A NEW PHASE OF URBAN CLIMATE ACTION:
THE EMERGING INTERSECTION OF URBAN GREENING AND HOUSING JUSTICE IN THE ROCKY MOUNTAIN WEST

A THESIS

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A Shift in Urban Climate Governance:

In a world that is quickly becoming unrecognizable, as fires blaze through city streets and water scarcity leaves towns no option but to stall further development, governments on every scale are forced to reimagine their role in cultivating a livable environment. While unsustainable urban practices must be rectified, the very definition of livable has been called into question as municipal governments reckon with the injustices that have defined urban living for generations. As communities across the globe are forced to adapt, building resiliency to an ever more hostile climate, shifting the very foundation of the urban environment is imperative, innovating urban governing to foster housing accessibility and sustainable design.

Cities within the Rocky Mountain West are taking steps towards transformative climate action, reimagining what urban infrastructure and planning must look like to meet the needs of climate change mitigation, resiliency, and environmental justice. Municipal governments are restructuring institutions to work collectively in a polycentric system to not only build a more sustainable urban environment but reckon with the injustices that have plagued cities for generations. This upheaval of traditional local government marks a new phase of urban climate action, one rooted in righting systemic injustices to build a more sustainable and resilient urban environment for all.

This study investigates the work of municipal governments in Denver, Colorado, and Salt Lake City, Utah, who are striving to combat the climate crisis utilizing an interdisciplinary lens. These two locations were chosen to highlight the efforts of mid-sized cities within the Rocky Mountain West, a region facing the onslaught of severe fires and droughts as a result of the climate crisis. Researchers have been investigating the work of urban governments for decades, positioning local action within the hierarchical structure of multi-level governance. However,

many previous studies have focused on the efforts of large cities, such as New York City, Chicago, and Los Angeles, which hold the capacity to invest in climate resiliency and adaptation efforts. This study highlights the ability that mid-sized cities have to combat the climate crisis, where reevaluating traditional government structure can unveil the path to transformative change. In the cases of Denver and Salt Lake City, a rapid growth in population, heightened vulnerability, and mayoral initiative are catalyzing municipal action.

While at varying stages of transitioning traditional urban governing practices, Denver and Salt Lake City are both seeking to restructure institutions, form strong coalitions, and build municipal capacities to shape a new future for urban living. Each of these tasks is intertwined to design a new basis for urban governing, one centered in the goals of community members. In order to achieve transformative climate action, visioning must stem past departments of sustainability and climate resiliency, recognizing the multifaceted nature of climate action. Buildings and housing account for more than 50% of carbon emissions in both Denver and Salt Lake City, positioning public and private infrastructure as a focal point for emission reduction. This fact ties climate and housing together in a technical sense, but the two are also drawn together through the issue of justice. Both Denver and Salt Lake City are facing dire housing crises, as the cost-of-living spikes with population growth. Both rental rates and property values are increasing at a rate unmatched by wage increase, leaving a high percentage of residents in unstable housing situations. The climate crisis and housing crisis are critical issues for municipal governments, and both disproportionately impact marginalized populations. While these issues were once thought insurmountable through traditional urban governing capacities, by transforming the ways in which city departments communicate and collaborate, and forming innovative partnerships with city stakeholders, both Denver and Salt Lake City are seeking more

affordable, sustainable, and just futures.

This study leans into an uncertain future, where municipal governments are taking on the experiment of transformation, attempting to reach the visions of affordability, sustainability, and equity through innovative strategies. The tangible impacts of their actions are not yet measurable, but the cultural shift in each governing body is telling. Both Salt Lake City and Denver are breaking from the complacency all too often embodied by governing institutions when addressing systemic inequalities. While for decades the wide-scale impact of urban initiatives has been called into question, this new phase of urban climate action is changing the very blueprint for transformation, no longer siloing issues into departmental responsibilities, but viewing the interconnected nature of climate action, urban planning, and housing justice as an opportunity for collaboration and growing historically limited capacities.

Contextualizing Urban Greening and Housing Justice:

Urban Climate Governance

As our global community faces the onset of the climate crisis, the political standstill in national and international institutions remains a barrier for impactful climate action. While the climate crisis will impact communities across the world, international agreements such as the Paris Climate Agreement, which attempted to form an international coalition to combat the climate crisis, have left nations struggling to implement the proper protocols to meet their Nationally Determined Contributions. In the wake of federal inaction, cities have risen as leaders in ambitious greenhouse gas reduction goals and climate change mitigation initiatives. Cities are responsible for over 70% of global greenhouse gas emissions (Stern, 2006, as cited in Hughes, 2019), due to population density and industrialization, and therefore serve as an imperative focal point for transformative change in reducing global carbon emissions.

Cities represent unique environments facing their own range of barriers emerging from regional histories, cultural differences, and political capacities. For those reasons, cities approach climate action from varying modes of governing and policy avenues. This study focuses on three main forms of greenhouse gas emission reductions: green infrastructure development, energy production, and building electricity. Climate action experiments in each of these categories have proliferated across the United States, forming frameworks for “best practices" and avenues for emission reductions.

Urban planning strategies have evolved over the last decade to promote livability, utilizing green infrastructure development and transportation initiatives. Transit Oriented Development, New Urbanism, and Smart Growth emerged in tandem, representing a new era of urban planning embracing greening initiatives to rethink American cities (Calthrope, 1993

Cervero, 1994, Bernick, 1996, as cited in Chapple & Loukaitou-Sideris, 2019). The design approaches center urban development around transit stations in order to foster walkable communities and reduce urban sprawl, while developing connected urban green space for pedestrian and bike traffic. A dense metropolitan region reduces energy consumption, greenhouse gas emissions from single-use vehicles, and air pollution. While in principle the New Urbanist Project prioritized equity through mixed-income housing, in execution many cities have failed to fight displacement due to a lack of private and community investment in affordable housing infrastructure (Chapple et al., 2007, Bierbaum et al., 2010, Sarmiento & Sims, 2015, as cited in Trudeau, 2018; Chapple & Loukaitou-Sideris, 2019).

Transitioning energy production from fossil fuels to renewable generation is a particularly complex issue for municipal governments to undertake, as different urban communities have varying levels of power in local utilities (Hughes, 2019). While some utility companies are municipally owned, others are third party private companies regulated by the state and federal government. However, cities have found innovative maneuvers to bypass this barrier, signing memorandums of agreement, partnering with utility companies to transition towards renewable and clean energy. In these cases, cities have learned how to utilize their individual power, as key consumers and influential bodies of government, to achieve greenhouse gas reduction goals and disrupt the nation's carbon lock-in (Hughes, 2019; Office of Public Health & Environment, 2018; Office of Sustainability, 2017; Bernstein & Hoffman, 2018). Cities have also made strides in reducing energy consumption from the consumer side, enabling and regulating individual building retrofits and electrification of harmful heating and cooling systems to reduce greenhouse gas emissions (Hughes, 2019). Whether choosing to approach emission

reductions from the demand or production side of energy usage, energy efficiency issues dominate the local agenda in climate change mitigation (Castán Broto & Bulkeley, 2013).

Cities across the globe are navigating threats and crises both created by climate change and coinciding with climate change. As cities seek to reduce local greenhouse gas emissions, existing institutions, political priorities, and systemic inequalities have the potential to exacerbate existing urban inequalities and the distribution of environmental burdens (McKendry, 2016; Anguelovski et al., 2016; Hughes, 2020). Historically, climate justice was framed as the disproportionate impacts of climate change on the global spectrum, with developing countries facing the greatest vulnerability to climate change while developed nations continued to emit the most. However, as the scope of climate change began to localize, in order to meet the needs of global climate initiatives, the recognition of parallel inequalities existing in smaller microcosms became apparent.

The manner and extent to which environmental justice concerns are advanced in urban climate governance is lacking, with a majority of urban governments neglecting the issue altogether; even simple concerns surrounding environmental justice were found in only a quarter of major climate change experiments (Castán Broto & Bulkeley, 2013). When environmental justice is engaged, there is an emphasis on distributional inequalities, without consideration as to how climate interventions may serve to perpetuate or challenge existing social stratifications (Bulkeley, 2013). With racial, economic, and environmental injustices defining the very fabric of urban communities and environments, the question left to cities is how best to address cascading systemic issues while faced with climate catastrophe. These issues are woven together, and collectively require transformative change.

As urban climate action has grown in popularity and urban climate governance in authority over the past three decades, approaches to climate action have evolved and expanded to include state and non-state actors, while messaging surrounding climate action has shifted to highlight the intersections between climate change mitigation and varying urban issues. Urban political economies have evolved, from viewing climate action in conflict with local economies, to recognizing the inherent benefits of climate action for economic health and resource independence. The phases of urban climate action thus far have been classified as *municipal volunteerism, strategic urbanism,* and a "new politic" proposed by Bulkeley and Betsill (2013) which encapsulates and expands on the concepts of *secure urbanism and resilient infrastructure.* These three phases of urban climate action represent the evolution of local climate governing, expanding the scope of climate change to draw a web of interconnected issues impacted by the climate crisis, giving way to broader urban transformation.

The evolution of climate action from *municipal volunteerism* to *strategic urbanism* led to a more expansive definition of climate change, both in the issues that intersect with emission reductions and the many state and non-state actors involved in climate change mitigation. Climate action first rose to prominence in urban agendas through *municipal volunteerism* (Bulkeley, 2013), in which small and medium-sized cities, primarily in North America and Europe, recognized climate change as a threat and offered small forms of response. Local actions primarily focussed on a self-governing approach to GHG emission reduction, limiting emissions within municipal operations (Bulkeley & Kern, 2006; Bulkeley & Betsill, 2013; Hughes, 2018). *Strategic urbanism* (Hodson & Marvin, 2010, While et al., 2010, as cited in Bulkeley & Betsill, 2013) expanded the scope of climate action, making climate change an integral component of achieving wider urban agendas. During this phase of urban climate action, transnational

networks began to emerge with more prominence and authority, including a multitude of new actors such as the US Mayors Climate Protection Agreement, the European Covenant of Mayors, and the C40 Cities Climate Leadership Group (Bulkeley & Betsill, 2013; McKendry, 2016). Despite growing global participation, the conflict between climate action and economic vitality was continuously provoked, as city officials attempted to use existing policy and planning procedures to engage with climate change (Bulkeley & Betsill, 2013).

Bulkeley and Betsill (2013) positioned a new climate politic, in which a wide range of actors, beyond the traditional confines of municipal and state governments, expanded the political arena within which climate change was considered. Some scholars have referred to this new politic as “secure urbanism and resilient infrastructure” (Hodson & Marvin, 2010, as cited in Bulkeley & Betsill, 2013), or the phase of “carbon control,” referencing the renewed emphasis on independence in energy supply for cities, powered by renewable resources and reducing the cost of living for citizens. This framing of climate action drew multiple new state and non-state actors into the political process from energy providers to non-profit organizations and multiple municipal departments such as transportation, green-space design, energy, and urban planning. This framing also assisted in dismantling the conflict between climate action and economic growth, positioning climate action and energy security as vital contributors to economic health. Throughout this phase, urban governments and non-state actors set ambitious climate targets as political maneuvers that disrupted the traditional domination of the political economy, creating a new path towards transformative climate action, and redefining the limitations of local government. Within this new phase of climate action, Bulkeley and Betsill (2013) posit the question of "what climate change should mean and for whom," a question still resonating in urban environments across the world.

Within the United States, legacies of racist urban planning have defined the distribution of urban infrastructure and environmental amenities for decades, making urban centers the sites of heightened social and environmental injustices. In order to develop just urban transitions for climate action, cities must further engage non-state actors, departing from the confines of private corporations and non-profit organizations, to center the voices of vulnerable communities and tailor resiliency, connecting local knowledge of an area and community to governing capacities. This concept shifts the power of decision making, understanding who defines "just" within a certain community, and engaging with key concepts of representation and recognition prevalent throughout environmental justice scholarship (Schlosberg, 2004; Hughes & Hoffman, 2020). Just urban transitions seek to do more than remedy past inequalities, addressing systemic inequalities through broad coalitions engaging institutional, social, economic, and political forces (Hughes & Hoffman, 2020).

Yet, city-based climate action is not always productive, and of the thousands of cities who have committed to greenhouse gas emission reduction, less than half have taken real strides towards implementing a plan of action (Hughes, 2019). Municipal government serves as the analytical centerpiece of a city, mobilizing participants and coordinating resources as the mechanisms to overcome decades of static climate action and achieve a city's progressive agenda. Hughes (2019) argues that in order to activate actors, agents, and resources, cities must build new institutions, build new coalitions, and build new capacities. New institutions must be constructed to coordinate climate action across various divisions of city-government and streamline long-term climate projects over multiple political terms (Hughes, 2019). New coalitions must be built in order to facilitate greater trust in government, build support for plans and policies, foster a network of advocates, and increase access to expertise (Hughes, 2019).

Cities must frame their plans in an inclusive manner to grow coalitions. And finally, cities must build new capacities to properly navigate the climate crisis and collect, analyze, and organize the data necessary to create wide-scale change (Hughes, 2019). This framework shifts the conversation surrounding how cities overcome contextual barriers through shared governing strategies that mobilize actors and resources, allowing scholars to properly analyze the emerging gap between urban ambition and progress.

Operating through a "locally mobilized polycentric system" is the ultimate goal of Hughes' (2019) framework: in which decisions are made at "multiple scales, by multiple actors" where urban governance and policy play a critical mobilizing role in a collective emissions trajectory (Hughes, 2019, p. 176), reflecting the popular theory of multilevel governance. Multilevel governance describes the intertwined nature of governing institutions, divided into two key types of multilevel governance: type I shapes governance into hierarchies of power (international, federal, state, municipal, etc.), while type II is devised by a polycentric model in which overlapping and interconnected horizontal spheres influence each other and collaborate in governing a particular issue (Bulkeley & Betsill, 2005, p. 48). Type I, taking advantage of hierarchies of power, is a critical strategy for capacity building and institution building. Developing a clear connection between levels of traditional governance creates a pathway for funding as well as a catalyst for local action through regulation mandating and goal setting, overall building capacity for local and broader government structures. Type II, the polycentric approach to multilevel governance fosters new institutions, emphasizing the importance of both local coalitions and transmunicipal networks in helping to increase accountability and capacity, by supplying newly emerging cities with methods for greenhouse gas reduction and creating a space for innovative strategy development through local collaboration. Urban climate policy

remains complex and fragmented, frequently drawing past the jurisdiction of municipal powers; analyzing climate action through a multidimensional evaluation of impacts allows municipal governments to account for behavior change, local actors' involvement, state and federal action, and influence on surrounding cities (Hughes, 2019).

Re-investment in urban communities, often in tandem with sustainable development, has led to the onslaught of gentrification and involuntary displacement of Black and brown communities, who were left in under-resourced cities when white Americans fled urban centers for suburban living. Displacement is a process with deep roots in colonial aggression and oppression, as the displacement of Indigenous peoples and Black communities from the founding of the United States on. The practice of land-grabbing fostered the further expropriation of land by real-estate developers and bank loaners in partnership with the U.S. government, red-lining certain neighborhoods for minority groups to segregate urban environments, reducing funding from key social institutions, and concentrating environmental harms such as factories, waste treatment facilities, and other “locally unwanted land uses” (LULUs) in politically disenfranchised, minority, and low-income neighborhoods (Gould & Lewis, 2017).

The environmental justice movement emerged from the tireless work of Black, Indigenous, and People of Color (BIPOC) activists demanding government accountability for the concentration of harmful waste in Black and brown communities (Goodling, 2019). The 1987 *Toxic Waste and Race* report amplified calls for action, finding that race was the most potent variable in predicting where waste facilities were located, more so than household income or home value (Bullard et al., 2008). These findings led to a breadth of action on the part of government officials, grassroots organizations, and community activists to prioritize environmental justice, demanding that all people were entitled to equal enforcement of laws and

regulations protecting environmental, housing, health, land use, transportation, energy, and civil rights. Yet, two decades after the initial *Toxic Waste and Race* report, and the ensuing actions surrounding environmental justice, Bullard (2008) found that people of color were even more likely to be concentrated around hazardous waste facilities than previously shown.

The environmental justice movement redefined how one sees nature and the environment, conceptualizing the environment not as a wild place, but where humans live, work, play, and prosper. In reframing the "environment," environmental justice activists broaden their reach, mobilizing advocates for public transportation, housing equity, public health, and safety, (Goodling, 2019; Agyeman, 2013), as well as the broader power structures that gave rise to racial, economic, and environmental injustices. Environmental justice through a critical lens contests the power relations among community members and stakeholders, demanding respect and recognition of grassroots experiences and expertise to define environmental risk (Pellow, 2018). Schlosberg (2004) defined a framework for environmental justice, stating "global environmental justice needs to be locally grounded, theoretically broad, and plural -- encompassing issues of recognition, distribution, and participation" (Schlosberg, 2004, p. 518). Schlosberg (2004) positions recognition as an "inherent precondition" to just distribution, a critical point of focus in order to determine the root causes of maldistribution.

While frontline communities have called for toxic clean-up and green amenities for decades, the forces guiding long awaited toxic-waste remediation are often driven by the desire for capital return as opposed to community care. Urban greening is not necessarily sparked by the interest of stakeholders; rather, greening measures typically come from outside public and private investors seeking to seize the value of an un-revitalized environmental amenity. The resulting investment raises quality of life in a neighborhood by reducing pollution, developing

public resources, and constructing accessible green space, accompanying a stark rise in property values and cost of living. Melissa Checker (2011) coined the term “environmental gentrification” to describe this phenomenon, where the economic value of an environmental resource is appropriated by one class from another, later adapted by Gould and Lewis (2017) to describe green gentrification. Green gentrification makes up a small slice of urban gentrification, but as cities across the globe transition towards a sustainable future, in order to ensure justice lies at the center of greening initiatives green gentrification must be critically investigated and combated to prevent the onslaught of displacement frequently found in urban redevelopment projects.

The common study of gentrification within the United States tends to focus on demographics, the flow of people in and out of urban neighborhoods. In other words, highlighting aspects of upscaling, depicting socioeconomic ascent, as opposed to upgrading, referring to the investment of private and public capital in revitalization efforts (Sims, 2016, as cited in Chapple & Loukaitou-Sideris, 2019). The focus of upscaling in current gentrification scholarship limits the time frame of neighborhood change, highlighting a moment in time that depicts gentrification on a binary, masking the social inequalities exacerbated by gentrifying practices and contributing to long-term physical, economic, and exclusionary displacement (Owens, 2012, as cited in Chapple & Loukaitou-Sideris, 2019). A lack of study on the flow of capital into a neighborhood (Zuk et al., 2017, as cited in Chapple & Loukaitou-Sideris, 2019), including municipal investment into public amenities such as transit systems and green space revitalization, makes connecting gentrification and displacement far more complicated and frequently veils the macroeconomic and social contexts shaping a neighborhood (Schlichtman et al., 2017, as cited in Chapple & Loukaitou-Sideris, 2019).

Displacement can occur as both a direct and indirect result of gentrifying practices (Gould & Lewis, 2017; Chapple & Lousaitou-Sideris, 2019), and manifests in many forms. Gentrification scholarship primarily focuses on physical displacement (the act of landlords evicting tenants or creating unsafe living environments) and economic displacement (an increase in rent). However, the acts of exclusionary displacement and cultural displacement are frequently neglected (Davidson & Lees, 2005, Winkler, 2009, Lemanski, 2014, Eczema et al., 2016, as cited in Chapple & Loukaitou-Sideris, 2019). Exclusionary displacement occurs when only a certain group of people, typically wealthier, whiter, and more highly educated people, can move into a neighborhood (Atkinson, 2000, as cited in Chapple & Loukaitou-Sideris, 2019). Cultural displacement occurs when acts of gentrification erase the ways in which long-term residents interact with the environment. By rebranding neighborhoods and cities as "green, smart, and resilient" the historical and ecological histories of residents are flattened, "erasing their sense of belonging and combined relationship to their neighborhood and to the local nature" (Anguelovski et al., 2019, p. 10).

The framework Just Green Enough, is one method proposed to curb the onset of green gentrification, positioning community priorities at the center of greening initiatives. Developed by Curran and Hamilton (2018) through a case study of local activism in Greenpoint, Brooklyn, the Just Green Enough framework designs environmental remediation around community needs and aspirations, focusing explicitly on social and environmental justice and contesting the inevitability of displacement as a result of environmental remediation. The process of positioning community value as a pillar to political and economic practices of urban development may be reframed as "patient capital," a type of resource investment "that either expects returns to be realized over an extended time frame or looks to generate returns that are not financial in nature"

(Trudeau, 2018, p. 233). Patient capital is a necessary resource to promote equity in sustainable development, reframing large scale urban greening initiatives such as the New Urbanist Project to meet the material and nonmaterial needs of a community, using a vision of what an equitable community may look like to motivate developers and stakeholders (Trudeau, 2018; Langemeyer & Connolly, 2020).

Investigation of methods to curb the onset of displacement from gentrifying practices has led to a breadth of policy proposals, highlighting the need for the creation and protection of affordable housing, neighborhood stabilization, and prevention of commercial displacement (Trudeau, 2018; Chapple & Loukaitou-Sideris, 2019). Many of these strategies revolve around rezoning communities to institute a dense design and incentivizing affordable and mixed-income housing inclusion. The context defining individual neighborhoods and regions is critical towards crafting effective policy to ease the threat of displacement. Planning efforts for affordable housing and neighborhood stabilization must begin early in redevelopment projects with a diverse group of stakeholders central in drafting design and policy. In order to truly create just sustainable neighborhoods, coalitions must sit at the center of development, crafting a narrative around new urban designs which include and empower stakeholders as opposed to excluding and disenfranchising community members (Chapple & Loukaitou-Sideris, 2019). In order to promote just and sustainable cities, urban greening and housing justice must revolve together as a binary star. Without ensuring safe and affordable housing, urban greening will continue to disenfranchise marginalized identities and exacerbate environmental injustices throughout urban environments.

Housing Justice

Cities exist in contradictions; as urban clustering breeds innovation, wealth accumulation, and a rise in living standards for some, the policies and politics shaping cities have forged factions of advantage and disadvantage along the merging lines of race and class. As American wages rise slowly or remain stagnant across the country, the cost of living within cities continues to soar. Housing markets are experiencing splintering pressure as white residents flood back into urban environments under the collapse of the suburban growth model, raising housing rates while spawning gentrification and involuntary displacement (Florida, 2017). While current land use regulations sow inefficiency and sprawl in urban environments, deregulation itself is likely to produce a greater gap in urban affordability. Instead, reforming urban land use practices to promote the health of local economies and communities, and preserving the "missing middle" housing, mixed-use and mid-rise developments, is an avenue towards fostering more equitable cities. In order to construct denser urban communities, investment in transit expansion is essential, creating a network of opportunity and affordability across a metropolitan region (Florida, 2017).

A commonality between unique urban environments remains to be the unequal distribution of social and environmental goods, and the concentration of environmental "bads" and under-resourced infrastructure in low-income communities and communities of color. American urban environments are defined by legacies of racist urban planning initiatives and loaning practices fostered through federal and local governments. During the Great Migration, a period when millions of Black Americans migrated from the South to industrial centers of the Northeast and Midwest, residential segregation manifested in rigid divisions across urban neighborhoods (Flippen, 2016). In the 1930s, the Homeowners Loan Corporation, established to refinance mortgages, drew "red-lines" around black communities and designated them unsafe for

federal investment. The National Housing Act of 1934 failed to address urban segregation and disinvestment in Black communities, and instead promoted and supported racial covenants. These programs typically refused even wealthy Black residents mortgages and denied Black Americans the opportunities for home equity investment emblematic of the suburban housing boom in the mid 20th century (Graff, 2019).

The legacy of housing segregation programs is systemic today, as the primary way to ensure generational wealth remains in home equity. The opportunity that white Americans had to invest in home ownership, while Black Americans were denied these rights altogether, has generated a wealth disparity of nearly $100,000 between the average white household and the average Black household (Katznelson, 2017, as cited in Graff, 2019). The denial of full access to housing markets for Black Americans has led to the distributional inequality in social services, such as schooling, jobs, public services, home equity, safety, and ultimately wealth, all of which are shaped by housing markets and neighborhood investment.

Political messaging has encouraged the prioritization of suburban living and sprawling urban design for decades, rooting the American Dream in images of single-family dwellings and expansive space. This political frame has led to the disproportionate allocation of government subsidies to single-family homeowners via tax deductions for mortgage interest, advantaging wealthier, and frequently white, American households. The cost of subsidies for homeowners makes up four to twelve times the federal housing assistance for those in need (Florida, 2017; Badger & Wilson, 2018, as cited in Graff, 2019).

Renters are increasingly cost-burdened; according to a 2017 study, 32.9 percent of households in the United States are cost burdened, spending more than 30% of their annual income on housing costs (Harvard Graduate School of Design and Harvard Kennedy School,

2017, as cited in Davis, 2018). A national shortage in affordable housing, exacerbated in cities with a rapid growth in population, has furthered housing insecurity for cost burdened households. The National Low-Income Housing Coalition found a national shortage of 7.2 million rental units to meet the needs of low-income Americans. The current housing crisis has led city governments on a quest to find innovative solutions to meet affordable housing needs (Aurand et al., 2017, as cited in Davis, 2018). This study focuses on inclusionary zoning and accessory dwelling units as methods to increase the affordable housing stock in urban neighborhoods, while many other methods such as rent control, increased federal subsidies, and an affordable housing tax fund have also been proposed.

Inclusionary zoning (IZ) rose to prominence as an effort to reverse exclusionary zoning practices prevalent in post-industrial urban planning. With the intention to densify urban regions, moving away from single-family regulations, inclusionary zoning policies "'require or encourage developers to set aside a certain percentage of housing units in new or rehabilitated projects for low- and moderate-income residents'" (Keep-Barnes, 2017, p. 70). Inclusionary zoning programs vary broadly in implementation, layering characteristics of development to encourage or require the construction of affordable dwellings within market-rate housing projects. Inclusionary zoning programs are politically appealing as they shift the cost burden of constructing and maintaining affordable housing from municipal governments to private developers. However, the effects of inclusionary zoning programs remain a controversial debate, as to whether or not they truly induce affordability, or further exacerbate issues of rising housing costs (Keep-Barnes, 2017; Bento et al., 2009, as cited in Hamilton, 2021).

IZ programs are increasingly difficult to evaluate, as new forms of the program's framework are implemented across the country. The success of IZ programs overall depend on

local context and a city's unique housing market. Economists frequently cite the impact of inclusionary zoning as a "tax" on developers, leading to higher costs on developers that therefore disincentivize construction and lead to a further shortage in housing stock (Hamilton, 2021). These impacts are offset by inclusionary subsidy initiatives, which are defined as any program that works to incentivize affordable housing production by reducing developers' cost to comply with IZ standards (Hamilton, 2021). In cases across the country, both IZ tax and IZ subsidy programs have been linked to rising market-rate housing costs, and in some cases an overall decline in development (Keep-Barnes, 2017; Bento et al., 2009, as cited in Hamilton, 2021). In most cases, density bonuses, which provide developers an incentive for constructing higher-density units through reducing parking requirements, raising height standards, or offering monetary awards, are found to be the most impactful form of inclusionary zoning (Shuetz et al., 2011; Keep-Barnes, 2017). But, even in cases where inclusionary zoning was found to be effective, municipalities were still unable to meet the demand for affordable housing. These findings suggest that inclusionary zoning ordinances tailored to local housing markets may add to the capacity of a comprehensive housing plan (Keep-Barnes, 2017).

Accessory Dwelling Units (ADUs) are a growing urban initiative to promote greater density in traditionally single-family regions while preserving traditional neighborhood character and appearance. ADUs are additional small housing units constructed in the excess land of single-family lots, creating supplemental income for property owners and generating greater housing supply in the area (Davis, 2018). ADUs serve as an opportunity to increase equity, provide greater housing opportunities, and supply homeowners with supplemental incomes. Other residents fear that ADUs may change the character of neighborhoods and that an increase in density may exacerbate traffic and congestion issues (McKellar, 2017, as cited in Davis,

2018). Despite opposition, many cities have embraced the opportunity for ADUs to increase housing security and achieve the goals of dense urban design.

ADUs are an innovative housing option, fitting the agenda of new urbanism to re-densify neighborhoods, and holding the potential to increase affordable housing supply. Specifically, the development of ADUs around transit regions promotes livable cities, integrating land-use, public transportation, and economic diversity. In this manner, ADUs serve as a more sustainable option for housing development (Ramsey-Musolf, 2018). In addition, ADUs serve as one of few affordable housing solutions that do not rely on government interference; however, ADUs do not necessarily serve low-income residents, as construction is costly, leading to higher rental rates (Talen, 2013, as cited in Ramsey-Musolf, 2018). Through fostering flexible zoning, with alterations such as the reduction of standards in lot-size, distance requirements, and parking regulations, the construction of ADUs may increase drastically, fostering naturally occurring affordable housing (Wegmann & Chapple, 2014, as cited in Ramsey-Musolf, 2018). To ensure ADUs meet the needs of low-income communities, municipalities may pass zoning regulations to incentivize the construction of a percentage of ADUs as long-term low-income housing (Ramsey-Musolf, 2018). ADUs provide a pathway forward, increasing density, housing stock, and access to affordable housing, forming another piece of the effort to quell the national housing crisis.

Inclusionary zoning and accessory dwelling units both serve as tools that can be tailored to local environments and economies to meet the needs of individual urban communities. Each housing initiative expands the capacity of a municipal government to develop affordable housing options, whether as an influx in government capital through offset charges, or a tangible increase in housing supply. These two strategies redesign zoning regulations to incentivize or require

affordable housing development and increase urban density, serving as frameworks to transform traditional zoning practices rooted in racist urban planning and unsustainable design.

The connections between housing justice and environmental justice have been developing for decades. However, as municipal governments begin to navigate climate action from a holistic lens and reckon with the environmental and social injustices defining urban communities, a political window has opened to couple these two issues. The connections between urban planning, housing, and climate change define a new era of urban climate action, fostering far more than performative participation in emission reductions. The expansion of a *new urban politic* to include a commitment to addressing systemic inequalities through broad coalitions and institutional upheaval defines a new phase of urban climate action, one reckoning with past and present inequalities to design a more equitable, affordable, and resilient urban environment for all.

Reimagining Cities within the Rocky Mountain West:

Denver, CO, and Salt Lake City, UT, both sit at the base of vast ranges of mountains, defining their landscapes, cultures, and economies by the nature that surrounds them. This fact is true for many cities within the Rocky Mountain West, but the position of Denver and Salt Lake City against the Front Range of the Rocky Mountains and the Wasatch Range, respectively, has fostered a culture of environmental concern within both municipalities for decades. Due to their size and location, each city has suffered from periods of severe air pollution, drawing the connection between public health and emission reductions to the forefront of political concerns. In the case of Salt Lake City, concerns over air quality led to the creation of SLCgreen, now serving as the leader in sustainability efforts. Visions for environmental quality now stretch far beyond reducing air pollution, recognizing the need for transformative action to mitigate the impacts of climate change on local communities. For Denver, current goals have been adjusted from previous iterations of ambitious climate agendas to center a just transition forward, committing to the allocation of city-resources first and foremost to marginalized communities (Office of Climate Action, Sustainability, and Resiliency, 2021; personal communication, July 23, 2021).

The following information on Denver, CO, and Salt Lake City, UT, was collected using qualitative data from city plans involving housing (*Housing an Inclusive Denver* and *Growing SLC*), urban planning (*Blueprint Denver* and *Plan Salt Lake*), and climate action (*Denver 80X50 Climate Action Plan* and *SLC Climate Positive 2040*) as well as through 6 semi-structured interviews with city officials across the departments of Climate Action and Resilience (Denver), the Office of Housing Stability (Denver), the Denver City Planning Department, the Salt Lake City Sustainability Department (SLCgreen), Office of Housing and Neighborhood Development

(Salt Lake City), and the Salt Lake City Planning Department. Major city documents were analyzed using in-vivo coding, counting the use of key words related to climate action, housing, and social justice. Using this data, wider patterns involving the interdisciplinary nature of each city's approach, the inclusion of sustainability goals in each municipal department, and the prevalence of social justice concerns for each city, were analyzed.

This study focuses on a slice of urban climate action in Denver and Salt Lake City, investigating the manner in which both cities are approaching building electrification and urban density. These two issue areas intersect with housing policy and affordable housing production, managing densification while mitigating the negative impacts of gentrification and involuntary displacement. City-wide building electrification and urban densification require the collaboration of a myriad of municipal departments, leading city governments to shift traditional institutions to build capacity while incorporating a coalition of community stakeholders, in hopes of crafting an equitable future through a new urban design. The reimagining of historic municipal processes represents a transformative change for urban climate action, establishing the structural power to truly meet ambitious climate change mitigation goals, and impact the residents' quality of life.

A Commitment to Climate Action

Denver and Salt Lake City have been monitoring greenhouse gas emissions while designing local initiatives to reduce residential and municipal impact on the environment for over a decade (Office of Public Health & Environment, 2018; Office of Sustainability, 2017). But in recent years, climate action plans have evolved to include far more than greenhouse gas monitoring, encompassing the wider impacts of climate change and the interconnected nature of environmental and social urban issues. With a new understanding of how climate change

permeates through each sector of local governing, Denver and Salt Lake City are determined to transition their urban infrastructure and modes of governing to promote a more just and sustainable urban environment for all (Office of Public Health & Environment, 2018; Denver City Planning Department, 2019; personal communication, August 3, 2021).

Denver, the largest city within the Rocky Mountain West, has established itself as a leader in city-based climate action. In 2018, Denver released the *80X50 Climate Action Plan*, an ambitious plan centered around the goal to cut city emissions by 80% of 2005 levels by 2050. After releasing their first climate action plan and greenhouse gas index in 2007, Denver's goals have moved from highlighting consumer choices to entirely redesigning urban infrastructure and design. Denver's *80X50 Climate Action Plan* details four strategic policy sectors to reduce emission levels: energy efficiency in buildings, decarbonization of the electric grid, enabling next generation mobility, and improving waste management (Office of Public Health & Environment, 2018, p. 4). A large network of plans and policies have developed since the passage of the 80X50 Climate Action Plan, breaking down local greenhouse gas emitters and devising strategies to limit emissions in each sector.

After the passage of Denver's *80X50 Climate Action Plan*, Denver City Council President Jolon Clark attempted to put a citywide carbon tax on the 2019 ballot. In exchange for halting this effort, Mayor Hancock agreed to construct the Office of Climate Action, Sustainability and Resilience (CASR) as well as a Climate Action Task Force (Brasch, 2020). These new institutions were tasked with enabling a sustainable, resilient, and climate-safe future for all Denverites, in collaboration with fellow city departments, government agencies, and community partners. Denver is committed to following through with ambitious language regarding proposed policy, actions, and resource allocation. In 2019, Denver passed a 0.25%

increase in the local sales tax to establish sustained funding for the Office of Climate Action, Sustainability, and Resiliency (CASR). The tax is predicted to generate between $20 to $40 million a year (Brasch, 2020). These funds are designated to combat climate change and economic disparities, intersecting along issues of environmental justice. At least 50% of those funds will be allocated to frontline communities (residents at highest risk to environmental harms), primarily Black, Indigenous, People of Color, and low-income communities. CASR now hopes that funding for marginalized communities will far exceed 50% of tax dollars, shaping various green incentive programs around serving under-resourced communities first and foremost (personal communication, July 23, 2021).

Salt Lake City's actions are driven by their *Climate Positive 2040* plan, which commits the city to reducing climate emissions 80% by 2040, leaning primarily on transitioning community electricity to entirely renewable resources by 2032, a goal they are on track to meet by 2030 (personal communication, August 3, 2021). The Salt Lake City Sustainability Department, known to the public as SLCgreen, was established in 2008 to mitigate climate change while prioritizing the impact of air pollution on communities along the Wasatch Mountain Range (Salt Lake City Corporation, 2010). But in recent years, with the election of Mayor Erin Mendenhall in 2020, the scope of sustainability has permeated beyond the boundaries of a dedicated department, tasking "each of the [city] departments and divisions with creating their own sustainability plan that directly impacts their programming and work" in collaboration with SLCgreen, fostering "stronger connections" along the lines of sustainability between Salt Lake City departments (personal communication, August 3, 2021).

The Salt Lake City Sustainability Department is in the process of assembling a group similar to Denver's Climate Action Task Force, titled the Climate Equity Working Group

(personal communication, August 3, 2021). This working group will be composed of underrepresented groups in Salt Lake City, including immigrant and refugee communities, low-income residents, and Black, Indigenous, and people of color residents. This working group, connected directly to communities through a climate equity ambassadors team, is designed to help inform both the low-income plan for SLC's community renewable energy program while also creating "a more holistic climate equity plan" (personal communication, August 3, 2021).

Denver and Salt Lake City have demonstrated their commitment to climate action through formal process and ambitious emission reduction goals. Yet, as both cities now lie in the policymaking phase of implementation, the success of city initiatives remains in question. However, Denver and Salt Lake City are taking strides to build local capacities for climate action and establish policy which centers equity in the distribution of municipal resources. The building electrification plans in both Denver and Salt Lake City, while in introductory phases, represent a reckoning with the very fabric of urban environments; the buildings and homes that shape everyday life for all residents.

Building Electrification

In both Denver and Salt Lake City, inefficient electricity in residential and commercial buildings is responsible for over 50% of greenhouse gas emissions, tying housing and sustainability together in a network of complex relationships between public and private institutions (Office of Public Health & Environment, 2018; Office of Sustainability, 2017). Each city holds its own capacity for sparking change. While building codes are established at the state level in Utah (personal communication, July 14, 2021), Denver holds the power to adopt strict energy efficiency guidelines in new building construction through a Green Code, designed to

meet energy efficiency goals established in the Denver's *Net Zero Energy Plan* (personal communication, July 13, 2021).

With technical assistance from the New Building Institute, through the Bloomberg American Cities Climate Challenge, and a wide breadth of stakeholder engagement, Denver created an ambitious three-phase *Net Zero Energy (NZE) Plan*, outlining goals to require net zero energy through all-electric new homes in the 2024 Building Code, all-electric new buildings in the 2027 Building Code, and performance verifications to ensure all new buildings are performing as designed in the 2030 Building Code (Office of Climate Action, Sustainability, and Resilience, 2021). Denver defines NZE as a new building or home that is highly energy efficient, powered by renewable energy, a provider of demand flexibility for the grid, and all-electric. Energy efficiency is the lowest cost method for reducing carbon emissions from buildings. Denver is promoting both on-site and off-site renewable energy production as a means for supplying low-carbon power to Denver buildings prior to the full decarbonization of the local utility grid, produced by Xcel Energy. Building designs are encouraged to work to address the variable patterns of unaligned local electricity demand and generation curves in the electrical grid. And the greatest goal of the program is to create a transition timeline for all new Denver homes and buildings to be entirely electric (Office of Climate Action, Sustainability, and Resilience, 2021). These goals accelerate the initial timeline that Denver imposed for net zero emissions from new buildings, moving from a net zero goal of 2035 to 2030 in response to the Climate Action Task Force's *2020 Recommendations Report* (Office of Climate Action, Sustainability, and Resilience, 2021).

The Denver Green Code is currently voluntary, offering incentives for developers who choose to construct buildings with high energy efficiency and/or net zero energy standards (City

and County of Denver, 2020). The Green Code will become more stringent with each iteration, establishing new city-wide energy efficiency requirements in each municipal code adoption period. Eventually, the Green Code will require all new developments to be highly efficient in alignment with Denver's Net Zero Energy Goals, yet the timeline for this transition remains uncertain (personal communication, July 23, 2021). In 2020, Mayor Michael Hancock launched the Green Code and Housing Affordability Pilot Program, offering building incentives to 5 projects that chose to abide by the voluntary green code, and 5 projects that were entirely affordable (City and County of Denver, 2020). The project was designed to gauge the feasibility of a green code timeline, and determine the effectiveness of government incentives for expanding housing affordability (City and County of Denver, 2020). While this iteration of experimentation separated housing affordability and sustainability, the expansion of each program will craft a two-pronged approach to incentivize affordable sustainable housing options.

Denver is reaching beyond new buildings. With the Energize Denver Taskforce, Denver is establishing an implementation plan to retrofit all existing residential buildings to meet energy efficiency standards and electrify heating and cooling systems. A key concern from community members is that the electrification of existing buildings will further cost-burden low-income residents, and lead to involuntary displacement (Office of Climate Action, Sustainability, and Resilience, 2021; personal communication, July 23, 2021). The Energize Denver proposal, which is still seeking community input to finalize recommendations, seeks to quell these fears by ensuring that under-resourced communities, primarily BIPOC residents, are the first to receive government assistance and financial aid in meeting energy efficiency standards (Office of Climate Action, Sustainability, and Resilience, 2021).

Salt Lake City is pursuing a similar agenda through the *Building Electrification Proposal*. In late 2020, through a partnership with the Building Electrification Institute, Salt Lake City conducted an intensive round of interviews with local stakeholders including advocates, higher education institutions, affordable housing nonprofits, local governments, and engineering professionals to design the Building Electrification Proposal (Innovation Network for Communities, n.d.; personal communication, August 3, 2021). Due to the fact that building codes are adopted at the state level, Salt Lake City is only permitted to create energy efficiency requirements for developments receiving government funding, either through the Redevelopment Agency (RDA) or buildings that are being built or renovated entirely by the city. Any project that receives $400,000 of funding from the RDA must be designed to earn an energy star score of 90, meaning that buildings must be highly energy efficient. Any construction that receives $900,000 or more must also be built without fossil fuel combustion on site, essentially making these developments all electric (personal communication, August 3, 2021). As the RDA is also responsible for incentivizing the development of affordable housing, SLCgreen is collaborating with the RDA to ensure that their goals for sustainability "align and aren't detrimental to aspects such as affordable housing" (personal communication, August 3, 2021). The city is now completing phase two of their community outreach program, an economic analysis of what these energy efficiency standards may cost low rise multifamily and single family new constructions, accompanied by dozens of local stakeholder interviews. The intention of this second wave of analysis is to "publish this publicly and inspire some of the local developers [to see] that this is something that's economical, and that people want" (personal communication, August 3, 2021).

For building electrification to reach the level of greenhouse gas reduction each city anticipates, local electric grids must transition to clean and renewable energy as well. Both

Denver and Salt Lake City have created critical partnerships with local utility providers to achieve a carbon-free electric grid by 2030, building capacity through powerful coalitions (Office of Public Health & Environment, 2018; Office of Sustainability, 2017). In Denver, a partnership with Xcel Energy works to not only enhance green energy infrastructure, but aid in meeting building electrification goals city-wide. Salt Lake City's partnership with Rocky Mountain Power is the key to reaching their green energy goals by 2030, and influenced clean energy legislation state-wide.

In order to decarbonize their electricity grid, Denver has developed the *Energy Futures Collaboration*, an innovative partnership between Denver and their primary private utilities provider Xcel Energy (Office of Public Health & Environment, 2018). In 2018, Denver and Xcel Energy signed a memorandum of agreement, committing to working collaboratively to ensure that Denver is capable of meeting its ambitious energy goals detailed in the 80X50 Climate Action Plan (Colorado Energy Futures Collaboration, 2021, p. 2). The *Energy Futures Collaboration* releases an annual work plan detailing current projects involving renewable electricity policy and regulatory measures, strategic electrification, resilience and reliability, municipal operations, streetlights, and electric vehicles. The *2021 Work Plan* outlines benchmarks engaging each of these categories: ensuring that 100% of electricity use in Denver contributes to a community-wide carbon-free electric grid by 2030; reducing heating emissions by 25% in residential buildings and homes and by 50% in commercial buildings by 2040; ensuring that 100% of electricity use at municipal buildings is carbon free by 2025, converting street lights to LEDs throughout Denver; and driving efforts towards the 2030 Denver target that 30% of vehicles registered in Denver are electric (Colorado Energy Futures Collaboration, 2021,

p. 3). Denver and Xcel Energy outline specific annual actions to move each project towards Denver's long term emission reduction goals.

Salt Lake City's partnership with Rocky Mountain Power has allowed the city to not only pursue local carbon emission goals and establish a community renewable energy plan, but helped build capacity to push state-wide legislative action. In 2019, HB 411, which provides cities with mechanisms to establish the opportunity for communities to achieve net-100% of electric energy from renewable resources by 2030 through collaboration with Rocky Mountain Power, was passed in the Utah legislature (Salt Lake City Gov., 2019). Salt Lake City, Park City, and Summit County worked with Rocky Mountain Power for over three years to envision and draft this piece of legislation (Salt Lake City Gov., 2019). Salt Lake City and Rocky Mountain Power are partnered in the *Clean Energy Cooperation Agreement*, which is being renegotiated in 2021. The new iteration of this agreement is likely to maintain both groups' commitment to ensuring 100% community renewable energy by 2032, with a potential to include new calls for Electric Vehicle infrastructure and energy efficiency assistance (personal communication, August 8, 2021).

A New Urban Design

Salt Lake City and Denver, while undoubtedly at different points in transition, are both striving for transformation. The rapid population growth in Denver spans two decades, catalyzing upward growth within city limits and sprawl along the outskirts of Denver, straining the housing market and raising the average cost of living. This growth has disproportionately impacted low-income residents and people of color, leading to involuntary displacement and exacerbating the issues of concentrated pollution and deteriorating infrastructure in under-

resourced communities. Denver has been aware of these issues, citing the loss of community diversity due to involuntary displacement (Denver City Planning Department, 2019) and an urgent need for urban greening (Office of Public Health & Environment, 2018). Denver has re-calibrated current climate action goals to center a just transition forward, prioritizing the allocation of city-resources first and foremost to marginalized communities (Office of Climate Action, Sustainability, and Resilience, 2021; personal communication, July 23, 2021).

Salt Lake City is experiencing a more recent rise in population, and is predicting only greater growth, with the potential for a large number of climate migrants seeking a community further from the coasts (personal communication, July 9, 2021). Salt Lake City is adjusting to what this recent spike in population means for its long-time residents. While wages have risen steadily, housing costs are increasing at approximately twice the rate of wage growth, leaving a growing percentage of Salt Lake City residents cost burdened. Currently, the city is undertaking a gentrification study to gain insight on what needs to be done "from a regulatory standpoint to help offset involuntary displacement" (personal communication, July 14, 2021). This study is informing Salt Lake City's Displacement Equity Plan, charting a direction for changing codes and processes to reduce the risk of involuntary displacement (personal communication, July 14, 2021).

Salt Lake City is also reckoning with historic planning practices, striving to address the impact that legacies of redlining have had on "perpetuating concentrated areas of poverty, particularly for racial and ethnic populations" (personal communication, July 14, 2021). This recognition is recent and accompanies the Planning Department's transition to think of urban infrastructure and zoning practices in a transformative way: redesigning streets, redefining infrastructure, and reimaging zoning incentives "that could be used for everything from

affordable housing to energy efficiency" (personal communication, July 14, 2021). Salt Lake City is viewing urban planning through a new lens, seeking to remove some of the barriers that it helped create, to craft a more inclusive, equitable, and sustainable urban environment (personal communication, July 14, 2021).

Denver and Salt Lake City both face worsening housing crises and heightened risk for involuntary displacement of low-income residents (Office of Housing and Neighborhood Development, 2018; Office of Housing Stability, 2018; personal communication, July 1, 2021; personal communication, July 9, 2021).The rise in rental rates and property prices at a pace unmatched by wage increases has led to a growth in cost-burdened residents, only accentuated by the COVID-19 pandemic as the global economy halted and residents were forced out of work (personal communication, July 1, 2021; personal communication, July 9, 2021). In both cities, conversations surrounding housing have shifted to provide a more holistic view of housing stability, recognizing the interconnected nature of market pressure, rental rates, housing security, and homelessness (personal communication, July 1, 2021; personal communication, July 9, 2021). Increasing affordable housing stock is predicted to send a ripple throughout this system, alleviating the pressure of scarcity on the housing market and thereby lowering rates for everyone (personal communication, July 1, 2021; personal communication, July 9, 2021). As cities strive to densify, in order to increase housing stock and meet goals for sustainable urban design, Denver and Salt Lake City are beginning to take a more active role in developing growth plans "that deal with the needs of the future residents of the city" (personal communication, July 14, 2021). City governments intervening with private development creates an opportunity for equitable and inclusive growth, through requiring and/or incentivizing affordable housing development and sustainable design. In addition, a Denver representative notes that "it's the first

time I think we, and many other cities across the country, are trying to acknowledge the impacts that we play in housing costs and displacement" (personal communication, July 13, 2021), demonstrating that cities are accepting responsibility for their role in involuntary displacement, and building capacities to try and alleviate the impacts felt by local communities.

The availability of affordable housing is also linked to a city's transportation emissions, which is a key source of greenhouse gas emissions in both Salt Lake City and Denver. A lack of affordable housing options in a city leads to a greater number of in-commuters, people who work within city limits but reside in neighboring municipalities. 86% of Salt Lake City jobs are held by in-commuters, of which 52% of in-commuters stated that they would consider moving to Salt Lake City if housing were more affordable (Office of Sustainability, 2017). Reducing the number of in-commuters and providing public transit options within the city is a critical component of reducing greenhouse gas emissions resulting from the transportation sector. Salt Lake City is seeking ways to position new housing within regions that possess greater access to high quality schools, jobs, and daily needs. Salt Lake City is designing a housing overlay project, which provides incentives for developers to create affordable housing options within high opportunity zones (Semerad, 2020). Locating new housing options along opportunity corridors of this kind provides access to urban amenities and employment, drawing from the perspectives of New Urbanism to construct an urban environment that is equitable, affordable, and sustainable (personal communication, July 9, 2021; personal communication, July 14, 2021).

In 2019, Denver Mayor Michael Hancock created the Department of Housing Stability (HOST), merging the efforts of staff members working on affordable housing in the Department of Economic Development with those working in housing stabilization and preventing homelessness in the Department of Human Services. This new institution married the city's

efforts to resolve homelessness and create a network of stable housing for Denver residents (personal communication, July 1, 2021). An institutional shift of this caliber not only altered the capacity of each department, establishing a higher level of permanent funding through the Affordable Housing Fund and the Homeless Resolution Fund, but shifted the vision for the future of housing in Denver, creating a holistic view of housing as a continuum, where the ultimate goal of city initiatives is to get people housed and allocate the resources to keep them housed. In Salt Lake City, initiatives remain more disjointed, with the Office of Housing and Neighborhood Development (HAND) primarily handling the distribution of funding from the federal department of Housing and Urban Development (HUD), while the Redevelopment Agency distributes city-based funding for housing and development projects (personal communication, July 1, 2021). In Salt Lake, the two departments collaborate to reduce cost-burden across the city, create and maintain affordable housing options, and resolve homelessness.

Affordable housing creation and protection is traditionally controlled by housing and development offices. In order to meet the demand for affordable housing options, a more systemic approach to affordable housing development is critical. City zoning, controlled by urban planning departments in municipal government, unlocks a path towards a more sustainable and affordable urban community. By breaking from traditional zoning practices, municipal governments may establish regulations to incentivize or require the construction of affordable housing and encourage dense urban development. Both Denver and Salt Lake City are moving towards transformative urban planning approaches, in collaboration with housing and sustainability departments, to help craft a new urban design.

Inclusionary zoning is one initiative to relieve pressure from the urban housing system, requiring all new developments to include a portion of affordable units, or offset the costs of government resources in securing affordable housing options (Keep-Barnes, 2017). The conversation surrounding inclusionary zoning was stalled in both Denver and Salt Lake City until recently. The Salt Lake City Planning Department has been proposing a form of inclusionary zoning for years, and has been dismissed by the Salt Lake City City Council at every turn (personal communication, July 9, 2021). In Denver, inclusionary zoning was banned by the Colorado state government, considering inclusionary zoning ordinances a form of rent control, previously determined to stall development (Vo, 2021). But with the passage of HB-1117, Colorado municipalities were released from this restriction and granted permission to pass inclusionary housing ordinances with the stipulation that developers be granted at least three options to satisfy the requirement (personal communication, July 13, 2021).

The recent development shifted the future of affordable housing in Denver and positioned inclusionary housing at the center of Denver's three-pronged approach to expanding housing affordability. Denver's Expanding Housing Affordability plan remains in its introductory phase, completing community outreach measures throughout the summer of 2021, but the foundation of the plan balances incentives, linkage fees, and an inclusionary housing ordinance to ensure that "any new development is contributing to affordable housing" (personal communication, July 13, 2021; Denver City Planning Department, 2021). The inclusionary housing ordinance is expected to apply to all multi-family dwellings, allowing developers to pay a market-based fee if they decide not to include affordable units. This fee will represent the cost of constructing housing in each neighborhood, shifting based on market conditions to ensure that monetary compensation is equivalent to monetary expenses developers will face in that region (personal communication,

July 13, 2021; Denver City Planning Department, 2021). Linkage fees will apply to any new construction that is not included in the inclusionary housing ordinance. These measures include single-family dwellings as well as multi-family and commercial structures, to encompass the affordability impacts that all developments pose to the housing market. The incentive component of this plan is still developing, with policy being especially complex to properly offset construction and maintenance costs for deeply affordable units or a greater proportion of affordable units (personal communication, July 13, 2021). Conversations with the development as well as residential communities are helping to better inform this policy, but it will likely take on the form of height bonuses, expedited review, or a type of subsidy (personal communication, July 13, 2021).

Mayor Mendenhall's directive to prioritize affordability and livability in Salt Lake City has changed the priorities of the Redevelopment Agency of Salt Lake City, now authorized to mandate affordability requirements in RDA-assisted housing developments citywide (personal communication, July 9, 2021). While Salt Lake City has yet to pass an inclusionary housing ordinance and linkage fees are prohibited by state law, the RDA has shifted its focus to ensure that at least a portion of all units constructed with city funding contain affordable housing. As there is no stringent affordability requirement, the RDA is able to negotiate with developers and create a monetarily feasible plan for the developer, while ensuring an adequate contribution to the city's affordable housing stock. The relationship that the RDA is building with developers through this collaborative process has altered the conversation regarding inclusionary housing in Salt Lake City, with city council now seeking further details on what an inclusionary housing ordinance may look like, after years of rejecting proposals from the Salt Lake City Planning Department (personal communication, July 9, 2021).

Both Denver and Salt Lake City recently passed Accessory Dwelling Unit codes, which allow for the construction of a supplementary dwelling on a single-family lot for personal use or for tenant rental. Accessory Dwelling Units are seen as an opportunity to increase density in traditionally zoned neighborhoods, without altering the character of residential regions. While Accessory Dwelling Units are not necessarily affordable, as when calibrated by square footage they tend to be analogous to market rate values, they do offer an avenue to catalyze the construction of naturally occurring affordable units and missing-middle housing and offer an influx of housing stock into strained markets (personal communication, July 9, 2021). Denver's Accessory Dwelling Units are rolling out through legislative zoning, rezoning entire neighborhoods to allow for Accessory Dwelling Units (Swanson, 2020). The development is slow, but creates a wealth building opportunity for homeowners across the city. Within the Expanding Housing Affordability proposal, city planners have proposed waiving linkage fees for Accessory Dwelling Units that meet affordability requirements (personal communication, July 13, 2021; Denver City Planning Department, 2021).

In Salt Lake City, the fight for Accessory Dwelling Units was long and tiresome, requiring eight iterations of proposed code before the city council eventually passed the ordinance (personal communication, July 9, 2021). The code that resulted is especially stringent, requiring separate sewer lines, setback limits, and window alignment regulations (Salt Lake County Council, 2020). All these parameters add to the cost of design and construction, limiting development. The code is open to modifications in the coming year, and the Planning Department is expected to recommend alterations to reduce barriers for construction such as unit size, dimensions, and density requirements, hoping if they "change the code so it's not so expensive, that would bring down the price [of units] as well" (personal communication, July 9,

2021). A Salt Lake City planner stated that recognizing the regulations that are not necessary is critical, and that removing those types of regulations is a part of addressing the legacies of redlining in communities that have remained in traditional zoning practices (personal communication, July 14, 2021).

Governing for Transformation

In order to meet climate action goals and create a transformative impact on urban affordability and equity, Denver and Salt Lake City established new institutions, new coalitions, and new capacities. In both Salt Lake City and Denver, institutions have not only reshaped, but their interdepartmental relationships have fostered a critical culture of collaboration. Establishing a polycentric approach to governing is in itself an institutional shift. Altering the relationships between existing institutions to share resources, funding, and expertise for the sake of meeting city-wide goals builds capacity within existing governing systems. While still imperfect, limited by the common barriers of time and money, there is a sense of departmental walls breaking down, as city staff members from different fields recognize they are "playing in the same sandbox" (personal communication, July 9, 2021).

In Salt Lake City, a city council presentation delivered by the Community and Neighborhoods division carved a "Collective Vision for an Equitable Salt Lake." This presentation defined the direct connections between affordability, housing, transportation, sustainability, and displacement (Office of Housing Stability, 2020). While this project has not yet led to code or formal process, it does move the needle towards accountability between departments, advising collaboration and directly recognizing the connections to create a more holistic view of the community. This shift toward a city-wide vision was instituted by Mayor

Mendenhall. A city employee stated that shifting department priorities to align with wider mayoral goals was something new for Salt Lake, but that they think "it's going to be a very positive institutional type of change that hopefully transcends future administrations as well" to create a "more productive" culture in city government (personal communication, July 14, 2021).

Denver has taken a similar path through a more formal process, adopting *Comprehensive Plan 2040*, which fosters a community vision for a more equitable, affordable, and sustainable Denver. *Comprehensive Plan 2040* (Denveright, 2019) is accompanied by department and issue related documents *Blueprint Denver* (Denveright, 2019), *Game Plan for a Healthy City* (Denveright, 2019), *Denver Moves: Denver Transit* (Denveright, 2019), and *Denver Moves: Pedestrians and Trails* (Denveright, 2019). This community visioning process crafted a new thread of connections between zoning, parks, and transportation to create a more holistic view of city planning (Denveright, 2019). These documents position Denver itself as a new institution, devising an expectation for conversation between previously divided departments aligned with community determined goals. This approach draws a path towards truly equitable intersectional planning, through outlining the connections between departments, drawing a web between previously disconnected issues. This method garners greater capacity to curb the onsets of gentrification and begin rectifying the legacies of racist urban planning practices that laid the foundation for current vulnerabilities faced by marginalized communities.

The institutionalization of community input aids in creating equitable and achievable initiatives for urban greening and housing affordability, aligning city efforts with collective vision to establish a wide coalition of stakeholders. In Denver, *Comprehensive Plan 2040* was established using "the most robust [outreach] the city's ever done," constructing community visions through a coalition of thousands of Denverites (personal communication, July 13, 2021).

With the creation of the Climate Action Task Force in 2018, Denver institutionalized a level of accountability to a coalition of stakeholders spanning a broad range of interests and backgrounds. The Task Force challenges Denver to think bolder, while providing consistent feedback from the community itself. Salt Lake City is still in the process of establishing city "Working Groups" composed of community members. However, community outreach and input has only grown throughout the COVID-19 pandemic, with online open office hours and community forums increasing accessibility for civil participation in governing (personal communication, 2021). Coalition building enhances municipal capacity, growing public support and government knowledge to optimize the impact of city initiatives.

While positioning community input as a foundational component of governance is one method by which Denver and Salt Lake City have built a greater capacity, both cities have developed numerous innovative ways to expand local capacities. Key stakeholder partnerships have allowed both cities to grow capacity for renewable energy and innovative technologies, creating advanced systems of monitoring and distributing the cost of green infrastructure, such as electric vehicle charging stations. However, independent funding sources prove to be one of the greatest barriers to achieving transformative climate action. In Denver, sales tax increases designated to funding sustainable initiatives and housing stability have shifted the course of city actions, opening new doors for community assistance and public projects. In Salt Lake City, the lack of an independent funding source for housing stability was raised as the key barrier towards further action (personal communication, July 9, 2021). While Salt Lake City has managed to reposition the RDA to fund elements of affordable housing and green infrastructure, creating a stream of sustainable funding is critical towards furthering city initiatives. In both cases,

inclusionary zoning offers a potential avenue for further housing assistance funding, and in the case of Denver, the green code will likely spark a new influx of assistance resources.

Collective visions in both cities work to guide projects throughout departments in a single direction, towards equity, affordability, sustainability, and livability. Having governing priorities set citywide fosters a collaborative process between departments, to view sustainability as an issue that impacts all sectors of a city and requires equitable action. Through collective vision, Salt Lake City and Denver have each created two-pronged approaches for developing affordable and green housing. The Expanding Housing Affordability Project and the Denver Green Code create a path for new developments to be both sustainable and affordable in Denver's future, and the RDA is requiring city-funded housing projects to transition towards sustainable design while contributing to Salt Lake City's affordable housing stock. Collective vision plans, along with the institutionalization of community coalitions, aid in synchronizing a polycentric system of agents executing a vision for the future. Centering that vision around equity and justice signals a new phase of urban climate action, transforming not only what climate action encompasses, but the power that cities possess.

The Intersection of Urban Greening and Housing Justice:

As cities grow and change, a long-posed question resurfaces, "for whom?" (Bulkeley & Betsill, 2013). Sustainable for whom? Affordable for whom? Development for whom? For decades, cities have avoided reckoning with these questions, neglecting the larger impacts of capital investment, sprawling patterns of growth, or skyrocketing housing markets on low-income communities and people of color. Cities have taken piecemeal steps towards addressing these issues, which often only exacerbate the systemic inequalities that lie at their foundation. By allocating municipal investment to only one thread of these interconnected issues, cities fail to contemplate the larger impacts of capital on a community.

Across the country, investment in greening measures and redevelopment projects has led to the gentrification and involuntary displacement of low-income communities and people of color. But cities are beginning to recognize their role in these practices, and their responsibility to aid in mitigating involuntary displacement while providing neighborhoods with a fair distribution of municipal resources. While Denver and Salt Lake City are at different stages in this process, they are both taking critical steps towards shifting institutions and building capacity to protect communities. In Denver, an interdepartmental committee that investigates the social impacts of capital investment and the creation of the department of Neighborhood Equity and Stability (NEST) work to protect the culture and character of neighborhoods amid a stark rise in the cost of living (*Neighborhood Equity & Stabilization (NEST)*, n.d.). Salt Lake City is still building a base of knowledge to address neighborhood stability, conducting a gentrification study to inform the municipalities' next steps, and recognizing patterns of displacement often veiled in statistics on economic growth. However, a shift in governing culture is apparent in both

municipalities, with city officials across departments in both cities recognizing the urgency of change, and the importance of positioning justice and equity at the center of future visions.

By applying the theory of multi-scalar climate governance to local governance, one develops a keen perspective on what a holistic approach to climate action must resemble. Effective subnational governance merges hierarchical structures with a polycentric approach to governing. In this system, a mayor and their council assemble a vision for an urban future defined by the residents. Then, dozens of municipal departments collaborate to produce interdisciplinary plans and procedures on the intersections of various fields, collaborating with community representatives to ensure that governing strategies are equitable and achievable. This approach reveals the connections between seemingly parallel issues, such as housing and climate. For decades these two issues have been addressed on separate paths, receiving siloed support and funding, and failing to accomplish much progress on either front. But the two are truly intertwined, and in order to craft a future of safe, affordable, and livable environments for all, solutions must lean on their connections. By shifting the way that city departments interact, breaking down walls previously constructed for sake of efficiency, institutions are reshaped to build capacity and tackle ambitious goals. While Denver and Salt Lake City may be at varying points in a new phase of climate action, their modes for governing are similar, approaching transformative action through a holistic approach. In both Denver and Salt Lake City, a mayor's direction and passion has created a roadmap forward, approaching sustainability and affordability from priorities defined by the community's lived experiences.

Building new institutions and shifting the framework for existing institutions is a critical component of crafting a transformative and polycentric approach to local governing. In Denver, Mayor Michael Hancock has used his position to rework municipal departments, creating the

Office of Climate Action, Sustainability, and Resiliency in an effort to highlight resiliency in urban infrastructure through a lens of equity, constructing the Office of Housing Stability to build capacity for affordable housing initiatives and eliminating homelessness, and forming the Office of Neighborhood Equity and Stability to protect communities from involuntary displacement. In Salt Lake City, Mayor Erin Mendenhall's priorities of sustainability, affordability, and equity have shifted the function of existing institutions. The Redevelopment Agency (RDA) is now authorized to mandate affordability requirements in RDA-assisted housing developments citywide and is in the process of mandating sustainability benchmarks as well. While cities may take varying approaches to restructuring institutions and navigating individual political barriers, the intentions are consistent: to re-prioritize the livability of cities for all residents.

Institutions must not only reshape, but their departmental relationships must also structure a culture of collaboration. While still imperfect, limited by the common barriers of time and money, there is a sense of departmental walls breaking down within municipal government, as city staff members from across fields recognize they are "playing in the same sandbox" (personal communication, July 9, 2021). These connections can be fostered through "collective visions," interdepartmental goals that define a path towards an ideal future. Through city-wide goals, departments begin to see the intersections of fields along these lines, building a more collaborative process for local policymaking.

Collective visions in both Denver and Salt Lake City work to guide projects throughout departments in a single direction, towards equity, affordability, sustainability, and livability. Having governing priorities set citywide fosters a collaborative process between departments, to view sustainability as an issue that impacts all sectors of a city and requires equitable action.

These plans, along with the executive leadership which facilitates their creation, aid in synchronizing a polycentric system of agents executing a vision for the future. Centering that vision around equity and justice signals a new phase of urban climate action, transforming not only what climate action encompasses, but the power that cities possess to address systemic issues: building capacity and coalitions through institutional shifts.

Within new institutions, the inclusion and prioritization of community voices is critical, highlighting recognitional and participatory justice in urban climate action. The institutionalization of stakeholder input, through city-mandated community outreach periods and task forces composed of community members, is an avenue to achieve an equitable approach to urban greening. These processes highlight the concerns and lived experiences of community members, allowing local policy to avoid negative impacts on neighborhoods and act swiftly to identify and resolve unintended consequences of public policy and internal operations. Building coalitions with public participants and private industry actors also allows urban governance to be more productive, by laying out strategic plans for green transition and affordable housing mandates that are achievable and will not stifle development or harm residents in the process of transition. But most critically, coalitions ensure that the direction of urban governance is in-line with community priorities, and garner greater public support for transformative action.

The temporal position that Denver and Salt Lake City hold within the transition process varies greatly. While Denver is drafting new policy and executing action plans, Salt Lake City is primarily visioning and determining a path forward while building capacity. But the goals of each city reflect an innovative outlook on what climate action can entail, digressing from a historic emphasis on economic opportunity, and instead seeing the impact that climate action may have on long legacies of injustice. Climate change is no longer a theoretical crisis looming

ahead but is actively impacting the futures of cities across the globe and threatening the health and prosperity of residents. With the need for climate action to incorporate transformative change to urban infrastructure, this new phase in urban climate action recognizes the opportunity this transition holds for prioritizing equity and reckoning with the injustices cities have exemplified for generations. The impacts of these cities' intentions are yet to be tangible, but the hope for a more just and sustainable urban future is clear in the priorities of current local governing institutions.

A New Phase of Urban Climate Governance:

The future of the global climate is painted in a bleak hue, portraying a frightening scene of disaster and furthered inequality, where governing bodies have failed to act in defense of civilization and democracy. But within that image, cities serve as a bright spot of hope, a scale where real change seems plausible, and communities are willing to transition their traditional lifestyles for a livable future. Cities within the Rocky Mountain West are taking steps towards transformative climate action, reimagining what urban infrastructure and planning must look like to meet the needs of climate change mitigation, resiliency, and environmental justice. By restructuring institutions to work collectively in a polycentric system, cities hope to not only build a more sustainable urban environment but reckon with injustices that have plagued cities for generations. This re-imagining of traditional local government marks a new phase of urban climate action, one rooted in righting systemic injustices to build a more sustainable and resilient urban environment for all.

This study sought to examine a new phase of urban climate governance, recognizing the cultural shift in governing for climate action and the intentions observed in Denver and Salt Lake City's municipal governments. However, this study was limited in scope, as only two governing bodies were analyzed and consisted of a small number of interviews. In addition, all interviews conducted in this study were with city government officials. While each participant was candid about the impact of their work and the foreseen barriers to implementation, interviews with community members and other stakeholders would create a more nuanced perspective on the impact of current climate action and housing justice plans. Finally, this study is primarily evaluating municipal plans and agendas, with few tangible outcomes to measure. While hopeful

in the progress that both Denver and Salt Lake City have made, and their apparent commitment to achieving their respective goals, the success of their efforts cannot yet be measured.

In the future, the findings in this study could be strengthened by expanding the range of cities investigated and completing a second phase of analysis measuring the success of anticipated governing actions. Expanding this study to include a myriad of regions, potentially spawning past the boundaries of the United States, is essential towards positioning a new phase of urban climate governance that stems beyond the Rocky Mountain West. As communities across the world face a stark future, transformative change is the only method towards meeting ambitious emission reduction goals and ensuring that all residents benefit.

Cities across the country are recognizing that the path forward is deeply entangled with the practices of the past. Cities have been set in path dependency for decades, relying on the institutions that bred and upheld systemic economic, environmental, and social injustices. The path forward is reliant on reckoning with this past, the racism that produced current urban planning practices through historic zoning regulations, inequality in urban environments, and a dependency on the fossil fuel industry. The practices of the past permeate through every sector of an urban environment, determining the health of neighborhoods, the transportation residents are prone to utilizing, and the energy that powers homes and businesses. As cities face a myriad of crises, including climate change, housing insecurity, and social inequality, ambitious goals no longer suffice, but true transformative action is essential to meet the needs of the present and future.

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