



CLIMATE-SMART CITIES™

Parks as a Climate Solution



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Parks as a Climate Solution

Creating equitable, climate-smart cities using parks and open space: key takeaways from a Global Climate Action Summit affiliate event held in San Francisco, September 12, 2018.

The Trust for Public Land creates parks
and protects land for people,
ensuring healthy, livable communities
for generations to come.

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➔ **FIGURE 1** The Trust for Public Land and its partners helped transform Boeddeker Park (pictured above) into a thriving community hub in one of San Francisco's poorest neighborhoods. Among the many special design features, this park provides active benefits to climate and public health. Photo by Jeremy Beeton.

About this report

ON SEPTEMBER 12TH, 2018, The Trust for Public Land, The JPB Foundation and The Summit Foundation hosted an affiliate event at the Global Climate Action Summit in San Francisco, titled “Protecting People While Reducing Pollution: Parks and Open Space as a Critical Solution to Climate Change.” The Summit brought together leaders from around the world to “take ambition to the next level,” celebrate extraordinary climate achievements, and inspire new and bold commitments. Building on this momentous occasion, our affiliate event and discussion aimed to assess the current intersection of parks and climate, and to illuminate a path for improved and equitable climate outcomes through urban park creation and improvement. Lead speakers and participants shared successful examples of “climate-smart city” approaches and discussed

how strategic collaboration across sectors could make significant impact at scale. The ultimate goal of the affiliate event was to capture the best thinking of national experts on how to scale up the use of parks and open space as part of a climate change solution. The lead discussants and attendees were invited to participate in this event based on their leadership in various fields, including urban parks, climate change, municipal governance, philanthropy, and media. For a complete list of speakers, please see Appendix B.

This report synthesizes the wisdom, experiences, and knowledge shared during the event and lays out a vision for how to scale up the use of parks and open space as part of a holistic and equitable climate-change solution.

Introduction

CLIMATE CHANGE IS NOT AN ABSTRACT CONCEPT.

It is here and is being felt by all. Throughout the United States, the science, data, and personal stories paint a stark reality. In California, families tried desperately to protect their homes from unprecedented wildfires this past summer that were fueled by a changing climate.ⁱ In Houston, North Carolina, and the Florida Panhandle, mega storms like Hurricane Harvey, Florence, and Michael brought devastating floods that destroyed entire neighborhoods and even an entire city. And across the United States, extreme heat waves have almost tripled compared to the long-term average, and now kill more people than all other weather-related events combined.^{ii iii} Older adults, children, and those who can't afford air conditioning are often disproportionately impacted by these extreme heat events. A wide range of public health hazards are also on the rise due to climate change.

“The time to act was 20 years ago, but of course we’re not in that world. And so the time has to be right now.”

— JOSHUA ALPERT, DIRECTOR OF SPECIAL PROJECTS, C40

The Centers for Disease Control and Prevention notes eight distinct ways climate change is impacting human health, including increasing the range and number of disease-carrying ticks and other insects, and elevating the levels of air pollution that cause respiratory illness.^{iv}

The science is clear: increasingly severe storms, sea level rise, killer heat waves, droughts, and public health hazards are all marked by the imprint of climate change.

While the impacts of climate change are felt by everyone, it is often low-income communities and people of color that are hit first and hit hardest. For many in these communities, climate change is an environmental challenge stacked on top of a history of pollution, disinvestment, and discrimination. This interconnected web of economic and social challenges exacerbates the hazards posed by climate change for those that are most vulnerable. These simultaneous stressors complicate efforts to transform neighborhoods and cities into thriving, equitable, and resilient communities.

Many of the most pressing challenges of our generation are either a direct result of climate change or are exacerbated by climate change. The question now is: how do we rise together to meet these challenges in a way that addresses the inequities of the past and present, and puts us on a path to a vibrant and just future?



➔ **FIGURE 2** A family assesses flooding in their neighborhood after a rain event. Photo courtesy of ISeeChange.

Parks: meeting an urgent need

OVER 80% OF AMERICANS LIVE IN CITIES AND URBAN AREAS – many concentrated along rivers and coastlines prone to flooding.^v All too often, these urban areas are dominated by pavement and buildings that create urban heat islands (where temperatures are dangerously hotter than surrounding areas) and compound polluted flooding from stormwater runoff that can occur during relatively minor rain events. Globally, cities “consume over two-thirds of the world’s energy and account for more than 70% of global CO₂ emissions.”^{vi}

It is in cities that we find some of the great climate challenges but also some of the most effective solutions that will help the greatest number of people. Across the United States, cities are increasingly dedicating taxpayer dollars to protect their residents from the mounting harm caused by climate change (referred to as “adaptation”). Elected officials and other decision-makers are also employing a variety of strategies to reduce climate pollution (referred to as “mitigation”). **While most climate solutions fall into adaptation or mitigation, one surprisingly simple solution provides both benefits simultaneously: well-designed and widespread parks and public open space.**

There is a growing body of research demonstrating how parks, nature, and open space can help cities adapt to the impacts of climate change while also helping governments reduce climate pollution and meet carbon emissions reduction targets. At the broadest level, natural climate solutions (which

includes parks, open space, and urban trees) can deliver a third of the global carbon reductions needed by 2030 to avoid a catastrophic rise in global temperatures.^{vii} While the majority of natural climate solutions involve landscape-scale environmental management, urban greening can play an outsized role because of the direct multiple-benefits provided to the hundreds of millions of people living in U.S. cities. And the evidence makes this clear. Below is a summary of the most critical ways in which urban parks and open space can address natural hazards and put us on the path to a climate-smart future.

Cooling urban heat islands

City parks can significantly reduce urban heat islands, providing a cooling oasis effect, where temperatures are as much as 7 or even 12 degrees cooler than the surrounding cityscape.^{viii} This is important given that heat is already the most deadly weather-related hazard, and the frequency and severity of heat waves are only expected to increase.^{ix}

In addition, the cooling benefit of parks isn’t only limited to the park area itself. The surrounding neighborhood can also benefit, as research has shown that the cooling effect of parks can extend as far as a half-mile from park boundaries.^x

Reducing greenhouse gas emissions

A common misperception is that urban forests are not effective carbon sinks. However, new research indicates that urban forests can store nearly as much carbon per hectare as tropical

rainforests.^{xi} That impact is already being felt. Urban trees, found in parks and along city streets, are estimated to remove 711,000 metric tons of air pollution annually (a \$3.8 billion value)^{xii} and sequester over 90 million metric tons of carbon (CO₂ equivalent).^{xiii} That's the equivalent of removing over 19 million cars from the road for one year.^{xiv} Urban trees also filter particulate matter from automobiles and heavy emission, further cleaning the air.

Research has also shown that city residents use less energy per capita and have a smaller carbon footprint than suburban and exurban dwellers.^{xv} Creating parks and open space that lead to more livable, vibrant cities can attract new residents to an even more carbon-efficient lifestyle, and is therefore a climate strategy itself.

Creating linear parks, such as bike paths, can have a dramatic impact as well: a study released by the Urban Land Institute in 2009, projects that “maximum deployment” of strategies to increase walking and biking in the United States could achieve cumulative reductions of 403 million tons of carbon dioxide by 2050.^{xvi}

Minimizing flooding and improving water quality

Green infrastructure in parks and other public spaces also create significant benefits by addressing climate change through the ecosystem services they provide. New York City's 2010 Green Infrastructure Plan estimates that “every fully vegetated acre of green

infrastructure would provide total annual benefits of \$8,522 in reduced energy demand, \$166 in reduced CO₂ emissions, \$1,044 in improved air quality, and \$4,725 in increased property value.”^{xvii} Green infrastructure can also filter as much as 95% of major pollutants out of stormwater runoff.^{xviii} Research has also shown that green infrastructure interventions often found in parks, such as rain gardens, can reduce stormwater runoff by as much as 90%.^{xix}

Despite all of these findings and more, the overall climate adaptation and pollution reduction potential of green spaces in cities is largely untapped. The science is incontrovertible. The challenge is how do we transform the relatively small-scale deployment of climate-smart parks that is taking place currently and advance this strategy into a wide-spread movement? What follows is an exploration of key themes from the affiliate event that, if addressed, could help move the needle deploying parks as a climate solution.

“We know that climate change is a force multiplier, a multiplier of the already intense issues communities face.”

— DIANE REGAS, PRESIDENT AND CEO, THE TRUST FOR PUBLIC LAND

Emerging themes to scale impact

DURING OUR AFFILIATE EVENT, we posed three central questions to seven experts and thought leaders. These questions formed the basis of the dialogue among the panelists and audience.

1. How do you view parks and open space as a strategy to deliver on climate goals, and what support do you need to be most effective?
2. What do you see as barriers at the national scale to advancing this work, and what are some key solutions to overcoming those barriers? What have you found to be working well?

3. How do we foster cross-sector collaboration, and what are the key roles we need to fill in order to advance this work?

During the course of the 90-minute discussion, six major themes emerged. These themes were repeatedly highlighted by the lead discussants and audience. They range from strategies, to desired outcomes, to priority focus areas – but they all center on how to improve the emerging field of using parks as a holistic strategy for reducing climate pollution and increasing urban resilience. The six major themes, in no particular order, are highlighted below:



“We need to use big data and applied analytics to better understand climate impacts and associated solutions. We can do some of it, but we need more partnerships and engagement with universities to help us.”

— DIANE REGAS, PRESIDENT AND CEO, THE TRUST FOR PUBLIC LAND

Recognizing this need, The Trust for Public Land has already begun creating a first-of-its-kind national heat-island data layer for all major urban areas in the U.S. – and then will combine it with park access data to pinpoint areas with the highest need.

In addition, data and analytics can help inspire ambitious solutions by quantifying the impact of strategic investment at scale. To communicate with decision-makers at all levels of government and provide convincing rationale for why parks are a good investment, we need better access to data and modeling to project the benefits of building new climate-smart parks. If we build 100 new parks, what would the benefits be? How much carbon would be sequestered? How many gallons of stormwater would be managed? How many people would be served? While more detailed site-specific modeling would be required to provide precise metrics, we also need to be able to answer these types of questions at a broader scale using big data and modeled projections.

Inspire ambitious solutions

There is not a single nonprofit, foundation, or government entity that could build enough parks to achieve the impacts at scale that are required to safeguard vulnerable urban communities against the impacts of climate change. The challenge is simply too immense. Recognizing this fact, we must work together to inspire others to embrace and deliver the ambitious solutions being proposed. The good news is that many local decision-makers already support parks and open space. The 10-Minute Walk Campaign – a partnership between The Trust for Public Land, the Urban Land Institute, and the National Recreation and Park Association – has illustrated this fact quite clearly. More than 200 mayors (and counting) have endorsed the vision that everyone should have a high-quality park within a 10-minute walk of their home, with some of these cities making specific and measurable commitments to address park access and quality through planning, policy, and other levers.



➔ **FIGURE 4** Historic Fourth Ward Park in Atlanta, Georgia, was designed as an ambitious natural stormwater management solution that includes a waterplay feature, playground, skateboard park, and outdoor theater. Photo by Darcy Kiefel.

It is important to build on shared visions, such as the 10-minute walk, and inspire local leaders to act. One way to accomplish this is to create an authentic narrative, supported by data, facts, and personal stories, that can resonate across diverse affiliations. National nonprofits can play a key role in building that narrative, distilling the complex best-available data, sharing successes, and elevating local voices that can both articulate the human impacts of climate change as well as the benefits of parks.

“More than ever it’s important to have these ideas and our storytelling be at once simple and at once quite systemic.”

– BRADY WALKINSHAW, CEO, GRIST

Deploy a systems-and-network approach

Our climate-resilient future requires an emphasis on systems and networks in two ways: peer-to-peer networks of ‘doers’ in climate action and a nuanced understanding of the multi-functional and integrated physical infrastructure networks that define cities.

First, national peer-to-peer networks can provide valuable resources and learning opportunities that benefit all involved. Because parks and open space have not yet

been adopted as a mainstream climate solution, it is important that we engage and tap into relevant existing networks while also cultivating a more specialized network. The Green Infrastructure Leadership Exchange and the Urban Sustainability Directors Network have been highly successful and demonstrated their added value in creating spaces and opportunities to share knowledge and best practices across geographies while also helping develop personal relationships that foster enhanced collaboration.

“When we look at parks and open space and streetscapes, we should be looking at the notion of hubs and spokes. You have these [park] hubs which are the beating hearts of [the city]... How do we connect those spaces with each other to create a more systemic approach?”

— ARTURO GARCIA-COSTAS, ENVIRONMENT PROGRAM OFFICER, THE NEW YORK COMMUNITY TRUST

Secondly, cities are built on top a physical network of roads, buildings, and stormwater infrastructure. Parks and green space should be designed and created as an integral part of that broader physical network. As parks

are integrated into the very fabric of cities, connecting to each other and serving as hubs and corridors, the benefits provided by individual parks are amplified.



➤ **FIGURE 5** The Eastbank Esplanade, a riverside path running through Portland, Oregon, is part of an ongoing effort to build a world-class network of parks, trails, and natural areas that will benefit residents and visitors alike. Photo by Owen Wozniak.

Prioritize climate equity and social cohesion

Addressing climate equity and building social cohesion are each distinct imperatives, however when taken together they form a holistic approach that can have deep, wide-ranging benefits.

Climate change exacerbates the existing economic and social stresses experienced in lower-income communities. Addressing

climate equity means empowering traditionally underserved communities, often the most vulnerable to climate change, with the resources and support they need to thrive in the places they call home. It means providing residents in these communities the same fundamental opportunities as those who live in more affluent neighborhoods. Thoughtfully designed parks and open space that meet the needs of local residents can be a major step in improving climate equity.



“It’s just not good enough for us to show up and give climate justice and equity to these communities. We need to do this with people. How we do it is just as important as what we do.”

— JAD DALEY, PRESIDENT AND CEO,
AMERICAN FORESTS

➔ **FIGURE 6** This aerial view of South Los Angeles shows the scarcity of parks and green space despite the area being home to hundreds of thousands of people. Photo by Adrian Benepe.



➔ **FIGURE 7** Volunteers prepare a plot for planting at Canal Community Garden in San Rafael, California. Photo by Julie Baldocchi.

Social cohesion is a key ingredient in creating a resilient city. A community’s ability to withstand disasters and come back stronger than ever is determined in large part by the social fabric of the community. How well do people know each other? Can they work together towards shared goals? Do people trust and respect each other, and do they consider their neighbors friends? In times of hardship, this social cohesion can define the successes or failures of a community.

When investing in parks as a climate solution, it is important to allocate and direct resources to where they are needed most, and to advance holistic strategies that can build social and community resilience. For any park project—from creation to activation—there are opportunities to incorporate these principles at every level in partnership with the community and local residents.

Increase the capacity of frontline partners

It is imperative that we increase support to frontline partners and community-based organizations to enhance their capacity to affect change at the local level. Local organizations are critical partners for numerous reasons. Community organizations understand the complex and interconnected challenges in the neighborhoods they serve, and thus are well positioned to identify holistic and effective solutions that truly meet the needs of the community. Staff at local organizations

often have working relationships with key decision-makers who can devote city resources to advancing projects. Local organizations also know who the neighborhood leaders are that can serve as ambassadors between residents and city politicians, ensuring local voices are elevated in the decision-making process.

For these reasons and more, it is crucial to work with local partners and provide them with the funding, technology, and resources that will allow them to “super-size” their impact. National nonprofits can serve this important role, providing access to

“[W]hen we import skilled people to complete local projects instead of investing in the talents of the people in our midst, we do so at the peril of the whole community’s prosperity.”¹

— DANA BOURLAND VICE PRESIDENT, ENVIRONMENT, THE JPB FOUNDATION

¹ The quote on this page was taken from an opinion piece written by Dana Bourland and published here: <https://www.philanthropy.com/article/Opinion-Fixing-Neglected/243785>

best-available science, peer-to-peer learning networks, and funding sources otherwise generally out-of-reach for smaller, local organizations. Working together, national organizations and frontline partners can sustain on-the-ground, climate-smart park

projects and cultivate a network of informed advocates and climate-resilience ambassadors, who can support and integrate this work into social, business, and municipal efforts at the city level.



➔ **FIGURE 8** Volunteers from Equipo Verde (Green Team) participate in a cleanup day at The Trust for Public Land’s “green alleys” located in the Avalon neighborhood of South Los Angeles. Photo by Annie Bang.

Merge adaptation and mitigation efforts

Nature, including parks and open space, could deliver 37% of the annual global emissions reductions needed by 2030.^{xx} Often referred to as “the forgotten solution,” nature can play an oversized role in addressing the climate challenge. Thanks to the efforts by The Nature Conservancy, Nature4Climate, American

Forests, and others, natural climate solutions are gaining traction as a way to enhance large-scale restoration and land protection through the lens of carbon sequestration. But there is significant and as yet untapped value in deploying these strategies to urban settings, where the co-benefits can directly improve the lives of the hundreds of millions of city dwellers across the country.



➔ **FIGURE 9** Green Schoolyards, like this one in New York City, help manage stormwater, reduce energy usage, and sequester carbon through increased natural vegetation. Photo by Timothy Schenk.

Urban greening, parks, and open space should be viewed not only as resilience and adaptation strategies. They are key strategies in reducing climate pollution through carbon sequestration, reducing energy usage, and increasing carbon-free transportation. Investing in parks and open space instigates a virtuous cycle of adaptation and mitigation feeding one another. Recognizing this will unlock additional financial resources and help align city planning efforts to ultimately be more effective.

“The conceptual line between adaptation and mitigation must be permanently removed so that we manage urban greenspaces to accomplish these interdependent objectives together.”

**– JAD DALEY, PRESIDENT AND CEO,
AMERICAN FORESTS**

Conclusion: a roadmap for improved outcomes

IT IS RELATIVELY EASY TO RECOGNIZE PERVASIVE CHALLENGES that hamper the wide-spread adoption of parks as an equitable climate solution. Many of those challenges are captured in the themes highlighted in this report: inadequate funding, siloed strategies that fail to address multiple challenges, poor messaging and framing, key science and data gaps – to name a few. The much more challenging task is to identify specific and actionable strategies. Below are the six themes highlighted in this report, accompanied by more specific recommendations for the philanthropy community, national nonprofits, and community-based organizations that are engaged in this space. These recommendations are still relatively broad and preliminary, and should be considered starting points for a more thorough discussion.

Use big data and analytics to solve big problems

- Work with frontline partners such as community-based organizations, city mayors, and active practitioners to identify key data gaps that are hampering the deployment of climate-smart parks on a larger scale.

- Collaborate with universities and other research institutions to address these key data gaps and translate the science into accessible formats that can inform decision making.

Inspire ambitious solutions

- Use data and personal stories to articulate a vision for a vibrant future made possible through climate-smart parks. Then identify appropriate messengers to convey that vision with decision-makers.
- Ensure that success stories are shared widely and with key audiences, such as practitioners, city mayors and leaders at the national level.

Deploy a systems-and-network approach

- When developing climate-smart parks, engage a variety of city departments that oversee transportation, water, and other infrastructure to make sure parks are not islands to themselves but are rather part of a larger city system and network.
- Engage existing peer-to-peer networks where possible, and if appropriate, develop a new network devoted specifically to using parks and open space as a climate solution.

Increase the capacity of frontline partners

- Funding: Philanthropy and national nonprofits must work together to get increased funding to community-based organizations that are able to have a big impact at a local scale.
- Resources: Get the best available technology, data, and science, into local networks so that community leaders can serve as well-informed ambassadors for this work.

Prioritize climate equity and social cohesion

- Foundations, nonprofits, city departments, and others should work together to increase funding for projects in disadvantaged communities.
- Funded projects should go beyond infrastructure implementation and should instead take a holistic approach to community building and park actualization so as to increase both social and environmental resilience.

Merge adaptation and mitigation efforts

- Work with cities to ensure parks are integrated into adaptation and mitigation efforts, and then identify opportunities to align these separate efforts into an integrated, holistic strategy.
- Prioritize park and open space strategies that maximize both climate adaptation and mitigation.

Lastly, there's more to learn and more voices that need to be heard. First and foremost, we need to bring frontline community partners into these discussions. We cannot talk about challenges and solutions in isolation, removed from the communities where the challenges loom largest. Community-based organizations and local leaders need to be an integral part of the process, guiding the evolution of this field. It's up to larger, well-resourced organizations and the philanthropy community to work together to provide the opportunity and funding to support this deeper engagement with local partners – not just at the project scale but as thought leaders to inform national strategic priorities.

In conclusion, this report captures a moment in time when thought leaders from philanthropy, national nonprofits, cities, and media came together to share their perspectives on how to advance the use of parks as a climate solution. This synthesis is not meant to be a comprehensive list of challenges or strategies. But rather it is meant to carry the dialogue and community of practice one step further, helping illuminate central themes that can be advanced through cross-sector collaboration.



➔ **FIGURE 10** A group of children walk through Aliso Park, in Los Angeles, California. The park was specially designed to absorb and filter stormwater, reducing flood risk and improving water quality. Photo by Annie Bang.

Appendix A: About The Trust for Public Land's urban climate work

THE TRUST FOR PUBLIC LAND CREATES PARKS AND PROTECTS LAND FOR PEOPLE, ensuring healthy, liveable communities for generations to come. We envision a future where everyone in America lives within a 10-minute walk of a high-quality park or open space that improves community health, strengthens local cultures, and mitigates climate change. Building on more than 45 years of experience working in cities, The Trust for Public Land approaches the nexus between climate and parks through our Climate-Smart Cities, Community Health, and Creative Placemaking strategies that together help cities create multi-benefit parks that meet the needs of local residents.

The Trust for Public Land works to maximize the true potential of urban greening through a unique, climate-smart partnership model. Using both a data-driven and people-driven approach, we help cities overcome key technical and organizational barriers and design and implement parks that absorb stormwater, cool neighborhoods, and connect communities – maximizing mode shift towards carbon-free transportation.

DATA-DRIVEN APPROACH: We have developed web-based, open-access decision support tools to guide efforts toward achieving climate equity. Our Climate-Smart Cities™ decision supports tools, covering 18 urban regions and 118 cities, use community vulnerability indicators as the foundation for a spatial analysis that integrates diverse data and modeling on flooding, urban heat islands, and active transportation. In each of our partner cities,

we develop a tool that utilizes the best data available and ground-truth the findings with local experts. Our tool is unique in allowing everyday users to create customized queries and priority analysis all the way down to the parcel level or street right-of-way. With the tool (also accessible on a smart phone or tablet), the user can generate “one click” maps, query for parcels meeting certain user-identified criteria, and generate parcel reports on the spot. The accessibility of this parcel-level analysis function enables the robust spatial analytics to help green infrastructure and other climate initiatives move from planning to implementation. One of our newest mapping applications, and separate from our Climate-Smart Cities™ tools, ParkServe™ (parkserve.org) measures and analyzes current access to parks in communities nationwide and allows users analyze project impacts of new proposed parks. In the winter of 2018/2019, we will be updating this platform to include a first-of-its-kind national urban heat island data layer that will allow users to identify top locations for cooling parks that provide relief for people living in the hottest parts of their community.

PEOPLE-DRIVEN APPROACH: There is a web of interconnected economic and social challenges that exacerbate climate threats and complicate efforts to transform neighborhoods and cities into thriving and resilient communities. Data alone cannot solve these challenges. That's why we always frame our engagement within each partner's context and facilitate the co-creation of ideas, solutions,

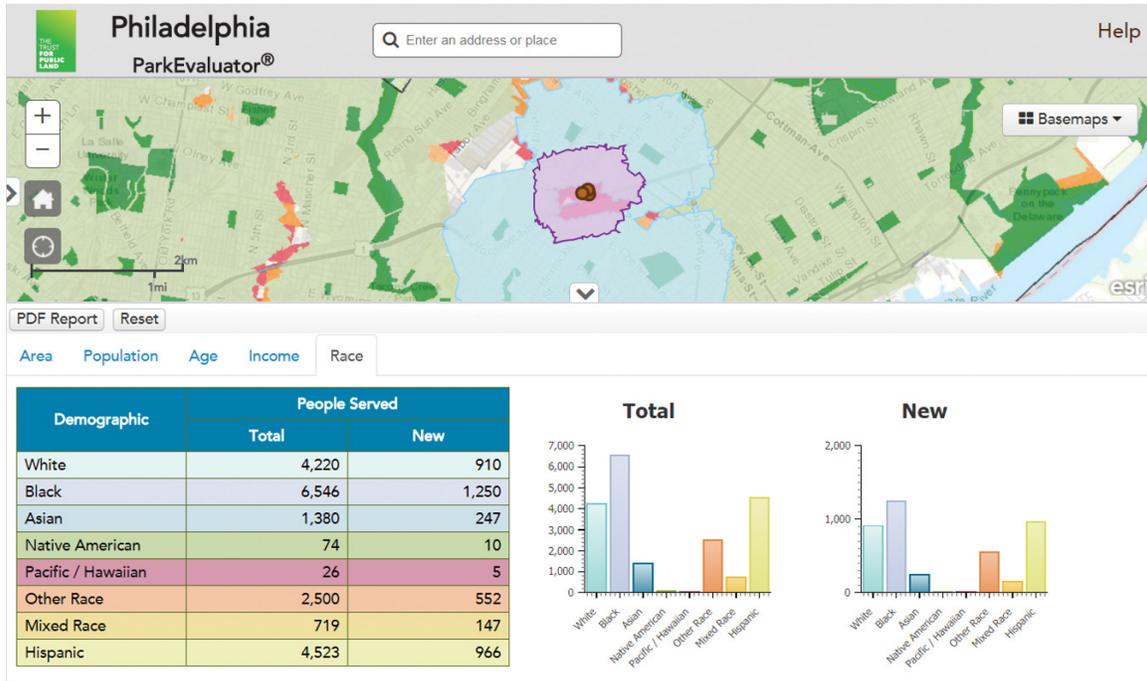


FIGURE 11 Screenshot from The Trust for Public Land’s publicly available ParkEvaluator tool. It allows users to delineate the boundaries of a proposed park project, and then it provides demographic data on who will be served by the proposed project.

and partnerships that truly meet the needs of the local community. We establish partnerships through an inclusive process engaging a range of public, private, and community-based actors – such as nonprofits, community-based organizations, and municipal, federal, and state agencies. We make time at the outset of a partnership, through an immersive "Discovery Process," to understand the barriers and opportunities that they face in addressing

the challenges posed by climate change. This mutually instructive process allows The Trust for Public Land and city partners to get to know each other – the former understands the environmental, economic, and social landscape of each partner, while the latter gains a technical and operational understanding of the resources and support we can bring to bear.

10-MINUTE WALK CAMPAIGN: As mentioned previously, The Trust for Public Land has a bold vision: everyone, in every city and town across the country, will have a high-quality park within a 10-minute walk of home. Since the launch of the campaign in October 2017 with our partners, the National Recreation and Park Association and the Urban Land Institute, over 200 mayors have established and endorsed this vision in their cities. These endorsements represent an opportunity to alter the course of cities by leveraging bipartisan political will and cross-sector engagement to expand the number of high-quality, climate-smart parks that reduce pollution and support climate adaptation. The campaign is a call-to-action for cities to work over the coming years to increase quality park access, improve existing parks, and create new parks in underserved neighborhoods. The Trust for Public Land and its partners are actively exploring ways to leverage this campaign to directly address climate equity and maximize the climate benefits of increasing access to high-quality parks.

NATURAL CLIMATE SOLUTIONS: As noted earlier in this report, natural climate solutions – the conservation, restoration, and management of forests and other natural resources to sequester and store carbon – are being utilized in both rural and urban settings through tree planting and the conservation and restoration of urban forests and wetlands. The Trust for Public Land is working with The Nature Conservancy, American Forests, and others to support this effort. Through this partnership, we led the Forest Climate Working Group’s efforts to write and disseminate a “Policy Solutions Toolkit” (<http://forestclimateworkinggroup.org/resource/tapping-into-u-s-forests-to-mitigate-climate-change-a-policy-solutions-toolkit/>) designed to help state and local decision-makers identify and adopt policies and funding to promote natural climate solutions. We are also conducting feasibility research, polling, and measure design on behalf of the Climate Alliance to help state and local governments identify and pursue new public funds and policies for natural climate solutions through voter-approved ballot measures. The Trust for Public Land’s GIS team has created a unique, interactive Forest Carbon Map of the U.S. to identify specific parcels that have the highest potential to sequester and store carbon.

Appendix B: List of speakers

Introduction

ADRIAN BENEPE

Senior Vice President, Director of National Programs

Event Moderator

DANA BOURLAND

Vice President, Environment, The JPB Foundation

Featured Speakers/Lead Discussants

JOSH ALPERT

Director of Special Projects, C40

JAD DALEY

President and CEO, American Forests

ARTURO GARCIA-COSTAS

Environment Program Officer, The New York Community Trust

DIANE REGAS

President and CEO, The Trust for Public Land

NANCY SOMERVILLE

Executive Vice President and CEO, American Society of Landscape Architects

JOSHUA STANBRO

Chief Resilience Officer, City and County of Honolulu

BRADY WALKINSHAW

CEO, Grist

Appendix C: Important Trust for Public Land resources

Please note: Most of the language below was taken directly from the aforementioned websites with occasional minor modifications for ease of readability.

ParkServe®

<https://parkserve.tpl.org/>

The Trust for Public Land is leading a national campaign to ensure that every person in America has access to a quality park within a 10-minute walk of home. The ParkServe® platform measures and analyzes current access to parks in cities, towns, and communities nationwide. In the winter of 2018/2019, we will be updating this platform to include a first of its kind national urban heat island data layer that will allow users to identify top locations for cooling parks.

ParkScore®

<https://parkscore.tpl.org>

The Trust for Public Land's ParkScore® index is the most comprehensive rating system developed to measure how well the 100 largest U.S. cities are meeting the need for parks. Using an advanced GIS (Geographic Information System), ParkScore® provides in-depth data to guide local park improvement efforts

Parkology

<https://www.parkology.org/>

Parkology is a partnership between City Parks Alliance, National Recreation and Park Association, and The Trust for Public Land aiming to increase local stewardship and park creation by empowering communities and increasing connections to park leaders. Parkology provides expertise to raise awareness of the importance and impact of parks. We're devoted to fostering this online community to help you make positive changes in your neighborhood by leveraging knowledge, sharing local information, and strengthening the voice of people who love parks.

The Trust for Public Land's Climate-Smart Cities™ Program

<https://www.tpl.org/how-we-work/climate-smart-cities>

For more than 45 years, The Trust for Public Land has worked with cities to help make vulnerable communities more equitable, livable, and resilient to the effects of climate change. Through our Climate-Smart Cities program, we partner with city leaders and residents to design, fund, and build climate-smart parks and green spaces where they're needed most.

Climate-Smart Cities™ Report: The benefits of green infrastructure for heat mitigation and emissions reductions in cities

<https://www.tpl.org/quantifying-greenhouse-gas-benefits-urban-parks>

This report, developed in partnership with ICF International, outlines the greenhouse gas benefits of adding green space to an urban area and introduces methodologies for estimating potential greenhouse gas reductions.

The 10-Minute Walk Campaign

<https://www.10minutewalk.org/>

The Trust for Public Land, the National Recreation and Park Association, and the Urban Land Institute, are leading a nationwide movement to ensure there's a great park within a 10-minute walk of every person, in every neighborhood, in every city across America.

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