" as a situation wherein green space projects represent significant changes in the built environment and contribute to gentrification significantly and over substantial amounts of time.[80] In other words, greening is the most important built-environment feature in explaining gentrification. The study found that "lead green gentrification" occurred in 8 cities that underwent green gentrification citywide (out of 17; 47%). "Integrated green gentrification," which was detected in 6 of 17 cities (35%), describes the situation in cities where greening's role in explaining gentrification is similar to the roles of new real estate developments and new transit projects.[80] In these cities, green gentrification is occurring, but greening is not the only process that contributes to gentrification. Further, "subsidiary green gentrification," identified in 3 of 17 cities (18%), describes the situation in cities where greening contributes to gentrification but has a lower impact on gentrification than other built-environment factors (such as new real estate development), which are identified in Table 1 as neighborhood risk factors.[80] In this circumstance, greening plays a less important or emerging role in gentrification outcomes.

Another study conducted in Barcelona sheds light on whether vegetation and other natural elements in parks might be linked to gentrification, as opposed to other

Scenes and features of Story Mill Community Park, in Bozeman, MT, a 60-acre park opened in 2019 in collaboration with the City of Bozeman Parks and Recreation Department and Trust for Public Land. © Adrian Sanchez-Gonzalez

elements of parks[82] The authors analyzed photos of parks posted on social media, finding that for parks that had fostered green gentrification, approximately 80% of photos showed built elements rather than nature. Given these findings, the authors suggested that, based on what park visitors seem to value, green gentrification is not only related to natural elements in parks. Finally, a study in New York City found that neighborhood factors, such as proximity to transit stations and downtown areas, might be as strong (if not stronger) vulnerability factors for green gentrification than green space factors, such as proximity to a park.[73] Taken together, these three studies show that green gentrification is a complex process in which greening can play different explanatory roles in neighborhood change alongside other built-environment interventions.

Other recent research has started to question the spatiotemporal relationships between greening and gentrification.[46,48,66,67,81,83] Based on a critical review of international literature, a paper recently suggested that gentrification might both precede and follow greening, in what the authors called the "green gentrification cycle."[81] Specifically, research has shown that gentrification might precede the creation of new parks, increases in greenness, the implementation of green stormwater infrastructure, and the installation of cycling infrastructure, such as bike lanes and paths.[48,66,67,81,83] In one of these papers, Sharifi and colleagues use the term "gentrified greening" to explain the process wherein gentrification might attract subsequent greening investments.[66] Along these lines, gentrification might precede greening because early gentrifiers tend to advocate for neighborhood improvements (demand-side explanation), "green growth machine" coalitions between elected officials and developers might target gentrifying communities with greening investments (supply-side explanation), and gentrifying communities tend to have more public and private resources (resource-side explanation).[81] As for the studies covered in the previous paragraphs, the nascent research on the green gentrification cycle also implicitly questions the role of greening in gentrification because ongoing gentrification processes likely play a role in the extent to which new greening may trigger additional gentrification.

What we do not know about green gentrification risk factors

Despite the growing green gentrification literature, much is still unknown about gentrification risk factors. First, more research is needed on the risk factors in Table 1 that show mixed findings and those that have limited literature coverage. Also, some of the mixed findings in Table 1 can be explained by the different methods, study sites, and sample sizes used in the literature. For example, for park size, one study finding no associations between park size and gentrification used neighborhood-level composite indicators (such as rent asked, median household income, and educational attainment) to measure gentrification across different cities,[24] whereas another study suggesting that park size does matter was based on the location of new real estate development in only one city.[51]

Second, very limited research has examined whether the way parks are funded, including whether private money was involved, can explain their impact on gentrification. One book indicated that highly publicized parks that were funded in large part by private money resulted in significant gentrification in their surroundings,[77] but the author did not systematically analyze gentrification outcomes for parks with different levels of private funding. Another paper suggests that new parks funded via mechanisms like tax increment financing rely on gentrification to be successful because their funding depends on increases in property tax revenues around such parks.[84]

Third, to our knowledge, no study has examined whether the number of dollars invested in specific greening initiatives is associated with gentrification and displacement in surrounding neighborhoods. Fourth, only a handful of studies examined neighborhood risk factors for green gentrification (see Table 1). Finally, as we noted, limited research in this area has modeled displacement, and more research is needed to understand the displacement risks associated with greening projects in underserved communities.

The 606 Grand Opening IL.
© Adam Alexander Photography

Strategies to limit displacement associated with green gentrification

In this section, we present an overview of strategies to limit the displacement of longtime residents and businesses in neighborhoods undergoing green gentrification, and we also discuss some evidence about the effectiveness of such strategies. We encourage the use of these strategies, especially for new green spaces that create a higher risk of gentrification and displacement. (See the green gentrification risk factors in Table 1.)

To identify publications on anti-displacement strategies related to greening and their effectiveness, we conducted literature searches in Scopus and Google Scholar. We used a combination of keywords such as "anti-displacement," "greening," and synonyms for those terms. We included any publication that presented anti-displacement strategies for neighborhoods undergoing gentrification, and we especially reviewed publications that focused on how to prevent displacement related to green gentrification. Most of these publications are toolkits that were created for practitioners, and few publications are in peer-reviewed journals. (See the citations in Table 2.) After classifying anti-displacement strategies (see below), we conducted additional targeted literature searches to identify research on the effectiveness of greening-related anti-displacement strategies. As we discuss later, research about the effectiveness of these strategies is relatively limited.

For this green paper, we categorize anti-displacement strategies based on the organizations that have the capacity to implement them or are more likely to do so. Specifically, we present strategies that can be implemented by green space agencies (such as parks and recreation departments), land use planning and housing agencies, economic development agencies, funders, communities and allied nonprofits, and by cross-agency efforts (see Table 2). Also, it is important to note that the adoption and implementation of most strategies involving public agencies (such as green space agencies or planning and housing agencies) rely on elected officials approving those strategies. For example, the adoption of an inclusionary zoning ordinance in areas next to a large new park would necessitate approval by the city council and/or the mayor.

As shown in Table 2, we found that city agencies, nonprofit partners, and green space funders have developed several strategies to limit displacement in underserved communities that receive green space projects. Thus, many different tools can be used to limit displacement in the context of green gentrification. In summary, strategies focus on housing (protecting renters, producing new affordable housing, preserving existing affordable housing), small businesses and jobs, hiring practices in green space agencies, community empowerment, and green space designs and programs that reflect the diversity of communities. Additionally, some of these strategies are directly targeted at preventing the physical displacement of residents or businesses (for example, those related to housing, small businesses, and jobs); some focus on reducing cultural displacement (culturally relevant green space design and programming); others seek to engage and empower communities, which might increase the chances of implementing anti-displacement policies related to housing and other topics (community organizing and power building); and still others aim to change public agencies to be more responsive to potential displacement threats, such as hiring practices.

As we present strategies to prevent displacement, we also summarize the limited research about their

effectiveness. In Table 2 and subsequent paragraphs, we describe "effectiveness" in broad terms, including whether strategies have actually prevented displacement and whether they have resulted in their intended outcomes (such as producing affordable housing or creating jobs for longtime residents). Also, much of the evidence about effectiveness that we identified is from studies that evaluated policies not in the context of green space projects causing gentrification but in general as tools to prevent displacement regardless of what triggered the risk of displacement. With this in mind, for some strategies, the literature shows good evidence of effectiveness. For others, there is limited or no evidence, but there are reasons to think they may work. We argue that public agencies and nonprofits need to make decisions based on what they know now and not let a lack of evidence paralyze them. However, green space equity and anti-displacement advocates should be cognizant of evidence gaps, work to strengthen the evidence by studying the impact of what they do, and commit to constantly improving policies and practices over time.

TABLE 2. ANTI-DISPLACEMENT STRATEGIES FOR NEIGHBORHOODS UNDERGOING GREEN GENTRIFICATION

AGENCY	STRATEGY	DESCRIPTION	EFFECTIVENESS
Green space agencies	Partnerships for affordable housing[85]	Green space agencies can partner with planning and housing agencies to preserve and produce affordable housing near greening projects.	No systematic evidence. A lack of partnerships with housing agencies has resulted in displacement.[75,85]
Green space agencies	Hiring practices[85,86]	Green space agencies need leaders and staff reflecting the racial/ethnic diversity of the places they serve. This can increase the odds that displacement risk will be considered in greening projects.	The workforce at the Minneapolis Park and Recreation Board has become more diverse since efforts to diversify hiring started.[86]
Green space agencies	Culturally relevant design and programming[85,87]	New or renovated green spaces need to be designed and programmed to welcome and represent the different cultures of longtime residents.	This strategy can reduce cultural displacement in neighborhoods undergoing green gentrification.[85]
Green space agencies	Inclusion of anti-displacement strategies in green space plans[88]	Parks master plans can include anti-displacement strategies, such as the concurrent development of affordable housing and parks.	No systematic evidence. Few plans include clear action items to limit displacement,[88] suggesting that green space agencies are not taking adequate action to include anti-displacement strategies in master plans.

AGENCY	STRATEGY	DESCRIPTION	EFFECTIVENESS
Planning and housing agencies	Inclusionary zoning and developer incentives[37,42,87,89–93]	Zoning policies requiring (by inclusionary zoning) or incentivizing (via density bonuses) the inclusion of affordable housing units in new market-rate developments.	Mixed effectiveness: Inclusionary zoning and density bonuses produce affordable housing, but effectiveness depends on whether the housing market is strong and on the policies' details.[42,94]
Planning and housing agencies	Publicly-owned affordable housing[89,91,92,95]	Development of publicly-owned affordable housing that remains affordable in perpetuity.	In cities with a large amount of public housing (e.g., Vienna), displacement due to greening is rare.[95]
Planning and housing agencies	Housing production[37,42,90,91]	Production of new market-rate housing near new greening initiatives.	Mixed findings on whether new market-rate housing limits the displacement of low-income renters.[42] Upzoning (or increasing the amount of housing that can be built) may be best in wealthier communities.[37]
Planning and housing agencies	Impact and linkage fees[42,87,89–91]	Municipal ordinances requiring developers to pay a fee when applying for permits. The fee is used for affordable housing as part of a housing trust fund.	These policies collect significant funds in strong markets, helping to produce new affordable housing but raising the price of new market-rate housing.[42]
Planning and housing agencies	Value capture[27,87,89,90,92]	Green space financing that relies on property tax increases nearby (e.g., tax increment financing) and dedicates some property tax revenue to affordable housing via housing trust funds or small business funds.	No systematic evidence. Reports from the Atlanta BeltLine suggest that the local tax increment financing tool might not have created enough affordable housing units, in "part because of lower-than-expected tax revenues due to the 2008 recession.[85,96]
Planning and housing agencies	Protection of unsubsidized affordable housing[37,42,87,90,91,93,97]	Municipal ordinances seeking to protect naturally occurring (not subsidized) affordable housing units (e.g., tenant opportunities to purchase, condominium conversion restrictions).	Limited evidence on condominium conversion restrictions.[42] Tenant opportunity-to-purchase policies are effective but expensive.[42]
Planning and housing agencies	Rent control[37,42,87,89–93,97]	Municipal ordinances limiting the amount a property owner can increase the cost of rent over time (targeted to areas near new greening projects).	Effective in limiting the displacement of tenants in rent-controlled units, but those units might deteriorate, and the policy may have negative effects on tenants in non-rent-controlled units.[42]

AGENCY	STRATEGY	DESCRIPTION	EFFECTIVENESS
Planning and housing agencies	Rental assistance programs[42,89–91,97]	Funding for low-income renters to pay rent at times of financial hardship.	Effective in limiting eviction and displacement as a stopgap measure.[42]
Planning and housing agencies	Foreclosure assistance[42,89]	Programs providing homeowners with counseling and financial support to avoid foreclosure and displacement.	Effective in helping homeowners keep their property and avoid being displaced.[42]
Planning and housing policies	Limits to property tax increases[27,89–91,93]	Programs limiting property tax increases for low-income and fixed-income homeowners and business owners near greening projects.	A study estimated that fewer homeowners than previously anticipated could qualify for one such program in Atlanta.[98]
Planning and housing policies	Assistance to prospective homeowners[89,90,93]	Programs providing prospective homeowners with counseling and financial support to purchase a home (i.e., down payment assistance).	More than 100 new homeowners in areas near the 11th Street Bridge Park in Washington, D.C.[99] Prospective homeowners near Atlanta's BeltLine are connected with several resources and down payment assistance programs,[100]
Planning and housing agencies	Tenant right to counsel[42,87,89,90,93,97]	Programs providing legal representation to tenants in eviction cases.	Some evidence shows their effectiveness in limiting displacement.[42]
Planning and housing agencies	Just cause eviction[42,87,89,90,97]	Laws that prevent landlords from evicting renters except for specific circumstances (e.g., rent is not paid, lease terms are violated).	Effective in limiting eviction and displacement, especially for lower-income households.[42]
Economic development agencies	Local hiring and job training[27,37,87,89–93]	Programs and municipal ordinances (e.g., first-source hiring ordinances) promoting or requiring the hiring and training of residents for public capital improvement projects (including green space projects).	Mixed evidence on whether many low-income residents gain access to good employment.[99,101–106] Small impact around the Atlanta BeltLine,[106] and more promising outcomes in California's Transformative Climate Communities program [101–105] and Washington, D.C.'s 11th Street Bridge Park.[99]
Economic development agencies	Small business creation and preservation [27,87,89,90,107]	Funding, counseling, or regulatory support (e.g., rent control for commercial properties) to help existing small businesses facing displacement risk (including relocation assistance) or help longtime residents seeking to start a business.	Some investment in local businesses near Washington, D.C.'s 11th Street Bridge Park.[99] The assisted relocation of businesses due to the construction of a new linear park in Seoul, South Korea, was overall a failure in terms of helping displaced businesses thrive.[107]

AGENCY	STRATEGY	DESCRIPTION	EFFECTIVENESS
Green space funders	Green space funding incentivizing applicants to address displacement[89,108,109]	Green space funding measures that incentivize the adoption of anti-displacement strategies from cities receiving money to build green space projects.	No systematic evidence. Applications to Measure W in Los Angeles County include mentions of anti-displacement strategies.[110]
Green space funders	Green space funding requiring applicants to address displacement[87,89,111,112]	Green space funding measures that require the adoption of anti-displacement strategies from cities receiving money to build green space projects.	California's Transformative Climate Communities Program has implemented several anti-displacement strategies focused on housing alongside greening.[101–105] California's Housing-Related Parks Program has distributed park funds to cities that built subsidized affordable housing.[1]
Communities and nonprofits	Community land trusts and nonprofit-owned housing [27,37,42,87,89,90,92,93,109,113]	Creation of community land trusts (with affordable housing) and development of affordable housing owned in perpetuity by nonprofit organizations.	Community land trusts reduce the odds of gentrification, but they more often serve moderate-income than low-income people.[42,114]
Communities and nonprofits	Joint development [87,90,109]	Coordinated development of green space projects and affordable housing.	No systematic evidence. LA ROSAH in Los Angeles is starting to build joint developments.[115]
Communities and nonprofits	Community organizing and power building [27,90,93,97,113,116–118]	Community organizing and grassroots mobilization to address gentrification and displacement proactively while greening projects are planned.	Nonprofit coalitions create social, economic, and political capacities that can help implement anti-displacement strategies.[113] In general, organizing can help adopt such strategies.[118]
Cross-agency	Community benefits agreements [27,87,89,90,92,93]	Contracts between cities, developers, and local nonprofits through which developers agree to provide benefits to communities (e.g., affordable housing) in exchange for less restrictive zoning or other factors facilitating development.	These agreements can have some effectiveness in strong markets where financial gains by developers justify the benefits they provide to communities; they often focus on local hiring and less on housing.[121] They require significant oversight for effective implementation.[122]

Notes: Many of the anti-displacement strategies listed under *planning and housing agencies* and *economic development agencies* tend to apply to entire cities or numerous neighborhoods, not just to areas near greening projects. Other anti-displacement strategies can be found in several toolkits and review papers.[25,42,87,89,91–93,113] For an open-access publication about the effectiveness of some of the above anti-displacement strategies, see Chapple et al.[121]

Strategies led by green space agencies

Limited research has examined what green space agencies (for instance, parks and recreation departments, urban forestry departments) can do to address displacement in neighborhoods undergoing green gentrification.[85,88] As shown in Table 2, green space agencies can collaborate with housing agencies to create or preserve affordable housing, institute hiring practices to promote a diverse workforce reflecting the communities they serve, create culturally relevant green space designs and programming, and include anti-displacement strategies in green space plans (such as citywide parks master plans). A key barrier that limits green space agencies' capacity to work on anti-displacement strategies is their mandate: They are tasked to solely focus on green space and not on other areas of urban policymaking, such as housing and workforce issues, that can have direct impacts on preventing residential displacement.[75,85,123] To this extent, a recent study in Canada found that practitioners working on urban greening were somewhat familiar with green gentrification but did not fully understand the concept, and, importantly, they faced several barriers to addressing green gentrification, such as shortcomings in the capacity of their institutions and a lack of mandates to address housing.[123]

The literature has also provided limited evidence about the effectiveness of strategies led by green space agencies. Regarding *partnerships for affordable housing*, no systematic evidence about effectiveness is available, but studies show that, when green space agencies do not partner with planning and housing agencies, the lack of action may result in displacement.[75,85] In other words, partnering with other agencies is a necessary step for green space agencies. Also, in regard to *hiring practices*, efforts to diversify the workforce of green space agencies have resulted in more people of color being hired by the Minneapolis Park and Recreation Board, and the agency's current workforce reflects the city's racial/ethnic diversity.[86] Additionally, implementing *culturally relevant designs and programming* may help reduce cultural displacement—the feeling that one no longer belongs in their neighborhood—in communities undergoing green gentrification.[85] Finally, a study about the inclusion of anti-displacement strategies in green space plans showed that approximately half of the park plans in the studied cities mention green gentrification, five of the 14 plans include anti-displacement strategies, and few have actionable plans to limit displacement.[88] These findings show, again, the disconnection between green space agencies and displacement issues.[75,85,123]

Strategies led by planning and housing agencies

We identified 13 strategies that can be led by planning and housing agencies (see Table 2). Here, planning and housing agencies include city planning departments, city housing departments, housing authorities, and other agencies that have the power to change ordinances about land use and housing. These public agencies have, by far, the highest number of anti-displacement strategies among those shown in Table 2. This is not surprising because planning and housing agencies are those that are most directly tasked to create land use regulations and affordable housing. The complete list of anti-displacement strategies within this group is in Table 2.

Strategies marshaled by planning and housing agencies include three main types: the creation of new affordable housing (for example, *inclusionary zoning and developer incentives* and *publicly-owned affordable housing*), the preservation of existing affordable housing (*protection of unsubsidized affordable housing*), and tenant protections (such as *rent control* and *rental assistance programs*).[42,121] Researchers and advocates have noted that these sets of strategies are complementary, and thus, should ideally be used in conjunction.[42,121] For example, tenant protection strategies like *rental assistance programs*, wherein low-income renters receive vouchers to help pay rent, may help such renters remain housed in a private, for-profit unit. Later on, the production of new affordable housing units can provide a more permanent housing solution sheltered from large rent increases.

Evidence about the effectiveness of strategies led by planning and housing agencies mostly comes from studies that did not focus on neighborhoods undergoing

green gentrification but rather on neighborhoods gentrifying for other reasons (such as housing shortages in job-rich regions).[42,121] Overall, research shows that these strategies work to either prevent displacement, create affordable housing units, or generate funding that can be used for affordable housing development or tenant protections (see Table 2). Some caveats to these general findings include the following: First, *inclusionary zoning and developer incentives* only produce affordable housing in strong housing markets if the policies' details are fine-tuned (for example, requiring a very large share of affordable units may result in very little housing construction).[42,94] Second and similarly, *impact and linkage fees* collect significant funds in strong housing markets, helping to produce new affordable housing but raising the price of new market-rate units.[42] Third, *rent control* does limit the displacement of tenants in rent-controlled units, but those units might deteriorate over time if landlords do not adequately maintain such units.[42]

Evidence about anti-displacement strategies in the context of green gentrification is more limited, but some recent studies and data recently reported by cities and nonprofits provide insights. Specifically, a study in Vienna shows that displacement associated with greening initiatives is rare in cities with large shares of publicly owned housing.[95] Also, data from the Atlanta BeltLine suggest that tax increment financing (a form of *value capture*) may not have created enough affordable housing units near the trail, in part due to lower-than-expected tax revenues due to the 2008 recession.[85,96] Another study on the Atlanta BeltLine showed that fewer homeowners than anticipated could qualify for a program that set *limits to property tax increases*.[98] More mixed findings emerged for programs providing *assistance to prospective homeowners* in Washington, D.C.,[99] and Atlanta.[100]

Strategies led by economic development agencies

Anti-displacement strategies marshaled by economic development agencies, such as city economic development departments, focus on the creation of local jobs and the creation and preservation of small businesses (see Table 2). This set of strategies is important to complement those focused on housing because improving the economic conditions of residents is another way to help ensure that they can remain in place if their neighborhood is undergoing green gentrification.[89] Through our search, we identified policies to promote *local hiring and job training* (for example, first-source hiring ordinances) and programs and policies aimed at *small business creation and preservation* (such as funding, counseling, or rent control for businesses). These strategies have seen some adoption in areas near large park projects in the U.S.[89]

Some research has examined the impact of such strategies, with mixed findings. In particular, studies about *local hiring and job training* highlighted mixed impacts on issues of whether and how many low-income residents gain access to good employment through these policies.[99,101–106] A study in Atlanta found only small impacts of these policies in areas near the BeltLine due to limitations in enforcement, integration with job training, and coordination with economic development.[106] More positive outcomes in terms of jobs created emerged in California's Transformative Climate Communities Program[101–105] and Washington, D.C.'s 11th Street Bridge Park.[99] Further, research in Minneapolis suggests positive impacts may result from focusing local hiring and training on the most economically disadvantaged residents, providing support (such as childcare) during training, and partnering with local institutions, such as libraries.[92]

Research about *small business creation and preservation* showed some investment in local businesses near Washington, D.C.'s 11th Street Bridge Park.[99] However, a study in Seoul, South Korea, showed that the assisted relocation of businesses due to the construction of a new linear park did not provide significant help to displaced businesses.[107]

Strategies led by green space funders

Green space funders—such as the federal government, states, and some countries—can promote the adoption

of anti-displacement strategies in the cities that receive funds when funded projects are located in neighborhoods at risk of green gentrification and displacement. In recent years, several agencies have used this strategy in competitive funding measures, including Los Angeles County (Measure A and Measure W),[108] the State of California (Transformative Climate Communities),[124] and the federal government (Outdoor Recreation Legacy Partnership Program).[125] Some of these funding measures incentivize the creation of anti-displacement strategies in areas near funded projects. They do so by giving higher scores to grant applications from cities that either already have anti-displacement strategies in place near new green space projects or that commit to implementing such strategies.[89] We identified one policy in California that requires anti-displacement strategies in neighborhoods undergoing greening: the Transformative Climate Communities Program, which seeks to make low-income communities of color greener and more climate-resilient while strengthening residents' capacity to remain in place (see Table 2).

Because these policies are recent, it is too early to draw conclusions about whether they have been effective. Yet several applications to obtain competitive grants from Measure W in Los Angeles County—funding multibenefits green stormwater management projects—include references to anti-displacement strategies, such as affordable housing buildings near green space projects and in-depth community engagements with residents.[110] Also, some evaluations of California's Transformative Climate Communities Program are in progress.[101–105] This research found that the program has implemented several anti-displacement strategies focused on housing, workforce development, and small businesses alongside greening.[101–105] Housing strategies have ranged from legal aid to tenants, rent stabilization for mobile home residents, new affordable housing development, and several education programs (such as first-time homebuyer sessions).[101–105] A separate but related policy that integrates parks and affordable housing is California's Housing-Related Parks Program. This policy has distributed park funds to cities that built subsidized affordable housing,1 and it shows there is some willingness among public agencies to integrate parks and affordable housing (see also "Joint development" in Table 2).

Additionally, recent research in Los Angeles has highlighted the importance of the implementation phase of these funding measures.[18] Small cities receiving green space funding and interested in creating anti-displacement strategies might have limited capacity to do so and thus may need technical assistance from funders.[18] In this sense, green space funding policies seeking to promote anti-displacement strategies could provide technical assistance to applicants focused on such strategies.

Strategies led by communities and nonprofits

We identified three sets of strategies that can be led by communities and allied nonprofits: *community land trusts and nonprofit-owned housing*, *joint development*, and *community organizing and power building* (see Table 2). The first two focus on outcomes, such as purchasing land and building housing, whereas the third focuses on processes, such as community organizing, that can help communities achieve their policy goals. Community land trusts have received significant coverage in the bodies of literature on gentrification and community development.[27,37,42,87,89,90,92,93,109,113] They have been touted as a strategy wherein low-income communities of color can retain control of land in perpetuity, and this community control may be useful to withstand changes in local politics over time. Research has shown that community land trusts can reduce the odds of gentrification, but they more often serve moderate-income households than low-income households.[42,114] Overall, community land trusts are particularly important in the context of tight housing markets, and scholars have called for their establishment well before new large parks are announced.[126]

A more recent anti-displacement approach has been the *joint development* of green space projects and affordable housing.[87,90,109] This has involved coordination between nonprofits working on housing and those working on green space, and coordinated projects generally include housing and green space on the same property or nearby lots. The motivation behind this approach is that, even if new green spaces will have an impact on

nearby displacement, some affordable housing will be available to residents who might be displaced.[87,90,109] No systematic evidence exists about the effectiveness of this approach. However, the Los Angeles Regional Open Space and Housing Collaborative (LA ROSAH) is starting to build joint development projects in the Los Angeles region.[115]

A strategy focused on process, *community organizing and power building*, received significant coverage in the literature about displacement avoidance.[27,90,93,97,113,116–118] This strategy describes complex processes of grassroots mobilization to address gentrification and displacement proactively while greening projects are being planned. Specifically, communities might organize to create a community land trust or to advocate with their city government to pass some of the policies listed in Table 2 (such as inclusionary zoning or tenant opportunity-to-purchase policies). A study in 10 U.S. cities found that nonprofit coalitions create "community infrastructures" that can help implement anti-displacement strategies.[113] They do so by building "social, economic, and political capacities" that enable them to affect the policymaking process related to housing, workforce, and small businesses.[113] Other research shows that community organizing is an important tactic that can help communities affected by green gentrification adopt some anti-displacement strategies.[118]

Cross-agency strategies

Our search highlighted two strategies that can be implemented by several public agencies: *in-depth community engagement* and *community benefits agreements* (see Table 2). In-depth community engagement has been touted as a useful strategy that can help raise awareness about potential gentrification and displacement issues associated with green space projects in low-income communities of color.[27,85,87,88,90,119,120] This approach involves inclusive community outreach processes, often led by several city agencies in partnership with a nonprofit, to discuss future green space projects as potential equitable community development opportunities, including conversations about housing, economic development, and related issues. Importantly, this strategy focuses on public entities, such as cities, recognizing the importance of holistic community engagement processes that acknowledge displacement risks. Meanwhile, *community organizing and power building* (discussed in the previous section) involve residents and nonprofits advocating for policy changes, often in the context of community engagement processes established by cities. In that sense, the two strategies are complementary. Some research on in-depth community engagement suggests that such an approach might help communities affected by green gentrification implement anti-displacement strategies.[89,93]

Community benefits agreements describe contracts between cities, developers, and local nonprofits through which developers agree to provide benefits, such as affordable housing, to communities in exchange for less restrictive zoning or other factors that facilitate development.[27,87,89,90,92,93] This strategy often requires collaboration between different city entities, including mayoral administrations, because they involve different sectors of government (such as planning, economic development, and parks and recreation). Through these agreements, for example, communities might obtain green spaces and affordable housing by allowing developers to build denser housing as part of large redevelopment projects. As for other strategies relying on partnerships with developers (for example, inclusionary zoning), community benefits agreements show some effectiveness in strong markets where financial gains by developers justify the benefits they provide to communities.[121] However, studies show that these agreements may focus more often on local hiring than on housing[121] and that they require significant oversight for effective implementation.[92,122] Other research suggests that negotiations between developers, cities, and nonprofits might protract for significant amounts of time, and nonprofits need to have the capacity to engage in long-term negotiations to obtain significant benefits from developers.[92]

Two men walk near wetlands on the L.A. River Bikeway, CA. © Darcy Kiefel

Calls to action

Green gentrification and displacement constitute a significant conundrum for planners, policymakers, and advocates who work to address green space inequities. The good news is that, based on the existing research, not all new green spaces result in gentrification and displacement, and we are starting to uncover patterns that indicate when green gentrification and displacement might happen (see Table 1). The other good news is that public agencies and nonprofit allies have started to devise strategies to limit displacement associated with new green spaces, and there is some, albeit limited, evidence about the effectiveness of such strategies (see Table 2). Thus, the important work to advance green space equity around the U.S., including policies passed by several local governments and states, should continue.[16–18,127] We conclude this green paper with a few calls for action for city agencies, nonprofits, impacted residents, and researchers.

- **Frame new green spaces as equitable community development opportunities.** The creation of new green spaces in low-income communities and communities of color should be seen as an equitable development opportunity for such neighborhoods. This means integrating green space development with other positive changes in the neighborhood, such as the development of affordable housing, and creating green spaces that have multiple benefits (like recreation, stormwater management, or active transportation). This holistic approach can help ensure that the benefits of new green spaces extend beyond their perimeters.[1,99] In this sense, new green spaces might help meet several important needs low-income communities and communities of color.[128]
- **Design anti-displacement strategies and new green spaces concurrently.** In places at higher risk of gentrification and displacement, cities and their partners should not see anti-displacement strategies as an afterthought.[89] Playing catch-up to address potential displacement after new green spaces have been built significantly hinders cities' capacity to keep low-income residents in place.[89] Thus, it is imperative that cities concurrently design green spaces and anti-displacement strategies. To this end, cities should adopt strategies such as community land trusts and policies that incentivize affordable housing development near large, highly-publicized parks, possibly even before the construction of such parks is announced to the public.[126]

Frogtown Park and Farm in Saint Paul, MN. © Hunt + Capture Photography

- **Empower underserved communities and implement policy changes.** We especially call for anti-displacement strategies that involve community empowerment and policy change. Recent research on strategies to advance green space equity suggests that a policy change approach may be more effective and sustainable than project-by-project efforts, and the same logic may apply to anti-displacement work.[15,16] In particular, citywide policy changes that facilitate anti-displacement strategies can help address green gentrification through a more systematic approach than more localized efforts, such as building individual affordable housing projects near new parks.
- **Incentivize or require anti-displacement strategies as part of green space funding programs, especially for projects that pose a higher risk of green gentrification.** Federal, state, and county funding measures for green space have started to incentivize or require funding recipients, such as cities, to implement anti-displacement strategies in areas at risk of green gentrification.[89,108,125] Funding recipients should be able to choose among several anti-displacement strategies based on evidence of effectiveness, local needs, and community engagement feedback. In the case of funding measures requiring anti-displacement strategies, funding agencies must either finance anti-displacement strategies in addition to green space, or they must suggest alternative funding sources to implement anti-displacement strategies.
- **Conduct more research.** Additional research is needed to understand under which circumstances new green spaces cause gentrification and/or displacement.[15] We especially need more evidence about how neighborhood risk factors, such as downtown proximity, may interact with green space risk factors like park size in determining displacement outcomes. Further, more evidence is needed about the gentrification and displacement risks generated by large, highly-publicized parks as opposed to small neighborhood parks. Additional research is also needed to generate more evidence about the effectiveness of different types of anti-displacement strategies, especially research focused on neighborhoods undergoing green gentrification.

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