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*Edited by Beth Schaefer Caniglia, Manuel Vallée and Beatrice Frank*

# Resilience, Environmental Justice and the City

Edited by Beth Schaefer Caniglia,  
Manuel Vallée and Beatrice Frank

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## 10 The pitfalls and promises of climate action plans

### Transformative adaptation as resilience strategy in US cities

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#### Introduction

In the face of established scientific consensus that climate change is already under way (IPCC 2014), the United States has proven largely ineffectual in passing meaningful legislation to curb its own greenhouse gas emissions or to prepare its citizenry for a warming climate. This seems a cruel if perhaps carefully designed irony as the US, along with China, leads the globe as the largest contributor to carbon emissions. In the absence of action at the federal level, local governments in cities, counties, and states have taken the most consequential steps to curb climate change emissions through the advent of climate action planning (Bulkeley 2013; Ramaswami et al. 2012).

A climate action plan (CAP) describes the set of policies or programs a sub-national entity hopes to implement in order to reduce greenhouse gas emissions.<sup>3</sup> The proliferation of CAPs across US cities is an important advance for impacting upon climate change. For the purposes of this discussion, which focuses on urban resilience, we highlight two shortcomings in CAPs. First, most CAPs to date focus on climate change *mitigation* – decreasing greenhouse gas emissions – yet do little in the way of *adaptation* – implementing socially and culturally appropriate measures to better prepare for the impacts of climate change. Second, and likely more endemic to urban policymaking as a whole, CAPs have been weak in addressing social equity concerns. When CAPs neglect adaptation and/or give insufficient regard to the environmental ravages of social inequity, the short-term health and long-term security of marginalized communities and entire cities are threatened.

This chapter proceeds with cautious optimism about the role that local climate change planning *can* play. Local government processes are often more responsive to community demands and more directly connected to the lived experiences of urban communities than state and federal policy-making (Bulkeley and Betsill 2003; Giddens 2011). This potential is key to why we think city CAPs deserve heightened focus from environmental justice scholars and activists committed to securing climate change resiliency in the short-term as part of a long-term sustainability program. In order to achieve this potential, however, we argue for the importance of transformative adaptation measures as a foremost means of

making US cities more resilient and ultimately more sustainable. Transformative adaptation is here defined as merging climate change preparedness measures with a serious reworking of the traditional urban planning framework so that the interests of communities are valued over those of wealthy developers (Pelling 2010; Revi et al. 2014).

In what follows, we begin by discussing key concepts, such as vulnerability, resilience, and sustainability. In moving toward greater urban resilience and ultimately sustainability, we make a case for the importance of doing transformative adaptation (Pelling 2010; Revi et al. 2014). We then look to municipal climate action plans, where there are scarce instances of adaptation and a general neglect of issues of social equity. Finally, we elaborate a framework for transformative adaptation at the city level through examples drawn from five US-based CAPs: Boston 2014, NYC 2015, Portland 2015, Seattle 2013, and Washington DC 2010. Revi and colleagues (2014) suggest that cities have not been studied through the lens of transformative adaptation and that “it is too early to be able to claim that transformative adaptation is strongly evident at the city level” (27). Agreeing with this assessment, we consider what transformative adaptation might look like in the climate action planning of US cities.

What we identify here as a coupled weakness – insufficient attention to adaptation and to social equity concerns – is not merely a pitfall but an area of burgeoning potential. Adaptation strategies are still in their infancy, even if they are a necessary part of how cities will need to prepare for and protect themselves from climate change impacts that are already under way. For this reason, there is great promise for incorporating social equity objectives into adaptation planning. We argue that a transformative adaptation agenda is our best bet in securing more resilient and sustainable cities

### Transformative adaptation

The impacts of a changing climate are already beginning to challenge urban infrastructures and population well-being and will continue to do so (IPCC 2014). More frequent and enduring temperature extremes will increase the need for energy-intensive cooling and heating processes (Panteli and Mancarella 2015). Precipitation decreases will lead to water scarcity while population demand remains constant or grows (Bulkeley 2013). Sea-level rise will threaten low-lying coastal cities. Stronger and more frequent storm surges will pose new risks to urban infrastructure. Vector-borne diseases will increase in frequency and regional sprawl (IPCC 2014). All of these impacts have the potential to lead to increased physiological stresses and mass community displacements (Hunt and Watkiss 2011). In essence, climate change introduces and will continue to generate a set of vulnerabilities that our civilization has not previously witnessed.

The Intergovernmental Panel on Climate Change defines vulnerability as “the propensity or predisposition to be adversely effected [. . .] including sensitivity or susceptibility to harm and lack of capacity to adapt” (IPCC 2014, 128). Yet vulnerability is not merely a question of exposure to the physical impacts

of climate change, but is produced through social, political, and economic dynamics. Environmental justice scholars have long demonstrated that communities plagued by injustice, poverty, and a lack of sociopolitical access are more vulnerable to environmental destruction and less resilient in the face of environmental change. Low-income communities of color are disproportionately exposed to environmental harms (Bullard 2000), less able to respond and recover from environmental ills ranging from what Robert Nixon (2006) calls the “slow violence” of environmental injustice to the more acute disasters catalyzed by climate change. In the face of more frequent and intense urban heatwaves, the poor cannot afford air conditioning and are the most likely to face severe consequences when the electric grid fails (Panteli and Mancarella 2015). When decaying urban infrastructure and climate crises lead to flooding and other weather-related emergencies, communities that rely on public transportation lack the escape mechanisms that wealthier urban residents with private vehicles may possess (Elliot and Pais 2006; Angotti 2013). These groups are also the least able to return to their homes after the forced evacuations spurred by climate-related catastrophe (Fussell, Sastry and Vanlandingham 2010). Because certain communities have been structurally abandoned by the social and political system, they have been rendered less resilient and less able to adjust, adapt, and respond to the impacts of climate change.

Caniglia and colleagues (2014) suggest that an attention to making societies more resilient to environmental changes places a keener focus on timescale than many previous environmental analyses and planning efforts. Though vulnerabilities to climate change are socially produced and unevenly distributed, the topography of urban vulnerabilities is often hard to map until *after* a climate change impact is experienced. In this way, the impacts of climate change have a way of exposing “injustices in waiting.” The physical realities of environmental risk dovetail with long-standing forms of inequality to reveal the full extent of social injustices. The now canonical instance of this is Hurricane Katrina, which revealed at multiple levels how extreme weather events are unevenly experienced by coastal residents in both the short and long term, from immediate disaster relief to efforts at relocation and then return. An emphasis on resilience as the effort to make cities less vulnerable and more holistically prepared to endure the impacts of climate change demonstrates the importance of “recognizing such vulnerabilities before environmental harms can take place, and [building] resilience by lessening known vulnerabilities” (Caniglia, Frank, Delano and Kerner 2014, 417). Resilient cities are proactive rather than reactive; they have foresight in lieu of mere hindsight.

A second point in regards to resilience and timescale is here in order. There has been some suggestion that “resilience” is the new “sustainability” (Davidson 2010, cited in Caniglia et al. 2014). Just as sustainability was once a buzzword for environmental activists and scholars, resilience is today’s environmental vogue. It is featured centrally in cutting-edge environmental literatures and holds mass appeal to urban policy experts, from city planners to disaster managers. This is not to say that either sustainability or resilience are empty concepts. They each



have great utility, and we wish to hold on to both in our analysis. Rather than suggest the two are interchangeable, however, they can be distinguished in terms of timescale. If the IPCC (2014) defines sustainability as “a dynamic process that guarantees the persistence of natural and human systems in an equitable manner” (127), we would further specify this to add “over the long term.” In other words, while resilience might be regarded as a proactively generated, short-term ability to encounter and recover from disturbance, sustainability is the more enduring socio-ecological capacity to support livelihood.

The role of timescale in climate change response is also helpful for pivoting to a core concept in this chapter, that of transformative adaptation. In order to understand what climate change *adaptation* seeks to accomplish, it is helpful to juxtapose *adaptation* to the much more commonly implemented *mitigation*. Climate change *mitigation* strategies seek to curb the devastating impacts of human behavior on the environment (Bulkeley 2013). Colloquially, these are efforts to lower the “carbon footprint.” Mitigation is rooted in the acknowledgement that we can and need to find ways to reduce the level of carbon emissions released into the atmosphere. This is certainly future-oriented thinking. However, climate change *adaptation* is a bit different. Adaptation measures are rooted not solely in hedging against further environmental destruction but in the acknowledgement that some form of climate change is inevitable and already under way (Bulkeley 2013). The human-generated GHG emissions of the past century will have real environmental impacts to which cities need to adapt. In terms of timescale, both *mitigation* and *adaptation* are future-oriented, though *adaptation* might be understood as having a different orientation to the past and present. *Adaptation* must respond to climate impacts already under way due to past and present socio-ecological processes. Table 10.1 lists some examples of policies that address mitigation versus adaptation and inequality concerns.

While climate policy experts agree that adaptation and mitigation are complementary strategies for addressing climate change, to date, the vast majority of municipal climate change policies have focused on mitigation. Adaptation strategies, in contrast, are implemented much more rarely and are only in their earliest phase of development (Zimmerman and Faris 2011). The hindrances to creating and implementing adaptation measures are twofold: techno-scientific and sociopolitical. In terms of the techno-science, there is still a great deal of uncertainty about what risks are going to be experienced, where, how, and when. Indeed, experts argue that adaptation done without a complex assessment of various timescales as well as the shifting risks that climate change introduces can actually render populations more vulnerable to impacts (Dilling, Daly, Travis, Wilhelmi and Klein 2015). In the case of mitigation, it is much easier to measure levels of GHG emissions and atmospheric conditions, assessing relative efficacy and progress toward stated reductions targets. Adaptation is “messier”; it depends upon various institutions and actors whose successes may only be measured in the aftermath of socio-ecological catastrophe (Berrang-Ford, Ford and Paterson 2011). In conjunction with this, then, is the sociopolitical conundrum of dedicating what are already perceived to be scarce time, money, and energy toward

Table 10.1 Examples of policies that address mitigation vs. adaptation and inequality concerns

	Examples of traditional mitigation policy	Examples of adaptation policy (and inequality concerns)
<b>Energy sector</b>	Promotion of renewable energy generation (as a percentage of total fuel profile) to replace traditional carbon-intensive fossil fuels	Smart meters and smart-grid technologies Decentralization of electricity generation
<b>Transportation sector</b>	Switching to alternative fuels vehicles (e.g., electric) and/or more fuel-efficient vehicles Upgrade and promote existing public transit	Low-carbon urban development requiring less individual transit (e.g., mixed-use and transit-oriented development) Improve the walkability and multi-modal transit options in communities (e.g., improve sidewalks and neighborhood connectivity to amenities)
<b>Built environment</b>	Energy-efficiency improvements to municipal buildings Mandatory renewable generation on-site for new buildings (e.g., solar hot water or photovoltaic panels)	Addressing and coping for risk associated with sea-level rise (where applicable) Stormwater management planning to address increased frequency and intensity of storms and flooding in vulnerable areas (e.g., improving infrastructure) Assess risk and prepare for increasing frequency and more prolonged heatwaves in vulnerable areas (e.g., cooling centers and “heatlines” to call for help or heat warnings)
<b>Waste</b>	Methane recovery from landfills	Promotion of community gardens and composting programs in underserved “food desert” neighborhoods

Source: IPCC (2007)

threats that are hard to measure and upon which little consensus rests (Pelling 2010; Laukkonen et al. 2009).

As a basic overview, Revi et al. (2014, 15) suggest that adaptation can be assessed based on four guidelines:

- 1 the proportion of residents served with risk-reducing infrastructure and services;
- 2 the proportion living in housing built to appropriate health and safety standards;
- 3 local government capacity; and
- 4 the levels of risk from climate change’s direct and indirect impacts.

Like most policy goals, there are numerous ways in which adaptation has been practicably addressed as well as conceptually elaborated. Instructive to our

assessment is the idea that adaptation exists along a spectrum that might be understood as conservative at one end, maintaining social systems and structures as they are, and transformational at the other, re-imagining the social and ecological interplay of the urban landscape (Pelling 2011). We believe that in order to make a real contribution to cities' short-term resilience and longer-term sustainability transformative adaptation is necessary. This kind of adaptation "brings an ethical and practical requirement to consider social justice as well as risk management concerns [...] to consider the root and proximate causes of risk that lie within and are reproduced by dominant development practices and pathways" (Revi et al. 2014, 25). As adaptation measures might be the most available and effective means for making climate change planning more just and equitable – and thus our cities more resilient – this socio-politically transformative model of adaptation has great promise. We now turn to a more specific discussion of climate action plans, the subnational urban planning tools where the vast majority of climate change policy in the US is being developed.

### The coupled weakness of CAPs

In 2005 Seattle Mayor Greg Nickels launched the US Mayors Climate Protection Agreement to advance the goals of the Kyoto Protocol, an international agreement to address climate change that the US refused to join. The mayors' agreement, which over 1,000 mayors from 50 states have signed, encouraged US cities, counties, and states to adopt CAP, and to date, hundreds of cities have done so (EPA 2015; USCMCPA 2015). CAPs generally seek to alter the most energy-intensive elements of urban infrastructure in order to reduce a city's carbon emissions and energy dependency. Examples include increasing renewable energy generation, such as wind power and solar; making built structures more energy-efficient; and reducing transportation-related emissions.<sup>4</sup> While the past decade has seen CAPs become more explicit in terms of stated goals, policy details, and assessment measures (Krause 2011; Rabe 2004; Ramseur 2007), there is still significant divergence in how specific such plans are. Many CAPs are still structured as "big picture" documents that do not delineate a clear action plan or state how new initiatives will be funded (Galucci 2013). Nevertheless, the proliferation of CAPs across US cities is an important advance for impacting upon climate change.

For the purposes of this discussion, with its focus on boosting urban resilience, we highlight two shortcomings of CAPs: adaptation measures have not been planned or implemented and issues of social equity have been widely neglected. In the last section, we outlined why climate change adaptation is rarely done, for reasons both techno-scientific and sociopolitical. The second way in which CAPs fall short in building toward urban resilience is in the neglect of equity issues. Environmental policymaking has often erased the needs of disenfranchised communities, displacing increased financial and environmental burdens on the poor (Douglas et al. 2012; Finn and McCormick 2011). In previous work, we suggest that the most common mitigation measures undertaken by CAPs do not merely neglect issues of equity, but may actually exacerbate injustice and social

vulnerability (Russo and Pattison forthcoming). Mitigation efforts are forged in a dominant urban development framework, which privileges the interests of those with investment capital over redistributive policies. In contrast to CAPs' more established mitigation measures, adaptation strategies are in a much earlier stage of development. This means it is both necessary to make adaptation a priority in preparing cities to be more resilient and sustainable, and that there is opportunity to push for transformative adaptation, climate change preparedness that addresses the deeply stratified allocation of resources and power in US cities.

### A framework for transformative adaptation in CAPs

Transformative adaptation can work at many different scales, from project-specific sites to the level of the nation-state, though there are suggestions that smaller-scale initiatives may be the easiest and most effective way to do transformative adaptation (Bulkeley 2013). We aim to articulate how transformative adaptation might look through city-level climate action plans. In order for such plans to move cities toward transformative adaptation, we suggest that four key principles must be in place:

- 1 establish equitable adaptation;
- 2 pursue equitable transportation-oriented development;
- 3 include robust social policies;
- 4 ensure procedural equity.

In what follows, we elaborate on these principles with examples from five US city CAPs: Boston 2014, NYC 2015, Portland 2015, Seattle 2013, and Washington DC 2010. Our data are constrained to CAPs as public documents along with other secondary journalistic and scholarly sources. We do not incorporate surveys or interviews with community members and so cannot comment in detail on the involved social and political dynamics that have informed the CAPs we review. Nor can we speak to the lived experiences of inclusion or exclusion faced by vulnerable communities in these cities.

#### *Establishing equitable adaptation*

In order for a CAP to pursue a transformative adaptation agenda, this influential document needs to name and explain that adaptation is centrally about equity. The city must clarify what priority it places on adaptation, often also termed "preparedness," and how this is linked to ameliorating enduring structures of urban stratification. Incidentally, most CAPs that expressly pursue equitable adaptation explain this objective as key to attaining greater urban resilience.

Washington DC's 2010 CAP offers a good example of this, asserting early in the document that equitable adaptation is a foremost means for making the most vulnerable more resilient, and that this concern for equity is key to understanding the purpose of adaptation. The document begins:



Climate change adaptation activities focus on the ways in which vulnerable populations, including those living in urban environments and particularly lower-income residents, can prepare for and cope with the threats posed by climate change (Climate of Opportunity: a Climate Action Plan for the District of Columbia 2010, 5).

Seattle's 2013 CAP offers a similar declaration that adaptation must be attuned to equity concerns:

Our most vulnerable populations, including lower income, recent immigrant, and older residents, are at greater risk from the impacts of climate change and they often have the fewest resources to respond to changing conditions. Fostering the resilience in these more vulnerable residents and supporting their recovery after extreme events is critical.

(Seattle Climate Action Plan 2013, 54)

While the DC plan offers a conceptual framework for equitable adaptation, Seattle's plan goes a bit further in offering a rubric of how adaptation will ensure greater equity. First, the city will prioritize those practices that ensure vulnerable groups are more able to respond to the impacts of climate change. Second, the "input and perspectives from members of vulnerable groups" will centrally inform climate change preparedness measures, a call for procedural equity to which we return (Seattle Climate Action Plan 2013, 54).

Boston's 2014 Climate Action Plan notes that in pursuing adaptation, the city is "inspired by the environmental justice movement" (Greenovate Boston 2014, 16). Boston elaborates on how an environmental justice lens informs adaptation, noting, "minority and low-income communities must not be disproportionately impacted by climate hazards" and that the "benefits from climate mitigation and preparedness efforts should be shared equally among all groups of people" (Greenovate Boston 2014, 6). Boston foresees that sea-level rise and heatwaves will pose some of the more significant threats to "the wellness and resilience of vulnerable populations" (Greenovate Boston 2014, 16), and so the 2014 CAP will prioritize addressing such impacts through collaboration across various named city departments.

The adaptation or "preparedness" portion of Portland's 2015 CAP also makes social equity central. The document notes, "in Portland, communities of color and low-income populations experience disparities that result in disproportionate vulnerabilities to the impacts of climate change" (Climate Action Plan, City of Portland 2015, 25). The disparities listed include health risks, lack of quality affordable housing, limited access to transportation and open spaces, and higher mortality. Portland's CAP also notes that "other legacies of inequitable public policies" (Climate Action Plan, City of Portland 2015, 25) create increased vulnerability for certain urban communities. This is a rather transformative acknowledgement that urban development processes have long contributed to greater social inequality and that adaptation measures must actively seek to undo such unjust arrangements of power and resources.

This portion of the plan explains that the pursuit of "climate resilience" must "ensure that the benefits of taking actions to prepare for climate change are shared by the whole community and across multiple generations" (Climate Action Plan, City of Portland 2015, 25).

Establishing that equitable adaptation is a priority can take many forms, and in most CAPs it is offered as more of a vision statement than a set of plans and initiatives of its own. Rather, it can serve as an important framing device in which to situate the rest of the plan. We now turn to more practice-oriented initiatives that a transformative adaptation agenda should include.

### *Equitable transportation-oriented development*

Broadly defined, transportation-oriented development (TOD) seeks to create denser, mixed-use urban spaces that are easily walkable, bikeable, and navigable by public transportation as a means of reducing carbon emissions and energy dependence (Belzer and Poticha 2009). TOD also aims to put people near transit, and housing near jobs (Belzer and Poticha 2009). TOD is arguably the single most socially impactful aspect of CAPs in that it fundamentally reorganizes the urban environment, which is why we focus on it specifically. Scholars as well as community leaders argue that *equitable* TOD might be the climate policy that most benefits low-income and other underserved communities (Belzer and Poticha 2009). Since TOD is about access to not just transportation but also housing, services, and goods, it portends the greatest benefits for those urban residents who spend a disproportionate amount of their income on housing and transportation costs as compared with other communities (Belzer and Poticha 2009). Because TOD ensures appropriate urban density is well served by diverse transportation modes, such development is also key to climate change adaptation. Through TOD, urban communities are better served by emergency responders and have easier access to evacuation measures in the case of disaster (McGregor, Roberts and Cousins 2012). In some cities that are already immensely well serviced by public transport, such as NYC, TOD is going to look different than in smaller cities and towns. However, the basic principles remain. Transportation should be safe, reliable, and accessible to all communities so that residents can meet their daily needs and obligations in an equitable and energy-efficient manner.

Unfortunately, the vast majority of TOD has neglected or displaced, rather than better served, low-income communities, making it a highly unjust climate policy (Wood and Brooks 2009). In some cities, TOD has been viewed as somewhat experimental, working against decades-long historical trajectories. Much US urban infrastructure has been developed to support the automobile industry as well as the placement of white, nuclear families in suburban outskirts, away from city centers (Lipsitz 1998). Municipalities have funded this kind of development through incentives to private investors through tax credits, which means the wealthy design TOD to best suit their interests. Lower-income residents are often structurally prevented from helping to plan these new communities and thus benefit little from them (Belzer and Poticha 2009). Those

with disposable income are granted superior shopping opportunities while communities of color, the working classes, new immigrants, and other groups are priced out and forced elsewhere.

Many CAPs are seeking to do TOD equitably. Portland's 2015 CAP offers one of the more explicit and robust discussions of TOD, including what the stakes are for social equity and how the city plans to address these issues. The CAP explains that since lower-income households drive less and spend a greater percentage of their income on transport, transit investments should be targeted to serve these communities first and foremost (Climate Action Plan, City of Portland 2015, 47). Thus, while the city seeks to increase the percentage of its residents using low-carbon transit options from 22% to more than 60% by 2030, it understands that a key focus on equity in this regard is necessary. The plan explains that TOD, if necessary for achieving the city's mitigation and adaptation priorities, will also "attract new residents, which can increase gentrification and displacement (voluntary and involuntary) pressures on existing residents and neighborhood small businesses" (Climate Action Plan, City of Portland 2015, 47). Portland has thus set up a series of processes for "understanding and minimizing the effects of gentrification, assessing the risk of gentrification for different neighborhoods, and identifying and implementing best practices" (Climate Action Plan, City of Portland 2015, 48), through various tools and resources developed by the Equity Working Group.<sup>5</sup>

The Portland plan is specifically interested in doing TOD in the eastern section of the city, where a quarter of the city's residents live. East Portland is inhabited by nearly 40% of people of color, is much more racially diverse than the rest of the city, and has a higher concentration of people living in poverty. East Portland, the CAP explains, has been underserved by city planning procedures, especially when it comes to low-carbon transportation options, such as buses, cycling lanes, and even sidewalks for pedestrians (Climate Action Plan, City of Portland 2015).

The Portland CAP offers a series of initiatives to be achieved by 2020. Primary among these is to ensure that affordable housing has "safe, direct bicycle and pedestrian access to transit" (Climate Action Plan, City of Portland 2015, 81). The city plans to identify where more affordable housing needs to be created, with a particular focus on bettering transport options in these communities. There are also calls to repeal state zoning legislation that would prohibit such equity-focused development objectives (Climate Action Plan, City of Portland 2015). Finally, the plan calls for improving design and development standards for the multifamily buildings in which so many East Portland families live, as well as improving landscaping and open space to promote community walkability.

TOD is potentially the most socially significant climate mitigation and adaptation strategy and should be included in any effort at transformative adaptation. However, transformative adaptation also requires cities to go beyond traditional climate policy to combat the various urban planning legacies that have led huge swathes of the American population to be vulnerable to climate change in the first place. We now turn to these.

### **Robust social policies**

Since underserved and underrepresented urban communities are more vulnerable to climate change impacts and hence less resilient, a transformative adaptation will include policies that may not appear to be climate related on their face. Examples include plans and benchmarks to address issues as broadly considered as affordable housing and job security. In this way, CAPs can address more than emissions targets and infrastructure adjustments to confront the underlying dynamics of social stratification. Such policies work proactively to remedy so-called "injustices in waiting."

While some CAPs proffer limited poverty reduction goals, few cities have made robust social policies part of their climate action plans or integrated such considerations into how they think about adaptation. The recently released OneNYC 2015 is distinctive in this regard. As a climate action plan, OneNYC is likely the most ambitious poverty reduction program being undertaken nationally through efforts that range from education to job growth, affordable housing to health care. Nobel-winning economist Joseph Stiglitz called the plan "unprecedented" in its targets for reducing urban poverty (Flegenheimer 2015). Obviously, New York City is unique as the most populous US city with unmatched urban resources. Nevertheless, while NYC is an outlier among US cities, our national and global population is increasingly living in large urban areas, so focusing on this city may be more instructive in thinking about transformative adaptation than it first appears.

NYC has one of the greatest wealth gaps among American municipalities (Roberts 2014). These serious issues of inequality threaten the city's resilience. As the OneNYC document explains, income inequality continues to rise, with nearly half of city residents living at or near the poverty line. Almost one and a half million residents face serious food insecurity, and more than half of those renting in the city spend more than 30% of their income on housing. This is combined with continuing epidemics of homelessness and environmentally produced disease, from asthma to diabetes, which plague low-income neighborhoods (OneNYC 2015, 25). The OneNYC plan positions itself within this context of serious urban equity issues coupled with the political and economic resources of a global city poised to aggressively address climate change.

OneNYC lays out a series of social policies as part of its vision for addressing climate change. These include increasing workforce participation through industry-focused training. The aim is to train 30,000 workers each year, so that by 2020 a greater proportion of NYC's public school graduates will receive college degrees (OneNYC 2015). The plan also calls for raising the minimum wage to \$13 by 2016, a legislative mandate that would have to be implemented at the state rather than city level (Flegenheimer 2015). In terms of affordable housing, by 2024, OneNYC will finance the construction of 80,000 new affordable housing units and invest in preserving 120,000 existing affordable housing units (OneNYC 2015). OneNYC also proposes a variety of infrastructure development plans to ensure underserved communities have



access to safe, reliable, and efficient transport as well as broadband internet by 2025. Both of these aims are crucial for day-to-day well-being, affordability, and social mobility, as well as disaster preparedness and resilience in the case of extreme weather events, from heatwaves to hurricanes.

One of the more surprising aspects of OneNYC, however, might be the priority it places on cultural institutions as a means of making the city more resilient and sustainable. New York City is world renowned for its museums and theaters, galleries and artists, which this CAP acknowledges to be crucial to social well-being in various ways. OneNYC explains that “culture” grows economic opportunities, providing New Yorkers with thousands of needed jobs and attracting tourists. Investment in cultural institutions is central to quality of life considerations, what OneNYC describes as “critical to ensuring the well-being of residents, improving social connections, lowering stress, improving school effectiveness, raising community awareness, and enhancing civic engagement” (OneNYC 2015, 78). Yet outside of Manhattan, and in low-income areas across the city’s boroughs, scant resources have supported cultural initiatives and programming (OneNYC 2015, 78). The plan suggests this to be a formative barrier to urban resilience and long-term sustainability and sets itself the goal of an “increase in cultural and civic events in community districts with the highest rates of poverty and lowest rates of public cultural and civic programming” (OneNYC 2015, 78).

A plan like OneNYC does not come out of nowhere. It is not the creative product of city officials who merely wish to do better by the disenfranchised and structurally excluded. While Mayor Bloomberg’s 2007 PlaNYC was in many ways ahead of its time in proposing adaptation measures, it fell short on social equity issues in very public ways. For instance, the city was sued for violating the Americans with Disabilities Act, when during Tropical Storm Irene in 2011, mandatory evacuations were ordered without considering the mobility needs of people with disabilities (Peterson 2015). PlaNYC was also criticized for evading the city’s established mechanisms for producing and approving plans, relying on disorganized ways of soliciting community response through emails with no transparency for how feedback was to be incorporated in the plan (Angotti 2012; Paul 2007). Many suggested that calls for public participation in PlaNYC were an afterthought, a public relations strategy to hide the corporate interests driving the plan. As Yosef Jabareen (2014) assesses in his close reading of the document, “PlaNYC encourages community involvement in significant planning issues in the future and reflects little interest in community involvement during the preparation of the plan itself” (5908). As a final principle, we suggest that the pursuit of procedural equity is a foremost means for creating a transformative adaptation agenda, keeping such a framework in place and on track.

### Procedural equity

Environmental justice scholar Robert Bullard (2000) argues for the importance of procedural equity in planning for sustainability. Procedural equity is defined here as the assurance that all community members are subject to the same rules,

regulations, and avenues of access to the political process (Bullard 2000). Procedural equity prevents undemocratic decision-making and other practices that exclude already marginalized and vulnerable communities from participatory activities. These might include holding public hearings that are hard for people to attend, whether because of timing or location, or creating materials that are inaccessible, due to language barriers, lack of cultural competency, or other obstacles to literacy (Bullard 2000). Ensuring the involvement of all members of the community has long been regarded as foundational to doing successful climate change planning. Public support and involvement is key to shifting social attitudes and practices so as to adequately address environmental impacts. Building on Mark Roseland’s work, it is evident that transformative adaptation will not be a top-down endeavor, as “real visions for change rarely come from government or from the market place but from civil society” (2005, 27, cited in Paul 2007). However, if broad-based participation is understood as the goal of climate change planning, specific attention needs to be paid to ensuring that historically underrepresented communities are brought into the planning process in meaningful ways.

All of the CAPs examined for this chapter are the products of struggles not just for better climate change policies but for greater equity and broader community participation. Sara Bernard (2015) explains how Portland’s 2015 CAP came to centrally address issues of environmental justice. While Portland was the first US city to develop a plan to lower its carbon emissions as early as 1993, when such policies were hardly discussed at any level of government, it was not until 2009 that the city actively pursued community feedback. When consulted, residents made clear that they wanted Portland to “increase the emphasis on equity” (Bernard 2015). As the “whitest city in America,” according to the 2010 census, Portland’s demographic is rapidly changing, and many community organizations have worked tirelessly to ensure that low-income communities of color are as prepared for climate change impacts as everyone else. Ensuring that all communities get to participate in city planning for climate change preparedness is essential.

In addition to equity considerations woven throughout the 2015 Portland CAP, this plan actually names “procedural equity” as a central goal. The CAP explains that, “government programs and policies have historically been designed for a dominant culture, which can inhibit successful participation by other cultural communities” (Portland CAP 2015, 149). For this reason, Portland proposes four ways that programs and policies can be socio-culturally competent:

1. use people-friendly and culturally responsive strategies such as translated materials, childcare and food;
2. partner with and support cultural liaisons;
3. coordinate administrative processes to simplify community interaction;
4. adapt program delivery to meet a community where it is.

(Portland CAP 2015, 149)

Seattle’s climate planning also advocates for environmental justice activism. Seattle’s 2013 CAP includes promising commitments to equity and adaptation.



Nevertheless, on August 22, 2015, Seattle Mayor Ed Murray's office launched the Equity and Environment Initiative (EEI), bringing the city together with community groups and private funders "to deepen Seattle's commitment to race and social justice in environmental work" (Office of Mayor Murray 2013). The EEI, which is initiated and run out of the same division that has designed the city's CAPs, focuses on procedural equity, ensuring that the residents most vulnerable to climate change are considered centrally in climate action planning. The EEI seems to further Seattle's work towards transformative adaptation by pursuing what the Mayor's office explicitly names an "environmental justice" framework (Office of Mayor Murray 2013).

OneNYC is the clear response to the weaknesses around equity contained in the previous PlaNYC. The new plan includes a section on "how New Yorkers shaped OneNYC" (OneNYC 2015, 18). More than 8,000 residents were surveyed online and by telephone. Over 1,000 New Yorkers attended 40 community meetings held in every borough. Nearly 200 civic organizations, 50 elected officials, leaders from other state cities and counties, and 125 representatives from the city's 70 agencies all played a role in developing the new plan. Education and housing were the most important issues to the New Yorkers surveyed. Residents also emphasized the importance of having transit access between home and work (OneNYC 2015). These social considerations then became central to the plan (OneNYC 2015). The fact that the city explains in detail the ways in which feedback was solicited and implemented in the new plan means that procedural equity and participatory development are important priorities in these most recent climate action planning efforts.

### Implementing transformative adaptation?

City-level planning is rife with challenges, foremost among these being issues of equity (Harvey 1973; Molotch 1976). Publicly established frameworks can hardly be assessed as effective without the more rigorous examination of implementation practices that so much important scholarship today examines (Jabareen 2014; Roseland 2005). While we have selected those CAPs that appear to be the most explicitly focused on equity in their adaptation aims, there is significant variation in how these documents assert they will pursue their objectives. Many of the most promising features of these plans, including those to which we draw attention, remain overly vague. We acknowledge that this leaves such frameworks open to significant diversion in implementation. Nevertheless, by looking to existing CAPs and accompanying documents, we believe it is possible to point to ways that US cities can take steps toward climate change adaptation with a primary focus on social equity issues. In so doing, we point to how cities might pursue a transformative adaptation agenda necessary for both short-term resilience and long-term sustainability.

With climate change impacts already under way and the social inequities that have long plagued US cities still firmly in place, environmental justice scholars have good reason to support a transformative adaptation agenda. Similarly,

with the absence of climate action at the federal level, municipal climate action planning across the US appears to be the most substantial governing effort to acknowledge scientific predictions and protect diverse communities as well as future generations. At the same time, climate action plans have a long way to go in becoming the kinds of specific and aggressive policy-driving frameworks current climate change predictions require. Two of the foremost weaknesses in current plans include a lagging attention to adaptation measures and a continuing neglect of social equity issues, a coupled weakness that means CAPs currently do little to address "injustices in waiting."

Without suggesting that such a coupled weakness can become an automatic potential, we believe that environmental justice advocates and scholars have space as well as leverage to push for a transformative adaptation agenda in US municipal CAPs. By articulating four components of what a transformative adaptation should include, we hope to contribute to conversations about the necessity of doing adaptation equitably in order to heighten urban resilience and push toward the long-term sustainability of US cities.

### Notes

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- 3 We use the nomenclature of climate action plan/CAP to delineate any city-level comprehensive plan that seeks to address climate change through planned actions, and hence do not constrain our examples to city documents that are explicitly labeled "Climate Action Plan."
- 4 Though CAPs do incorporate plans for more conservative water usage and system-wide waste reduction, such concerns have been lesser priorities until recently (Bulkeley 2013, 127).
- 5 Source [www.portlandoregon.gov/bps/67908](http://www.portlandoregon.gov/bps/67908)

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## 11 Resisting environmental injustice through socio-spatial tactics

### Experiences of community reconstruction in Boston, Havana, and Barcelona

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#### Introduction

While early environmental justice (EJ) activism seemed often associated with fights against the disproportionate impacts of toxic contamination on minority or low-income residents, the more recent EJ agenda combines environmental sustainability and equitable community development. It includes demands for: well-connected, affordable, and clean transit systems (Lucas 2004); healthy, fresh, local, and affordable food; community food security (Alkon and Agyeman 2011; Gottlieb 2009; Gottlieb and Joshi 2010; Hess 2009); as well as jobs, training, and other opportunities in the green economy (Fitzgerald 2010). In their struggles, urban activists pay much attention to comprehensive community reconstruction and neighborhood livability initiatives, since much environmental degradation, long-term abandonment, and trauma takes place at the local scale (Anguelovski 2014).

These struggles are intrinsically linked to issues of spatial justice – that is, the equitable allocation of socially valued resources, such as jobs, political power, social services, environmental goods in space, and the equal opportunities to utilize these resources over time (Marcuse 2009; Soja 2009). A promising way to remediate urban spatial injustices is to analyze the social processes that can address neighborhood environmental degradation and new injustices-in-waiting, and achieve environmental equality for vulnerable residents. Yet, to date, we lack an understanding of the socio-spatial strategies and tactics that urban environmental justice activists have developed to address environmental toxics, rebuild distressed urban neighborhoods, and achieve spatial justice.

This chapter attempts to address this gap by examining the socio-spatial strategies developed by activists in three minority and low-income urban neighborhoods that are centrally located: Casc Antic (Barcelona), Dudley (Boston), and Cayo Hueso (Havana). Each neighborhood has been very active and visible over the past two decades as residents and their supporters organized toward improved environmental quality. These are neighborhoods who successfully asserted their claims to planners and policymakers, leading to improved environmental and health conditions through a variety of projects: parks and playgrounds, sports courts and centers, urban farms, farmers' markets and healthy food providers, and waste management.