VANGUARD CITY URBAN FORESTRY SCALE-UP PORTFOLIO



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EXECUTIVE SUMMARY

Cities and other local jurisdictions are mobilizing nationally to assert the importance of our urban forests as critical infrastructure to protect communities from a rapidly changing climate. These local jurisdictions and many other groups have come together as the <u>Trees 4 Community Recovery</u> campaign to ask the federal government to significantly increase investments in urban forests as part of both protecting our communities and putting our economy in service of improving urban conditions, particularly in our most underserved and at-risk communities. A consortium of 9 "vanguard" cities have come together to develop a "Shovel Ready" scale-up roadmap for communities to rapidly expand and protect their urban forests as vital infrastructure to community protection and well-being as well as economic recovery through workforce development and jobs. Five of those cities have developed detailed scale-up strategies that are summarized here to show the scale of resources--both public and private, both local and federal--that will enable our communities to take this essential action. We call on the Administration and Congress to fully fund this vision as part of the larger strategy to create a sustained recovery that puts our country on a <u>better</u> foundation than the one we were on prior to this revealing crisis.

WHY URBAN FORESTRY IS A CRITICAL INFRASTRUCTURE INVESTMENT

This summer's shockingly extreme heat waves have driven temperatures up to 120°F in areas that have historically had relatively mild climates. Under these dangerous conditions, trees and cooling shade can save lives. Unfortunately, vulnerable community members – especially low-income residents and people of color – often live in areas where historic disinvestment has led to fewer trees and less healthy urban forests. Now more than ever in the past, we are witnessing the benefits of prior investments in urban forests and the immense and growing costs where we have not made those investments.

As recent reporting has summarized, it is now increasingly clear that investing in trees is one of the best ways to reduce heat-related deaths. From the recent New York Times article <u>"What Technology Could Reduce Heat Deaths? Trees."</u>

Trees can lower air temperature in city neighborhoods 10 lifesaving degrees, <u>scientists</u> <u>have found</u>. They also reduce electricity demand for air conditioning, not only sparing money and emissions, but helping avoid potentially catastrophic <u>power failures during</u> <u>heat waves</u>. "Trees are, quite simply, the most effective strategy, technology, we have to guard against heat in cities," said Brian Stone Jr., a professor of environmental planning at the Georgia Institute of Technology.



WHY VANGUARD CITIES?



Recognizing this immediate need and opportunity, a broad coalition of organizations and local governments has formed with the goal of dramatically increasing the scale of action and investment in urban and community forests at a federal and state level. This group, <u>Trees for Community Recovery</u>, has proposed a bold community urban forest/green infrastructure investment of \$4 billion to protect and expand urban forests, particularly in communities in the greatest need and at the greatest risk. Through their combined experience, they have demonstrated how these funds will create or sustain more than 100,000 jobs annually, plant more than 10 million urban trees, and support robust investments in workforce training and grants to community-based organizations.

For Congress and the Administration to be willing to consider such a significant initiative, it will need to have confidence that there is the capacity to utilize these resources quickly and effectively. To demonstrate the readiness to take such action, a group of cities and organizations with long histories of innovative and high-impact urban forestry experience have created a "vanguard" cities group. This set of cities has each worked with its local stakeholders and with each other to formulate "Shovel Ready" rapid scale-up strategies for urban forestry designed to both improve local resilience and create new economic opportunities – targeted first to the communities who have been historically underserved and those that are most vulnerable to current and future changes in climate. This group includes the following cities:

- Boulder, CO
- Chicago, IL
- Cleveland, OH
- Denver, CO
- Minneapolis, MN

- Newark, NJ
- Pittsburgh, PA
- Portland, OR
- San Francisco, CA

Each of these cities is ready to move quickly to implement an equity-centered urban forestry expansion strategy in collaboration with broad networks of public, non-profit, and private organizations. The following section provides a snapshot of the initiatives being prepared in five of these nine vanguard communities.



VANGUARD CITY STRATEGIES

DENVER-METRO URBAN FORESTRY COALITION



NEED/RATIONALE

- Urban areas in the region can be up to 23°F hotter than nearby rural areas; this is the <u>third biggest</u> <u>difference nationally between urban and rural temperatures</u>.
- Residents' health, especially in socioeconomically vulnerable areas, is increasingly threatened by extreme summer temperatures.
- The health of the region's urban forest is imperiled by disease and insects (including emerald ash borer) and increasing temperature extremes.
- Establishing healthy urban forests in the Denver Metro area requires more significant investments in planning and stewardship than in areas with more native forests and more consistent precipitation.
- Regional tree canopy needs to be expanded from 16% to over 30% to meet climate resilience goals.

OBJECTIVES

- Create 300 new tree care jobs over three years (100 per year); these jobs would be high-skill positions with family-sustaining wages and potential for growth.
- At least 150 people (50%) hired would represent groups that would help diversify and promote equity in the tree care workforce, including people of color, women, and people facing challenges to accessing job opportunities.
- Work with at least 10 neighborhood/community groups to reach 70,000 residents through equitydriven, culturally competent engagement with a focus on expanding tree planting and stewardship; train 1,000 community members to be urban forest stewards.
- Plant 60,000 new trees over three years (20,000 per year).
- Protect and maintain 75,000 trees over three years (25,000 per year).
- Mitigate risks from 12,000 hazard trees over three years (4,000 per year).

PARTNERS

"It is essential that we collaborate in order to define and achieve regional goals for urban tree canopy and the workforce needed to care for it in the long-term. This means that folks from local, state, and federal agencies need to be working together with each other and our non-profit and private sector green industry colleagues. We need to be sharing data, ideas, tools, networks, and dollars in ways that cultivate trust among partners and with the diverse communities we all serve and are a part of." -Dana Coelho, Urban & Community Forestry Program Manager, Colorado State Forest Service

PUBLIC	NONPROFIT	BUSINESS	ACADEMIC
 City of Denver City of Boulder City of Aurora City of Fort Collins CO Workforce Development CO State Forest Service US Forest Service Region 2 US Forest Service Denver Urban Field Station US Geological Survey 	 The Park People The Nature Conservancy The Trust for Public Land Groundwork Denver Mile High Youth Corps Second Chance Center Cross Purpose Lutheran Family Services CO Youth Corps Association American Forests Urban Drawdown Initiative 	 Tree Care Industry Association Davey Tree Expert Company Davey Resource Group Camber We Love Trees Utility Arborist Association Bartlett Trees 	 Front Range Community College University of CO Denver University of CO Boulder Colorado State University Hunter College (NY) Butte Community College (CA)





Figure 1. Urban Forestry Recommendations from Denver's "Game Plan for a Healthy City".

DENVER METRO CASE STUDY: URBAN FORESTS A VERY COST-EFFECTIVE FEDERAL INVESTMENT

Because of the enormous benefits they provide, municipalities, state governments, utilities, and private foundations are all ready to invest in urban forests. However, targeted federal investments are needed to ensure that local efforts can quickly scale up and succeed. In the case of Denver Metro, a \$37 million federal investment could leverage an additional estimated \$62.5 million in funding from local cities and counties, the State of Colorado, utility company investments in infrastructure protection, foundation support, and other community investments. This means the <u>federal investment would be matched nearly 2:1.</u> The federal investment in Denver Metro would be approximately \$200 per tree planted and \$20,000 per job created.



CHICAGO REGION TREES INITIATIVE



NEED/RATIONALE

- In the Chicago region, less affluent communities with lower tree canopy cover have higher rates of cardiovascular disease, poorer mental health, higher urban temperatures, and face greater threats from flooding.
- The region's tree canopy has very limited diversity creating opportunities for catastrophic losses; emerald ash borer has left 10 million trees dead or dying and invasive buckthorn is endangering native oak ecosystems.
- The City of Chicago has been losing tree canopy and many trees are not reaching maturity; more resources need to be dedicated to the selection, planting, and care of urban trees.
- The complexity of the region means the Chicago Region Trees Initiative plays a critical role as a convener (284 municipalities, 167 park districts, 125 townships, 7 forest preserve/conservation districts, 50 Chicago wards, and thousands of schools).
- Chicago Region Trees Initiative has already identified the highest-need areas along with potential
 planting sites and developed a regional Urban Forest Master Plan.

OBJECTIVES

- Engage 150 communities (municipalities, counties, townships, park districts, forest preserves and conservation districts, and schools); develop or improve urban forest policies in 100 of these communities.
- Engage 20,000 residents in training and programming to increase community stewardship.
- Plant and care for 75,000 trees.
- Remove 4,000 hazard trees.
- Help communities implement 75 urban forestry-related projects including pruning, tree inventories, management plans, etc.
- Design, engineer, install and maintain 200 acres of green infrastructure.
- Preserve, protect, and conserve 1,500 acres of forests.
- Hire 10 multilingual project managers and compensate 100 community advocates.
- Provide training to 450 community leaders on urban forest stewardship and policies.
- Provide job training for 400 people with 120 being placed in full-time, permanent tree care jobs.
- Improve expertise and skills of 200 individuals already working in fields related to urban forestry.

PARTNERS

- Chicago Park District

Forest Preserves of Cook County
 Illinois Arborist Association

- Illinois Green Industry Association

LEAD PARTNER ORGANIZATIONS IN CHICAGO REGION TREES INITIATIVE

Chicago Department of Public Health
 Chicago Metropolitan Agency for Planning

- Illinois Landscape Contractors Association

- Openlands
- Metropolitan Mayors Caucus
- Metropolitan Water Reclamation District
- The Morton Arboretum
- The Nature Conservancy
- TREE Fund
- USDA Forest Service

ADDITIONAL PARTNER ORGANIZATIONS IN CHICAGO REGION TREES INITIATIVE

GreenCorps, SCA, Conservation Corps, ILCA, Cook County Economic Development, Arborist Sector Partnership, Chicagoland Workforce Funders Alliance, Chicago Botanic Garden, neighborhood and community groups (Blacks in Green, Southeast Youth Alliance, Faith in Place, Homan Grown), tree care companies



BENEFITS OF TREE INVESTMENTS IN THE CHICAGO REGION



BENEFIT	ONE TREE	75,000 TREES	900,000 TREES
Air pollution removed	\$12.52	\$939,000	\$11,268,000
Carbon sequestered	\$3.64	\$273,000	\$3,276,000
Stormwater mitigated	\$2.98	\$223,500	\$2,682,000
Building energy savings	\$16.16	\$1,212,000	\$14,544,000
Reduced emissions from energy reduction	\$8.85	\$663,750	\$7,965,000
TOTAL	\$44.15	\$3,311,250	\$39,735,000



Figure 2. Sample maps from the Chicago Region Trees Initiative Prioritization Story Map. Layers used to identify priority areas are (a) current forest cover, (b) surface temperature, (c) air pollution, (d) flood susceptibility, and (e) vulnerable populations. Map (f) is an overall priority map based on a synthesis of maps (a-e).



SAN FRANCISCO PUBLIC WORKS AND STREET TREE SF



NEED/RATIONALE

- San Francisco currently has one of the smallest tree canopies of any major U.S. city.
- The city is projected to experience more extreme heat days and air quality hazards as a result of climate change; low-income communities of color will face the biggest health burdens from these impacts.
- Street trees are a key part of the city's climate resilience and adaptation planning; to fill its available locations for street trees, San Francisco needs to plant 30,000 new trees (increase from 125,000 to 155,000).
- Investments in San Francisco street trees will be particularly impactful in the long-term because the city fully funds maintenance for all street trees (\$19 million in annual public funding already approved by ballot measure in 2016).

OBJECTIVES

- Plant 18,000 new trees in three years; 6,000 trees per year (3,500 new trees and 2,500 replacement trees).
- 100% of trees will be planted in low-canopy areas and 60% will be planted in environmental justice communities that are predominantly low-income and face higher pollution exposure and public health disparities.
- Create 117 new full-time tree care positions with public, nonprofit, and private sector employers.
- Create 172 limited-term workforce development positions in public, nonprofit, and private sectors.
- 100% of workforce development jobs and training programs will prioritize BIPOC, low-income, and neurodiverse San Francisco residents, including people who have experienced homelessness or been incarcerated.
- Community engagement workers will be hired directly from low-income, low-canopy neighborhoods to lead culturally competent outreach.
- Create opportunities for citizen science and research collaborations to identify ways to improve urban forest health, especially for native oak trees.

Partners

WORKFORCE DEVELOPMENT	FORESTRY PROJECTS	COMMUNITY ENGAGEMENT	RESEARCH
 San Francisco Public Works Friends of the Urban Forest San Francisco Clean City SF Human Services Agency Climate Action Now 	 San Francisco Public Works Friends of the Urban Forest San Francisco Clean City Climate Action Now Neighborhood groups Private contractors 	 San Francisco Public Works Community organizations District supervisors 	 SF Dept of the Environment SF Urban Forestry Council UC Extension Program Additional education institutions





Figure 3. An alley in one of San Francisco's most socioeconomically vulnerable neighborhoods (the Tenderloin) was transformed by community members into a vibrant public gathering space dubbed "Tenderloin National Forest" by removing asphalt to plan a trees, gardens, and art installations.



CITY OF CLEVELAND AND THE CLEVELAND TREE COALITION



NEED/RATIONALE

- Based upon a 2019 assessment, the City of Cleveland's tree canopy is currently 18% and falling. The city loses 100 acres of canopy per year due to disease and death.
- The 2015 Cleveland Tree Plan is a roadmap to rebuild Cleveland's urban forest through partnership and establishes a unified vision, goals, and actions to achieve a healthy canopy.
- The Cleveland Tree Coalition is a partnership of over 40 organizations, businesses, and branches of local government which strives to create a healthy, vibrant, sustainable, and equitable urban forest by working collaboratively to implement the Cleveland Tree Plan.
- The City and Cleveland Tree Coalition are working to restore tree canopy cover to 30% by 2040. While Cleveland Tree Coalition member organizations are now planting close to 5,000 trees per year, meeting the goal would require the planting and successful establishment of at least 30,000 trees per year.
- The City of Cleveland's forestry department is understaffed and underfunded. Many thousands of trees need to be pruned to protect forest health, and thousands of hazard trees need to be removed.

OBJECTIVES

- Plant 60,000 trees over 3 years (10,000 in year 1; 20,000 in year 2; 30,000 in year 3).
- Plant 80% of trees in areas with low canopy and high socioeconomic vulnerability (use prioritization in Cleveland Tree Plan which includes tree canopy, stormwater retention, energy savings, urban heat island mitigation, health benefits, available vacant land, cooperation of large landowners, neighborhood support, and equity).
- Protect 30,000 trees over 3 years (10,000 per year).
- Remove 3,000 hazard trees over 3 years (1,000 per year).
- Create 300 new tree care jobs over 3 years (100 per year).
- 100% of new jobs and workforce training opportunities would be targeted to BIPOC and low-income residents.
- Work with Neighborhood Canopy Committees, Tree Steward volunteers, and community groups in low-canopy areas to engage residents and support tree planting and stewardship.

PARTNERS

URBAN FORESTRY SCALE-UP PORTFOLIO

WORKFORCE DEVELOPMENT	TREE CARE COMPANIES	NONPROFITS	PUBLIC AGENCIES
 Towards Employment Center for Employment Opportunities Cuyahoga Community College Student Conservation Association 	- Davey Tree Expert Company - Bartlett Tree Expert Company	 Western Reserve Land Conservancy Holden Forests and Gardens West Creek Conservancy Doan Brook Watershed Partnership Rid-All Green Partnership Black Environmental Leaders Environmental Health Watch Khnemu Foundation 	 City of Cleveland NEORSD Cleveland Metroparks Cuyahoga County Ohio Department of Natural Resources Cuyahoga Soil and Water Conservation District Cuyahoga Metropolitan Housing Authority



ADDITIONAL CLEVELAND TREE COALITION MEMBERS

AECOM, Alliance for the Great Lakes, American Forests, Black Environmental Leaders, Burten, Bell, Carr Development, Inc., Campus District, Case Western Reserve University, Catholic Charities Diocese of Cleveland, Cleveland Cavaliers, Cleveland Clinic, Cleveland Museum of Natural History, Cleveland Neighborhood Progress, Cleveland Police Foundation, Cleveland Public Library, Cleveland State University, Cudell Improvement Inc., Cuyahoga Land Bank, Cuyahoga River Restoration, Dominion Energy, Environmental Design Group, Environmental Health Watch, Forest City Ecological Services, Green Ribbon Coalition, KeyBank, Lake Erie Nature & Science Center, Lakeview Cemetery, LAND Studio, MidTown Cleveland, Northeast Ohio Areawide Coordinating Agency (NOACA), Ohio Landscape Association, Ohio State University Extension, Old Brooklyn Community Development Corp., Organic Connects, PwC, Rooted In Trees, University Hospitals, Western Reserve Eco Network



Figure 4. Rid-All Green Partnership Tree Sale Cleveland, Ohio .



Figure 5. Western Reserve Land Conservancy Community Tree Program, Cleveland, Ohio.



PITTSBURGH SHADE TREE COMMISSION'S EQUITABLE STREET TREE INVESTMENT STRATEGY



NEED/RATIONALE

- The City of Pittsburgh has lost over 1,000 acres of tree canopy just since 2015.
- Urban forest resources and tree canopy are unevenly distributed; African American and low-income neighborhoods have the fewest trees.

OBJECTIVES

- Plant 100,000 trees by 2030 with a focus on increasing tree equity in African American and lowincome neighborhoods.
- Remove 900 hazard trees over three years (300 per year).
- Protect 60,000 trees over three years (20,000 per year).
- Build a bigger tree care workforce, both private sector and municipal forestry staff.
- Create green jobs in disadvantaged neighborhoods.
- Foster a sense of investment and ownership of trees through community-driven project design and implementation.

PARTNERS

PITTSBURGH SHADE TREE COALITION PARTNERS

- City of Pittsburgh
- Tree Pittsburgh
- Western Pennsylvania Conservancy
- Cambium Carbon
- Pennsylvania DNCR

- Penn State Extension
- Davey Resource Group
- One Tree Per Child
- Pittsburgh Parks Conservancy
- Landforce



Figure 6. Pittsburgh Urban Forestry.



MINNEAPOLIS

NEED/RATIONALE



- Climate change is threatening residents of Minneapolis today, with hotter temperatures, destructive storms, extreme precipitation events, flooding, and degrading ecosystems. Our least economically advantaged neighborhoods are impacted the most due to worsening heat island effects, more frequent flooding, and increased particulate air pollution. Scientists predict these effects will worsen considerably in the coming decades.
- A key strategy for mitigating the effects of climate change is to expand tree canopy coverage. Trees sequester carbon, capture stormwater, filter air pollutants, cool streets and buildings, and provide wildlife habitat. Minneapolis' tree canopy isn't growing. Coverage decreased 4% between 2009 and 2015, and the Emergency Tree Levy enacted in 2013 to increase tree planting to replace trees killed by Emerald Ash Borer expires in 2021. Without additional funding, no net increase of trees is planned for Minneapolis' public tree canopy.
- The City of Minneapolis developed a Climate Action Plan in 2013, declared a Climate Emergency in 2019, and Hennepin County issued a Climate Action Plan in March 2021. Minneapolis requires new funding sources to increase at scale its ability to plant and maintain more trees.

OBJECTIVES

- Plant 30,000 trees in three years; 10,000 trees per year (7,000 new trees and 3,000 replacement trees).
- 70% of trees would be planted in environmental justice communities (Green Zones) and other areas with low canopy and high socioeconomic vulnerability.
- Protect and maintain 30,000 trees over 3 years (10,000 per year) with a focus on trees that are vulnerable to heat and drought.
- Work with 10 established community organizations that are already working to expand tree planting in BIPOC communities.
- Increase percentage of native and adapted tree species planted on public land to improve habitat for pollinators and wildlife.

PARTNERS

POTENTIAL MINNEAPOLIS PARTNERS

- Minneapolis Park and Recreation Board
- Green Minneapolis
- Summit Academy
- Northgate Business Center
- Lao Assistance Center
- Oromo Community Center
- Migizi American Indian Youth Center
- Minneapolis Solid Waste and Recycling

- Minneapolis Park and Recreation Board
- University of MN, Duluth Natural Resources Research Institute
- Tree Trust
- University of MN Twin Cities
- The Trust for Public Land
- The Parks Foundation
- The Nature Conservancy



Figure 7. Urban Tree Planting in Downtown Minneapolis, MN.



RESOURCE NEEDS AND TIMEFRAME



Effectively expanding urban forests in ways that achieve the critical equity-centered community protection and well-being objectives that are at the heart of federal infrastructure investment will require far more than simply buying and planting trees. It will also require significant engagement with affected communities, extensive coordination with workforce and economic development organizations, and coordination across multiple departments and public agencies. An important contribution of the Vanguard Cities initiative is the development of a full accounting of these essential development investments that are integral to successfully expand and sustain urban forests. The table below provides a condensed overview of a much more extensive budget analysis developed by each Vanguard City.

Table 1. Five City Urban Forest Expansion Budget (3 Years).

DENVER	CHICAGO	SAN FRANCISCO	CLEVELAND	PITTSBURGH	FIVE CITY TOTAL
\$99,877,500	\$101,499,999	\$67,139,775	\$129,000,000	\$66,750,000	\$397,127,499

Table 2. Five City Budget by Major Investment Area (3 Years).

FORESTRY PROJECTS - \$299,299,999	WORKFORCE DEVELOPMENT - \$73,572,500	
 Support for Mapping and Identifying Focal	 Job Training Programs Community Staff Training Support for Nonprofit Pre-Apprenticeship Career	
Areas Trees + Materials for Planting Implementation of Operations Review	Exploration Development of Urban Forestry Certification Program Stipend for Certification Program Participants Tuition Support for Certification Program Participants Transitional Support for Tree Care Company Hires Training for Tree Care Companies (DEI, Supervisor	
Recommendations Support for Tree Establishment (watering) Support for Community Tree Care Programs Support for Tree Protection Projects Support for Hazard Tree Removal Installation of Additional Green Infrastructure Forest Conservation Support for Expanding Local Nursery Capacity	Training) Tuition Support for Apprenticeship	
OVERSIGHT & ADMINISTRATION	COMMUNITY ENGAGEMENT	
\$19,110,000	\$5,145,000	
- Program Coordinator, Support Staff, Legal - Translators - Partner Participation + Project Managers - Community Advocates	 Neighborhood Canvassing Training Events and Stewardship Outreach Workforce Outreach in Focal Areas Forestry Project Opportunity Assessments, Planning, Policies 	

LEVERAGE

The budgets described above include significant local investments. To demonstrate the scale of leverage anticipated in each location, the table below shows projected match funding to be generated in the Denver-Metro region.





Table 3 Example: Non-Federal Investment Leverage - Denver-Metro Initiative

Example: Non-Federal Investment Leverage - Denver-Metro Initiative	YEAR 1	YEAR 3
Municipal Cost-Share (10 cities)	\$5,000,000.00	\$15,000,000.00
County Cost-Share (3 Counties)	\$3,000,000.00	\$10,000,000.00
State Support	\$5,000,000.00	\$15,000,000.00
Utility Infrastructure Protection	\$3,000,000.00	\$15,000,000.00
Philanthropic Support	\$1,000,000.00	\$5,000,000.00
Community Investment	\$500,000.00	\$2,500,000.00
Total	\$17,500,000.00	\$62,500,000.00

In the case of Denver Metro, a \$37 million federal investment could leverage an additional estimated \$62.5 million in funding from local cities and counties, the State of Colorado, utility company investments in infrastructure protection, foundation support, and other community investments. This means the federal investment would be matched nearly 2:1.

