A False Promise of Green, Equitable Urban Growth?

A Critical Review of the Literature and Implications for Seattle

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Abstract

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Sustainability has permeated the study and practice of urban planning over the past 30 years. Yet situating social and environmental priorities on the same plane of planning interests as economic growth invariably generates conflicts, which planners are left to reconcile. Seattle provides an illustrative example of these tensions and trade-offs. Local sustainability priorities include expanding or enhancing urban green infrastructure in pursuit of 'the green city,' densification as a spatial manifestation of 'the growing city,' and displacement, or the involuntary relocation of residents, as a threat to 'the just city.' This research investigates the consequences of greening and growing cities on equity and social justice; in particular, whether the co-occurrence of new or improved green infrastructure and densification in low-income or otherwise marginalized urban neighborhoods necessarily results in displacement. I use an urban political ecology lens to

recenter the structural conditions that constrain sustainability agendas in practice. Analyzing cases from the academic and professional literature, I assemble a range of potential scenarios pursuant to different interventions and conditions, some of which suggest a means of mitigating displacement risk. I find that green, equitable urban growth will never be realized as long as our political-economy is a capitalist one, yet our imperfect reality can be made incrementally better for people and/or the planet when we, as planners, recognize these constraints and seek to optimize trade-offs for social and environmental justice, selecting from the scenarios assembled. Situating these findings within the Seattle context, I discuss implications for the City of Seattle's *Outside Citywide* initiative and its ongoing work in the South Park neighborhood.

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List of Abbreviations

COVID-19	Coronavirus Disease 2019
GMA	Growth Management Act
LA ROSAH	Los Angeles Regional Open Space and Affordable Housing
PRADS	Park-Related Anti-Displacement Strategies
RPOSD	Regional Park and Open Space District
SDGs	Sustainable Development Goals
TOD	Transit-Oriented Development
UN	United Nations
UDP	Urban Displacement Project
UGI	Urban Green Infrastructure
UPE	Urban Political Ecology

1 Chapter 1: Introduction

1.1 Sustainability on the Rise

Over the past 30 years, the notion of sustainability has increasingly permeated the study and practice of urban planning. While many definitions exist for sustainability, the one put forth in the 1987 *Brundtland Report* is among the most common – the ability to meet the needs of the present without compromising the ability of future generations to meet their respective environmental, economic, and social needs (World Commission on Environment and Development, 1987). From a historic tendency to promote the development of the built environment at the expense and destruction of the natural environment, cities and planners are increasingly involved in environmental protection and management for both planet and people. Yet the ascent of an environmental agenda within planning has not eclipsed the discipline's traditional focal areas of economic development and the distribution of social resources, services, and opportunities. Rather, it adds another dimension to an already complex and diverse set of priorities, a reflection of planning's interdisciplinary origins ranging from economic development to housing reform to conservation ecology.

These trends in planning theory are mirrored in urban policy and planning practice. Planning at all scales, from global to local, increasingly focuses on sustainability. For example, at the global scale, sustainability was formalized as a guiding framework for cities in the 2015 United Nations (UN) Sustainable Development Goals (SDGs). Goal 11 Sustainable Cities and Communities asserts the need to reduce adverse environmental impacts and promote socio-economic inclusivity in cities by 2030 (United Nations, 2015). This Goal is further detailed in 10 targets and 15 measurement indicators, which include safe, affordable, and accessible housing, green space, and transportation, as well as policy objectives around climate change adaptation

and mitigation and participatory planning and management (United Nations, 2015). In 2017, UN Habitat released a *New Urban Agenda* aimed at improving the planning, design, financing, development, governance, and management of cities. The agenda positioned global urbanization as "an engine of sustained and inclusive economic growth, social and cultural development, and environmental protection" (United Nations, 2017, pg. 3).

In the U.S., sustainability is similarly used as a guiding framework for planning at the state and local level. Washington State, for example, is recognized as an early leader in urban growth planning, which aims to make efficient and best use of land while conserving key areas of the state's unique natural environment. The state-wide Growth Management Act (GMA) of 1990 requires fast-growing cities and counties to develop comprehensive plans to manage their growth (Municipal Research and Services Center, 2019). Likewise, the City of Seattle uses the idea of sustainability as a guiding framework for its urban development plans, as it attempts to balance the complexities and trade-offs between economic, social, and environmental objectives. Indeed, Seattle's first comprehensive plan created under the GMA, adopted in 1994, was titled *Towards a Sustainable Seattle*, and emphasized environmental sustainability (Seattle Municipal Archives, 2019). The plan's most recent 2019 update, *Seattle 2035: Managing Growth to Become an Equitable and Sustainable City*, has shifted the central focus to race, social justice, and equitable development (Seattle Municipal Archives, 2019).

1.2 A Theoretical Framing for Sustainability in Planning

Yet situating social and environmental priorities on the same plane of planning interests as economic growth invariably generates conflicts, which planners, among others, are left to reconcile. Writing in the late 1990s, urban planning theorist Scott Campbell illustrated these tensions by constructing a triangle of planning's fundamental priorities – economic development,

equity and social justice, and environmental protection – depicted in Figure 1. The triangle's axes represent the conflicts arising from these important but often differing interests, namely, to grow the economy, to ensure equal and fair (i.e. equitable) distribution of urban resources, and to prevent environmental degradation in the process (Campbell, 1996).

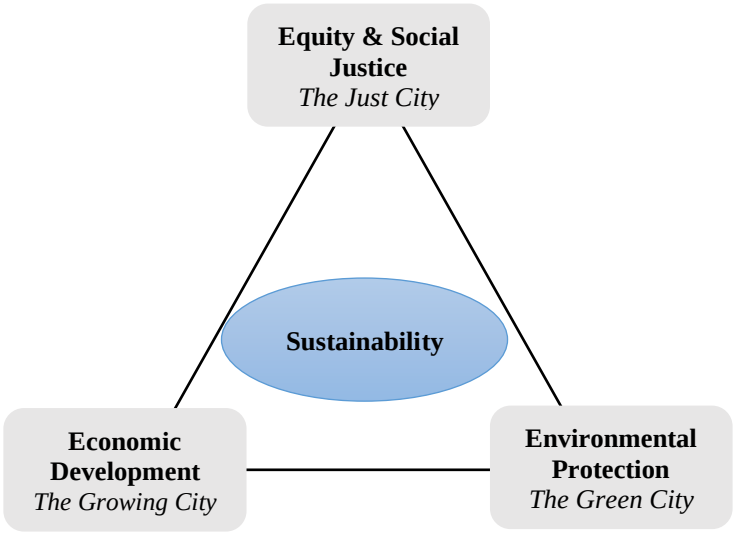

Figure 1. The planner's triangle representing the three fundamental priorities of urban planning adapted from Campbell (2016).

In the time since Campbell's writing, the marriage of these priorities under the umbrella of sustainability or sustainable development has continued to permeate urban agendas in name, if not always in practice. Campbell's model is significant in that it exposes the tensions between these priorities, as well as the precarious balancing act faced by the planner in pursuit of the triangle's elusive center, sustainability. Fostering economic growth within the bounds of environmental sustainability and ensuring the benefits accrue evenly across populations is no simple, or perhaps even possible, task. While an equilateral triangle suggests equivalent importance, Campbell observes that "economic interests usually displace environmental concerns, which in turn repeatedly trump social justice goals," destabilizing the triangle (2016,

pg. 391-392). The planner's attempts to reconcile such conflicts are limited by the professional and fiscal constraints of municipal authority and bureaucracy. It is in light of these conflicts that Campbell (1996) frames the planner's triangle as an ideal abstraction, more promise than practice.

These tensions persist not solely because of poor planning or insufficient policy making. The instability of the triangle is primarily a consequence of the dynamics intrinsic to the capitalist political-economy in which the modern state operates. The many structural constraints be they political, economic, or socio-cultural in nature – neoliberal politics that favor private markets, the globalized economy, institutional racism – determine and maintain this imbalance. The problem is structural, not theoretical or practical. Planning theory can assert the importance of environmental protection and social equity and planners can demonstrate commitment to these objectives, employing the tools and resources at their disposal towards greener and more just ends. Yet the ideal of balancing these three goals remains elusive because the structural context in which we plan does not allow for a harmonious future. If the structural constraints of our current system are the impediment to sustainability, it follows that we must change the structural conditions and build a new world order in order to realize just, green urban growth. Alternately, we, as planners, must learn to recognize the limits of these structural conditions and leverage this understanding to better manage trade-offs between these three priorities. This research aims to illuminate some of the constraints of the current system in which we plan and to help the planner select from different scenarios for managing trade-offs.

Within the context of sustainability discourses and in light of the structural conditions that constrain such agendas in practice, this study explores the tensions and trade-offs of sustainability by examining the implications of efforts to grow and green the city on equity and

social justice, defined here as the equal and fair (i.e. equitable) distribution of rights, resources, and opportunities in society. Seattle provides an illustrative example of these challenges and trade-offs. Municipal planners aim to manage urban growth by densifying specific neighborhoods and protect urban nature by expanding urban green infrastructure (UGI), defined as various types of natural and semi-natural vegetative cover such as parks, gardens, bioswales, green roofs, and street trees. At the same time, equitable development is a key objective of Seattle's sustainability agenda, with the aim of ensuing historically marginalized residents can remain in and benefit from a changing Seattle. Yet asserting these three planning priorities in tandem generates tensions, in particular (green) gentrification and the risk of involuntary relocation of longtime residents, known as displacement (Chapple & Loukaitou-Sideris, 2019). Analyzing each of these phenomena and the resultant tensions at the local level in Seattle helps illustrate the theoretical and structural conflicts raised by Campbell, as depicted in Figure 2.

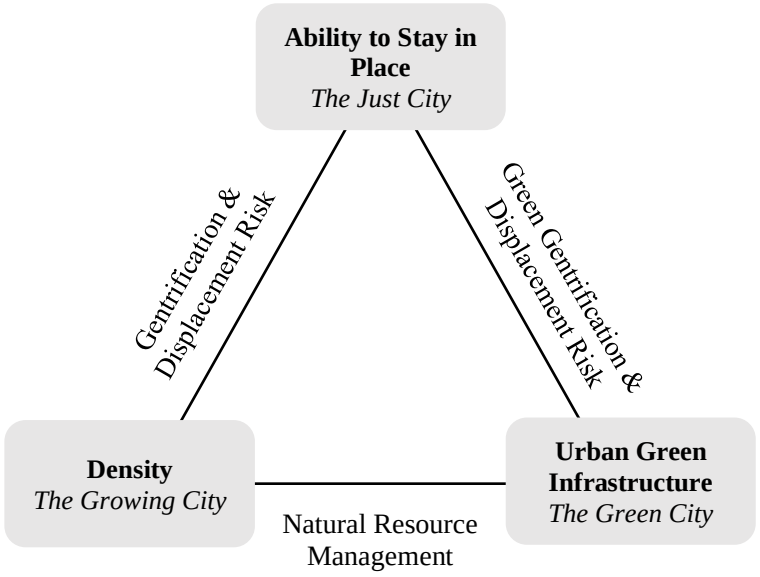

Figure 2. Local planning priorities in Seattle and the associated tensions along the triangle's axes adapted from Campbell (2016).

1.3 Research Questions

Through a critical examination of the aforementioned elements of Seattle's sustainability agenda, this study aims to answer two central research questions.

- **Question 1:** What are the potential consequences of greening and growing cities on equity and social justice?

  This question is further specified through two secondary questions:

  A. What are the potential consequences of expanding and/or enhancing urban green infrastructure on residents' ability to stay in place (i.e. avoid displacement)?

  B. What are the potential consequences of densification, as a spatial manifestation of urban growth, on residents' ability to stay in place (i.e. avoid displacement)?

- **Question 2:** Does the co-occurrence of these two phenomena – expanding and/or enhancing UGI and densification – in low-income or otherwise marginalized urban areas necessarily result in displacement?

  To answer this second question, I focus in particular on the range of potential scenarios hypothesized in the literature.

While situated in the Seattle context, this work aims to be relevant to any number of rapidly growing cities around the world facing similar sustainability challenges.

1.4 The Seattle Context

Planners are not new to managing trade-offs between economic growth, environmental protection, and equity in Seattle. More than two decades into the state-wide Growth Management Act, Seattle's comprehensive planning has established a clear strategy for where and how it plans to accommodate future growth. This is known as the Urban Village strategy, which "encourages most future job and housing growth to occur in specific areas in the city [i.e. Urban Villages] that

are best able to absorb and capitalize on that growth. These are also the best places for efficiently providing essential public services and making amenities available to residents" (City of Seattle, 2018b, pg. 10). This reflects the municipality's attempt to balance economic and population growth with environmental protection by limiting sprawl and concentrating growth, services, and amenities in select neighborhoods with discrete spatial boundaries, or urban growth by densification. Distributing this Urban Village designation and concentration of resources across Seattle, as seen in Figure 3, including in historically divested neighborhoods, is the City's attempt to allocate these benefits more evenly in pursuit of social justice.

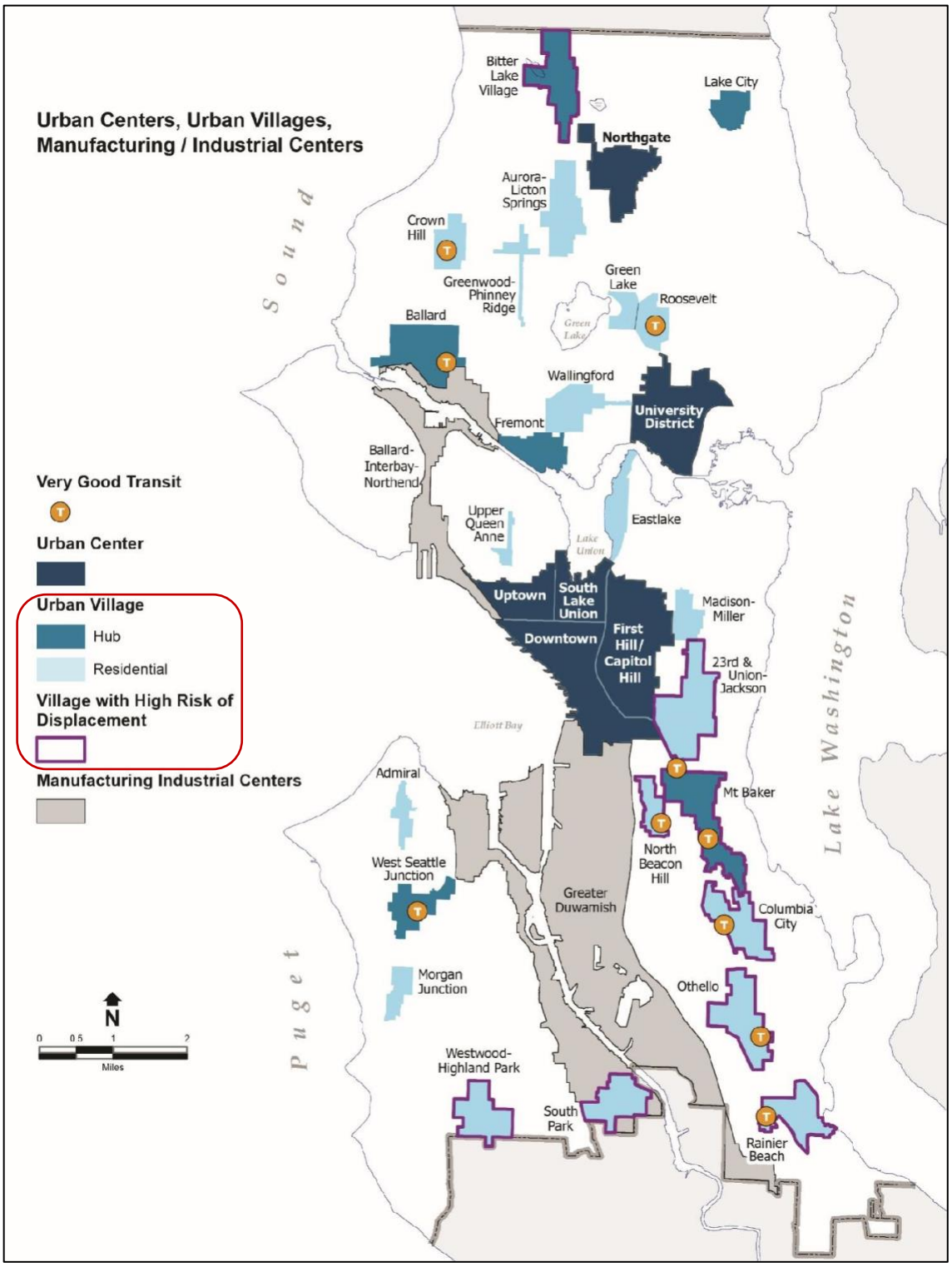

Figure 3. Map of Seattle's Urban Villages, as well as Urban Centers and Manufacturing Industrial Centers (City of Seattle, 2018b).

However, this decades old attempt by Seattle planners to manage trade-offs between planning's three fundamental priorities is not without tensions and unintended consequences, in particular for the equitable distribution of urban resources in the context of Seattle's recent explosive economic and population growth. The now burgeoned technology sector drove economic growth, which in turn fueled rapid population increases in the last decade. Currently ranked among the fastest growing U.S. cities by population, Seattle added over 15,000 people to a city of nearly 750,000 in 2017 alone (US Census Bureau, 2019). The influx of capital associated with the growing economy, stewarded by neoliberal politics that favor free markets at both federal and local levels, created the conditions for what is now referred to as Seattle's housing affordability crisis (Hurtado, 2019). The median home prices was $730,500 as of February 2020 and median monthly rent and utilities (across all rental types and sizes) totaled $1,699 in 2018 (Balk, 2020; Long, 2020). Meanwhile, income inequality has been on the rise since 2010 (Eckart, 2019). In 2016, the top five percent of households in Seattle earned incomes at least 11 times as high as the bottom 20 percent of households (Berube, 2018).

In this context, Seattle's densification strategy has generated not only new services and amenities in certain neighborhoods across the city, but also a revaluation of Urban Villages that have historically commanded less attention from developers, at the potential expense of longtime residents. Seattle's rapid urban growth, both planned and unplanned, produced a complex dynamic whereby the municipality continues to direct growth and capital to densify Urban Villages, including some where the City's own Growth and Equity Analysis has indicated residents and businesses face a high risk of displacement and have low access to opportunity (also indicated in Figure 3). This includes the Columbia City, Bitter Lake, Mt. Baker, North Beacon Hill, Othello, Rainier Beach, South Park, Westwood-Highland Park, and 23rd and Union-

Jackson Urban Villages (City of Seattle, 2018b). These tensions between economic growth and social justice and raise questions of who benefits from efforts to plan for a sustainable Seattle and at whose expense.

While at the state-level Seattle's densification strategy is an attempt to balance growth while mitigating the environmental destruction that comes with urban sprawl, this gives rise to tensions between economy and environment at more granular scales. Seattle's densification strategy puts pressure on the biophysical or 'green' aspects of the city. Urban green infrastructure delivers biophysical, socio-cultural, and climate resilience ecosystem services of value, which may be economic or in terms of health, wellbeing, recreation, or sense of place, to people and the planet. If the highest and best use of urban land is for the development of dense job and housing centers, this limits what remains for urban nature. The importance of protecting the biophysical urban environment has generated numerous municipal planning documents and greening agendas from climate adaptation to parks and recreation, however these plans are invariably constrained by the City's urban growth densification strategy.

The specific Urban Villages where residents are at high risk of displacement are some of the same neighborhoods that bear the consequences of the historically unjust distribution of Seattle's environmental burdens, including pollution, lack of green space, and projected climate change impacts (City of Seattle, 2019a). This is indicative of both past prioritization of economy over environment, as well as environmental justice tensions arising from an imbalance in environmental protection and social justice. Former Seattle Mayor Ed Murray launched an Equity and Environment Initiative in 2015, with an associated agenda that outlines a set of broad goals and strategies designed to reinforce Seattle's commitment to racial equity and social justice in environmental work (City of Seattle, 2016a). Yet efforts to harmonize environmental and

equity priorities through environmental remediation and the expansion of urban green infrastructure in low-income or otherwise marginalized urban neighborhoods are likely to generate new tensions. In a growing city under a capitalist political-economy, new green amenities can trigger economic revaluation and exploitation, particularly in neighborhoods where housing, jobs, and other resources are increasingly concentrated. As rent and property taxes increase, home values rise, and newcomers arrive, heightened displacement risk follows. This research aims to illuminate the structural conditions driving these tensions, as well as the imperfect ways in which planners have and will continue to manage trade-offs among priorities in a never ending attempt to rebalance the triangle in pursuit of sustainability.

1.5 Approach and Methods

This research is grounded in the conceptual lens of urban political ecology (UPE), detailed in Chapter 2, which understands urbanization to be a socio-ecological process embedded in the political-economic conditions that shape the urban context. A UPE lens helps to unpack the ways that cities rely on the transformation of the biophysical (e.g. land, trees, greenery) into commodities and how this production and externalization of nature can result in highly uneven and inequitable landscapes (Heynen et al., 2006). The central question of UPE – who produces what kind of socio-ecological configurations for whom – helps to interrogate theoretical possibilities and critique cases and examples in pursuit of just, green growth.

This research continuously refers back to the conceptual framework presented in Figure 2, an adaptation of Campbell's planner's triangle reflecting the priorities and tensions of Seattle's sustainability agenda. This study begins by defining these priorities in Chapter 3, in order to later hypothesize relationships among urban green infrastructure, density, and displacement in low-income or otherwise marginalized urban contexts. Because of the qualitative nature of this

research, it is not feasible to isolate actual impacts on displacement, proving causality with empirical evidence. Instead, this study employs a methodology of reviewing the academic and professional literature that describes a confluence of new or improved urban green infrastructure amidst conditions of urban growth or densification. Chapter 4 analyzes and synthesizes cases and examples from previously conducted studies and professional documents, extracting new knowledge and assembling it in the form of a series of hypotheses, pursuant to different interventions and conditions. The utility of this work for a practitioner audience is to make apparent the inherent conflicts and contradictions of ongoing efforts to achieve green, equitable urban growth through municipal planning, and to suggest various scenarios, some of which offer a means of mitigating displacement risk, to describe the nature of these complex relationships. The insights gained from analyzing the literature are reviewed in Chapter 5, where I discuss implications for the City of Seattle's *Outside Citywide* initiative and its ongoing work in the South Park neighborhood.

My positionality in this study is informed by my values and prior academic and professional experience at the intersection of environment, climate, and public health research and program implementation, with a focus on underserved groups. I approach this research from a social and environmental justice perspective inclined to optimize trade-offs among planning priorities for equitable urban greening and am skeptical of market-driven urban development as a means to advance such ends. At the same time, in the face of the existential threat posed by the current climate crisis, I believe urban green infrastructure and other nature-based solutions are integral to the continued existence of cities and the planet. These perspectives inform and influence the research, analysis, and conclusions of this study. While my research questions emphasize certain priorities and tensions among Campbell's planner's triangle (i.e. the equity

implications of greening and growing cities), this conceptual framework can also be used to further explore other areas of emphasis (e.g. the environmental implications of equitable development, or the economic implications of equitable greening).

2 Chapter 2: Toward the Production of More Inclusive Urban Natures? A Grounding in Urban Political Ecology

Any attempt to understand the complex interactions between urban sustainability interventions and displacement requires a holistic awareness that these phenomena are shaped by the social, political, and economic conditions and constraints in which they are discussed and debated, planned and implemented. In this chapter, I use urban political ecology as a conceptual lens to put these considerations at the forefront of my understanding of urbanization as a socio-ecological process informed by our capitalist political-economy that often results in uneven and inequitable urban landscapes. This perspective is useful for identifying and acknowledging the structural conditions that inform urban sustainability interventions and outcomes, both intended and unintended, and how they manifest in a particular locale. I introduce and discuss the core elements of urban political ecology and assert my understanding of what this perspective suggests in terms of planning for green, equitable growth in cities like Seattle. UPE also offers future directions in terms of how to affect change, suggesting an approach for advancing just, green futures that can serve as a useful means of comparison to the scenarios discussed later in Chapter 4.

2.1 Re-naturing the Marxist Critique in Urban Political Ecology

Urban political ecology emerged from a Marxist critique of planning and the built environment developed primarily by Marxist geographer David Harvey. Harvey focused on the application of Marxist ideas to the built environment and was concerned with how and for whom the built environment is and should be produced, managed, and used (Harvey, 1978). Fundamental to Marxism, and thus important to understanding UPE, are the relationships between people within systems of economic production. In a capitalist system, the most

important relationships within an urban context are those between capitalists, landlords (essentially a faction of capital investing in the appropriation of rent), and labor, in which capitalists are dominant over laborers (Harvey, 1978). Capitalist principles (e.g. private property, market exchange) are at the heart of the current social order, which must be reproduced to survive, a process of social reproduction.

From the Marxist perspective, social justice is unattainable as long as the social order is a capitalist one. Capitalism is predicated on an imbalance of control over resources and the exploitation of surplus value produced by labor and extracted by and for capitalists. Injustice is built into our society's economic structure, which, according to Marxist thought, determines all other aspects of society. This includes the state and thus planners, who collect and spend capital and control capitalist exploitation of the built environment (Harvey, 1978). Social justice, or the idea that rights, resources, and opportunities in society should be distributed equally and fairly, is a threat to capitalism. Capitalism maintains there are innate but unequal potentialities among individuals, while a social justice perspective asserts that inequalities stem largely from the social order. Fairness and equality, which in a just social order override all other values such as efficiency or productivity, is achieved through redistribution, eliminating the hierarchy between capitalist and labor. This calls into question attempts by the state, at its core an instrument of the reproduction of capitalism, to assert a socially just urban agenda. From a Marxist perspective, such attempts are simply aimed at pacifying labor while remaining too weak to be effective at overcoming the inequalities necessary for capitalism to work.

Yet Harvey (1978) emphasizes that we live in a democratic-capitalist society, which creates limited space for collective or socialized control of features of the built environment by the democratic state (Harvey, 1978). This opening of opportunity for democratic self-

governance, through a renewal of politics and the recovery of active political communities, is one route Marxist planners offer towards the transformation of society, though Marx's ultimate belief that capitalism would eventually collapse because of its own internal contradictions remains (Friedmann, 1987; Harvey, 1978). It is out of this Marxist critique of the built environment, including its relative disinterest in the 'green' aspects of produced urban environments and democracy as an opening for social transformation that urban political ecology emerged. While some of its scholars descend directly from Harvey, UPE is less focused on planning and planners and more attuned to the biophysical aspects of the urban environment or ecologies from which the social processes of urbanization take root, taking up the critique of the unjust and uneven ways that capitalist production shapes urban natures.

Urban political ecology is concerned with the urban scale, a response in the early 2000s to the focus of the sustainability and politics literature on global environmental issues and a disregard of urbanization as the root cause of many ecological challenges (Heynen et al., 2006). At the same time, cities are also where many socio-environmental problems are acutely felt. UPE sees its task in part as renaturing urban theory, which it asserts has been dominated by the sociological, without emphasis on the physical, ecological processes that shape cities (Heynen et al., 2006). This is not to say that UPE is exclusively focused on the natural environment. By virtue of being concerned with the urban, UPE is necessarily also concerned with the social; thus the focus becomes one of socio-ecological processes.

UPE is also political. It calls out the commodification and externalization of nature as a means of reproducing capitalism, which results not only in the degradation of the biophysical, but in the production of socio-environmental injustices, a connection it maintains is too often ignored in planning and environmental policy circles (Heynen et al., 2006). Tracing its roots

back to the Marxist critique, Harvey asks, with regard to the function of the built environment, "useful or better for what and to whom" (1978, p. 213)? The question at the center of urban political ecology is thus adapted as "who produces what kind of socio-ecological configurations for whom" (Heynen et al., 2006, p. 2)? Implied in Heynen et al.'s question is that capitalists predominately determine the direction of socio-ecological processes and thus are responsible for the uneven outcomes that disproportionately burden labor and natural resources in pursuit of profit. UPE's methodology of tracing the socio-ecological processes through which cities are produced – by and for whom – helps to interrogate the assumption that just, green futures are possible in areas currently under pressure of urban growth and development.

2.2 The Urban is Not Not Nature

A necessary conceptual starting point for applying the UPE lens is recognizing that there is nothing a priori unnatural about produced environments like cities. Urbanization is often depicted as a process whereby a pristine, *natural* environment is taken over by and transformed into a *built* environment. This narrative has created an artificial binary between the two whereby the artificial, constructed city (i.e. society) is the antithesis of the organic, natural environment (i.e. nature) (Heynen et al., 2006). Urban political ecologists reject this dichotomy as false: "human activity cannot be viewed as external to ecosystem function (Harvey 1996: 186)" (Heynen et al., 2006, p. 4). Ecosystem function is, to an extent, socially produced; humans influence ecosystems and in turn are influenced by them. The previous quote is in fact Harvey, writing almost two decades later than his work previously referenced, who in the 1990s begins to seed this idea, later picked up by UPE scholars, that there are no strict boundaries between what is socially produced and what is ecologically produced in cities. UPE asserts this false dichotomy against what some of its scholars view as "mainstream techno-managerial renderings of ecology

as ‘natural’ and ‘the urban’ as essentially ‘social,’ when in fact urban ecological change is often the result of the capitalist social order, creating new urban environments that have differential impacts on social communities (Ernstson & Swyngedouw, 2019a, p. 4). Yet social and ecological issues are traditionally managed separately in policy and planning circles.

2.3 The City as Socio-Ecological ‘Metabolic’ Process

It is from rejecting the premise that cities are unnatural that UPE asserts its counter argument – the urban is the result of socio-ecological change, a ‘metabolic’ process shaped by power relations that produces uneven (spatial, social, ecological) outcomes. Drawing from Marx’s notion of ‘metabolism,’ or the transformation of the biophysical into commodities via labor, UPE uses this same metaphor for the urbanization of nature – a hybrid form of metabolism both material (e.g. land, water, food) and social (e.g. capital, norms, class, race, gender) (Ernstson & Swyngedouw, 2019b). Treating nature as a commodity serves (capitalists) to obscure the social relations of power inscribed in the transformation of that nature, more specifically the “multiple socio-ecological processes of domination/subordination and exploitation/repression that feed the capitalist urbanization process” (Heynen et al., 2006, p.5).

The central task of UPE thus becomes one of tracing these processes of socio-ecological metabolism in and through cities, exploring how they transform urban environments and produce new social and environmental conditions. For example, private property rights, sanctioned and enforced by the state, enable capitalists to assert and protect their capital in the form of land, itself an exploitation. Land may be sold to a developer, who is able to leverage existing capital to secure even more on loan to develop their ‘property,’ which is recouped through the sale or rent of that commodity to others at prices set on the ‘market,’ prices that exploit and preclude certain groups. If a developer can recoup more profit from producing and selling a few townhomes with

green yards rather than multiple apartments without green amenities, they are inclined to do so. Profit motives not only subordinate the availability of and the ability to pay for housing by certain groups, but also their access to the non-monetary health, well-being, or socio-cultural benefits of urban green space. Alternatively, developers may appropriate the economic value of an un-revitalized environmental resource or 'wasted' land by one group for another, profiting from both urban environmental problems and their remedies. Over time, these socio-ecological processes can segregate urban neighborhoods. Those who control capital can be selective in where they choose to live and what they are willing to pay for proximity to green amenities. The socio-economically marginalized are displaced to areas that do not yet command as much potential value for developers, which may be a product of the degraded state of the environment in such neighborhoods.

Ultimately the economically powerful decide who has access to or control over, as well as who is excluded from, components of the urban environment. This includes not only capitalists, but also the state, whose power originates from its ability to collect and spend capital and control capitalist processes. The state, and thus planners, are complicit in such uneven outcomes as stewards of capitalists, from whom they extract profit in the form of taxes and fees. Decisions about the distribution of state resources, be they social, environmental, or otherwise, are influenced by the state's dependence on the exploitation of this revenue stream. This may further disadvantage the marginalized by consolidating amenities in areas that stand to confer additional value to be extracted by capitalists, and thus the state, rather than benefiting all groups equally.

Thus, environmental and social changes in the urban landscape co-determine each other and are never socially or ecologically neutral. Instead, they are deeply embedded in the economic

and political systems in which they develop, as well as the class, racial, ethnic and/or gender conflicts and power struggles ongoing in those systems (Heynen et al., 2006, p. 4). This line of thinking provides insights into possibilities, or lack thereof, for just, green growth in cities such as Seattle. If we understand decisions around expanding or enhancing urban green infrastructure, including where it occurs and what it looks like, to be mediated by social processes (of densification, of real estate development, of property taxes as a central stream of municipal revenue generation, of structural racism) imbued with power relations, then green cities for *all* urban residents appear unlikely. Yet by interrogating cases and examples of how these metabolic processes manifest among different situations of power in subsequent chapters, this research seeks to suggest possible ways forward.

2.4 Sustainability by way of Politicizing the Environment and Radical Democracy

In response to the capitalist-democracy contradiction advanced by Marxist scholars, UPE advocates a politicization of the environment that incites a radical democratic politics as the way forward. This stems from Marx's notion that the transition from capitalism to socialism will result in collective ownership of the means of production. Rather than advocating for a socialist future, UPE envisions a democratically controlled and organized society instigated by radical democratizing insurgents and activists that mobilize power to establish and claim rights – to affordable housing, to urban green space, to use-value over exchange value, essentially to decision-making – against the capitalist orthodoxy (Ernstson & Swyngedouw, 2019a).

Only through renewed political agency can these progressive democratic changes come about; thus, politicizing the environment is a key first step. This means foregrounding the conflicts and heterogeneity of urban environments, already present in existing, localized struggles related to class, race, ethnicity or gender, to organize movements of allied groups

seeking to transform existing power relations and the uneven socio-ecological processes they produce. UPE cautions against depoliticization through consensus building, which attempts to neutralize power struggles. Using the present climate crisis as an example, UPE unmasks the 'climate adapted' or 'resilient' city as a sanitized, techno-managerial attempt to neutralize power imbalances, rather than foregrounding that the climate crisis is sustained by uneven urbanization (Ernstson & Swyngedouw, 2019c).

In terms of how to go about radical democracy to achieve progressive socio-ecological change, UPE suggests assembling different communities, from environmental groups to neighborhood associations, small businesses to cultural organizations, to act together on an agenda that, at its core, is set on transforming power relations to substantially weaken (or overthrow) capitalism. As Ernstson & Swyngedouw note, "egalitarian political action requires no ontological grounding in social position, in time, space or nature, or in a belief system" and marginalized and disadvantaged communities are key to such coalitions (2019a, p. 266). When local communities are in control of urban land, they stand to make decisions that reflect the value of urban nature for the collective community. While this on its own does not preclude profit driven decisions, communities may choose to prioritize the value of urban nature in terms of health and well-being, recreation, or sense of place in a manner that does not invariably result in displacement.

2.5 Possibilities for Green, Equitable Urban Growth

Urban political ecology helps unearth the structural conditions that create instability in Campbell's planner's triangle and impede sustainability, or advancing environmental protection, equity and social justice, and economic growth in tandem. UPE names the social order as a capitalist one, which means our political-economy is predicated on an imbalance of control over

resources. Resultant inequalities stem primarily from this social order. The urbanization of nature and the particular physical, ecological, and social forms different neighborhoods take are informed by those with power in this system, both those who control capital *and* the state, whose management and facilitation of capitalists perpetuates this system. Socio-ecological configurations are produced by capital for capital. Not by capital for the community and, only in rare instances of struggle, politicization, and radical democracy, by the community for the community. From a UPE perspective, the planner, as an instrument of the state, cannot by definition bring about just, green growth in the absence of a new world order, in which the planner may not exist. Thus, the immediate task becomes one of understanding the limits of these structural conditions – and opportunities to foster political agency and democracy – in order to better manage what will always be trade-offs between equity, environment, and economy.

Seattle's Urban Village strategy laid out in its Comprehensive Plan is just one example of a policy and planning instrument tied to multiple, cascading socio-ecological processes. The guidance the state provides in terms of what type of development (i.e. capital) can go where stands to shape the ecological aspects of that urban environment for 'better,' in this case, for the natural environment, such as state- or private-led urban greening (which may also be revenue generating) or 'worse' like removing 100 year old trees providing ecosystem services in order to develop new buildings. In turn, such physical and ecological changes stand to modify the social landscape – a growing rent gap exploited in part due to new green amenities, an influx of newcomers seeking newly constructed housing, gradually dispersed social circles as incumbent residents choose to leave or are physically displaced. These outcomes are determined by the power relations ingrained in these processes, in this case originating from the state, whose

management of the built environment is explicitly in service of continued urban 'growth,' and (implicitly) in service of the reproduction of capitalism. Yet UPE also suggests that renewed political agency and the democratic control and organization of socio-ecological processes stands to produce more inclusive urban natures that interrupt the uneven character of Seattle's neighborhoods.

In terms of employing this lens in the review and evaluation of real world examples, UPE focuses our attention on the potential limitations of state-sponsored policies, agendas, or activities to bring about just, green growth, recognizing the instrumentality of the state in reproducing the capitalist social order or political-economy. It reveals the discomfiting possibility that the production of urban green infrastructure in service of the 'climate adapted' or 'resilient' city may subdue rather than constructively leverage local struggles that contest uneven urban development. Yet it also encourages us to seek out environments politicized by local communities and radical democratic responses born out of conflicts both old and new. Where have distributions of power shifted, who makes up such coalitions, how are new forms of control over the production of urban natures asserted? While the success stories may not yet be there, conflict incited by the pressures of continued urban growth and demand for the right to the green city are increasingly present and increasingly politicized. The interrogation of socio-ecological processes of green infrastructure expansion and densification – unearthing power relations, commodification and green gaps, politicized environments, and existing local struggles – will inform the subsequent review and evaluation of hypothesized outcomes in Chapter 4.

3 Chapter 3: Defining Urban Green Infrastructure, Density, and Displacement

Attempting to understand the complex interactions between expanding or enhancing urban green infrastructure in pursuit of 'the green city,' densification as a spatial manifestation of 'the growing city,' and displacement, a threat to 'the just city,' first requires an understanding of each of these variables and the conceptual relationships between and among them. This chapter will define each of these phenomena and discuss the interactions *between* variables, which represent sustainability priorities depicted in Figure 2. This sets the foundation for Chapter 4, which attempts to parse out interactions *among* the triangle's priorities – the outlook for residents' ability to stay in place when greening and growth coalesce – in cases and examples from the academic and professional literature. The urban political ecology lens presented in Chapter 2 is used to recenter the structural constraints that inform these different interactions, raising the visibility of power relations, green commodification, politicized environments, existing local struggles, and other socio-ecological drivers that produce new urban configurations.

3.1 Defining the Variables

3.1.1 Urban Green Infrastructure

Urban green infrastructure refers to various types of natural and semi-natural vegetative cover including parks (from large parks to pocket parks and vegetated parklets), gardens, bioswales or rain gardens, green roofs, and street trees, both public and private (American Society of Landscape Architects, 2020). This variable represents the planner's aim to protect urban nature (see Figure 2). The term 'infrastructure' implies vegetation in cities provides some structural functionality within the urban system. This is a result of the concept's origin in

stormwater management circles as the use of vegetation and other alternative materials that enhance water retention and drainage during runoff events, as an alternative to traditional gray infrastructure like pipes and sewers; however, in both the academic and professional spheres, green infrastructure has outgrown this stormwater-specific definition (Leonard, 2015). It may look different at different scales, with networks of natural areas or preserves, green belts, or other open spaces examples at the regional level. The focus of this research is on *urban* green infrastructure, which implies the city scale, but also encompasses vegetative cover at neighborhood or site scales.

The American Planning Association defines UGI not only by its physical forms or features, but also in relation to the ecological processes it confers that provide benefits to humans, called ecosystem services (American Planning Association, 2017). These may be biophysical (e.g. air and water quality and temperature regulation, moderation of extreme weather events, pollination and seed dispersal) or socio-cultural (health and well-being, provision of recreational, cultural, or aesthetic opportunities) (Douglas, 2012; Gill et al., 2007; Gómez-Baggethun & Barton, 2013; Tzoulas et al., 2007). This framing as 'services' is reflective of how our political-economy attempts to commodify ecological features and processes in order to translate values associated with UGI, which may be related to health, well-being, recreation, or sense of place, into economic terms. Urban green infrastructure may be strategically planned and purposefully designed and managed to maximize the value of specific ecosystem services (Haase et al., 2017). While such co-benefits are likely to factor into decisions to invest in UGI enhancement or expansion by municipalities, private developers, community groups, or residents, such intention or premeditation is not a prerequisite for what is considered UGI in this research.

3.1.2 Density

Density is a specific spatial typology of urban form often associated with urban growth. This variable represents economic development as a planning priority in pursuit of a growing city (see Figure 2). Density is frequently defined as a ratio of either urban population to land area (i.e. population density), or dwelling units to land area (i.e. residential density) (Mahtta et al., 2019). Within the context of urban growth, and specifically as a growth management technique, densification, or increasing the density of people and/or buildings, is increasingly seen as a tactic of sustainability and smart growth agendas (Chapple & Loukaitou-Sideris, 2019; Jabareen, 2006). Density and urban character are inextricably linked as density enables a 'viable threshold' or number of people within a given area sufficient to bring about the interactions necessary to make urban functions or activities viable (Jabareen, 2006). Dense urban forms purportedly use less energy, produce less waste per capita, and enable efficiencies in physical and social infrastructure provision (e.g. utilities, transportation, services and amenities), which have led to refrains of sustainability-as-density in urban planning and policy circles (Quastel, Moos, & Lynch, 2012). Chapple & Loukaitou-Sideris (2019) note that trends in smarter growth patterns, including dense urban forms, stem not only from environmental and economic resource efficiencies, but are also due to changes in consumer preferences whereby new generations of urban residents' desire more walkable, amenity-accessible neighborhoods.

3.1.3 Neighborhood Change

Neighborhood change is defined as the "spatial manifestation of the restructuring of capital accumulation in a process of uneven development" (Chapple & Loukaitou-Sideris, 2019, pg. 39). Put more simply, an economically stronger group asserting a locational interest at the expense of an economically weaker group (Helbrecht, 2018). Chapple & Loukaitou-Sideris

(2019) point out that neighborhood change is part of a cycle in which "the devaluation of capital in established areas yields diminished profits and accumulation processes begin to shift into other neighborhoods" (pg. 39). This restructuring of the where and how of capital accumulation can first lead to neighborhood economic and physical decline, but then eventually attract speculative development or the exploitation of a rent gap (i.e. the difference between potential and actual rent) as capital begins to shift back (Smith, 1979). This dynamic illustrates tensions between planning priorities of economic development and equity and social justice. When these other neighborhoods are comprised of populations that may not have the means to easily weather the return of capital and increases in valuation, gentrification and displacement can occur.

3.1.4 Gentrification

Scholarly definitions of gentrification originate from sociologist Ruth Glass, who uses the term to describe her observations of the slow upgrading of historically working class neighborhoods in inner-London by the middle class, up until such a point that the neighborhood's character has changed (Glass, 1964). This frames gentrification as a flow of people. This broad socioeconomic upscaling most often looks like the influx of higher-income residents and other shifts in demographics, usually in terms of educational attainment or racial make-up of neighborhood residents. This has led some to define gentrification as the economic and racial transformation of low-income neighborhoods (Yee et. al., 2018; Zuk et al., 2015). Population shifts occur not only because of concurrent changes in the built environment, but also stem from broader demographic trends like increasing demand for urban residences, the resurgence of the urban cores as a white-collar job center, and the mainstreaming of an urban aesthetic connected to shifting consumer preferences for compact, walkable neighborhoods (Chapple & Loukaitou-Sideris, 2019).

Viewed with an urban political ecology lens, it is clear that gentrification is not only about flows of people, but perhaps more centrally about flows of capital. Specifically, how and where speculation and capital investment serves to upgrade the natural and built environment in order to deliver a financial return. Traditionally such upscaling has taken the form of new or retrofitted residential or commercial buildings and associated streetscapes. However, other types of urban infrastructure – from public transportation to parks and waterfronts – are increasingly acknowledged as playing a role in gentrification (Chapple & Loukaitou-Sideris, 2019; Curran & Hamilton, 2018; Gould & Lewis, 2016). Gentrification is distinguished from neighborhood ascent in terms of its beneficiaries, who tend to be newcomers and homeowners, with incumbent renters often left more vulnerable (Chapple & Loukaitou-Sideris, 2019).

3.1.5 Displacement

Displacement is the involuntary relocation of incumbent residents, which may include both renters and homeowners (Chapple & Loukaitou-Sideris, 2019). In an equitable and socially just city, residents would not be involuntarily displaced, but could remain in the face of neighborhood change, the third variable in the triangle of Seattle's planning priorities (see Figure 2). Displacement may be distinguished as physical, direct displacement, or nonphysical, indirect displacement. While displacement can also be commercial, this study is interested in the implications on residents and thus primarily concerned with residential displacement. Because of a lack of appropriate data and methods, scholars have argued that displacement, particularly physical or direct displacement, is more difficult to identify and measure than gentrification, which can be approximated with socio-economic measures (Chapple & Loukaitou-Sideris, 2019).

The City of Seattle defines *physical displacement* as the result of "eviction, acquisition, rehabilitation, or demolition of property or the expiration of covenants or rent- or income-restricted housing" (City of Seattle, 2016b, pg. 4). Zuk et al. (2018) add to this informal eviction (e.g. landlord harassment) and natural disaster. Often we think of displacement having occurred when residents can no longer afford escalating rents or property taxes and move away (City of Seattle, 2016b). According to the academic literature, this is technically nonphysical, indirect *economic displacement* whereby residents are responding to external signals by leaving, rather than being physically forced to do so (Zuk et al., 2018).

Another manifestation is indirect *socio-cultural displacement* relating to one's community, culture, or sense of place. The City of Seattle defines cultural displacement as one's choice to move because one's neighbors and culturally related business have left the area (City of Seattle, 2016b). Got Green, a Seattle-based environmental justice organization, and Puget Sound Sage, a regional research, policy, and advocacy organization, detail this further as the "erosion of cultural anchors like community centers, culturally relevant businesses, faith institutions and service providers," which serves to degrade social cohesion as these anchors disperse or disappear (Got Green & Puget Sound Sage, 2016). As the scale of newcomers advances, businesses, services, and other amenities shift to accommodate these populations, changing the commercial and socio-cultural structure of an area (Helbrecht, 2018). Such changes may also influence the racial or ethnic character of the neighborhood, in addition to its class composition. While incumbent residents may remain physically, they may be left with a nonphysical sense of dislocation from changes in neighborhood character and social identity. This can result in a lost sense of place or belonging, without actual spatial dislocation (Chapple & Loukaitou-Sideris, 2019).

The parsing of direct and indirect displacement comes primarily from the academic community, with some of the professional literature rejecting that distinction. A local collaborative of Los Angeles-based community groups, non-profit organizations, and public agencies whose work will be discussed later embrace a less particular definition whereby displacement occurs when continued occupancy by that individual or household is "made impossible, unsafe, or unaffordable" (Yee et al., 2018, pg. iv).

3.2 Interaction Between Variables

3.2.1 Gentrification and Displacement

While this study is primarily interested in residents' ability to stay in place, representative of 'the just city' as a key planning priority, it is necessary to understand both the distinction and interaction between gentrification and displacement. Though sometimes conflated, they are discrete states in a broader socio-spatial process of neighborhood change. Historically, scholars have characterized gentrification and displacement as possible outcomes along a spectrum of neighborhood change, *from* gentrification *to* displacement, with various precursors and in between states (Marcuse, 1985). More recently, this spectrum is understood as artificial; there is not necessarily a chronological order in which gentrification and displacement occur and displacement may occur before, during, or after gentrification (Chapple & Loukaitou-Sideris, 2019; City of Seattle, 2016b). There are potentially many different situations – not just gentrifying neighborhoods – where displacement is likely occurring. Chapple & Loukaitou-Sideris (2019) argue this phenomenon persists in disinvested and affluent places alike, not only as the result of singular or episodic intervention, but over much longer time horizons and due to the dynamic interplay of multiple forces, such as structural racism. Often described as neither 'good' nor 'bad,' my position on gentrification and displacement is aligned with that of Chapple

& Loukaitou-Sideris (2019), who adopt a normative stance that when a household is forced to move, an injustice has, in fact, occurred.

3.2.2 Urban Green Infrastructure and Displacement

A growing body of literature suggests that urban greening, including when specifically employed to redress environmental injustice, is associated not only with neighborhood health, well-being, and recreational benefits, but also increased housing costs, property values, land grabbing, and dispossession of community assets, which may eventually serve to gentrify and displace the very same residents intended as beneficiaries (Anguelovski et al., 2018; Checker, 2011; Wolch et al., 2014). These tensions arise along the axis of environmental and equity priorities on the planner's triangle (see Figure 2). The pathway through which green amenities become drivers of displacement is referred to in the literature as environmental, ecological, or green gentrification. Urban greening may intentionally contribute to displacement, asserting a "highest and best" use over existing uses, or unintentionally by triggering renewed valuation of a neighborhood by various interests (Curran & Hamilton, 2018). This suggests a positive relationship between the expansion or enhancement of urban green infrastructure and displacement risk under certain conditions, which will be explored further through cases and examples in Chapter 4.

3.2.3 Density and Displacement

While the relationship between displacement and urban growth has seen considerable attention, its interaction with density as a specific typology of growth is the focus of more recent study, from which a less than clear picture has emerged. Densification implies a level of market driven development that in historically disinvested neighborhoods can be a fine line between speculation and the exploitation of rent gaps, on one hand, and increased supply and

affordability, on the other. These tensions arise along the axis of growth and equity priorities on the planner's triangle (see Figure 2).

In their 2019 book on the implications of transit-oriented development (TOD) on displacement (note that TOD is considered an instrument of densification), Chapple & Loukaitou-Sideris acknowledge that "too often, urbanists have prescribed compact development without evaluating the very real consequences of new, dense construction in terms of raising land prices beyond the means of current residents," which may lead to gentrification or displacement (pg. 3). Quastel, in his 2018 study of contradictions in Vancouver, Canada's sustainability agenda, found that low-income resident groups were actively opposed to densification due to concerns of affordability, gentrification, and the lack of social housing and new rental housing.

Rice et al. (2019) link the growing desirability of low-carbon lifestyles characterized by pedestrian- and bike-friendly urban neighborhoods well connected to public transit and increasingly dense and mixed-use in nature to implications for housing justice and gentrification. In contrast to previous generations' retreat to the suburbs, such urban areas attract middle- and upper-income residents that the authors argue are accompanied by shifts in urbanization that "have a direct impact on who lives in the city, how they live, and with what environmental outcomes" (Rice et al., 2019, pg. 1). These examples suggest that densification brings with it accompanying socio-economic changes that may serve to put incumbent residents at greater risk of displacement.

Alternatively, other scholars and policy professionals argue that densification increases housing affordability, a key driver of economic displacement risk, and stands to positively contribute to residents' ability to remain in place. The Brookings Institution, in a report from Baca et al. (2019), argue that where land is expensive, adding more homes per parcel increases

affordability. The authors demonstrate that even a 'gentle density' achieved through the redevelopment of detached single-family homes into townhomes and condominiums in their Washington, D.C. study site could reduce average home prices, while retaining existing neighborhood scale. Baca et al. arrive at this conclusion through compiling and reviewing proformas or cash flow statements for different redevelopment scenarios. While the suggested relationship between density and affordability is appealing for its simplicity, their study views affordability from the perspective of a homebuyer and thus calls into question the applicability of the findings to low-income or historically marginalized neighborhoods where renters are dominant.

Pendall & Carruthers (2003) and Boeing (2018) conduct quantitative analyses that model the relationships between dense urban form and income inequality and income segregation. These measures – income inequality and income segregation – are not necessarily proxies for affordability, but are suggestive of broader socioeconomic conditions relevant to gentrification and displacement risk. These studies articulate a more complex relationship between compact development and the socioeconomic conditions that stand to mitigate displacement risk. However, both suggest that density stands to positively contribute to equitable urban development.

Pendall & Carruthers (2003) analyzed a national dataset of metropolitan areas from 1980 to 2000 to determine how the spatial character and form of the built environment affects income segregation, with an eye towards contributing to the conversation around smart growth agendas promoting density in the name of greater socioeconomic equity. They found that the highest-density metro areas, in particular those whose density increased even slightly in the 20 year period, had less income-based segregation than moderately dense and unchanging metro areas.

While the authors conclude that density stands to play an increasingly positive role in promoting income integration, they caveat that such integration could also be the result of purposeful development of new mixed-income neighborhoods or ongoing gentrification (Pendall & Carruthers, 2003).

Boeing (2018) developed an agent-based model with the objective of determining the sensitivity of urban displacement and gentrification to density, income inequality, and varied preferences for different types of spatial amenities both ecological and social. The model demonstrated that income equality and density could lessen displacement and improve diversity, however density alone did not prevent displacement. It was only in concert with higher income equality that the model's low-income agents achieved high accessibility of amenities and community diversity. In contrast, higher inequality and lower densities resulted in the higher-incomes displacing lower-incomes to the periphery and away from ecological and social amenities. Boeing (2018) concludes with the recommendation that planners should promote affordable housing and highly accessible neighborhoods with diverse housing types and amenities in larger cities, characteristics of the model's most equitable locales, mid-sized towns.

3.2.4 Density and Urban Green Infrastructure

A key assumption regarding urban densification policies is that continual growth of people and associated built environment infrastructure *should* be accommodated. However, this has implications for biophysical aspects of urban environments, including urban green infrastructure. These tensions of natural resource management arise along the axis of growth and environmental priorities on the planner's triangle (see Figure 2).

Næss et al. (2019) in their study of the densification of Oslo, Norway between 1999 and 2004 argue that such policies led to a weakening of environmental sustainability and negative

impacts on what they refer to as intra-urban vegetation, most notably a 5% reduction in open-access areas. This suggests an inverse relationship between densification and UGI, with urban growth putting pressure on the biophysical environment, whether through physical factors such as reduced land area or a dominance of impervious surfaces, or economic factors such as the costs and benefits of green infrastructure (e.g. the value of floor area as compared to vegetation, or the cost associated with a green roof). The authors conclude that "even a strongly pursued eco-modernization strategy of densification cannot decouple growth in buildings and infrastructure more than partially from its negative environmental impacts"(Næss et al., 2019, pg. 15). However, it is worth noting that density, as a spatial strategy for managing urban growth, has several environmental merits over outward expansion or sprawl, namely reduced loss of natural areas and farmland, fewer automobile drivers, and reduced material and energy consumption (Næss et al., 2019).

This chapter defined and discussed the interaction between variables conceptually. The subsequent chapter is concerned with the interaction among the three variables – urban green infrastructure, density, and displacement – in practice. Chapter 4 presents a series of scenarios or hypothesized relationships among variables, pursuant to different interventions and conditions, from cases and examples in the academic and professional literature.

4 Chapter 4: Hypothesized Relationships Among Green, Growth, and Displacement in the Literature

While the previous chapter sought to detail the phenomena of interest and discuss conceptually the interactions between urban green infrastructure, density, and displacement, this chapter aims to assemble actual instances of the collision of these phenomena, investigating the range of potential scenarios observed in cases from the academic and professional literature. Findings are presented in the form of multiple hypotheses synthesized from a review of the literature in which the following conditions are present:

- An expansion or enhancement of urban green infrastructure has taken place or is underway;
- Urban growth is actively or has already triggered neighborhood revitalization or (re)development, focused as much as possible on cases where densification is the dominant spatial manifestation of such development; and
- Underlying socio-economic conditions akin to Seattle's Urban Villages with high displacement risk, namely low-income, historically marginalized urban neighborhoods.

Cases and examples from the academic and professional literature are reviewed and organized into five distinct hypotheses of the relationship between the aforementioned conditions and residents' ability to stay in place amidst such changes. These different scenarios can be structured more broadly into three categories.

1. **All Lose in Green and Growth:** Cases in which urban greening, urban growth and densification, and incumbent residents' ability to stay in place in such contexts are incompatible. Attempts to manage tensions between environmental, economic, and equity

priorities inevitably result in trade-offs that preclude realizing all three, and most often come at the expense of social or environmental justice.

2. **Everyone Can Win (Something):** Cases in which various 'sweet spots' of compatibility are found. These sweet spots are the result of specific interventions or approaches to managing tensions between sustainability goals, which may be spatial, integrated with other sectors, or policy-related. Economic or environmental priorities are compromised, to an extent, in order to preserve some equity and social justice gains, in this case, less risk of displacement for longtime residents.
3. **Some Win, Others Lose:** Cases in which it is accepted that new or improved urban green infrastructure and densification will come at the cost of displacement to some, while also conferring benefits or 'community dividends' to other longtime residents. The environment, economy, and equity remain planning's focus, but an imbalance among priorities is accepted and thus less attention is paid to managing tensions.

Each hypothesis is presented and critiqued in turn, with Chapter 5 discussing the implications of this review for municipal agendas for green, equitable urban growth, in particular as it relates to Seattle.

Given that Seattle's Urban Village densification strategy serves as the impetus for this study, density is the spatial manifestation of urban growth of primary interest. However, it is not the only typology of urban form that may result from growth, others being Los Angeles-style sprawl or the hyper-density exhibited by New York City and a growing number of global megacities. Recognizing this potential for difference, while understanding certain commonalities of urban growth pressure on the biophysical environment and displacement, this study attempts to assemble and discuss examples that, as much as possible, mimic Seattle's circumstances.

However, cases in which other typologies of urban form resulting from growth are present may also be considered.

4.1 All Lose in Green and Growth

Cases in which urban greening, urban growth and densification, and incumbent residents' ability to stay in place in such contexts are incompatible. Attempts to manage tensions between environmental, economic, and equity priorities inevitably result in trade-offs that preclude realizing all three, and most often come at the expense of social or environmental justice.

Hypothesis 1	**The Incompatibility of Green, Equitable Urban Growth** *The enhancement or expansion of urban green infrastructure in combination with urban growth or densification will compound displacement risk in low-income or marginalized urban neighborhoods, though physical displacement is not always the outcome.*

4.1.1 Hypothesis 1: The Incompatibility of Green, Equitable Urban Growth

This first hypothesis asserts that UGI expansion or enhancement is incompatible with longtime residents' ability to remain in place and benefit from such changes amidst conditions of urban growth or densification. This scenario is closely aligned with the theoretical argument found in urban political ecology, which would likely contend that the socio-ecological processes of greening and densifying produce new urban natures that, intentionally or unintentionally, subordinate social and environmental equity to profit-minded development, aggravating gentrification or displacement pressure. New green amenities become cause for apprehension, compounding longer standing concerns that the inevitable price of urban redevelopment is socio-spatial displacement (Helbrecht, 2018). Referring back to the planner's triangle in Figure 2, prioritizing growing and greening the city to create surplus value gives rise to (green) gentrification and displacement risk, tensions that preclude equity and social justice.

In a 2015 literature review published by the Federal Reserve Bank of San Francisco, the University of California, Berkeley and University of California, Los Angeles authors state "larger concerns about displacement and gentrification are increasingly associated – whether real or perceived – with the impacts of urban parks and greening" (Zuk et al., 2015). In 2019, Rice et al. describe a "growing recognition that improvements to urban nature and sustainability are intimately tied to gentrification and displacement" (pg. 1). A number of academic studies in a growing body of environmental gentrification literature have interrogated this sentiment.

Environmental, ecological, or green gentrification is defined in different ways by different scholars. For the purpose of this study, I find Checker's (2011) broad definition useful for identifying relevant contexts, which she describes as the convergence of urban redevelopment and ecologically minded initiatives in an era of advanced capitalism. Gould & Lewis (2016) channel the language of urban political ecology, defining green gentrification as the appropriation of the economic values of an environmental resource by one class from another. Dooling (2009) asserts the most explicit association between displacement and ecological gentrification, defined as "the implementation of an environmental planning agenda related to public green spaces that leads to the displacement or exclusion of the most economically vulnerable human population...while espousing an environmental ethic" (pg. 621).

While biophysical aspects of the urban environment are central to these definitions, so is the political-economic context that assigns economic value to green commodities amidst existing socio-economic and spatial inequalities. It is because the planner's priority of environmental protection is situated within a capitalist political-economy that tensions between environmental protection and social justice exist. A review of the environmental gentrification literature reveals specific cases that suggest UGI enhancement or expansion amidst urban growth or densification

results in heightened displacement risk in low-income urban areas. Of the cases employed in support of this hypothesis, each explicitly draws from theoretical considerations in urban political ecology.

Miller's (2016, 2018) archival research, spatial analysis, and interviews from 2010-2014 describe the nature and extent of gentrification and displacement in neighborhoods surrounding Brooklyn, New York's Gowanus Canals shortly after its designation as a Superfund site, which unlocked substantial funds for investment in environmental remediation. Canal clean up and waterfront redevelopment brought together new green infrastructure and dense development pressure, shaped primarily by government agencies and large development projects. Miller describes how a neighborhood of manufacturing and vacant lots gave way to spot rezoning for luxury housing, with further zoning changes for mixed-use residential development along Canal borders proposed (Miller, 2018).

Even before complete remediation of the waterfront, Miller (2016) finds evidence of social, cultural, and physical changes resulting from the transformation and commodification of urban nature, which she acknowledges as "molded from social and political conditions that support capitalist urbanization" (pg. 286). Between 2000 and 2012, demographic data indicated rising costs of living in Gowanus amidst growing resident incomes and education levels that corresponded to a whiter and less foreign born population (Miller, 2018). To better understand displacement risk from the cleaning and greening of the canal and densification of the adjacent waterfront, Miller relies on longtime resident perspectives. When asked about physical displacement risk, only 14% of interviewees immediately said they felt pressure to leave, yet 64% referenced people they knew who had already left (Miller, 2018, pg. 112). Indirect economic and socio-cultural drivers of displacement risk were more apparent in interviews,

namely affordability, property tax increases, others moving out, new and different housing and retail development, and changes in access to transit and parking (Miller, 2018). While many of these same residents historically pushed for cleanup, socio-ecological processes of environmental remediation produced not only new urban natures, but also "condos, co-ops, [and] Whole Foods," reflecting a commodification and (re)valuation of the neighborhood amidst ongoing dense development pressure in New York City (Miller, 2018, pg. 113).

In an example from Medellín, Colombia, Anguelovski, Connolly, & Brand (2018) find that a growth management policy intended to mediate tensions between managing natural resources for economic development and environmental protection created new equity and social justice conflicts. These dynamics of exclusion, segregation, and invisibilization of socio-economically and racially marginalized urban groups severely weakened residents' ability to stay in place in the name of a green public good. Medellín launched its Metropolitan Green Belt in 2012, envisioned as an urban growth and landslide management strategy, with different tiers of green infrastructure radiating out from the city center, including an initial 'zone of consolidation' with new housing. Anguelovski, Connolly, & Brand (2018) assess the social vulnerabilities presented by this urban greening and growth management approach through semi-structured interviews with directly impacted residents and those proximate to the rezoned areas. They find uneven enforcement of land use regulations and evictions in the name of growth management and hazard mitigation, whereby poor informal communities were relocated or displaced, while wealthier formal settlements remained and benefitted from new green infrastructure (Anguelovski et al., 2018). Uniquely, this was not (yet) a case of the displacement of incumbent residents by newcomers, but one where the urban green infrastructure itself physically displaced marginalized residents of areas deemed 'non-recoverable' by the municipality. The Green Belt

plan also contributed to indirect displacement, attracting visitors from dense inner city neighborhoods to recreational opportunities as a means of managing urban growth for the greatest public good, while dispossessing longtime residents of their green community assets.

According to the authors, the root cause of displacement is a 'green gap,' derived from the notion of a rent gap, whereby "land deemed vacant, underused, or contaminated is identified by developers as a possible area to be greened, generating amenities that may allow for higher economic value and profit accumulation" (Anguelovski, Connolly, & Brand, 2018, pg. 422). Green gaps are themselves an approach for managing tensions between economic growth and environmental protection, which are eliminated if the green infrastructure is revenue generating; the trade-off being that those who can't pay are precluded from urban nature. While the municipality and not private development initiated and advanced the Green Belt as a public good, its production was deeply embedded in the political-economic system that shaped its development. The municipality inherently supports the reproduction of capitalism as it accommodates, through management strategies like the Green Belt, urban growth and development, including around new green amenities. Medellín's new parks and nature reserves provide ecological, health, or socio-cultural ecosystem services to some, while conferring economic value to others, with the distribution of these benefits shaped by political and economic power and influence.

These examples suggest broader concerns with green planning agendas, from cleanup of Superfund sites to urban green belts. While often presented as an apolitical win-win for all community members, such agendas, even unintentionally on the part of the municipality, can become political instruments of urban redevelopment and the exploitation of green gaps. The structural conditions through which our society is organized create inherent instability in the

planner's triangle, preventing the even advancement of priorities. Echoing the urban political ecology literature in terms of how to contest the exploitation of green planning agendas by the powerful, Anguelovski et al. (2018) assert the need to re-politicize the sustainability discourse, emphasizing where asymmetric power dynamics and resource conflicts remain unaddressed in accommodating urban growth with new green infrastructure.

4.2 Everyone Can Win (Something)

Not all academic and professional literature accepts the inevitability of heightened displacement risk from expanding urban green infrastructure in marginalized neighborhoods under growth pressure. The subsequent three hypotheses from academics, public and non-profit professionals, and community-based organizations demonstrate cases in which various 'sweet spots' of compatibility are found. These sweet spots are the result of specific interventions or approaches to managing tensions between sustainability goals, which may be spatial, integrated with other sectors, or policy-related. These scenarios compromise economic or environmental priorities to a certain extent in order to preserve some equity and social justice gains, in this case, less risk of displacement for longtime residents.

Hypothesis 2	**Altering Scale and Composition of UGI to Mitigate Displacement** *New or improved urban green infrastructure that meets certain spatial or compositional criteria can mitigate green gentrification and displacement risk, compromising some environmental priorities to preserve equity gains. This includes both formal and informal UGI.*
Hypothesis 3	**Integrating Affordable Housing and UGI to Mitigate Displacement** *Integrated affordable housing development and urban green infrastructure planning can avoid or mitigate displacement risk, while proactively responding to urban growth pressures through residential densification. Socially just urban greening in growing cities comes at the expense of forgone economic gains from market-rate development.*

Hypothesis 4	**Displacement Avoidance Policies First** *New or improved urban green infrastructure, when preceded with displacement avoidance policies that manage gentrification and displacement risk from both a social and environmental justice perspective (i.e. across both growth-equity and environment-equity tensions) can benefit longtime residents, even amidst urban growth and densification pressure. Socially just urban greening comes at the expense of forgone economic gains from status-quo policies that favor market-driven urbanism.*

4.2.1 Hypothesis 2: Altering Scale and Composition of UGI to Mitigate Displacement

The previously discussed cleaning and greening of the Gowanus Canal and Medellin's Green Belt are both examples of large-scale UGI interventions, which are often coordinated with and may be accompanied by redevelopment opportunities. Researchers point out that this dynamic is not new, referencing past major park projects, such as New York City's Central Park, that were overtly designed to increase land values and incite development (Wolch et al., 2014). These observations have consequently called into question the relationship between the spatial scale of urban green infrastructure, as well as its formal composition, and the resultant implications on displacement risk in rapidly growing cities.

In response, scholars, in particular Curran & Hamilton (2012, 2018) and Wolch et al. (2014), have asserted the need for spatially tempered alternatives that are 'just green enough,' essentially compromising environmental priorities 'just enough' to preserve some equity gains. This second hypothesis suggests approaches for mitigating green gentrification and displacement risk in order to manage environment-equity trade-offs, such that UGI can exist in conditions of growing and densifying low-income neighborhoods without displacing longtime residents. This sweet spot is contingent on the spatial scale and composition of the green infrastructure, including both formal UGI purposely designed and implemented, as well as informal UGI

resulting from human (or nonhuman) exploitation of a landowner's ambivalence or neglect (Rupprecht & Byrne, 2018).

The notion of 'just green enough' means creating ecological improvements in the form of urban green infrastructure, but not at such a scale as to attract massive new investment (Rice et al., 2019). Specific parameters for this spatial tipping point are not provided in the literature. Instead, scholars reference alternatives to "grand civic green space projects" that geographically concentrate environmental amenities, which can influence the subsequent concentration of other resources and incite (green) gentrification (Wolch et al., 2014, pg. 241). Multiple small-scale, scattered interventions more evenly distribute access to urban nature, which also means a more elusive focal point for real estate development. This is not to suggest that neighborhood change is nonexistent in the face of 'just green enough' infrastructure; rather, the limited nature of such environmental investments fails to catalyze major shifts in real estate valuation or speculation. Underutilized sites, such as back alleys, offer a spatially tempered alternative to a park or greenway that may be more immediately perceptible. Wolch et al. (2014) reference examples in dozens of U.S. cities where underutilized sites have been transformed into green infrastructure for informal play, exercise, and social interaction, while also conferring biophysical ecosystem services through stormwater retention and habitat provision.

Curran & Hamilton (2012), who originated the 'just green enough' term, dive deep into the case of Greenpoint, Brooklyn's Newtown Creek Nature Walk in New York City between 2008-2012. Anticipating an instance of green gentrification in the cleanup and greening of an environmentally hazardous waterbody and waterfront, the researchers uncover nuance in the extent of environmental improvement and composition of UGI and surrounding land uses. They observe a spatially limited green amenity surrounded by no longer toxic but still industrial land

uses “independent of entrepreneurial redevelopment processes” (Curran & Hamilton, 2012, pg. 1034). By remediating as much of the environmental hazard as possible for public health while preserving industrial waterfront uses for the area’s working-class residents, the nature walk, situated in the shadow of a sewage treatment plant, contests the inevitability of displacement in a growing metropolitan area. However, it also limits the pursuit of environmental priorities that may have otherwise gone further, to the benefit of people or the biophysical environment, and reinforces existing social inequities by tempering the UGI accessible to Greenpoint residents, as compared to other parts of New York City.

A distinct but related argument is made for informal urban green infrastructure as having less of an impact on displacement risk. While the ‘just green enough’ literature advises scattered, small-scale urban greening, interventions are still planned and purposefully designed. In contrast, informal green infrastructure is not intentionally designed as a garden or recreational space. However, such end uses may occur in instances of landowner neglect or ambivalence of what the literature calls liminal, overlooked, or in-between spaces (Rupprecht & Byrne, 2018). Examples of informal UGI include vacant lots, gaps between buildings, street or railway verges, powerline corridors, or brownfields. The exploitation of these spaces by area inhabitants or by spontaneous vegetation may serve to attract people and animals that find recreational, social, or ecological value in them. While urban green infrastructure may also confer economic value, the informal nature of this approach by definition does not, a key reason why it may avoid tensions of environmental gentrification or displacement risk.

Rupprecht & Byrne (2018) identify informal green infrastructure in Japan and Australia, examining its use by residents and potential impact on property values. They find that informal UGI appears to meet residents’ green space needs without triggering green gentrification or

displacement. In such instances, it is not only the spatial scale that is of relevance, though examples of informal UGI do tend to be small-scale and scattered, like gaps between buildings or a street verge, but also the spatial composition, namely the liminal or ambivalent spaces occupied, such as vacant lots or a powerline corridor. Because informal UGI does not require formal sources of finance and thus return on investment, Rupprecht & Byrne (2018) conclude that it does not exhibit the same patterns of socio-spatial (dis)advantage or displacement risk seen in formal green infrastructure. Additionally, they observe that informal alternatives appear to fulfill the needs of different types of urban residents based on respondent observations, providing valuable green resources in particular to those deprived of formal green spaces. While a strategic, coordinated effort to expand informal UGI seems potentially incompatible with the nature of this intervention, there are ways in which informal alternatives can be supported or activated. This includes identifying and mitigating barriers like removing fences around vacant lots, providing residents with information about the availability of informal green spaces in their neighborhoods, cataloguing and publicizing soil contamination information, or amending discouraging land use codes (Rupprecht & Byrne, 2018).

What is more difficult to anticipate are the implications of densification on spatially tempered or informal UGI alternatives, or growth-environment trade-offs resulting from attempts at environment-equity gains. On one hand, densification incentivizes the infill of underutilized sites, taking up land that otherwise could be repurposed for green infrastructure. Yet ‘just green enough’ and informal solutions are also more adaptable to spatial constraints or compositional limitations than major green investments and stand to persist or, in the case of informal, liminal spaces, thrive in dense urban environments.

While introduced as a means to trade environmental priorities for social justice gain, the spatially tempered UGI exhibited in these examples raises further concerns about the equity implications of a 'just green enough' or informal response. If anything, historically marginalized urban neighborhoods are more deserving of green infrastructure on the scale of grand civic projects. Yet, as underscored in urban political ecology, the production of urban nature is often uneven and unjust. These approaches, while promising in terms of feasibility, nonetheless are a compromise between the scale and composition of UGI and the ability for longtime residents to remain in place and benefit from any sort of urban greening. While spatially tempered or informal approaches may reflect an alternative, it is still one that is situated within the capitalist system and its limitations. Marginalized urban residents receive some incremental benefit meant to temper the exploitation of green gaps, meanwhile market-driven urbanism and socio-environmental inequities persist on a broad scale. A critique leveled specifically at Curran & Hamilton understands 'just green enough' as a sort of 'polluted protection' whereby environmental cleanup is limited because the toxicity or degradation serves to protect residents from displacement (Miller, 2015). Curran & Hamilton (2018) refute this as a misconstruing of the concept, stating their intent is to decouple greening from real estate development, though they also fail to fully address the potential that such approaches shift the unjust burden of gentrification and displacement to one of inequitable provision of green infrastructure.

4.2.2 Hypothesis 3: Integrating Affordable Housing and UGI to Mitigate Displacement

Departing from the spatial composition and scale of urban green infrastructure, there is a distinct strand of literature that incorporates some of these same approaches integrated with affordable housing development. This is of particular interest to this study because it explicitly links UGI and residential densification, a key driver of Seattle's Urban Village strategy, as a

purposeful anti-displacement approach. This literature hypothesizes a sweet spot among the three fundamental planning priorities in the integration of housing and UGI development. By expanding affordable housing that incorporates green elements, planners can manage gentrification and neutralize displacement risk, while proactively densifying in response to urban growth pressure. However, this attempt at socially just urban greening in growing cities comes at the expense of forgone economic gains for both the private sector and municipal government from what could have been market-rate development.

Encouraging the development of affordable housing is a common strategy used to counter the effects of green gentrification and displacement (Curran & Hamilton, 2018; Gould & Lewis, 2016; Wolch et al., 2014). However, for this to be effective, some argue affordable housing must be integrated in green infrastructure planning from the start, rather than added later (Rigolon & Németh, 2018; Yee et al., 2018). The most in depth investigation of integrated solutions comes from the professional literature. In 2016, a coalition of non-profit organizations and public agencies representing environmental and affordable housing interests and local community groups came together to address the role of UGI investments in Los Angeles' growing housing and homelessness crisis. The resulting Los Angeles Regional Open Space and Affordable Housing (LA ROSAH) collaborative aims to explore new development models that expand low-income neighborhoods' access to urban nature, while mitigating gentrification and displacement risk (Yee et al., 2018).

In collaboration with LA THRIVES, a nonprofit dedicated to equitable transit-oriented development and affordable housing, LA ROSAH proposed a set of typologies for the joint development of affordable housing and urban green infrastructure in the 2018 report *Pathway to Parks and Affordable Housing Joint Development* (Yee et al., 2018). The report attempts to

bridge what the authors observed to be largely independent systems of environmental conservation and investment in UGI with investment in affordable housing. Adapting the concept of joint-development from transit-oriented development circles, Yee et al. (2018) define joint-development as the partnership of one municipal agency (or non-profit) with another or with a private or non-profit developer to develop a property; costs are shared and the property provides mutual benefit to all partners. In terms of affordable housing and UGI joint-development, benefits could include using residents as on-site stewards of green infrastructure, or developers capturing some of the economic value of new UGI, though not for short-term exploitation of a rent gap.

Pathway to Parks and Affordable Housing Joint Development conceptualized five distinct typologies of integrated housing and green infrastructure. These typologies are the result of surveys, interviews, and desk research conducted by LA ROSAH collaborative organizations in 2016 and 2017 to identify and categorize multi-benefit projects across U.S. cities that incorporated some form of production or preservation of affordable housing and/or displacement protections along with green infrastructure (Yee et al., 2018). At minimum, examples co-located UGI and affordable housing on the same or adjacent parcels, while others more closely integrated the two through planning, design, or financing (Yee et al., 2018). Table 1 summarizes each integrated typology, which are primarily differentiated by the size and scale of joint-development.

Table 1. Integrated Affordable Housing and Urban Green Infrastructure Typologies Adapted from LA ROSAH (Yee et al., 2018).

Typology	Description
Infill Development with Affordable Housing and On-Site UGI	(Re)development of a small urban infill site (<7 acres, often <1 acre) with both affordable housing and publicly accessible UGI. While <1 acre infill sites may not have sufficient land area to enable UGI to be publicly accessible, landscaped areas are still made available for residents.
Infill Development with Affordable Housing and Off-Site UGI	In instances where affordable housing and UGI cannot be co-located on-site, whether a product of size constraints or other factors, joint-development is achieved with publicly accessible UGI on adjacent public right-of-ways (e.g. alleys, streets, utility corridors, city storage or maintenance yards) or other (difficult to develop) infill sites within a 1 mile radius.
Neighborhood Transformation through Scattered Sites	Multiple small, scattered sites for (re)development and/or preservation of affordable housing and UGI are identified as part of a coordinated neighborhood-scale plan, typically executed through phased redevelopment led by community development corporations. UGI may be co-located with housing or off-site. Housing development must constitute at least one 0.5 acre site.
Large Master-Planned Infill Joint-Development	(Re)development of a large (7+ acre) site with publicly accessible UGI co-located with affordable housing on-site. Projects at this scale in urban areas are likely only feasible if public land is available. Consequently, most past instances of this approach were redevelopments of

	public housing.
Transformative (Green) Infrastructure with a Housing-Centric Anti-Displacement Strategy	Major infrastructure investments with UGI components that have the potential to dramatically impact economic or socio-cultural dynamics are deemed 'transformative.' In such instances, LA ROSAH found that only projects accompanied by an affordable housing-centered anti-displacement strategy, which may include preservation and rehabilitation of existing housing, tenant protections, and new affordable housing construction, are successful at mitigating displacement risk. Transformative infrastructure development must include mechanisms for value capture and financing of affordable housing. In such cases, UGI is not typically co-located with affordable housing, but adjacent.

These typologies offer potential approaches to expanding or enhancing UGI in neighborhoods identified to accommodate urban growth through densification, such as Seattle's Urban Villages, in a manner that mitigates displacement risk. It is important to highlight that across all typologies, affordable housing (re)development is infill, which is likely both a product of the reality of land availability, particularly in rapidly growing cities, as well as a strategic approach designed to minimize transformative implications on neighborhoods that may enhance displacement risk. Residential urban infill, or development sited on vacant or underdeveloped land enclosed by existing development, contributes to densification by adding dwelling units and population to land area. This densification stands to positively contribute to equitable urban development and may increase affordability in high-cost, rapidly growing cities (Baca et al., 2019; Boeing, 2018; Pendall & Carruthers, 2003).

However, echoing the critique of spatially tempered UGI from the previous hypothesis, infill (re)development scenarios and scattered-site solutions also raise questions about the quality of associated UGI for residents, as well as how truly accessible it is to the public. On-site UGI is likely to take the form of smaller-scale greenery, from small lawns or gardens to bioswales or green walls or roofs. Such approaches may provide a displacement-insulated green amenity for residents and potentially for neighboring inhabitants, should the UGI feature well demarcated public points of entry or invitation to linger. However, a critical urban political ecology lens suggests that integrated solutions could also serve to distract and possibly detract from addressing historic inequities in both the quality and quantity of UGI distribution. A landscaped courtyard or green wall is not a true substitution for a large park. Yet from the viewpoint of the professional organizations that make up the LA ROSHA collaborative, the imperative to act and to do so strategically in a manner that supports healthy, sustainable development for all residents determines the proposed approaches, even if this also draws the bounds of what is feasible today and what remains aspirational. At the same time, transformative, large-scale green infrastructure investments present their own challenges, as demonstrated by the first hypothesis. Only with an affordable housing-centric anti-displacement strategy may the value associated with the new green amenity be conferred for the benefit of incumbent residents, and even so this is not a guarantee.

While the report by Yee et al. also emphasizes the importance of affordable housing preservation and displacement protections, the typologies are centered around development or redevelopment, which assumes financing is available not only for UGI expansion or enhancement, but for housing production. LA ROSAH identifies the lack of financing tools, as well as policies supportive of a joint-development approach, as a key limitation to widespread

adoption. “We hypothesize that it would be unlikely for any of the five joint-development scenarios to be realized beyond ad-hoc or one-off projects without systematic policy and financial tools that establish predictability of funding sources and mitigate real estate risk” (Yee et al., 2018). This underscores the economic trade-off required for integrated affordable housing and UGI approaches, namely the allocation of municipal or private capital for development that purposefully generates less of a financial return in favor of a more socially just one.

4.2.3 Hypothesis 4: Displacement Avoidance Policies First

In addition to the implementation approaches discussed previously, there are also cases of policy approaches that establish displacement protections through local, regional, and statewide entities related to UGI investment. By first crafting and implementing policies that address both growth-equity (i.e. gentrification and displacement risk) and environment-equity (i.e. green gentrification and displacement risk) tensions, this hypothesis asserts that greening and densification do not always displace and can also benefit incumbent residents. Yet socially just urban greening comes at the expense of forgone economic gains from status-quo policies that favor market-driven urbanism.

Over multiple years, the Urban Displacement Project (UDP), a joint effort of the University of California, Berkeley, the University of California, Los Angeles, and Portland State University, has developed a repository of anti-displacement policy types. Prompted by the market dynamics that provoked California’s growing affordability and homelessness crisis, UDP’s historic focus was policies to manage growth-equity tensions and enable longtime residents to stay in place. The UDP’s policy inventory categorizes anti-displacement policies on the books in California cities and counties into 14 types, which range from tenant protections, like rent stabilization and just cause evictions ordinances, to affordable housing production

strategies, like commercial linkage fees, inclusionary zoning, or density bonus ordinances (Zuk & Chapple, 2018). Some of these same policies are increasingly part of the conversation about managing green gentrification and displacement risk, or the environment-equity tensions that arise in capitalist political-economies (Curran & Hamilton, 2018; Rigolon & Christensen, 2019; Wolch et al., 2014; Yee et al., 2018).

The policy report *Learning from Parks-Related Anti-Displacement Strategies Nationwide* reviews anti-displacement policies tailored to managing equity tensions resulting from new or improved urban green infrastructure, specifically parks. The authors, Rigolon & Christensen (2019), find 27 large park development projects in marginalized neighborhoods of 19 U.S. cities, identifying park-related anti-displacement strategies (PRADS) through document review, media accounts, and interviews. They found multiple projects where park planners or community organizations proposed or actively implemented PRADS, yet half of all projects did not take concrete action to mitigate displacement risk (Rigolon & Christensen, 2019). Building upon the UDP inventory, the authors identified 26 types of park-related anti-displacement strategies, including policies for specific implementers like park funding agencies, nonprofit and public housing organizations, and private and nonprofit developers (Rigolon & Christensen, 2019). PRADS included funding parks competitively and requiring or incentivizing anti-displacement strategies in proposals, risk mitigation funds, forgivable loans for home improvements, property tax freezes for low-income homeowners, and accessory dwelling units and compact lot subdivision ordinances (Rigolon & Christensen, 2019). However, the authors caution that in most instances, it is still too early to thoroughly evaluate the effectiveness of these efforts in mitigating displacement.

One example of a policy that attempts to manage gentrification and displacement risk from both a social and environmental justice perspective (i.e. across both growth-equity and environment-equity tensions) comes from Los Angeles County. The *Safe, Clean Neighborhood Parks and Beaches Measure* approved by voters in 2016 funds L.A. County's parks and urban greening, beaches and rivers, open spaces and community recreation facilities under Measure A. The funding mechanism, a parcel tax, is anticipated to generate $96 million per year (Steering Committee, 2018). The Los Angeles County Regional Park and Open Space District (RPOSD) administers Measure A funds and designed a needs-based hybrid approach that funds projects both through allocations and competitive grants beginning in 2018 (Steering Committee, 2018). L.A. County RPOSD, in consultation with an implementation Steering Committee with wide reaching technical and local experience, developed a set of recommended policies to guide the administration of funds. This included a Displacement Avoidance Policy (Policy) in response to organized community demands for equitable and socially just implementation of funds and distribution of benefits. The Policy was formally adopted by the L.A. County Board of Supervisors in 2019 (Advancement Project California, 2019).

L.A. County RPOSD's Displacement Avoidance Policy provides an actual example of the strategies municipal agencies chose to formalize in response to "the likelihood of displacement and gentrification as a result of park enhancement projects" (Steering Committee, 2018, pg. 2-10). While the Displacement Avoidance Policy is actually made up of 21 policies in line with five goals, certain elements are particularly noteworthy in relation to expanding UGI in growing city. First and foremost, the Policy explicitly allocates funding for high and very high need neighborhoods to redress spatial inequalities in the distribution of green infrastructure resulting from previous growth-environment (e.g. environmental degradation) and environment-

equity trade-offs (e.g. environmental injustice). Requiring at least 30% of funds be apportioned to such areas up front, there is potential for additional resources to go to these neighborhoods through the competitive grant funding mechanism (where applications serving these areas are also awarded points in scoring) (Steering Committee, 2018).

The Displacement Avoidance Policy is cognizant of the direct impacts of investment on land values and existing housing, or longstanding growth-equity tensions, which are compounded by plans for green investment. As described in one L.A. example, "the promise of over a billion dollars of public investment dedicated to restoring the L.A. River appears to increase the rent gap of riverside land, prompting developers to buy up properties in order to capitalize on this future value" (Kim, 2018, pg. 185). L.A. County RPOSD attempts to prevent future environment-equity conflicts related to land speculation with a policy to reject acquisition projects when purchase prices are based on speculative or inflated land values and to minimize advance public disclosure of parcels for acquisition to avoid further speculation (Steering Committee, 2018).

While the Policy acknowledges that Measure A funding cannot be used directly for housing, it takes important steps to enable the type of joint-development projects discussed previously. Effectively, funding can be used for green infrastructure components of integrated affordable housing projects, provided it is publicly accessible and located adjacent to or within one-half-mile of affordable housing (Steering Committee, 2018). This enables previously discussed typologies of infill housing development with either on-site or off-site public UGI, or UGI coordinated across scattered neighborhood sites. This also addresses some of the limitations identified by Yee et al. (2018), offering a formal policy and finance mechanism for affordable

housing developers and local park agencies or nonprofit green space developers to partner for mutual benefit and in support of displacement avoidance.

Other notable aspects of the Policy include preferencing applications for funding where community engagement includes strategies to employ small, local businesses and workers to equitably distribute the economic benefits of project development, in addition to the ultimate recreational, health, wellbeing, or economic value afforded community members by new or improved UGI (Steering Committee, 2018). Similarly, applications that integrate local workforce development, in an effort to build further resilience to gentrification or economic displacement, receive additional points. The baseline expectation, outlined in a specific community engagement policy for Measure A-funded projects, is "culturally competent, linguistically appropriate, inclusive, and meaningful engagement of existing populations" (Steering Committee, 2018, pg. 2-11). Additionally, RPOSD's Displacement Avoidance Policy commits the County to actively monitor for displacement and gentrification, in partnership with area universities, nonprofits, and public agencies, to share data and evaluate and adjust policies as needed (Steering Committee, 2018).

It is also important to acknowledge what the Policy does not or cannot do, particularly as it relates to the aforementioned PRADS and UDP policies. The major gaps are explicit tenant protections and services for renters, as well as strategies to preserve or create homeownership opportunities among incumbent residents. Such policies may be present at the level of local jurisdiction, or may not. While these limitations are primarily a product of RPOSD's mandate and authority as a park and open space agency, the Displacement Avoidance Policy calls for the agency to support the creation and funding of a countywide anti-displacement task force to advance comprehensive protections alongside other county agencies, local jurisdictions, and

local organizations from across issue areas and sectors (Steering Committee, 2018). Key activities proposed for the task force include developing an incentive-based system to encourage local governments to adopt broader tenant protection, anti-displacement, and value capture measures; however to date there does not yet appear to be such a county-wide body (Steering Committee, 2018).

This case, despite its limitations in terms of comprehensive anti-displacement measures, is an example of how an urban political ecology approach can work in practice. Democratic efforts influenced the socio-ecological processes that produce urban green infrastructure in L.A. County to the benefit of park-poor, low-income, or otherwise marginalized urban neighborhoods. A coalition of community organizations, the Park Equity Alliance, together exerted power through public channels to successfully advocate for the inclusion of anti-displacement measures in RPOSD's administration of Measure A funds (Aboelata et al., 2019). This is an active contestation of market-driven urban development, which attempts to monetize green amenities and exploit green gaps for profit. Institutionalizing anti-displacement policies within economically and politically powerful entities, in this case RPOSD and its $96 million/year budget, that reject projects associated with speculative or inflated land values and institute displacement avoidance strategies opens up possibilities for just, green growth in L.A. County.

4.3 Some Win, Others Lose

Cases in which it is accepted that new or improved urban green infrastructure and densification will come at the cost of displacement to some, while also conferring benefits or 'community dividends' to other longtime residents. The environment, economy, and equity remain planning's focus, but an imbalance among priorities is accepted and thus less attention is paid to managing tensions.

Hypothesis 5	**Community Dividends** *While new or improved urban green infrastructure in growing, densifying cities increases displacement risk for some, it also confers benefits or 'community dividends' on other longtime residents. Trade-offs between priorities are inevitable – those resilient to green gentrification win, while others lose and may be displaced.*

4.3.1 Hypothesis 5: Community Dividends

Of the considerable research on gentrification and displacement, including green gentrification, the majority is focused on documenting the negative impacts on incumbent residents (Pearsall, 2012). Such explorations make clear the uneven distribution of impacts, where some win while others lose. This study has similarly attempted to make visible the equity and social justice tensions that environmental agendas can trigger in growing cities and maintains that when a household is forced to move, an injustice has occurred. However, this final hypothesis contends that some portion of longtime residents remain resilient to displacement risk and reframes the outcome of gentrification and displacement from solely injustice to also include 'community dividends.'

This perspective is grounded in the notion that there can be positive implications of gentrification for affected communities. The Brookings Institution published *A Primer on Gentrification and Policy Choices* nearly two decades ago, a time when they observed gentrification to be re-emerging across U.S. cities, in an attempt to better understand and address it (Kennedy & Leonard, 2001). One of the paper's aims was to "lay out the causes and the consequences of gentrification, both good and bad" (Kennedy & Leonard, 2001, pg. 3). In actuality, the authors assert three simplified possible outcomes: good, bad, or mixed. While Kennedy & Leonard (2001) reiterate the previously discussed negative consequences – high economic and social costs that may include displacement for marginalized residents – they also

assert that gentrification can yield positive outcomes for communities by creating a greater income mix and providing more economic opportunities in neighborhoods. These differential impacts are context dependent, and can also be mixed, where benefits and costs are uneven among newcomers and longtime residents (Kennedy & Leonard, 2001).

A more recent review of empirical studies investigating the experiences of longtime residents who remained amidst gentrification suggests some have benefited. Positive consequences included increased property values and reduced residential and commercial vacancies (applicable only to property owners), as well as economic development, increased social diversity, and the renovation of existing buildings (Pearsall, 2012). This idea that some incumbent residents experience an influx of services and amenities and appreciate neighborhood change tells a different narrative than previously discussed hypotheses. In an attempt to understand why certain residents were able to remain in the face of environmental gentrification, Pearsall (2012) identified rent stabilization and home ownership as the two primary resources that contributed to resident resilience in her three New York City case studies. While these findings suggest positive implications of gentrification for some, Pearsall's exploration of the factors that enabled residents to remain demonstrates the protections or privileges necessary to confer such benefits.

We can extrapolate this perspective on gentrification to instances where neighborhood change is catalyzed by specific actions or policies. The term 'community dividends' used in relation to gentrification and displacement comes from the recent work of Chapple & Loukaitou-Sideris (2019). The title of their book poses the question *Transit-Oriented Displacement or Community Dividends?*, dividend meaning a benefit from an action or policy. While Chapple & Loukaitou-Sideris are referring to TOD as the policy, the framing of their question is also

relevant to urban green infrastructure planning and densification policies. While the authors do not ultimately rule on their own question of displacement or dividends, their discussion nonetheless is suggestive of this last hypothesis. It also gives a name – community dividends – to the positive impacts that gentrification may confer on resilient longtime residents able to stay in place. While Chapple & Loukaitou-Sideris find some evidence affirming the association between TOD and displacement, they ultimately caution that "it makes little sense to oppose the development of new transit on the grounds of displacement, as transit may offer community dividends in the form of increased accessibility, and displacement will only occur at a small scale and slow pace (and in some places not at all)" (2019, pg. 267-268). The same could be said for urban green infrastructure. Expanding UGI in low-income neighborhoods already under development pressure from densification policies is likely to result in displacement for some. Yet those who remain benefit from cleaner air, additional recreational opportunities and communal spaces, or a new or renewed attachment to place.

This hypothesis is not without critique, particularly when applying the urban political ecology lens. The intent of trade-offs or concessions in the three preceding hypotheses – expansive urban greening for tempered, unconventional alternatives, moderated city or regional economic growth for the sake of the local – was to optimize for social and environmental equity. In contrast, the community dividends scenario accepts that the status quo – neoliberal politics that favor market-driven urbanism, the exploitation of green gaps – means an imbalance among key planning priorities. The trade-offs between which priorities prevail and which concede is a function of our capitalist political-economy, with social and environmental justice frequent losers. Thus, less attention is paid to managing tensions or optimizing trade-offs. While the other hypotheses reflect active attempts to influence the socio-ecological processes and power

dynamics that produce cities, this scenario accepts the continued commodification of urban nature and the existing power relations inscribed in its transformation. The silver lining that not all low-income or marginalized residents are displaced, that in fact some receive 'dividends,' to use the language of capitalists, helps disguise the fact that this narrative perpetuates the current social order and the uneven and unjust urban landscapes it produces. This also makes it is the most pragmatic or realist position, enabling the siloed restoration ecologist or economic development planner to advance their respective priorities with less interference (and somewhat predetermined outcomes).

Chapple & Loukaitou-Sideris (2019), while acknowledging the benefits of increased accessibility and access to opportunity that come with transit-oriented development, also emphasize that it is not enough to accept that benefits will accrue to some. New amenities, be they transportation or greening related, should be designed to offer community dividends to all, involving local communities in discussions around new development in their neighborhood and ensuring displacement protections are in place.

5 Chapter 5: Discussion and Implications

5.1 Possibilities for Green, Equitable Urban Growth (Revisited)

On the surface, each of these hypotheses tells a different story of the relationship between expanding or enhancing urban green infrastructure, densification as a spatial manifestation of urban growth, and displacement in low-income, marginalized communities. One of incompatibility, one of managing trade-offs for incremental social or environmental benefit at the cost of forgone capital, and one of (uneven) community dividends. Yet when stepping back and posing the broader question of whether green, equitable urban growth is a false promise – of comprehensive plans, of urban greening and climate action strategies, of equitable development agendas – none of these hypotheses demonstrate, in practice, anything other than working within the structural constraints of our capitalist social order where balancing equity, environmental protection, and economic development is not possible. Thus, Campbell's sustainability triangle remains "more promise than practice" (Campbell, 2016, pg. 388).

From an urban political ecology lens, informed by the Marxist critique of capitalism, green, fully equitable urban growth will never be a possibility as long as the social order is a capitalist one. Irrespective of the particular form that growth takes – dense development or otherwise – capital drives decisions about who benefits from urban green infrastructure, facilitated by the state. These decisions benefit capitalists first and preclude other winners, contrary to hypotheses that suggest otherwise, further perpetuating uneven and inequitable urban landscapes. The majority of scenarios reviewed do not contest that our capitalist political-economy is predicated on an imbalance of resources, instead they assert this reality can be incrementally better for people or planet when we, as planners, make purposeful trade-offs. For example, subsidizing the cost of housing jointly developed with green infrastructure or

supporting tenant protection legislation to prioritize equity and social justice over foregone tax revenue, or preserving longtime communities at the cost of tempering the scale or composition of their green amenities. Community dividends, on the other hand, reframe the uneven and unjust urban political ecology narrative to focus on those who do benefit. Included in that group are some longtime residents of socio-economically marginalized urban neighborhoods, due to their oftentimes financial resilience as homeowners or tenants of rent controlled units.

5.2 The Consequences of Urban Green Infrastructure and Density

Urban green infrastructure and density do not in and of themselves cause displacement. A new community garden adjacent to an old apartment building does not immediately result in someone being involuntarily relocated from their home. It is because these phenomena exist within a broader capitalist system that commodifies and extracts surplus value from specific aspects of the urban environment (e.g. greater appropriation of rent because of proximity to the new garden) that they can significantly elevate displacement risk. The expansion and enhancement of urban green infrastructure in low-income neighborhoods is the focus of a growing number of academic and professional studies of environmental gentrification. For more than a decade, more people globally have lived in cities than in rural areas, with urbanization expected to continue (United Nations, 2017). It is not surprising that urban land deemed vacant, underutilized, or even contaminated is increasingly seen by developers as potential for new green amenities that allow for higher economic value and thus profit. These ‘green gaps’ are exploited by and for capital; they are not explicitly in service of the biophysical environment nor are they for all community members. This is not the fault of the ‘green’ aspects of such urban infrastructure, but of the structural conditions that confer value on UGI in already unjust urban landscapes.

As my review of the academic and professional literature suggests, it may be possible to delay or mitigate the extent to which new or improved green infrastructure triggers revaluation and exploitation, in attempt to bring some balance to the planner's triangle between environmental and equity priorities. Yet this comes at some other cost to the economy, the environment, or another social justice priority. It is important to acknowledge that there are examples where such norms are contested, where plans for a new or improved park or greenway are politicized because of the potential for a green gap to emerge. In Los Angeles County, the organized struggles of park-poor, low-income Latinx and Black neighborhoods shifted the balance of regional planning priorities in the direction of equitable environmental outcomes, resulting in a multi-million dollar greening strategy with explicit anti-displacement measures. Recognizing the state's structural inability to fully achieve, in tandem, Campbell's sustainability triangle, this review nonetheless suggests some directions that planners can explore in optimizing trade-offs for social and environmental equity.

The relationship between densification and residents' ability to stay in place, or the growth and equity points of the triangle, is less clear. On one hand, densification brings with it accompanying socio-economic changes that may put incumbent residents at greater risk (i.e. tensions of gentrification and displacement risk). The compact infill development prescribed by smart growth planners, in combination with the growing desirability of low-carbon lifestyles characterized by dense, well connected urban neighborhoods and amenities can raise land prices beyond the means of longtime residents. Housing affordability is a key driver of economic displacement risk.

Yet where land is expensive, adding more people or dwelling units to land area can, under the right conditions, increase affordability and thus residents' ability to weather change

without displacement. However, we must continue to question: affordable for whom? and specify affordability by percentage of area median income. Studies suggest high-density and densifying cities have less income-based segregation, and that density can lessen displacement when a certain level of income equality is present. In this particular case, perhaps the instability of the planner's triangle does not come from tensions along the growth-equity axis, but the imbalance of other planning priorities. There is no preponderance of evidence conclusively supporting one perspective or the other on density. As always, the consequences are determined in large part by the interests of those who facilitate and advance the compact development in question.

The co-occurrence of these two phenomena in low-income or otherwise marginalized urban neighborhoods does not invariably result in displacement. Yet where there is potential for UGI or density to yield higher economic value than current land uses, there is also potential for tensions to escalate along the triangle's equity adjacent axes – (green) gentrification and an increased risk of, in particular, economic and socio-cultural displacement. It is with these lessons in mind that I return to the specific circumstances of Seattle and its ambitions for just, green growth.

5.3 *Outside Citywide* and Implications for Seattle's South Park Neighborhood

A primary aim of this thesis was to demonstrate the structural limitations in which we plan for sustainability and to help planners select from different scenarios for managing trade-offs. The City of Seattle has a multitude of planning and policy documents focused on different urban sustainability priorities, from its Urban Village densification strategy for managing urban growth, to multiple greening agendas from climate resilience to parks and recreation. Funding for these plans and programs is sustained by a growing economy, facilitated and managed by the

municipality. The City has demonstrated an understanding of some of the structural constraints that have informed uneven socio-economic and ecological outcomes in Seattle (e.g. Seattle 2035 Growth and Equity Analysis) and has selectively asserted the need to make trade-offs in order to redistribute such benefits in some policies and plans (e.g. Equity and Environment Agenda) (City of Seattle, 2016a, 2016b). However, as the City of Seattle looks to expand implementation of the Outside Citywide initiative, a recent interdepartmental effort "to envision and create an integrated, equitable, and inspiring public space network for a thriving, green Seattle," the lessons learned from this review suggest the likely consequences of these efforts and identify areas to further optimize trade-offs for more green and/or just urban futures (City of Seattle, 2019b, pg. 1).

The Outside Citywide initiative and its initial activities in Seattle's South Park neighborhood, a designated residential Urban Village with high displacement risk and low access to opportunity, provide an example of the City's approach to managing tensions and attempting to balance local sustainability priorities depicted in Figure 2 in pursuit of a green, growing, and just city. Outside Citywide emerged from Seattle's comprehensive planning process, which historically treated investments in parks and open space as capital facilities. Recognizing that both rising population density and land values meant an acquisitions-based recreation and greening strategy was no longer feasible, Outside Citywide aims to expand urban green infrastructure and public space to areas in need and enhance underutilized spaces, while stitching this infrastructure together with physical connections and related features under a uniform vision (City of Seattle, 2019b). Equity and environmental justice are core initiative objectives, with an inventory of assets, plans and programs identifying neighborhoods underserved by green and public space as priority (City of Seattle, 2018a). Outside Citywide planners understand that

equitably distributing UGI and public space could trigger market revaluation (tensions along the triangle's environment-equity axis) that can nullify efforts to address environmental disparities: "We also must be thoughtful and intentional as we make new open space investments, helping ensure that they don't increase displacement risk for residents facing higher rents and property values" and suggest approaches for traditional management of growth-equity conflicts like gentrification and displacement risk, "Communities must be supported to thrive in place, with career opportunities, affordable housing, and small business support" (City of Seattle, 2020, para. 3).

On the surface, and in comparison to many of Seattle's peers, Outside Citywide is a progressive, informed approach to the equitable expansion of green infrastructure amidst ongoing urban growth and market-driven densification. It contests the status quo assumption that municipal greening should accrue dividends to some community members and not others and intends to redistribute these benefits to underserved communities. However, in light of this research, Outside Citywide likely does not go far enough in terms of how it plans to optimize trade-offs for social and environmental justice to avoid increasing displacement risk in South Park. If no effort is made to shift the structural conditions that determine the instability of the planner's triangle, which led to that neighborhood's designation as one of high displacement risk in the first place, there is no reason to think that new green amenities will not generate fresh tensions and compound displacement risk further.

In the absence of a new social order, comprehensive anti-displacement protections are the first step in attempting to mitigate such risk across both growth-equity and environment-equity tensions. Tenant protections, to the extent possible under Washington State law prohibiting rent control, and strategies to preserve or create homeownership opportunities among incumbent

residents are key. A formal anti-displacement policy applicable to all Outside Citywide implementation should build upon Seattle's affordable housing production strategies, including the recent Mandatory Housing Affordability inclusionary zoning ordinance and relaxation of Accessory Dwelling Unit regulations, to establish a policy mechanism for joint affordable housing and public green infrastructure development, with financing for both on- and off-site greening. While Outside Citywide's asset inventory acknowledges that consolidation or redevelopment of Seattle Housing Authority properties may result in surplus scattered sites that could be acquired for green space, this one channel for joint-development is not enough (City of Seattle, 2018a). Additionally, an Outside Citywide anti-displacement policy should include strategies to create and preserve jobs (e.g. first source hiring) and small businesses (e.g. small business disruption funds) for longtime, low-income residents when developing new UGI.

Excepting joint-development with affordable housing, Outside Citywide's approach of "stitching together new and existing public spaces in South Park to form an integrated network in which the whole is greater than the sum of its parts" is reminiscent of the LA ROSAH 'neighborhood transformation through scattered sites' typology, as well as spatially tempered, underutilized alternatives that are 'just green enough,' (City of Seattle, 2019b, pg. 8). These are two approaches for optimizing environmental and social justice priorities within a market-driven urban development context. Stitching here refers to pedestrian and bicycle connections and consistent way-finding (City of Seattle, 2019a). Beyond efforts underway in South Park, Outside Citywide identifies opportunities for growing and improving small-scale, unconventional, underutilized, and/or diffuse green spaces, including pocket parks, P-Patch community gardens, green stormwater infrastructure (e.g. bioswales/rain gardens, green roofs), parklets, green streets, pollinator pathways, and privately owned public spaces (City of Seattle, 2018a). While an

approach that stitches together small, scattered, or underutilized sites into a River Walk and Green Loop in South Park may slow the emergence of green gaps, this displacement-avoidance approach also constrains the scope of environmental remediation along the Duwamish River Superfund Site, compromising the extent to which environmental agendas are realized in favor of social justice priorities. This can also reinforce existing social inequities by tempering the UGI accessible to South Park residents, as compared to other parts of Seattle. Attempts to redress historic environmental injustice are still constrained by the structural conditions in which they occur, precluding a true evening of urban landscapes.

As a municipal-led initiative, Outside Citywide's attempts to manage the production of urban green and public space in pursuit of a sustainable, climate resilient Seattle must be cognizant and cautious of how such incremental efforts may serve to (inadvertently) pacify or subdue local struggles that contest uneven urban development along class, race, ethnic, gender, or other lines. In South Park, Outside Citywide engaged the Duwamish Valley Youth Corps to help envision and design the River Walk (City of Seattle, 2019b). Involving local communities, including the often underrepresented perspectives of youth, is critical. Yet the outcomes will still be confined to the parameters and constraints of the capitalist policy-economy in which the state operates. Urban political ecology contests that only when communities assemble directly to democratically transform power relations do they stand to influence the socio-ecological processes that produce new urban natures. Outside Citywide's vision document suggests opportunities for community co-ownership of new green infrastructure and public spaces, which would shift power relations in the direction of local communities and may improve the likelihood that they, in fact, become the beneficiaries of such projects (City of Seattle, 2019b). However, it is not apparent that any of the recent interventions in South Park exist under such a model.

As an interdepartmental initiative, the Outside Citywide approach must be similarly multipronged if it is to mitigate displacement risk while expanding the city's network of public and green space. This means actively managing growth-equity and environment-equity tensions along the triangle of local sustainability priorities, while ensuring the balance of growth-environment priorities in Seattle's Comprehensive Plan leaves room to expand urban nature in the first place. Integrated affordable housing development and green infrastructure planning, economic and job opportunities including youth and green career pathways, and residential and small business displacement avoidance policies must go hand-in-hand if such interventions are to be an asset and not a detriment to longtime residents of neighborhoods like South Park. Even so, the convergence of the Outside Citywide greening agenda in Urban Villages targeted by the same municipal actors to "absorb and capitalize" on Seattle's growth is problematic for longtime residents' ability to stay in place (City of Seattle, 2018b, pg. 10). In this light, preserving and growing community controlled or co-owned spaces and cultural anchors is even more important for residents and should be a central focus of the initiative.

It is worth noting that Seattle, as a context for this research, is an outlier among cities and towns nationally. Economic growth of the kind Seattle has experienced is a privilege and like many privileges, it is not distributed equally. While Seattle's neoliberal politics favoring market-driven urbanism fuel gentrification and displacement, they also provide the municipality with substantial resources. These resources – and political will influenced by community mobilization and support – mean Seattle can choose equity or environmental protection over economic growth, as in *Outside Citywide*. In less well-resourced municipalities, job creation and workforce development may preclude planners from considering the types of interventions and policies that

are on the table in Seattle. From a realist perspective, Seattle reflects a national best case scenario for optimizing trade-offs in the direction of social and environmental justice.

5.4 Limitations and Future Directions

5.4.1 Defining and Identifying Density

This study is not without limitations. In particular, identifying cases where density was the clear spatial form resulting from urban growth presented challenges. Thus, in some instances urban (population) growth more generally was used as a proxy for densification. This is limiting, as density is not the only typology of urban form resulting from population growth, the obvious counterexample being urban sprawl. The research approach assumed certain commonalities among any form of urban growth in terms of pressure exerted on the biophysical environment and displacement. However, dispersed urban growth could increase possibilities for UGI, redistributing it over more diffuse and scattered sites, both small and large, which may lessen green gentrification and displacement risk due to the lack of concentrated capital. Ultimately, this presents limitations in terms of the conclusions drawn regarding the relationship between expanding urban green infrastructure and densification on displacement risk.

In spite of these limitations, effort was made to include studies in which population growth was positive and interventions discussed were spatially bound, approximating conditions of densification, even when such contexts may not align with our visual picture of dense urban form. An improved research design could attempt to define density not solely based on secondary accounts in the literature, but by external validation, using publicly available data sources to determine the rate of change in residential and/or population density over a set period of time and then setting a threshold as criteria for the inclusion of cases and examples.

5.4.2 From Secondary to Primary Data

Another limitation of this study that may inform future directions is its use of secondary data as described in academic studies and professional reports to review and discuss the relationships among the phenomena of interest. In addition to the limitation described above, this presents challenges to gathering a robust dataset that fits the context in which the research questions are posed. An improved research design would supplement this analysis with an empirical case study and potentially a mixed-methods approach. I envision two potential future directions this research could take, the first being a detailed account of one of Seattle's Urban Villages with high displacement risk. This would commence with a spatial analysis using GIS to better understand the extent to which the Urban Village strategy is densifying residential neighborhoods at risk of displacement (i.e. how dense) and at what temporal scale (i.e. over what period of time). In a neighborhood exhibiting such criteria, primary data collection through observation and resident and community accounts gathered through interviews could better pinpoint the specific interactions between density, UGI and displacement. However, this necessitates a significant time commitment to build relationships, trust, and reciprocity between researcher and community member. If this can be achieved, I would want to understand if residents observed densification or greening in their neighborhood, and if so, their perceptions of and relationship to this neighborhood change.

Alternatively, another potential direction would be to complete a case study of the City of Seattle's Outside Citywide initiative, with the intent of tracing the socio-ecological processes that will inform the development of urban green infrastructure in underserved Urban Villages. This would involve attempting to understand the role of the different interdepartmental actors, as well as their relationships with public (e.g. communities), private (i.e. developers, business

community), and non-profit actors, and what urban natures those (power) dynamics are likely to produce.

5.4.3 Questioning Future Implications of the COVID-19 Pandemic

Beyond future directions aimed at addressing limitations of the current study, the circumstances at the time of writing, namely the coronavirus disease 2019 (COVID-19) global pandemic, will have implications for urban green infrastructure and density that warrant further exploration. Subsequent research that builds upon this foundation to better understand how the planning and design of cities may shift, modestly or fundamentally, as a result of this pandemic, and how such changes are likely to impact urban residents at risk of displacement, is of immediate relevance.

For some urban residents around the world, COVID-19 has meant restrictions on the use of public and green space, while for others urban green infrastructure, especially small neighborhood parks and green spaces, has seen a resurgence in use and has been identified as a critical physical, emotional, and mental health resource (Honey-Roses et al., 2020; Surico, 2020). At the same time, density, that fickle instrument of smart growth and affordability and sometimes displacement trigger, has come under increased scrutiny as a potential environmental risk factor for the spread of disease. This is despite the fact that recent analyses do not show a consistent association between dense cities and COVID-19 impacts, with some small towns in the U.S. substantially burdened as well (Steuteville, 2020).

While it is too soon to project whether urbanization and cities' growth management strategies will shift as a result of COVID-19, it is clear that the pandemic will inform alterations in the planning, design, and use of public and green space. An enhanced focus on public health in cities is likely to be accompanied by more serious efforts to green urban environments (Honey-

Roses et al., 2020). The desired scale and composition, as well as the distribution of urban green infrastructure in a post-COVID-19 future may look different than it does presently. Honey-Roses et al. "foresee a greater demand for smaller green spaces or neighborhood parks which serve as places of refuge from the louder and bustling city. These places of refuge might be preferred whether or not they are green or grey, a small park or an alley." (2020, pg. 6). Rooftops, pocket parks, avenues, and previously defunct informal green spaces command renewed attention, including that of the author, who now regularly visits a sunny spot in the outfield of a vacant baseball diamond. If these small, underutilized, scattered site examples, which this research suggests stand to mitigate displacement risk, become the norm, will we see a more equitable distribution of green space in cities?

An ongoing analysis by The New School's Urban Systems Lab finds strong relationships between housing precarity (defined as eviction rates, rent burden, and crowding) and COVID-19 vulnerability (Egan et al., 2020). Will a public health imperative drive the production of affordable housing and green infrastructure in low-income and marginalized urban neighborhoods? How will capital respond, both in the immediate wake of an economic recession and in the medium term? This pandemic has made apparent the structural constraints of our political-economy, as massive unemployment tests the parameters of our social safety net and calls into further question the inadequacy of our largely privatized health care system. This may be an opportunity to redefine what is acceptable and what is radical in terms of our social order, which currently is one that fails to produce just, green cities. In this context, future research is surely needed.

5.5 Conclusion

This thesis is not meant as a cynical interpretation of the many aspirational planning documents and policy agendas in pursuit of growing our cities in ways that are more environmentally sustainable and climate resilient, that redress historic urban environmental injustice and advance equitable development. Instead, the utility of this work comes from exposing the often unseen conditions and constraints that inform how the world works and thus how our cities look and perform. This study presents a conceptual framework, adapting Campbell's planner's triangle to reflect the priorities of Seattle's sustainability agenda, to identify tensions and recognize trade-offs in order to better understand the socio-ecological processes that produce our cities and neighborhoods. Individual cases demonstrate that environmental protection and social justice are possible, but they come at a cost. Incrementally advancing green, equitable urban futures takes a concerted effort to shift the relations of power that determine outcomes, which are often optimized for economic growth at the hands of capitalists. Yet finding compromise, balancing priorities, and managing trade-offs is already the (imperfect) job of the planner. My hope in presenting this work is that it makes planners more aware of the complex environment in which they are influential actors and suggests useful tactics and approaches to optimize trade-offs in the direction of just, green urban futures.

Lastly, the COVID-19 pandemic is only the latest in what feels like a growing number of existential threats to the future of cities – the climate crisis; racial injustice, police brutality, and the carceral state; and, in the pandemic's wake, an economic recession with Great Depression era unemployment levels. Environmental protection, equity and social justice, and economic development are not just planning priorities, but are reflective of contemporary challenges that stand to threaten the very existence of the city as we know it. The relative importance and

urgency of these challenges to different municipalities and communities will vary. Presently, Seattle enjoys the luxury of having multiple priorities, but as circumstances change, so could the municipality's approach. This could mean climate adaptation and resilience reign supreme, with notions of sustainability and balance forgotten. Alternately, equity and environment priorities may become obsolete if crippling unemployment means jobs at all costs. The planning priorities and tensions discussed in this study are not just of academic importance, but represent very real, urgent challenges with significant implications for society.

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