



**Green Gentrification:  
A Study of Revitalized Parks in Los Angeles**

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## **Abstract:**

Green gentrification describes the occurrence or exacerbation of gentrification in vulnerable communities where green infrastructure, such as parks, have been implemented or revitalized.

The purpose of this study was to test theories of green gentrification in the city of Los Angeles, with particular scrutiny on Proposition O that granted approximately \$105 million for the revitalization of community parks (Hansen Dam Park, Echo Park, and South Los Angeles Wetlands Park). This study examined the following research questions: **What is the correlation between the revitalization of green space and gentrification?** And **What are community perceptions of sustainability discourse and how green infrastructure affects their community?** A Difference in Differences regression was conducted to supplement the 8 community leader interviews collected on perceptions of green space impacts and sustainable discourse. Four main findings were found:

- Parks provided a valuable space for a healthy lifestyle and community engagement.
- Issues of maintenance, accessibility and safety were concerns that may deter park-goers.
- Residents hoped local municipalities would address community concerns but perceptions of neglect and injustice had generated feelings of apprehension towards public investment.
- Perceptions differ among changemakers in regards to sustainable discourse.

This study constructed the following recommendations:

- Establish an accessible and digestible database for information on gentrification related research and information.
- Public investment policy should include operation and maintenance long-term planning.
- Gentrification safeguards should be integrated into the Los Angeles Community Plans.
- Grant more public investment money to community organizations.

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## **I. Introduction**

Investing in green infrastructure has become an increasingly popular method to “green” cities and mitigate various environmental issues.. Put simply, green infrastructure (GI) is defined by the physical facilities that encompass or embody ecological elements. These facilities are classified as nature- based solutions and include green streets, parks, and rooftop gardens. Green infrastructure has proven effective in capturing stormwater and reducing the amount of urban runoff, or pollutants collected by rainwater, among other advantages such as improving air quality and reducing the heat island effect. From the Mayor’s Million Trees Campaign in Los Angeles to the Green Streets Program in Philadelphia, cities nationwide are changing to become more sustainable and climate-resilient.

Water, particularly stormwater, has historically been a complex issue for local leaders to address. For instance, Los Angeles (L.A.) does not have a local water source. Potable and drinkable water is exported from three external sources: the Owensmouth River, the Colorado River, and Northern California. Providing water to approximately 4 million Angelenos has proven to be an expensive logistical challenge. Therefore, implementing green infrastructure that incorporates stormwater capture systems is imperative, as it would create a local water source for L.A. as well as reduce the amount of contaminated water. Despite a few early efforts to mitigate stormwater pollution traveling into L.A.’s coastal beaches and adjacent ocean, policies have only recently utilized green infrastructure to address the region’s stormwater, with the passage of Proposition O (2004) and Measure W (2018).

Proposition O is a \$500 million Clean Water Bond program that funded various green infrastructure projects for stormwater collection and pollution mitigation. Spearheaded by then

Councilmember Eric Garcetti, the campaign “was seen as the most ambitious effort in the region to clean up the storm runoff that floods coastlines” (L.A. Times 2004). The policy initiative gained support from environmental groups such as the Sierra Club, business groups including the L.A. Chamber of Commerce, and every elected city official with no organized opposition (L.A. Times 2004).

The initiative’s successful, easy victory marks a turning point in local politics. Three years prior to Proposition O, the elected officials of Los Angeles had not been as supportive of environmental legislation. According to a L.A. Times articles on Proposition O, “ when the Los Angeles Regional Water Quality Control Board imposed new requirements on local governments, Los Angeles was among a group of cities that fought the regulations” (Komey 2004). The ratification of Proposition O showcases a shift in political sentiment on stormwater issues, evidenced not only by the proposition itself, but also by the emergence of environmental discourse within Los Angeles politics. In the mayoral election following the passage of Proposition O, “environmental stewardship became a potent vehicle for the mayoral candidates to debate who has shown more leadership in his political life” (L.A. Times 2004). Thus, these political developments illustrate the significance of Proposition O for setting the standards on environmental initiatives and paving the way for sustainable discourse to enter into Los Angeles politics and policy.

To further prove the legislative significance of Proposition O, over a decade later, new initiative attempts to expand green infrastructure across Los Angeles County. In the 2018 November election, a similar stormwater capture investment initiative, Measure W, passed by a majority vote. Although Measure W generated more organized opposition than its predecessor,

its success proves that Angelenos still perceive a need for green infrastructure, particularly stormwater capture systems. I had the honor of working with the OurWaterLA Coalition, to put Measure W on the November ballot. Through this internship, I learned about Los Angeles politics and policy on stormwater mitigation and green infrastructure implementation.

One day, my supervisor and I went to Echo Park Lake, a stormwater capture project funded by Proposition O, to inform park-goers about the possibilities of having more parks like Echo Park throughout Los Angeles County. Most Angelenos we spoke with were supportive of the Measure but, one mother expressed apprehension towards more green space in Los Angeles. Currently living in Echo Park after being priced out of Silver Lake, she again began to witness changes in her neighborhood linked to gentrification and perceived the causation to be the rehabilitation of Echo Park Lake. We conversed about her fears that her young family will be displaced for a second time. This moment highlighted the tensions and costs of green infrastructure implementation and revitalization.

From this interaction, I was inspired to delve further. My research discovered that the environmental justice research and discourse has been dominated by the concern regarding the relationship between equitable accessibility and green infrastructure. Communities of color and low-income communities disproportionately lack green infrastructure. Marginalized communities are excluded from the proven benefits green spaces have on the surrounding community such as reducing air pollution, minimizing obesity rates and enhancing one's mental health.

However, this vein of scholarship and activism does not address the potential consequences that may ensue with the placement or revitalization of green infrastructure,

specifically in disadvantaged communities. Studies have proven that a green space injustice is not rectified solely with the implementation or revitalization of green infrastructure. Rather, in some cases, green infrastructure implementation or revitalization has had negative implications to the existing community. Academic studies highlight a consequential trend to green space implementation or revitalization known as green gentrification. Green gentrification, also termed environmental or ecological gentrification, refers to the displacement that occurs with the implementation or revitalization of green infrastructure. Similar to the injustice of lacking green space, this phenomenon disproportionately affects historically vulnerable communities such as communities of color and communities of low-income. Ironically, these communities potentially deal with a catch-22 scenario: live in neighborhoods void of adequate green space and the related benefits or potentially face the pressures of displacement as housing values rise due to the close proximity of a desirable green space.

The existing literature, described in more detail in the following section, provides numerous case studies of green gentrification nationally and internationally. These case studies analyze the historical and political context of the neighborhood and the green infrastructure project with various methods that attempt to uncover the “paradox” of urban green spaces. The purpose of this research paper is to add to the growing literature on green gentrification through an examination of Proposition O parks in Los Angeles. With the emerging popularity of green infrastructure policy, as evident by the passage of Proposition O and Measure W in Los Angeles, it is important to explore the potential relationship between publicly funded green infrastructure projects and green gentrification. Additionally, given Proposition O political context, it was determined to be a significant policy initiative to scrutinize.

This paper will analyze three parks granted public investment funding from Proposition O: Echo Park Lake, South Los Angeles Wetlands Park, and Hansen Dam Park. The funding went towards the revitalization of the parks with the installation of stormwater capture components. There are numerous types of stormwater-capture green infrastructure, ranging from smaller projects like bioswales to more sizeable projects like green streets. However, this paper will focus on retrofitted and revitalized parks. The reasons as to why parks are the most suitable green infrastructure to scrutinize is because, comparatively, parks have a greater impact on adjacent communities.

Although there are investigative articles and some scholarly studies describing the consequences of gentrification in City of Los Angeles, there is minimal literature scrutinizing the impacts of green gentrification in Los Angeles. The complexity and scale of Los Angeles does not make it exempt from any form of gentrification. The significance of this study is to bring awareness to legislators, voters and community members that sustainable and green projects may have negative ramifications to a community, despite the multiple benefits of such green spaces. Los Angeles is a major city with urban politics that influences the progressive tone of state and national politics. Therefore, it is an important region to understand and improve progressive policy efforts.

## **II. Literature Review**

In the introduction section, the purpose of this research paper was expressed as the need to further green gentrification scrutiny in Los Angeles. This section explores scholarship on gentrification and green gentrification. The terminology of gentrification and green gentrification will also be defined in this section.

### ***Gentrification: Brief Theory and History***



Since Ruth Glass first coined the term in 1964, the theoretical framework and methodological measurement of gentrification has been debated among scholars, so much so that Zuk et al. argue that the terminology defining displacement and gentrification have become conflated to be one and the same (Zuk et al. 2017). For the purpose of this research paper, gentrification is defined as the drastic change of a neighborhood that ultimately results in displacement of vulnerable communities (Zuk et al. 2017). This definition frames the methodological approach of this study; however, it does not encompass all of the implications gentrification may have on a given community.

Scholars have pointed out that the consequences of gentrification disproportionately affect marginalized groups. For instance, neighborhoods undergoing gentrification showcase “the paradox of how a sociocultural space that has long been understood in terms of marginality within and in opposition to the capitalist economy can suddenly emerge as a source of comparative advantages for new capitalist strategies” (Lugo 2015). Through the discriminations that are engendered in the current capitalist systems, there is a binary of those who benefit from and those who are harmed by gentrification. This paper attempts to further explore paradoxical characteristics of gentrification.

Smith (1979) argued that it is the flow of monetary capital, rather than human capital, that is instigating the renewal of urban cities. Through the examination of gentrification occurrences in Society Hill, Pennsylvania and other revitalized communities, the author discussed the consumer sovereignty theory in an attempt to further explore the theory of gentrification causation (Smith 1979). Smith (1979) argued that

a broader theory of gentrification must take the role of producers as well as consumers into account, and when this is done, it appears that the needs of production - in particular the need to earn profit - are a more decisive initiative behind gentrification than consumer

preference... Consumer preference and demand for gentrified housing can be created after all, and this is precisely what happened in Society Hill

There is a multitude of contributors to the process of gentrification and not a singular entity can alone instigate gentrification. However, Smith pointed out that the government's role in reinvestment and rehabilitation of urban sites has a greater impact on the process of gentrification.

Hackworth and Smith (2000) similarly argued that local government and public investment play an integral role to the process of gentrification, particularly in its current phase. The authors analyzed three gentrified New York neighborhoods to uncover the reasons for governmental intervention: Clinton, Long Island City, and Down Under the Manhattan Bridge Overpass (DUMBO). The neighborhoods chosen had avoided waves of gentrification in the 1980s; but, during the 2000s, the most current wave of heightened gentrification known as the third wave, each neighborhood has been subjected to government reinvestment (Hackworth and Smith 2000). The authors found that governmental entities have transitioned from intervening in gentrification agendas to increasingly becoming more involved in the process of urban revitalization. In each neighborhood, the increased degree of governmental involvement was enough to override strong community opposition, land-use obstacles and other legislative procedures that were designed to offset gentrification. Ultimately, governmental controls, whether it be at the federal, state, or local level, have the most influence over the process and rate of gentrification.

### **Green Gentrification**

Within the field of gentrification research, an emerging area of scrutiny has focused on gentrification as it relates to investments in green infrastructure. The dominant environmental

justice literature is centered on the measurement of equitable access to green space and how the absence of green space could be a determinant to health, especially within certain socio-economic contexts. From a different lens, green gentrification scholars also question how green spaces may affect communities. Rather than assess the ‘environmental bads’ placed in a community, green gentrification scholars investigate the ‘environmental goods’, determining how ‘environmental goods’ may impact the community (Gould and Lewis 2012). In this way, the existing green gentrification literature attempts to fill a gap in gentrification literature and equitable access literature to highlight the relationship between green infrastructure and gentrification. Numerous studies attempt to explore the urban green space paradox and the scholars mentioned in this section are just a few discussing green gentrification.

#### *What is Green Gentrification?*

Similar to the definition of gentrification, green gentrification, otherwise referred to as environmental or ecological gentrification, is described differently by various scholars. Checker (2011) conceptualized “environmental gentrification” as “the convergence of urban redevelopment, ecologically- minded initiatives and environmental justice activism in an era of advanced capitalism” (Checker 2011). This author emphasized the intersectionality of green gentrification drivers that may ultimately result in displacement. Similarly, in Dooling’s *Ecological Gentrification: A Research Agenda Exploring Justice in the City*, “ecological gentrification” is defined as

the implementation of the 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

Dooling emphasized the negative repercussions such a paradox has had on vulnerable communities in a social justice context while Quastel situated “eco-gentrification” in an economical context (Quastel 2009).

Gould and Lewis (2012) described “green gentrification” as the existing and potential green space and amenities financially dispossessing the current community members, leaving vacancy for a wealthier cohort. As a result, the displaced have become “a new form of ‘environmental refugees’ forced to flee from enhanced environmental improvements, which increase quality of life and property values” (Gould and Lewis 2012). This description of green gentrification includes elements mentioned in the previous definitions as well as highlights the exclusion of environmental benefits. This paper will adopt Dooling’s aforementioned definition as framework for this paper’s research while remaining consistent with the most modern terminology: green gentrification.

#### *Theory of the ‘urban green space paradox’*

All scholars showcased the contradictions of seemingly just and progressive actions, especially those attempting to reverse an environmental injustice, and the revitalization of green infrastructure. On the one hand, there are multiple benefits that result from the implementation of green infrastructure projects. Green Infrastructure (GI) encompasses a wide array of project types. Thus, scholars, urban planners, and policy makers describe and define GI projects in various ways. For the purpose of this paper, a definition from the Landscape Institute (2013), will be adopted: GI embodies the principles of multi- functionality and connectivity and offers a strategic planning approach to make use of ecosystem properties to support human health and well-being.

Although green infrastructure is built by and for humans, it ‘mimics’ the design and functionality of nature to mitigate the negative externalities of urbanity. Unlike grey infrastructure, projects built primarily from concrete and or steel, green infrastructure “has the potential to provide greater triple bottom line benefits - environmental, social, and economic” (U.S. EPA 2014). GI also mitigates and filtrates urban runoff, contaminated water populated from chemicals within streets, lawns, and other non- point sources; thus, reducing the amount of toxicant exposure to people and pollution in bodies of water. Additionally, the incorporation of green infrastructure within urban spaces reduce the heat island effect as well as the increasing frequency of heat waves, particular concerns that apply to the city of Los Angeles. Another positive public health factor includes improvement to physical and mental health due to close proximity to green space and decrease in asthma rates due to an enhancement in air quality (i.e. Jennings 2017). The various benefits and positive attributes that come with green infrastructure implementation prove GI to be a popular method in replacing antiquated and ineffective grey infrastructure systems.

On the other hand, proximity of green infrastructure projects has been shown to correlate with gentrification and displacement pressures. To expand on the concept of green gentrification, Wolch et al. coined the term “the urban green space paradox” to describe the process in which displacement occurs. In their review of studies assessing the relationship between urban green spaces and environmental justice, the authors found that community improvement, due to the increase of green spaces, resulted in an increase of neighborhood desirability and housing costs (Wolch et al. 2014). A rise in housing costs then could then lead to displacement of existing

community members, the intended targets for green space benefits. Thus, proving to be a paradoxical method of mitigation.

In a similar review of green gentrification examples, Haase et al. (2017) touched on current debates regarding “the relationship between greening cities and social inclusiveness” and showcased cities that evidenced “trade- offs between social and ecological development”. Haase described the “urban green space paradox” as a “cleaning up and clearing out” conundrum (Haase 2017). The author also found communities to be faced with “the contradiction between environmental and social ethics during processes of infill, upgrading and urban renewal” (Haase 2017). The ‘urban green space paradox’ has the potential to further inequality within vulnerable communities, raising the question of “whether social-ecological trade-offs are unintentional (seen as unexpected policy effects or externalities)” or intentional when implementing and revitalizing green infrastructure (Haase 2017). Critically exploring the ‘urban green space paradox’ is significant to understanding the environmental injustices harming vulnerable communities.

The ‘urban green space paradox’ theory was constructed from Dooling’s (2009) definition of ecological gentrification. Although the author focused on the societal impacts towards homeless populations, the study shed light on the tensions surrounding green spaces, vulnerable communities, and urban planners. The author discussed the differing perceptions of urban green space; according to the sampled homeless population, urban green spaces presented a safe haven when all other housing options are not viable whereas urban planners and housed citizens perceived urban green spaces as a ecological amenity (Dooling 2009). Building off the foundation of Harvey’s (1996) call to urban planners, the author argued that urban green infrastructure planning has failed to adapt to social and environmental changes in urban settings.

Thus, green gentrification “problematizes conventional planning approaches to using public green spaces as tools facilitating social reform and public health objectives” (Dooling 2009).

Thus, more robust research and political dialogue of green gentrification creates the potential to connect the fundamentals of urban planning with environmental justice.

In a similar fashion, Checker explored tensions between green spaces and gentrification in the historically underserved community of Harlem, New York. Harlem had historically been a site of Manhattan’s environmental burdens with “far fewer environmental amenities than other borough neighborhoods” (Checker 2011). The demographics of the community is predominantly people of color; however, “Harlem’s gentrification is no exception to this pattern of simultaneous greening and whitening” (Checker 2011). Through the usage of ethnographic research, the author found the revitalization of green spaces in Harlem were not serving the existing community. For instance, Harlem residents had asked the municipal government to improve the local parks for years before a plan was finally constructed to improve and expand, coincidentally, during a time when luxury condos were being developed adjacent to the parks. Thus, signifying that the park improvements were for the new in- movers and not the long- standing residents (Checker 2011).

In addition to understanding the implications of green infrastructure implementation in historically underserved communities, the author “examine[d] the unintended consequences of environmental activism and how it gets swept up in the multiplicity of factors that forment gentrification and displacement” (Checker 2011). Following the community activism of West Harlem Environmental Action Coalition (WE ACT) as well as the efforts of the municipal government, the author found that issues such as where to put green space “could be delinked

from the questions of social justice to which they were once attached” (Checker 2011). Thus, community need and input has been extracted from sustainable discourse and policy.

Similarly, residents of Greenpoint, Brooklyn have also felt the pressures of the ‘urban green space paradox’ (Curran and Hamilton 2012). Historically, the neighborhood of Greenpoint had been a blue collar neighborhood, financially dependent on the numerous industrial factories nearby. Located on the waterfront and on the edge of New York, Greenpoint had also been known as an industrial dumping ground. Community members, activists, and governmental officials had fought back to keep the industrial jobs that financially assisted the community without the continuation of toxic exposure. A case study method was utilized to highlight the “potential for new spaces of politics for sustainability, broadly conceived with social justice as a central tenet, opening up around new strategic territorial and class alliances and divisions” (Curran and Hamilton 2012). The authors found that through “just green enough” strategies, community members were able to formulate a sustainable plan centered on the community’s vision for environmental justice as well as demanded governmental entities to realign interventionist procedures with the values of environmental justice and not economic redevelopment (Curran and Hamilton 2012).

Also in Brooklyn, Gould and Lewis (2012) analyzed the implications of green gentrification from the revitalization of Prospect Park. In 1980, the Mayor of New York, Ed Koch, devoted \$10 million in public investment funds to regenerate parks throughout New York, including the infamously decrepit Prospect Park. The authors conducted a historical, contextual analysis on Prospect Park and its surrounding neighborhood as well as a longitudinal study on socio-economic gentrification indicators over time using census data. The authors argue that the



revitalization of Prospect Park resulted in “high quality housing stock that would later provide the infrastructure for waves of gentrification” (Gould and Lewis 2012). While there are numerous catalysts for gentrification, the authors proved that proximity to green space is a considerable and worthy factor to include in gentrification discourse.

A similar study was done to uncover the correlation between infrastructure site revitalization and the increase in housing prices in Atlanta, Georgia (Immergluck and Balan 2018). The Atlanta Beltline was a major decommissioned railway that has long been an an eye-sore to the city. In 2005, the municipal government mobilized a reinvestment projected to transform the neglected site into a 22 mile long green walkway with trails, parks and eventually a streetcar system. Immergluck and Balan (2018) conducted an economic analysis on how the revitalization of the Atlanta Beltline influenced housing values within a half- mile proximity to the green infrastructure project. Data regressions showed that neighborhoods closest to the green infrastructure project benefited from an increase in housing value, ranging from a 17.9 percent and 26.6 percent increase depending on the segment of the Beltline, proving there to be an economic correlation between green spaces revitalization and an increase in housing values, a common indicator of gentrification.

The authors argued that the planners of the green infrastructure project did not effectively protect low- and moderate- income households from the economic changes that occurred due to the revitalization of the Beltline. For instance, although housing affordability was not ignored, “the modest amount allocated to the Beltline Affordable Housing Trust Fund may have signaled some weakness in the overall commitment of the effort towards housing affordability” (Immergluck and Balan 2017). Thus, providing evidence that more scrutiny and prioritization

should be placed on the implications green infrastructure projects may have on the surrounding neighborhood rather than the economic potentials.

### *Sustainable Discourse as a Veil for an Economic Development Agenda*

A synthesis of the literature showed that the lexicon of sustainability has become embedded in urban development dialogue since at least the 1990s (i.e. Campbell 1996; Gunder 2006; Immergluck and Balan 2018). It is argued that sustainable development furthers not only sustainability but also social equity; however, critics pointed out that sustainable development often focused more on integrating ecological elements with economic development and, essentially, undermined the social component (i.e. Gunder 2006; Jonas and While 2007; Quastel 2009; Immergluck and Balan 2018; Kim 2018). Some scholars have questioned whether sustainable objectives integrated in urban development plans acts as a mechanism to hide the ultimate outcome that is the revalorization of underutilized urban space or, in other words, displacement from the consumption of undervalued land (Immergluck and Balan 2018).

Scholars further critiqued sustainable development, arguing that developers are “operating under the seemingly a-political rubric of sustainability” (ie Checker 2011, Gould and Lewis 2012, Kogan 2018, Immergluck and Balan 2018). Simply put, the rhetoric of sustainability is perceived as neutral from any political agenda. Alternatively, “sustainable development” selectively espouses a language of sustainability but, continuously contributes to the status quo of systematic inequalities (Gunder 2006; Checker 2011; Kim 2018). The practice of eliciting sustainable values through developmental practices results in the prioritization of profit rather than the equity of people. Trends of displacement are increasingly becoming

connected with the usage of sustainable terminology such as “revitalization” and “renewal” (ie Checker 2011; Kim 2018). Kim (2018) argued that

reframing of gentrification as inner-city “revitalization” or “regeneration”, combined with the hegemonic status of “sustainability” as an indisputable urban policy agenda results in ignoring or obfuscating the ways in which vulnerable populations are displaced, marginalized, and rendered invisible, as well as depoliticizing the ways in which these unjust socio spatial relations are reinforced.

Sustainable discourse dominates green infrastructure policy language. Thus, understanding this language is important to understanding the framework of the ‘urban green space paradox’.

Scholars argued that the source of sustainable discourse stems from the environmental justice paradigm yet, developers appropriated the lexicon of activism to push their for-profit agenda (i.e. Slater 2006; Gunder 2006; Checker 2011). Haase’s review of greening cities pointed out the increase in the “use of greening strategies that are officially adopted as ingredients of urban renewal, upgrading and revitalization projects but are in reality first and foremost market-driven” (Haase 2017). Sustainable discourse is assumed to be universal and inclusionary; yet, during the process of green gentrification, community needs and perceptions are often misinterpreted by those outside of the community.

For instance, Checker argued that “[green] gentrification builds on the material and discursive successes of the environmental justice movement and appropriates them to serve high-end development” (Checker 2011). In the case of Harlem activists, their efforts “did not cause real estate developers to designate Harlem for gentrification, but they did boost the area’s attractiveness to those developers” (Checker 2011). Community needs were not considered during the revivalism of the borough’s parks as evident by the fact that the community desired an expansion of parking spaces, not more parks (Checker 2011). The reason as to why community

desires were not reflected in city plans is that “despite input from WE ACT and other advisory board members, the final plan relied far more on input from a high- end consulting firm than from its advisory board” (Checker 2011). Thus, proving further the false notion of sustainable development efforts as a-political.

Similar to Harlem, communities in Seattle did not see an expansion of bike infrastructure, another form of sustainable development, as a public good despite the city’s a model bicycling city (Lugo 2015). Gould and Lewis (2012) argued that the original conception for the revitalization of Prospect Park “emerged as a gentrification scheme where the establishment of a green amenity would attract wealthy residents and boost real estate values in Brooklyn” (Gould and Lewis 2012). The authors also assert that there is a deliberate economic development agenda behind green space revitalization specifically to increase housing values and tax revenues (Gould and Lewis 2012). Hence, sustainable discourse as a veil for economic development is exemplified by the lack of community input and needs reflected in policy.

In a similar fashion, the efforts of Greenpoint community activists to redress the environmental injustices that burden the neighborhood, including the restoration of brownfield sites and implementation of more green spaces, had resulted in the increased desirability of the neighborhood, attracting new gentrifiers and developers alike (Curran and Hamilton 2012). Thus, “by emphasizing ecological amenities and greenhouse gas reductions, sustainability tends to elide the issue of toxic waste, which is closely linked to social injustice”, perpetrating the ‘urban green space paradox’(Curran and Hamilton 2012). The authors argued that more urban environmental policy has mirrored neoliberal market ideals.

### *Green Intervention Strategies*

In order to mitigate the results of green gentrification, scholars explored a ‘just green enough’ strategy. ‘Just green enough’ refers to the design and implementation of green infrastructure projects that “are explicitly shaped by community concerns, needs, and desires rather than either conventional urban design formulae or ecological restoration approaches” (Wolch et al. 2014). When green infrastructure is centered on the needs and culture of existing community, that community is able to reap the full benefits of GI access as well as strengthen their stakeholderhood in the neighborhood. For instance, ‘just green enough strategies’ in Greenpoint allowed for the clean up of industrial pollution and other cominants harming the well-being of the neighborhood yet the historically industrial, working class make-up of the neighborhood was able to remain intact (Wolch et al. 2014). Thus, proving a neighborhood is able to address the environmental injustice that plagues them without drastically changing and displacing the existing community.

The activists in Greenpoint recognized the historical injustices that made the community undesirable and polluted, demanding that the remediation of the injustices be directed towards those who suffered through it, not for the gentrifiers (Curran and Hamilton 2012). This strategy is effective in part due to the placemaker politics the existing community members employ. Stakeholders elevate these histories, all that is good and bad, to “re- politicize the formation of place” and strengthen their hold on their neighborhood throughed rooted histories. As exemplified in the case of Greenpoint, sometimes gentrifiers can assist placemaker politics by adopting the histories and activism of their new neighborhood, though it is hard to discern if this appropriation of place is helpful or hurtful to the existing community.

Kim (2018) explained placemaker politics as the “construction of a collective identity grounded in histories and memories of neighborhood transformation”, that is strategically utilized to challenge both environmental injustice and the sustainable “discourse that present gentrification as natural outcome of “green” urban policies” (Kim 2018). In “*Bring on the Yuppies and the Guppies! Green Gentrification, Environmental Justice, and the Politics of Place in Frogtown, L.A.*” Kim (2018) studied the convergence of placemaker politics and ‘just green enough’ strategies as the revitalization of the L.A. River presents pressure of gentrification on existing neighborhoods. Kim argued that “just green enough does not mean limiting the actual greening of their place”; instead, ‘just green enough’ entails transparency and stakeholderhip in the urban green space planning process (Kim 2018).

It is important to note some of the limitations of the ‘just green enough’ strategies. In the green interventions previously described, the community members and activists barred the burden of cleaning up the neighborhood while also securing a place for the existing residents and culture. Not only were they pushing against the force of economic development, but also the interventions of government which, as aforementioned, is more lenient towards developers.

In addition, Kogan (2018) pointed out that “perhaps because displacement is challenging to measure, there are very few studies examining green interventions, such as ‘just green enough,’ and the resulting gentrification and displacement”. The Urban Displacement Project is an interactive, open source resource with data derived from a collaborative study on gentrification in Southern California that effectively measures the occurrence of gentrification in Los Angeles neighborhoods (Chapple 2017). However, this model does not adequately scrutinize green space a potential factor the perpetuates and or exacerbates gentrification.

### **III. Research Questions**

Building upon the foundational green gentrification research discussed in the previous section, this research paper attempted to contribute to the growing literature on green gentrification through the scrutiny of publicly funded park revitalization projects. Minimal scholarly attention has examined the role the revitalization of green infrastructure plays in relation to gentrification in Los Angeles; therefore, this study focused on Los Angeles as a means to fill this gap in research. The following questions guided the assessment of green gentrification in Los Angeles:

- What is the correlation between the revitalization of green space and gentrification?
  - Does green space revitalization result in displacement?
- What are community perceptions of sustainability discourse and how green infrastructure affects their community?

### **IV. Methods**

This paper tested theories of green gentrification to determine how the ‘urban green space paradox’ is occurring in Los Angeles, with specific scrutiny placed on stormwater capture green infrastructure projects funded by Proposition O. Given the broad implication of green gentrification, and even broader conceptualization of gentrification, this study attempted to answer the first research question and sub-question by testing the displacement hypothesis: the revitalization of parks in Los Angeles correlates with displacement. Due to the intersectional and multi-dimensional character of gentrification and displacement, the methodology of this research report employed both quantitative and qualitative measurement approaches: a statistical

regression, specifically the Difference in Differences Regression, and semi- structured interviews with community leaders. The quantitative data supplemented the qualitative findings.

### *The Significance of Parks*

As aforementioned, green infrastructure includes a wide array of projects and this variety is showcased in the types of projects funded by Proposition O. However, the the research and methodology of this study focused on Proposition O park projects. Parks are a visible landmark in a neighborhood and its their recreational nature, a space in which individuals can do play and leisure, that enhances their desirability. Furthermore, parks are generally granted more public investment funds compared to smaller green infrastructure projects. Approximately \$105 million was invested into the three Proposition O park revitalization projects: Echo Park Lake, South L.A. Wetland Park, and Hansen Dam Park. Thus, parks have a greater impact on a given community.

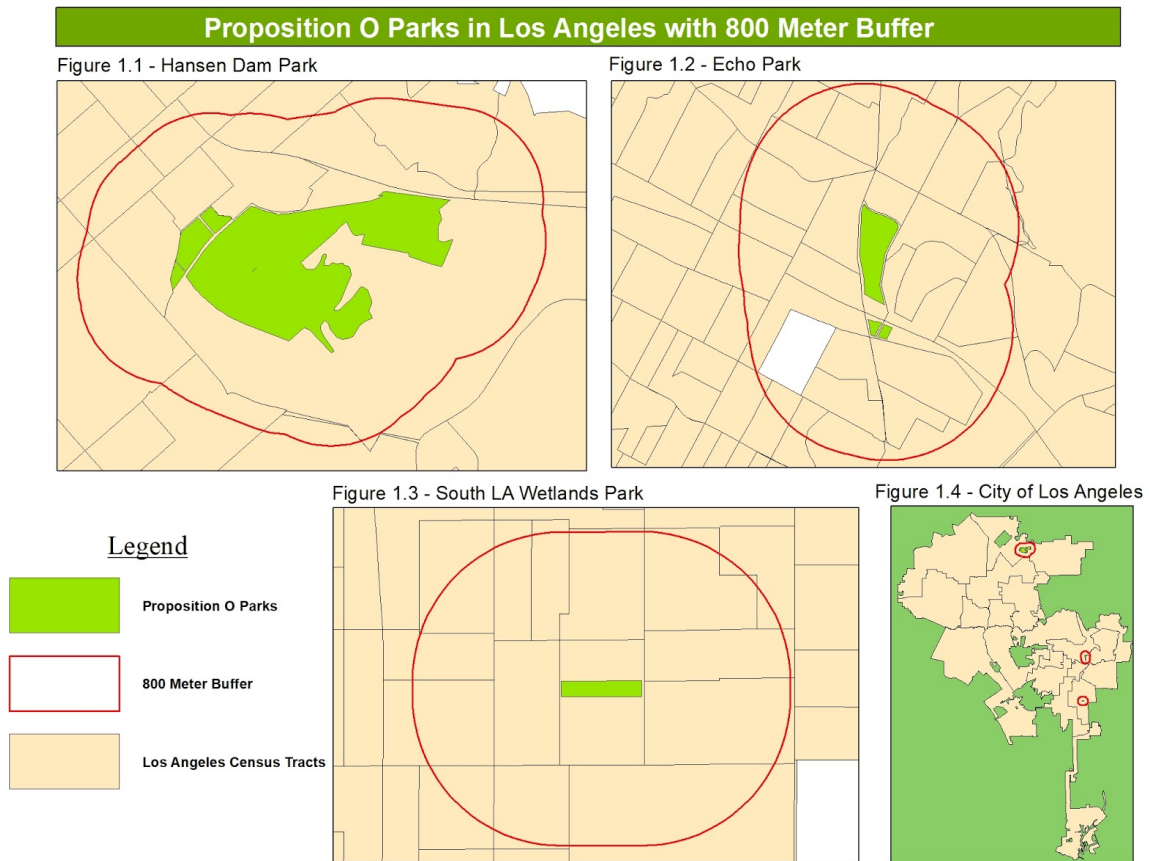
### *Difference in Differences Regression*

A regression analysis using STATA software was conducted to examine the statistical significance of the gentrification indicators over time within the three park revitalization projects. An index of gentrification indicators (Median Household Income, Median Home Value, Median Rent, % with Bachelor's Degree or Higher, and % White) was used to measure gentrification. Data on indicators was collected from the Census Bureau American Finder for the 2000 and 2010 census as well as the American Community Survey 2017 five-year roll up. Data on green infrastructure spatial markers within the City of Los Angeles came from the City's Department of Parks and Recreation Countywide Parks and Open Space GIS shapefile. Proposition O parks were identified from this shapefile. Geographic Information System (GIS)



software was used to create a 800 meter buffer in order to determine which census tracts were considered the ‘surrounding community’. The census tracts found within the buffer were used as the treated variable in the regression analysis (Figure 1).

**Figure 1: Proposition O Parks Research Sites**

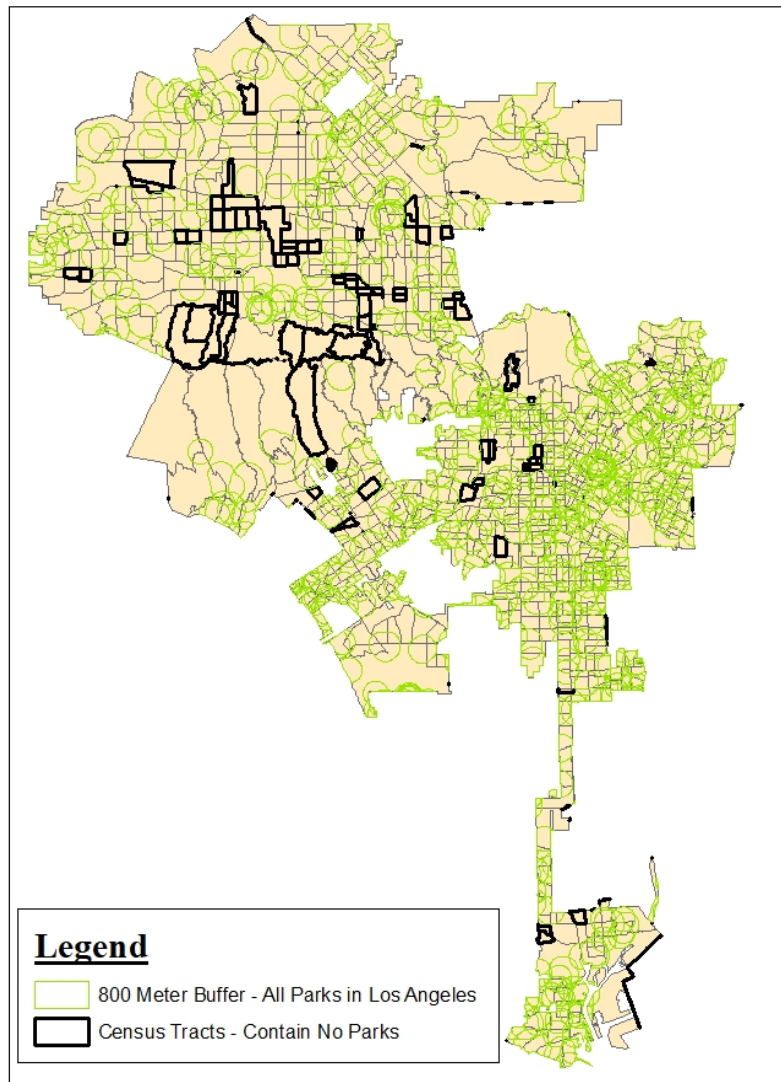


In addition to the research park sites, a control group of census tracts void, indicated by the red buffer in Figure 2, of any park was included in the Difference in Differences regression. To find the control group, a 800 meter buffer was created around all park types contained in the aforementioned Parks and Recreation shapefile (Figure 2). Due to the limited amount of viable census tract clusters, a convenience sample was performed to select the control group. Similarly, census data on the gentrification indicators were collected for different time periods. The year

2013, the approximate year in which all the Proposition O park revitalization projects were completed, is the threshold between pre- and post- revitalization observations. The purpose of this was to test the hypothesis that after the implementation and completion of park revitalization, the process of gentrification began or was exacerbated from this change.

**Figure 2: Map of Control Group Methodology**

Figure 2 - Map of Control Group in Los Angeles



### *Community Interviews*

Community leaders, defined by the close proximity to their local constituents and Proposition O parks, were interviewed over the data collection period. For the purpose of this study, community leaders are defined by their active status in bettering their community through employment or engagement with a community organization or civic administration. The reasoning as to why community leaders were interviewed was grounded in the assumption that they best understand the concerns and needs of their community and can be representative of community voices and thoughts. To contextualize the quantitative data, interviews were conducted to understand the perceptions of green space impacts on a given community as well as uncover the perceptions surrounding sustainable language. A comparison of language and perception assessed the commonalities or discrepancies of sustainable discourse between academia and community as well as perception and reality.

The community leader cohort includes a total of seven neighborhood council members that contain a publicly funded revitalization site within their jurisdiction: two members from Echo Park, three members from South Los Angeles, and three members from Pacoima. In addition, one community organizer from Pacoima Beautiful was interviewed. All participants were asked the same questions within a semi-structured interview format (Appendix A). Only one neighborhood council member opted to meet in-person for an interview, the remaining were interviewed over the phone. The outreach process included identifying and contacting community organizations as well as Neighborhood Councils within a short radius of the project sites. Interviews were conducted from early December 2018 to mid January 2019 and later transcribed and coded.

It is important to note that the purpose of this research is not to compare neighborhood to neighborhood and park to park. Rather the park sites and their surrounding communities were looked at collectively as a cohort to identify green gentrification trends. Gentrification is a common community concern and the growing green gentrification literature attempts to identify a specific factor that may contribute and or exacerbate gentrification. This study is an attempt to contribute to green gentrification scholarship through the investigation of perceptions surrounding green space and sustainable discourse in Los Angeles.

#### **V. Data Findings and Analysis**

An analysis of community perceptions found trends of gentrification based on the concerns and anxieties expressed by community leaders. Although the quantitative nor the qualitative data imply immediate displacement post-revitalization of the Proposition O parks, this does not equate to the absence of green gentrification pressures in the the study communities. It is important to reiterate Zuk et. al. argument's that displacement should not be conflated with gentrification as displacement is one of many implication of gentrification. Therefore, the evidence against displacement does not disprove the occurrence of gentrification.

Rather, the qualitative findings presented in this study proved to be outside the range of measuring gentrification through the displacement framework that the quantitative methodology tested. Given all of the gentrification indicators, median income was only statistically significant in Echo Park, with a p-value of 0.049 (Table 1.3 in Appendix B), and South Los Angeles, with a p-value of 0.012 (Table 3.3 in Appendix B). The increase in income in these two areas can be correlated with the revitalization of the green space. However, all other gentrification indicators were not statistically significant (Appendix B). Although quantitatively the findings showcased minimal indication of displacement due to gentrification, the qualitative data highlighted

unquantifiable tensions and concerns that may stronger correlate with signals of green gentrification. An examination of interviews with community leaders found four major findings. The following sections present the qualitative data findings and analysis.

Key Findings:

- Parks provided a valuable space for a healthy lifestyle and community engagement.
- Issues of maintenance, accessibility and safety were concerns that may deter park-goers.
- Residents hoped local municipalities would address community concerns but perceptions of neglect and injustice had generated feelings of apprehension towards public investment.
- Perceptions differ among changemakers in regards to sustainable discourse.

**1. Parks provided a valuable space for a healthy lifestyle and community engagement.**

Participants were asked about how green space, specifically the projects sites, affected their communities. All participants agreed that green space in communities had positive implications including the improvement of community members' physical and mental health. As one participant from the Zapata- King Neighborhood Council in South Los Angeles put it, green space has a "calming effect", enhancing the livelihood of all residents by providing "a place for people to get healthy". The parks were most often noted as a great space to exercise by all participants. Participants also discussed the importance of having such a space where residents can be active. For instance, Pacoima is a region with minimal gym access; thus, in some cases, a park may be the only option for physical exercise.

The accessibility to a public, open space provided more than just health benefits. Community leaders remarked on how the park allows for residents to interact with their community. Community leaders in South L.A. recounted that the Park was a space in which they

could connect with their constituents. One South L.A. Neighborhood Council member talked about an successful event the Neighborhood Council held at the South L.A. Wetlands Park. Constituents “who were jogging who didn’t know about [the Neighborhood Council], they would stop and get information and lots of nonprofits set up tables” at the park, exemplifying the value of a public venue for community engagement.

In addition, the parks provided a space for community residents to interact with other individuals in the community. A Pacoima community leader noted that the only public place for community members to meet, “have a family BBQ on Sunday or play Volleyball with friends ” is at a park. Thus, underscoring a park’s purpose in enhancing a sense of community. Furthermore, an open public space exposes one to the diversity of the community and greater Los Angeles City. The Neighborhood Council members from Echo Park pointed out that Echo Park has “a wide diversity of patrons enjoying the park”. Both participants emphasized the parks integral role in facilitating a sense of interconnectedness among socially diverse patrons.

Moreover, in park poor areas, such as South L.A. and Pacoima, equitable access to green space proved important to community leaders. A local park allows for marginalized groups who do not have easy access to nature and wildlife to connect with natural ecosystems. For instance, a Pacoima community organizer stated that Hansen Dam park was a great place to expose people to environmentalism. Another community leader in South L.A. point out that the South L.A. Wetlands Park was a positive addition to the community because it allowed “folks of color who don't typically get an opportunity to go to these parts that are far out from our community” to have immediate access. Similarly, another South L.A. community leader argued that the beautifying of the Wetlands not only provided equitable park access to a marginalized

community, but it also contributed to “slowly but progressively changing the perception of South LA.” from non-locals.

## **2. Issues of maintenance, accessibility and safety were concerns that may deter park-goers.**

The interviews highlighted there is more to consider than just the positive benefits of green space. Every participant discussed the issue of maintenance as the primary community concern with each park. For instance, Echo Park Lake is beginning to degrade due the replacement of the original maintenance company, the Pond Company. According to the president of the Echo Park Neighborhood Council, “the Lake, which was an \$84 million dollar project from public money, was starting to very quickly decline because the maintenance was not being done on it”. Similarly, at the South L.A. Wetlands Park the poor maintenance and lack of usable facilities contributed to the decline of the park. All South L.A. participants reported there to be no public restrooms for park patrons as well as improper lightening through the park. These park issues created reasons for locals to not utilize the park space, making it harder for marginalized communities to access the benefits of the green space.

Maintenance is also a concern at Hansen Dam Park where the lack thereof “can deter [residents] from accessing these green spaces because they don't feel safe going to the spaces if they're not”, according to an organizer at Pacoima Beautiful. In addition, the homeless population residing at the park contributed to negative perceptions of park safety. As on Pacoima Neighborhood Council member explains that community residents do not access the entirety of the park because “there are a lot of transients in [the basin] and it can be unsafe”. Thus, the large homeless population that resides in or along the park, also created an obstacle to park access and enjoyment.

Although each park has unique issues, the qualitative data highlighted the complexity of community perceptions surrounding parks. An analysis of community leaders' positive attitudes towards the parks found that the recognition of green space value aligned with the park equity scholarship. Additionally, the park related issues present by community leaders also confirmed green gentrification scholars argument that park implementation and revitalization can cause some unforeseen consequences. The fact that all of the park had issues with maintenance signals that investment planning primarily focused on the legislative and construction phases of the project. The feelings of neglect also contribute to the theme of disconnectedness between community and public officials that emerged in the qualitative data, discussed in detail in the next section. Thus, this adds to the green gentrification scholars claimed that park equity research and discourse must expand to scrutinize potential post-implementation and revitalization implications.

Another consequence was the implications park revitalization may have on homelessness populations. Dooling (2009) discussed the intricate relationship between green space and houseless individuals within the green gentrification framework. In contrast to Dooling, this study did not uncover the impacts a revitalized park space had on a homeless population that may reside in a park. However, participants' perceptions of homeless populations and the local park offered insight to how a marginalized community can be overlooked in gentrification research. Participants portrayed homelessness as an a barrier to park engagement as the presence of houseless populations equated to unsafety. Participants also discussed the need to address the homelessness issue that is a city-wide epidemic; however, participants did not consider the park as a potential safe haven for houseless individuals.



### **3. Residents hoped local municipalities would address community concerns but perceptions of neglect and injustice had generated feelings of apprehension towards public investment.**

Collectively, the three researched parks received approximately \$105 million in public investment funds for the revitalization of the green space. The participants held mixed perspectives on whether or not the area received more city attention or public investment after the revitalization of the parks. Participants believed it depended on the councilmember and how much they cared about the neighborhoods within their district. A Neighborhood Councilmember at Echo Park held positive perceptions with the support her community received and believed that the City District Council Member cared about the longevity of Echo Park Lake.

Other participants claimed investment and attention are linked to certain locations that, they argued, matter more to the councilmembers. Community leaders in South Los Angeles argued that places of prominence, such as the pending Rams Stadium or University of Southern California (USC), are more prioritized than other parts of South LA. One neighborhood council member provided a recent example about a water main that broke despite previous resident complaints to the city about leaks. Similarly, the locals adjacent to Hansen Dam Park felt neglected and ignored by city officials. According to a Pacoima Beautiful community organizer, to the community, city officials “feel very far away ... the elected officials don't really come to the community and are not really aware of the issues here”. The spatial distance from Downtown was cited to be a reason as to why there is a disconnect with City Hall.

Interview findings highlighted a connect between attitudes of apprehension and public investment. One Echo Park Neighborhood Council member stated a need to “address these issues of developers coming in and driving prices up and abusing some of the laws and loopholes for

financial gain rather than be concerned with maintaining” the community. It was further argued that private investment and economic development in the area had been prioritized by City officials resulting in gentrification and displacement surrounding Echo Park. Another Echo Park Neighborhood Council member argued that

what L.A. has paid attention to, historically, are developers. And the only people benefiting are the developers. Eli Broad is a developer, the owners of the Lakers, the owners of the Dodgers are all basically developers. And looking at building codes, there is so much by- right developing going on and that’s part of what developers set up for themselves [at City Hall].

The interviews uncover perceptions that private or outside interests hold more influence over elected officials and the proceedings at City Hall.

This is also exemplified by South Los Angeles community leaders’ perceptions on the entering of a new neighbor: the Los Angeles County Museum of Art (LACMA). One Neighborhood Council member did not witness immediate changes to the community associated with the revitalization of the South L.A. Wetlands Park but speculated that this could be because of the abandoned warehouse still located on the park premises; however, the participant did feel that once LACMA revitalizes the warehouse “there will be more people paying attention to the area and will probably drive more people out, drive more people in and drive in more funding for the community”. He continued with

I think for part of it, the Wetlands in general, has been positive but the opportunities that are coming for that warehouse it may not be so positive because there are a lot of organizations or individuals young people that do art who don't have the opportunity to invest into that warehouse space to allow it to be community-led. So for LACMA to kind of just swoop in and do their own programming ignored some of the immediate issues or opportunities [for locals].

Another South L.A. community leader shared similar sentiments and pointed out that “LACMA wanted to know what the community wants, what type of programming, and people complained about all the lights being unkept and the visibility and something of that nature. But a lot of people do want nice stuff in our community”. Thus, highlighting the tensions between community needs, desires and concerns with regards to public investment.

Of the three sites, the communities surrounding the South L.A. Wetlands Park, presented more compelling signals of green gentrification. The Wetlands Park went from an abandoned dirt lot and toxic site to a 9 acre natural ecosystem open to the community. Of all the gentrification indicators, only income was statistically significant in research site of South Los Angeles, with a p-value of 0.012 (Table 3.3 in Appendix B). To put simply, the data concluded that wealthier people have moved into South L.A. since the revitalization of South L.A. Wetlands Park. Additionally, the qualitative data proved there are concerns that change would occur post- park implementation and revitalization. Perceptions of impending neighborhood change stemmed from the emergence of LACMA, L.A. city’s cultural institution that was granted authority to revitalize the abandon warehouse. The communities concerns primarily centered on the changes that will ensue once LACMA comes include the privatization of public space as well as gentrification.

There are two reasons as to why the presence of LACMA potentially signify green gentrification. First, LACMA has made recent attempts to expand across L.A. City and County as evident by art galleries in Vincent Price Park and MacArthur Park. Although green space may not determine the locality of a potential LACMA site, parks do appear to be a recurring theme in LACMA’s salliete projects (New York Times 2019). Thus, reinforcing the notion that parks are

desirable and valuable. Because the South L.A. Wetlands park was a toxic, dirt lot prior to revitalization, one can infer the desirability of the abandoned warehouse was anchored in the revitalized green space on which the warehouse is located.

Second, the extensive governmental investment in a predominantly low-income neighborhood and community of color aligns with gentrification scholars' paradigmatic theory of gentrification. As Smith (1979 & 2000) noted, the government investment is the leading causation of gentrification in the current paradigm. Thus, the city investment that resulted in the South L.A. Wetlands Park in conjunction with the L.A. City Councils' willingness to grant LACMA the abandoned warehouse can be taken as early signs of government induced gentrification. This is further reinforced by the community leaders' perceptions that city officials only pay attention to 'places of value', such as the areas around USC or the new stadium. In addition, the prioritization of governmental investment is exemplified by the fact that a community member's plan for the warehouse was outbid by LACMA's plan, a discovery uncovered in the participant interviews.

These perceptions have prompted community leaders to question for who is the LACMA warehouse turned museum to be built. Despite LACMA's community outreach efforts, the Zapata-King Neighborhood Council members expressed concerns that LACMA's presence will change the community and or privatize the public open space in a way that makes the park no longer accessible to the surrounding marginalized community. Thus, not only is there is a disconnect between community and public institutions, but this disconnect is a potential factor in green gentrification that is not easily measured.

#### **4. Perceptions differ among changemakers in regards to sustainable discourse.**

Participants were asked their thoughts in regards to the term revitalization. They were informed about the ongoing debate centered on the term revitalization: whether revitalization described the betterment of communities or synonymous with gentrification. Most participants had a positive connotation with the term revitalization. To them, revitalization was the positive change that occurs within the neighborhood and benefits all community members. Gentrification, on the other hand, was viewed as the inverse of revitalization. For one participant revitalization meant

In my mind, to revitalize is not to replace. When you revitalize something you are taking something that is already there and make it a little better, giving it life, doesn't mean you are moving them out. Gentrification I see as moving you out for something better and making it unaffordable for you to stay

Some participants recognized the parallels of revitalization and gentrification: both cause change within a neighborhood. A Zapata-King Neighborhood Council member stated

so when I think of the term revitalization, I don't think of a complete overhaul like I do when I think of gentrification. But then again, I do wonder who is it being revitalized for, the community now or the projected community coming in.

The change associated with gentrification presented a real concern to community members and leaders as it could result in displacement whereas the change that may occur with revitalization was presented as desired and needed. Ultimately, the distinction between the two words rested on for who this change was happening. Only one participant, a community organizer, had knowledge of and referred to the concept of green gentrification.

As discussed in the Literature Review, green gentrification scholars argued that sustainable discourse, such as the term revitalization, is being appropriated by economic developers and profiteers. Through this appropriation, revitalization is synonymous with gentrification and conflated with displacement. However, as the qualitative data suggested, community leaders do not have the same perceptions and attitudes towards the term revitalization. Most community leaders had positive associations with the concept of revitalization, albeit recognizing its parallel to gentrification. If green gentrification scholars are correct in their assumptions that economic developers are appropriating sustainable discourse and the change in language acts as an additional driver of gentrification, then this shift is important to not only gentrification research but also progressive movements. The division in sustainable discourse perceptions is a potential obstacle that can impede progressive change attempted at the academic and grassroots levels.

## **VI. Limitations**

As with working with any dataset, there are limitations. First, there were some inconsistencies when comparing 2000 census data to 2010 and 2017 data such as differences in question wording. Additionally, some census tracts in 2000 did not accurately match with the 2010 and 2017 census tracts. For the sake of consistency, only census tracts that were found in all time brackets were used. However, due to this, some census tracts located within the 800 meter buffer were not analyzed. It is also important to note that scrutinizing neighborhood changes at the census tract level is a coarse view of a given neighborhood.

Another limitation of this study was the lack of interview data from Los Angeles City Councilmembers. The City Councilmembers play an integral role on how public investment is

distributed and regulated. One could also argue that they are, to a degree, disconnected from the direct needs and desires of a local neighborhood compared to the Neighborhood Councilmembers and organizers interviewed. Thus, they would have filled a gap in the current data by showcasing perspectives from higher up elected officials and policy analysts who create policy for the locale.

To reiterate, gentrification is difficult to measure. Given the time and capacity restraint, a condensed combination of literature review methodology was constructed to perform an analysis on displacement as it relates to green space. What resulted was an approach to gentrification moments, rather than scrutinizing gentrification as a process. This has proven to be effective in determining the occurrence of displacement for certain events in the gentrification process, but ineffective in understanding the full scope of gentrification impacts. Not all gentrification factors are measurable and, thus, the process of gentrification may get lost in quantitative data analysis. I include this in the limitation section due to the time constraints of this study; however, the limitations of this methodological approach can inform the existing green gentrification literature and growing gentrification measurement literature.

## **VII. Recommendations**

### **1. Establish an accessible and digestible database for information on gentrification related research and information.**

The study found that there was a disconnect among academics and community leaders in regards to the interpretation of the term revitalization. This issue can not be rectified with a standardization of terminology as language is variable. Instead, the lack of cohesiveness among change-makers can be best mitigated through open research and dialogue. Scholarship on green

gentrification and other valuable studies should be made accessible and digestible to be inform community leaders about the nuances of environmental and social justice issues. One participant called for more educational outreach so that her community can be knowledgeable about the the ultimate benefits of their local park. Additionally, access to information on green or other types of gentrification, similar to that of the aforementioned Urban Displacement Project, can also help community leaders address common residential fears of gentrification. Overall, having an open source database or community forum can better equip change-makers.

## **2. Public investment policy should include operation and maintenance long-term planning.**

The primary issue community residents have with their local park is the lack of maintenance. A poorly maintained park created obstacles for user accessibility and enjoyment as well as decreased the community value of the park. As evident by the community leader interviews, a park is an important place for community residents and, if the park is not well maintained, locals are less likely to engage or utilize the park space. Moreover, in disproportionately park poor areas, a poorly maintained park may be the only source of green space for the local community. Additionally, an investment only retains its monetary and community value if the same standard is kept in the long-term. Therefore, it is financially wise for policy-makers to include operation and maintenance costs and planning in further green infrastructure legislation. In conjunction with the potential loss in monetary value, the lack of maintenance Thus, proper long- term planning is need to sustain a park's community value.

## **3. Gentrification safeguards should be integrated into the Los Angeles Community Plans.**

The concerns and anxieties expressed regarding gentrification as well as the early trends of green gentrification underscored need for gentrification safeguards. There are a multitude of



methods the city can go about mitigating the negative implications of gentrification including anti-displacement provisions or educational outreach to inform residents of their rights. A current opportunity includes writing strong gentrification safeguard policy language into the the Los Angeles Community Plan. The Community Plan is a piece of city legislation that guides policy-makers in the physical development of communities. This recommendation stemmed from an interview with a Neighborhood Council Member who was hopeful issues of gentrification and displacement would be addressed in the upcoming revisions to the Community Plan. All Community Plans are undergoing updates, with the completion end date scheduled for 2024. Thus, this is an opportune time to implement policy language that would protect existing communities, mitigate the affordable housing crisis, and ease the evident community concerns of gentrification.

It is important to note, gentrification does not occur in the same way to every neighborhood just as for some communities it may never happen. Because of the nonstandardized nature of gentrification, Community Plans and gentrification safeguards should be tailored to the specific needs and concerns of the communities. Language should be flexible enough to accommodate this enigmatic phenomenon while simultaneously have enough teeth to deter the negative implications of gentrification.

#### **4. Grant more public investment money to community organizations.**

Based on examples found in the literature review as well as in the interviews, it is perceived to be that policy makers are disconnected and unconcerned with the real desires and needs of local communities. To combat negative perceptions as well as grant investment that directly makes a positive impact for existing communities, an alternative to investing city money

directly into certain neighborhoods of Los Angeles is to grant more funding to community organizations. Pacoima Beautiful's state grant of \$23 million to make the neighborhood of Pacoima more adaptable to climate change exemplified the upliftment of community leaders and how financial support can be tailored to a community's needs. Moreover, organizers at Pacoima Beautiful are knowledgeable about potential dangers to existing neighborhoods such as green gentrification. As it is their job to understand a community's needs and concerns, community organization would know the most effective way to utilize the investment funds as well as understand best the implications of this investment. Thus, granting more monetary resources to such advocates, allow for changes to occur that can benefit the existing community.

## **VIII. Conclusion**

This study scrutinized the 'urban green space paradox' within the City of Los Angeles, specifically Proposition O parks: Hansen Dam Park, Echo Park and South Los Angeles Wetlands Park. Through the examination of community leaders perceptions' of green space impacts and sustainable discourse, this study found that parks are valuable to communities but the lack of maintenance can be a deterrent to park-goers. Moreover, apprehensions of public investment manifested in gentrification anxieties and a feeling of disconnect with city government. Additionally, a stark contrast in the interpretative of sustainable discourse was evident in the interviews and could result in a barrier to progressive change. The aforementioned findings encompassed significant insight into the unquantifiable tensions and concerns that indicate a correlation with green gentrification.

For future research, further longitudinal studies are needed in order to effectively measure the change of a given community. Time is key factor in the study of gentrification as

gentrification can happen quickly or in the span of decades. Additionally, a more comprehensive dataset is needed to measure gentrification and its relationship to green space. As aforementioned, the Urban Displacement Project has a robust dataset that constructs the information into a measurable index. Such a dataset and measurement methodology should be further explored and reproduced for more quantifiable causation factors such as proximity to transit or green space. Moreover, this study found that ethnographic methods are best to assess gentrification trends that may occur post-revitalization of green infrastructure, especially information that is captured in quantitative data.

The perceptions of the participants presented important questions for further research: how does the revitalization of green space impact individuals that use that space for shelter and community; who is the revitalization of a green space for; and how can gentrification and displacement research be expanded to include marginalized communities that do not fit the traditional models of impacted communities. Therefore, research on less measurable gentrification factors, such as homeless population displacement and gentrification anxieties, should continue to be explored and used to reframe the conceptualization of gentrification.

Green gentrification studies are only starting to emerge in Los Angeles. There are numerous cases that could be scrutinized to further assess if and how green gentrification is occurring Los Angeles. Similar to Proposition O, recent green infrastructure and stormwater capture infrastructure initiatives, such as Measure W and Measure A, are beneficial starting points for green gentrification research in Los Angeles. It is imperative that such good intended initiatives are not implemented in a way where it furthers injustice. Thus, green gentrification research is one approach to understanding the unintended consequences of good policies.

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## Appendix

### *Appendix A: Semi- Structured Interview Questions*

1. What made you become a neighborhood council member and how long have you been in this position?
2. Can you tell me a little bit about the history of Hansen Dam Park?
3. Do you know about Proposition O, the Clean Water Bond City Measure that passed in 2004, that funded the revitalization of green spaces like the Hansen Dam Park?
4. How do you think the investment in the park changed your neighborhood, by types of businesses, housing development, people who move in, etc.?
5. What are your thoughts on the impact the green space has had on your community? Have they been positive or negative?
6. Do you think the City now pays attention to your neighborhood? Why? Why not?
  - a. Has your region gained more public investment since then?
7. There is a debate over the term “revitalization”. On the one hand, “revitalization” means community betterment. On the other, it means gentrification. What do you think of when you hear the word “revitalization”?
  - a. What do your constituents think?
8. When Prop O passed, it was about “revitalization” or the betterment, of underserved parks. Do you think it has the same meaning now?
9. Who else do you think I can talk to?
10. Could I follow up with you later?



Appendix B: Difference in Differences Regression Estimation Result Tables

**Table 1: Echo Park**

Number of observations in the DIFF-IN-DIFF: 54

	Before	After	
Control:	10	5	15
Treated:	26	13	39
	36	18	

*Table 1.1 - Age*

Outcome var.	gent~ge	S. Err.	t	P> t
Before				
Control	35.040			
Treated	31.477			
Diff (T-C)	-3.563	1.270	-2.81	0.007***
After				
Control	38.440			
Treated	34.754			
Diff (T-C)	-3.686	1.796	2.05	0.045**
Diff-in-Diff	-0.123	2.200	0.06	0.956
R-square: 0.32				

*Table 1.2 - Race*

Outcome var.	gent~ce	S. Err.	t	P> t
Before				
Control	2542.100			
Treated	1605.000			
Diff (T-C)	-937.100	232.895	-4.02	0.000***
After				
Control	2927.200			
Treated	1759.462			
Diff (T-C)	-1.2e+03	329.363	3.55	0.001***
Diff-in-Diff	-230.638	403.386	0.57	0.570
R-square: 0.38				

*Table 1.3 - Income*

Outcome var.	gent~me	S. Err.	t	P> t
Before				
Control	4.9e+04			
Treated	3.0e+04			
Diff (T-C)	-1.9e+04	3209.482	-6.04	0.000***
After				
Control	4.4e+04			
Treated	3.6e+04			
Diff (T-C)	-8.2e+03	4538.893	1.80	0.078*
Diff-in-Diff	1.1e+04	5558.985	2.02	0.049**
R-square:	0.45			

*Table 1.4 - Renters*

Control	548.100			
Treated	1160.154			
Diff (T-C)	612.054	162.783	3.76	0.000***
After				
Control	640.600			
Treated	1147.000			
Diff (T-C)	506.400	230.210	2.20	0.032**
Diff-in-Diff	-105.654	281.948	0.37	0.709
R-square:	0.28			

**Table 2: Hansen Dam Park**

Number of observations in the DIFF-IN-DIFF: 30

	Before	After	
Control:	10	5	15
Treated:	10	5	15
	20	10	

*Table 2.1 - Age*

Outcome var.	gent~ge	S. Err.	t	P> t
Before				
Control	35.040			
Treated	30.960			
Diff (T-C)	-4.080	2.575	-1.58	0.125
After				
Control	38.440			
Treated	36.680			
Diff (T-C)	-1.760	3.641	0.48	0.633
Diff-in-Diff	2.320	4.460	0.52	0.607

R-square: 0.21

*Table 2.2 - Race*

Outcome var.	gent~ce	S. Err.	t	P> t
Before				
Control	2542.100			
Treated	2275.500			
Diff (T-C)	-266.600	398.855	-0.67	0.510
After				
Control	2927.200			
Treated	3109.400			
Diff (T-C)	182.200	564.067	0.32	0.749
Diff-in-Diff	448.800	690.838	0.65	0.522

R-square: 0.12

*Table 2.3 - Income*

Outcome var.	gent~me	S. Err.	t	P> t
Before				
Control	4.9e+04			
Treated	4.4e+04			
Diff (T-C)	-5.5e+03	5130.206	-1.07	0.294
After				
Control	4.4e+04			
Treated	3.6e+04			
Diff (T-C)	-7.8e+03	7255.207	1.07	0.293
Diff-in-Diff	-2.3e+03	8885.777	0.26	0.799
R-square:	0.14			

*Table 2.4 - Renters*

Outcome var.	gentr~t	S. Err.	t	P> t
Before				
Control	548.100			
Treated	499.300			
Diff (T-C)	-48.800	165.878	-0.29	0.771
After				
Control	640.600			
Treated	558.400			
Diff (T-C)	-82.200	234.587	0.35	0.729
Diff-in-Diff	-33.400	287.309	0.12	0.908
R-square:	0.02			

**Table 3: South Los Angeles Wetlands Park**

Number of observations in the DIFF-IN-DIFF: 36

	Before	After	
Control:	10	5	15
Treated:	14	7	21
	24	12	

*Table 3.1 - Age*

Outcome var.	gent~ge	S. Err.	t	P> t
Before				
Control	35.040			
Treated	25.471			
Diff (T-C)	-9.569	0.998	-9.59	0.000***
After				
Control	38.440			
Treated	27.671			
Diff (T-C)	-10.769	1.412	7.63	0.000***
Diff-in-Diff	-1.200	1.729	0.69	0.493

R-square: 0.83

*Table 3.2 - Race*

Outcome var.	gent~ce	S. Err.	t	P> t
Before				
Control	2542.100			
Treated	1221.000			
Diff (T-C)	-1.3e+03	181.274	-7.29	0.000***
After				
Control	2927.200			
Treated	1528.714			
Diff (T-C)	-1.4e+03	256.360	5.46	0.000***
Diff-in-Diff	-77.386	313.976	0.25	0.807

R-square: 0.73

*Table 3.3 - Income*

Outcome var.	gent~me	S. Err.	t	P> t
Before				
Control	4.9e+04			
Treated	2.2e+04			
Diff (T-C)	-2.7e+04	1927.065	-14.16	0.000***
After				
Control	4.4e+04			
Treated	2.6e+04			
Diff (T-C)	-1.8e+04	2725.282	6.75	0.000***
Diff-in-Diff	8903.986	3337.775	2.67	0.012**
R-square: 0.88				

Table 3.4 - Renters

Outcome var.	gentr~t	S. Err.	t	P> t
Before				
Control	548.100			
Treated	764.929			
Diff (T-C)	216.829	130.754	1.66	0.107
After				
Control	640.600			
Treated	818.000			
Diff (T-C)	177.400	184.914	0.96	0.345
Diff-in-Diff	-39.429	226.473	0.17	0.863
R-square: 0.11				