



# Ensuring All Can Prosper as 'Hotlanta' Gets Hotter

## Climate Equity and Resilience Efforts in Atlanta

By Danielle Baussan     April 2017

President Donald Trump is sending a clear message to city leaders seeking to improve their drinking water, air quality, and climate resilience: You are on your own. The president and his administration have begun to dismantle environmental protection programs and eliminate grants that make communities more resilient to extreme weather and help improve public health and water quality.<sup>1</sup> Not only do these efforts directly harm the American public, but they also ignore the fact that climate resilience is a great deal: On average, every \$1 invested in disaster mitigation and community resilience saves \$4 in future disaster costs.<sup>2</sup>

Despite the lack of federal support, mayors are forging ahead with climate plans that will make their constituents safer from climate threats and pollution while providing them a more secure environmental and economic future. In Atlanta, Mayor Kasim Reed (D) continues to fight the sources and effects of climate change. He is developing policies and plans that can inform the work of mayors across the country who seek to improve both climate and economic resilience. In November, Mayor Reed joined 71 bipartisan U.S. mayors in an open letter to then-President-elect Trump urging him to partner with cities in the fight against climate change. In their letter, the mayors warned:

*The effects of climate change—extreme storms, wildfires and drought; sea level rise and storm surge; choking air pollution in cities; disruption of agricultural supply chains and jobs in rural heartlands; and coastal erosion, to name a few—are a clear and present danger to American interests at home and abroad.<sup>3</sup>*

Upon release of the letter, Mayor Reed said, “I really don’t think, as tough as the politics are nationally, that folks are going to stop cities from doing what we can do on climate.”<sup>4</sup>

Mayor Reed certainly isn’t stopping, and for good cause. Atlanta is a city on the rise. Since Mayor Reed’s inauguration in 2010, Atlanta’s population has grown 10.4 percent to 463,000 people. The metropolitan region is home to 5.7 million people.<sup>5</sup> This population growth is fueled by the fact that Atlanta is the largest economy in the southeastern

United States.<sup>6</sup> The city is home to 18 Fortune 500 companies,<sup>7</sup> with 11 companies recognized as the top sustainable companies in the United States.<sup>8</sup> However, Atlanta's prosperity is not shared equally. After decades of discriminatory programs and poor infrastructure planning, much of the city remains divided along racial and economic lines.<sup>9</sup> These lines can also reflect where climate resilience is weakest: Some of the most economically depressed areas in the city are along Proctor Creek, which is vulnerable to flooding and sewer overflow discharge.<sup>10</sup>

Mayor Reed started his tenure with a 2010 sustainability plan that aimed to reduce emissions, promote public transit, reduce waste, increase local food availability, and improve air and water quality.<sup>11</sup> Following that plan, the city began its Power to Change initiative that inventoried success stories, built corporate partnerships, and implemented sustainability goals.<sup>12</sup> In 2015, Mayor Reed and the City Council approved Atlanta's Climate Action Plan, a more comprehensive resilience effort that addresses three challenges: mitigating increasing temperatures and pollution; flooding; and inequitable outcomes of climate change and extreme weather. The strategies employed for these challenges are powerful practices and examples for cities to follow to strengthen their communities in the fight against climate change.

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## Addressing increasing temperatures and pollution

Mayor Reed and the city of Atlanta are not acting on climate simply to protect a growing economy—they are acting to prevent human and economic damage caused by climate change. Extreme weather costs the United States billions of dollars; in 2016, there were 15 weather and climate disasters that each resulted in more than a billion dollars' worth of damage and together cost more than 100 lives.<sup>13</sup> The Atlanta metropolitan region is increasingly vulnerable to flooding. Rising temperatures and extreme weather threaten commercial viability and infrastructure and jeopardize the air quality and health of the nearly 6 million people in the area. Extreme weather also hurts Atlanta's finances. A 2009 flood affecting the metropolitan area caused \$500 million in property damage, damaged 16,981 residences, and took the lives of 10 people.<sup>14</sup> Extreme winter weather, while not common, can also hurt the city's coffers. The emergency response to winter storms in 2014 cost the city \$13.5 million.<sup>15</sup> Atlanta cannot afford to ignore climate change or the need to be more climate resilient.

To address the effects of heat waves and flooding fueled by climate change, Atlanta must reduce the pollution that causes climate change. While Atlanta's unofficial nickname, "Hotlanta," refers to the city's nightlife, it also captures how rising temperatures affect the city. Since 1961, Atlanta has been one of three cities with the most rapid urban warming in the United States, with rates of warming several times greater than that of the planet.<sup>16</sup> As Atlanta releases greenhouse gas pollutants through energy use and transportation, those pollutants trap heat in the atmosphere, which can increase tem-

peratures and fuel more intense weather. Higher temperatures affect Atlanta's economy through higher commercial and residential cooling costs, higher health care costs, and wildfires and infrastructure risks.<sup>17</sup> Heat also contributes to unhealthy ozone levels.<sup>18</sup> Ozone and particulate matter can aggravate respiratory illnesses such as asthma, pulmonary disease, and emphysema.<sup>19</sup> Georgia ranks eighth nationally for asthma prevalence in adults; 1 in 10 Georgia children suffer from the breathing disorder.<sup>20</sup>

Atlanta's communities of color and low-income communities bear the greatest risk from heat-associated pollution. One study surveyed pollution points on every Atlanta block to find that race was "the most direct correlation to pollution."<sup>21</sup> Blocks with more than 75 percent residents of color had more than twice the number of pollution points as a block in which residents of color were less than 25 percent of the population. The study additionally found a clear link between areas with incomes under \$25,000 per year and proximity to points of pollution. This link is not unique to Atlanta. A Yale University study found that African Americans nationally are more likely to live in areas with the highest levels of particulate matter and ozone and that Hispanics and low-income residents are also overrepresented in counties with high fine-particle pollution.<sup>22</sup>

Atlanta's strategy to reduce pollution focuses on reductions from electricity production and transportation. Electricity consumption accounts for 56 percent of Atlanta's carbon pollution, and on-road vehicles account for a full quarter of the city's emissions.<sup>23</sup> Atlanta must reduce the energy and transportation pollution that contributes to rising temperatures, or it will increase risks to the health and economy of its residents.

### Cutting energy pollution

Mayor Reed knows that the city must reduce its own climate-forcing pollution to fight climate change. Atlanta's Climate Action Plan, which the City Council passed in 2015, is a comprehensive road map to reduce city pollution. The Climate Action Plan outlines strategies to reduce fossil energy and water use in buildings and in the transportation system, modernize waste management, and expand green infrastructure for carbon sequestration. In the building and transportation sectors, Atlanta is adopting tactics that include encouraging energy efficiency in new and existing homes and buildings, increasing solar energy capacity and financing, building a municipal electric vehicle program, and modernizing the city's public transportation.<sup>24</sup> These strategies will help Atlanta meet its 2030 goal of reducing greenhouse gas pollution by 40 percent below 2009 levels.

In addition to city initiatives, Atlanta is also taking advantage of federal financing and programs to drive pollution reductions. In 2016, Atlanta was selected by the U.S. Department of Energy, or DOE, for the Better Buildings Clean Energy for Low Income Communities Accelerator, a program to improve energy efficiency and renewable energy access in low-income households.<sup>25</sup> Additionally, through the Better Buildings

Challenge—a DOE Recovery Act program launched in Atlanta in 2011—the city partnered with businesses and organizations to commit more than 111 million square feet of downtown building space to meet energy and water savings goals of 20 percent.<sup>26</sup> The city exceeded its water savings goal, and by 2016 it had reduced energy savings by almost 16 percent.<sup>27</sup> The city also used federal tax credits to launch Solar Atlanta in 2015. The program will bring distributed solar power to 28 municipal buildings, including recreation centers and fire and police stations. The initiative would not have been possible without the passage of a critical bill in the Georgia legislature that allows the city to make first-of-their-kind solar power purchase agreements.<sup>28</sup>

## Curbing transportation pollution

Atlanta's second-greatest source of greenhouse gas pollution is transportation.<sup>29</sup> This is partly due to decades of low-density growth around Atlanta that have created the most sprawling metropolitan area in the United States, with more than 16,000 miles of roads.<sup>30</sup> Approximately 70 percent to 80 percent of people in Atlanta-area counties drive to work alone, and no more than 10 percent of individual county residents take public transit.<sup>31</sup> The high number of people driving contributes to traffic congestion and increases car pollution. It may also contribute to Atlanta's poverty rate: Longer commute times have been correlated with higher rates of intergenerational poverty because longer commutes make travel to work or school more difficult.<sup>32</sup> Atlanta has the ninth-worst traffic of all U.S. cities.<sup>33</sup>

Atlanta's Climate Action Plan aims to reduce transportation sector emissions by 20 percent. To achieve this, Atlanta is promoting alternative fuel vehicles and infrastructure with the help of state tax credits for electric vehicles, or EVs.<sup>34</sup> In 2015, Atlanta announced the deployment of 50 EV vehicles in its municipal fleet.<sup>35</sup> In 2017, the city installed charging infrastructure in more than 100 dedicated EV parking spaces at the Hartsfield-Jackson Atlanta International Airport, with plans for 200 more spots.<sup>36</sup> These efforts are especially notable in light of state-level obstacles to low-emission vehicles. In 2015, the Republican-controlled General Assembly repealed the state's \$5,000 tax credit for the purchase of an electric vehicle and instead imposed a new \$200 registration fee for EV owners. Georgia ranks second in the nation for the most EVs on the road, but after the General Assembly passed legislation to eliminate the tax credit, sales of EVs in Georgia plummeted 80 percent.<sup>37</sup>

To further reduce congestion and bring down pollution levels, in 2015 the City Council adopted the Atlanta BeltLine comprehensive plan to revolutionize how Atlantans move around the city. Funded through two city sales tax referenda, by 2030 the BeltLine initiative will connect 45 Atlanta neighborhoods and the existing Metropolitan Atlanta Rapid Transit Authority, or MARTA, rail and bus system with 22 miles of streetcar and

33 miles of multiuse trails.<sup>38</sup> The initiative does not stop at mobility upgrades. The plan will also support an estimated 5,600 affordable housing units, 1,100 acres of brownfield remediation, 30,000 permanent jobs, and up to \$20 billion in economic development.<sup>39</sup>

### Cooling hotspots: Fighting urban heat islands

Atlanta has reduced greenhouse gas pollution by 12.5 percent and fossil fuels by 23 percent since 2008.<sup>40</sup> As it continues to meet its Climate Action Plan goals, the city is also taking measures to reduce localized temperatures, or urban heat islands—concentrated areas of higher temperature caused by a lack of vegetation and shade—which are more prevalent in places with large areas of unshaded roads, sidewalks, and black roofing.<sup>41</sup>

Atlanta is one of the top three worst urban heat islands, or UHIs, in the country.<sup>42</sup> These “islands” can cause heat stroke or heat exhaustion. Children, the elderly, and low-income communities are particularly vulnerable to heat-related illnesses.<sup>43</sup> Heat islands can also drive the need for greater electricity for air conditioning, straining household budgets.

Atlanta is seeking to increase green space through parkland to reduce UHIs. Per the 2016 ParkScore index published by The Trust for Public Land, Atlanta only dedicates 5.9 percent of the city area to parks, compared with the national median of 8.9 percent.<sup>44</sup> However, Atlanta’s Climate Action Plan aims to expand its park program to cover 10 percent of the city by 2025 and increase accessibility to parks within a half-mile to 40 percent of the population by 2020. To cut down on food deserts, the city also aims to bring local healthy food to 75 percent of residents by 2020 by turning empty lots into edible gardens and using mobile markets to cut down on commuting to access food.<sup>45</sup>

Along the Atlanta BeltLine, the Bellwood Quarry is being converted into a reservoir and land that will serve as Atlanta’s biggest park.<sup>46</sup> These actions should have a measurable effect. In one study, a small urban park was found to decrease temperatures up to half a mile beyond park borders.<sup>47</sup> Atlanta’s park expansion may also reduce the number of thunderstorms in the city; studies have found that UHIs create localized conditions that can incite thunderstorms.<sup>48</sup> While thunderstorms may help cool areas temporarily, they can also cause flooding.

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### Reducing flood risks

Flooding from thunderstorms is the most common natural disaster in the state of Georgia.<sup>49</sup> This threat may only worsen, as Atlanta has experienced more frequent flooding in recent decades. In Fulton County, there were only four recorded floods from 1975 to 1984. From 2005 to 2012, the area experienced 16 floods.<sup>50</sup> This flooding can overwhelm

municipal septic systems, contribute to water pollution, and cause illnesses from contaminated water systems.<sup>51</sup> Thunderstorms can be especially perilous in Atlanta, because the metropolitan area's rapid expansion has resulted in large areas of land that do not absorb moisture, such as roads and parking lots, which contributes to runoff and flooding.<sup>52</sup>

Atlanta is working with community groups to develop site-specific infrastructure plans to avoid flooding and partnering with community groups to help improve parkland that can serve as natural collection points for stormwater. In the Southeast Atlanta neighborhood of Peoplestown, residents complained of flooding and sewage backups during heavy rains.<sup>53</sup> Columbus Ward, board president of the Peoplestown Revitalization Corp., helped area residents and other community organizations push for a solution.

In response, the Southeast Atlanta Green Infrastructure Initiative, part of Atlanta's Department of Watershed Management, formed short- and long-term solutions to end the health and property risks associated with flooding. The initiative developed several projects, including the largest permeable paver installation in the United States. These permeable pavers are designed to retain and drain stormwater in the ground rather than overwhelm the city's drains and septic systems. The installation, which covers more than six miles of land plagued by frequent stormwater flooding, also prevents water pollution of nearby streams.<sup>54</sup> In a contentious move, the city also bought out a block of homes continually affected by flooding to be repurposed as a water retention park.<sup>55</sup> Ward noted that the project was driven by community organization but credited the Atlanta Office of Sustainability for its cooperation: "They come to communities. ... They tell people they can have a chance to learn and speak out."<sup>56</sup>

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## Ensuring resilience for all with inclusivity and equity

Communities of all income levels should have an equal ability to prevent climate change events, recover from extreme weather, and access economic opportunity. Jairo Garcia, deputy chief resilience officer for the city of Atlanta, notes that "in Atlanta, sustainability is a civil rights issue. ... Mayor Reed is committed to ensuring that Atlanta is a just city."<sup>57</sup>

However, Atlanta's vast inequities drive the need for climate resilience in underserved neighborhoods. Atlanta has been of the most inequitable cities in the country for several years; in 2014, Atlanta's highest incomes were 17.5 times higher than the lowest incomes in the city.<sup>58</sup> In 2016, the city of Atlanta had the second-highest inequitable distribution of income in the country.<sup>59</sup> This inequity is often divided by race. Through decades of racial segregation and other policies, Atlanta neighborhoods are divided by race and economic status. Lower-income African Americans mostly reside in western and southern Atlanta, while predominantly white, upper-middle-class residents live in the eastern and northern rims of the city.<sup>60</sup> The median household income in western and southern Atlanta is vastly lower than in northern and eastern Atlanta.<sup>61</sup> Overall, one

in four city residents live in poverty, including nearly 83 percent of the city's African American residents, compared with nearly 17 percent of whites.<sup>62</sup> Although Atlanta has a significant population of African Americans living in middle- and upper-middle-income households, a *Washington Post* analysis found that “the higher a Zip code's share of black residents in the Atlanta region, the worse its housing values have fared.”<sup>63</sup>

This economic disparity directly translates to disparate resilience against climate change effects. Low-income households experience greater negative effects of extreme weather on housing, employment, and public health than higher-income households. This is due to the greater difficulty that low-income households experience restoring extreme-weather-damaged housing and finding affordable housing as well as the impact extreme weather can have on wage-based employment, among other factors.<sup>64</sup> In Atlanta, economic inequality particularly stresses the city's need for affordable housing—housing that must also be resilient to extreme weather.<sup>65</sup> To address its climate change needs, Atlanta must also provide residents of all income levels an ability to recover—and prosper—in the wake of climate change impacts.

Mayor Reed made equity a special focus of city efforts in 2016, noting, “It's in our interest right now to turn to equity ... If we address this now, we'll assure that we will become one of the leading cities in the world.”<sup>66</sup> Atlanta, like other cities, is dealing with a tension between affordability and sustainability. Its successes as a more resilient, green, healthy, walkable, and bikeable city bring many benefits, but these improvements also raise housing prices.<sup>67</sup> Atlanta housing prices rose 10 percent in the past year and are projected to rise another 5.2 percent from 2017 to 2018.<sup>68</sup> Forty-nine percent of Atlantans spend more than 30 percent of their income on rent.<sup>69</sup> These factors risk pushing out long-term, low-income communities of color and a loss of the cultural benefits of neighborhood continuity and history.

Some Atlanta neighborhoods have already experienced this exodus. Nehanda Lindsey, vice president of operations and strategy for CommonHealth ACTION in Washington, noted, “The mayor [Reed] is trying. But to date, low-income communities have not benefited from infrastructure and neighborhood improvements, which prioritize drawing new people in rather than helping existing residents. In fact, the improvements are driving up living costs and forcing existing residents out.”<sup>70</sup>

To prevent residents from being priced out of Atlanta, Mayor Reed and city leaders are working to improve housing affordability. The city passed an ordinance in 2016 that requires new developers to work with the city to set aside 10 percent to 15 percent of units for affordable housing.<sup>71</sup> Additionally, the Atlanta BeltLine plan includes 5,200 units of affordable housing, preserves 15 percent of a special district for public housing, is increasingly orienting development in low-income neighborhoods, and is providing construction jobs in the area.<sup>72</sup> As promising as the BeltLine development is, questions about adequate affordable housing remain. In 2016, Ryan Gravel, the urban planner

who conceived the BeltLine, stepped down from his position on its partnership board. Gravel cited concerns about the project's commitment to affordability, noting, "We need to have a more public dialog around affordability and equity."<sup>73</sup> Additionally, since as many as 15,000 affordable housing units could reach their statutory limit over the next 10 years and become priced to market, Atlanta's efforts seem unlikely to supplant, much less exceed, the current level of affordable housing.<sup>74</sup>

Along with efforts to increase affordable housing, Mayor Reed and city officials are improving public transportation access to jobs and schools. In November 2016, the city passed two sales taxes: one that will generate approximately \$300 million over five years to fund bike shares and pedestrian walkways and improve traffic flows, and another that will raise approximately \$2.5 billion over 40 years for the Metropolitan Atlanta Rapid Transit Authority to improve and expand bus and rail services. These developments will give 94 percent of Atlanta residents and 98 percent of jobs access to a new transportation project within a half-mile of their home or work.<sup>75</sup> These projects will additionally reduce transportation-related emissions and improve access to economic and educational opportunity.

Despite these efforts, Lindsey said that when it comes to making city improvements that address historic injustices and support progress and economic opportunities for all residents, "There is still a lot of work to be done. ... Many are still left behind."<sup>76</sup>

To ensure equitable outcomes, there must also be equitable input on city projects. Community groups have firsthand knowledge about their effects and needs and can help determine the success of resilience projects. As an example, Park Pride, an Atlanta nonprofit, worked with historically marginalized and flood-prone northwest communities and other local nonprofits, including The Conservation Fund, to form Lindsay Street Park.<sup>77</sup> The park, and nearby Proctor Creek, protects polluted water from entering the Chattahoochee River, a significant drinking water source for Atlantans. The park also serves as a community garden, meeting place, and UHI offset, and it provides job training and park management employment. Andrew Schock, Georgia state director at The Conservation Fund, said, "Not only has [Lindsay Street Park] brought neighbors, city leaders, businesses, foundations and others together around a shared vision of hope, it will also improve the health of the community and quality of life for residents by providing much needed green space in a highly urbanized neighborhood."<sup>78</sup>

Mayor Reed and Atlanta leaders work with community groups throughout the city to develop projects and hear the voices of their constituents, as evidenced by projects such as Lindsay Street Park and the Peopletown paver project. Yomi Noibi, executive director of ECO-Action, an Atlanta-based environmental justice and equality organization, believes that "the city wants to do what is right. Success is when the community has a voice. It is when elected officials and corporations meet the needs of ordinary people."<sup>79</sup> Mayor Reed and the city of Atlanta are currently working with more than 100 stake-

holders as part of the city’s selection in the Rockefeller Foundation’s 100 Resilient Cities program, and they worked with dozens of stakeholders on their Climate Action Plan, including academics, government officials, and community leaders who work together to address Atlanta’s climate resilience needs. The Rockefeller Foundation provides the city with funding to increase sustainability expertise, shares best practices, and helps develop a network of best practices for city sustainability.

Some Atlanta residents are not pleased with the city’s community engagement, particularly on housing development projects. The Livable Centers Initiative, or LCI, a \$300 million investment by Georgia State University to revitalize neighborhoods around Turner Field, is an example. The area targeted for redevelopment—which includes the Peoplestown area—is segmented by highways, floods frequently, and is home to intergenerational poverty. Redevelopment plans call for housing and retail that will attract new residents, but existing community advocates seek better basic amenities for the present population to address food, banking, and affordable housing needs.<sup>80</sup> The Turner Field Community Benefits Coalition, which represents current residents in the Turner Field neighborhoods, has criticized the LCI for its lack of a community benefits agreement and asked that it “establish relationships within the community that currently do not exist and make definite commitments.”<sup>81</sup>

To ensure that all Atlanta residents benefit from the city’s infrastructure and other neighborhood improvements, city leaders must tackle historical inequities, prevent people from being priced out of their own communities, increase job opportunity, and work closely with communities to develop equitable solutions that reach all constituencies. By doing so, Atlanta can increase opportunities for all residents to withstand, and even thrive, before, during, and after extreme weather events.

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## Conclusion

Atlanta is a flourishing city, but the mounting toll of heat, extreme weather, and economic divide hinders city progress. As federal support for climate resilience wanes, Mayor Reed and city leaders are implementing a comprehensive approach to climate change that includes:

- Reducing the energy and transportation emissions that contribute to rising temperatures and extreme weather
- Implementing a Climate Action Plan with specific strategies to improve air quality and mitigate the causes of climate change
- Improving access to and expansion of public transit

- Promoting low- and zero-emission vehicles, particularly in the public sector
- Increasing parks and vegetation to offset the urban heat island effect
- Working with community groups to develop site-specific water retention plans that help protect residents' homes and city infrastructure
- Incorporating economic equity in their plans to help all residents experience climate resilience and access to prosperity
- Improving housing affordability through inclusionary zoning practices and improved public transit to schools and employment

Although waning federal support, a great need for affordable housing, and economic displacement continue to be obstacles to inclusive and equitable climate resilience in Atlanta, Mayor Reed, city officials, community advocates, and residents are making greater strides to improve climate resilience and economic opportunity for all Atlantans. Atlanta's climate goals are achievable, but only when city leaders have transparent and strong relationships with local communities. As other cities grapple with the dual challenges of the economic and health costs of climate change and rising inequality, Atlanta's comprehensive plan to increase community outreach, reduce pollution, expand affordable housing, and develop climate-resilient parkland serves as an excellent example for the southeastern United States and beyond.

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