

COLORADO FRONT RANGE URBAN FORESTRY EXPANSION STRATEGY

JULY 2021

SUMMARY





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EXECUTIVE SUMMARY

As part of a national initiative, the [Trees 4 Community Recovery](#) campaign, a broad consortium of organizations across the northern Front Range have worked together over the past six months to formulate a three-year “shovel-ready” urban forestry scale-up strategy for the larger Colorado Front Range area. This strategy outlines an approach for dramatically increasing both tree planting and tree protection over three years.

Strategy Objectives

- **Workforce Development:** Create 300 new living wage urban forest workforce positions with 50% of these hired from BIPOC and historically underserved communities; an additional 90-120 people will receive workforce readiness training.
- **Forestry Projects:** Plant 60,000 new trees; protect and maintain 75,000 additional trees; and mitigate risks from 12,000 hazard trees (1).
- **Community Engagement:** Work with at least 10 neighborhood and community groups to reach 70,000 residents through equity-driven, culturally competent engagement focusing on tree planting and stewardship; train 1,000 community members to be urban forest stewards.

The overall goal of this initiative is to support communities throughout the Colorado Front Range area in significantly increasing urban tree canopies - with a focus on equity for those communities that are in the most danger from extreme heat and other impacts of climate change. This initiative is projected to cost a total of \$33 million per year over 3 years with over half of these funds leveraged locally.

WHY URBAN FORESTRY IS A CRITICAL INFRASTRUCTURE INVESTMENT

The shockingly extreme heat waves that have descended upon huge parts of the “normally” temperate West and Northwest have driven temperatures close to 120°F and led to hundreds of deaths among those most exposed. In urban areas, there have been temperature differentials of as much as 30°F between areas where tree canopy provides shade and areas without trees. Now, more than ever, we are witnessing the benefits of prior investments in urban forests and the immense and growing costs where we have not made those investments.

The Colorado Front Range area is very likely to face increasingly dangerous high temperatures, along with flooding and drought, as a result of climate change (2).

(1) We assume 80% of the trees would survive 25 years. To promote survival, the cost of tree planting in this strategy includes support for tree establishment, including three years of watering.

(2) [Bianchi, Chris. 2020. How often does it hit 100 degrees in Denver? The Denver Post](#), [Saunders et al. 2017. Future Extreme Heat in the Denver Metro Area](#)

These impacts will disproportionately affect the region's most vulnerable residents, especially low-income communities and people of color. Currently, tree canopy covers about 16% of the Colorado Front Range region (3). In the Front Range, a great deal of the urban canopy that is currently helping to moderate the impacts of climate change only exists because of human intervention. Significant investments in urban and community forestry are especially critical because forests do not grow naturally in much of the region.

Unfortunately, tree canopy is often much more limited in socioeconomically vulnerable areas, leaving major gaps in "[tree equity](#) (4)." Threats to the region's urban forests include aging and poorly maintained trees, development pressure, climate change (drought, fires, flooding, and increasing temperature extremes), and impacts from disease and insects, including emerald ash borer. City and county goals call for increasing tree canopy to 20-30%, which would require a dramatic increase in funding to protect existing trees and to plant millions of additional trees. Protecting existing trees is especially crucial because newly planted trees do not provide their full benefits for 20 to 30 years (5).

TRANSFORMATIVE ACTION IN COLORADO'S FRONT RANGE

Mayors from across the Front Range recently signed a letter requesting that the Biden Administration significantly increase federal investments in urban forestry. Simultaneously, a broad consortium of organizations and urban forestry officials from across the Front Range began work on this urban forestry expansion strategy in collaboration with six other "vanguard" cities across the US. The Colorado Front Range area is uniquely poised to take advantage of potential investments in its urban forests. A large and diverse coalition of partners in the Colorado Front Range area have already begun working together on an ambitious long-term vision and practical short-term implementation approaches to equitably expand and protect the region's urban forests. Over 40 partners representing local businesses, nonprofits, municipalities and public agencies, and academic institutions have been engaged in a series of consensus-building meetings in the spring and summer of 2021.

Together these partners have the skills and expertise to dramatically and strategically expand the region's urban forest - and improve its long-term health. The strategy outlined here focuses on the most important near-term objectives with an eye to a transformative long-term equity-driven vision that can help ensure that the region is vibrant and livable far into the future.

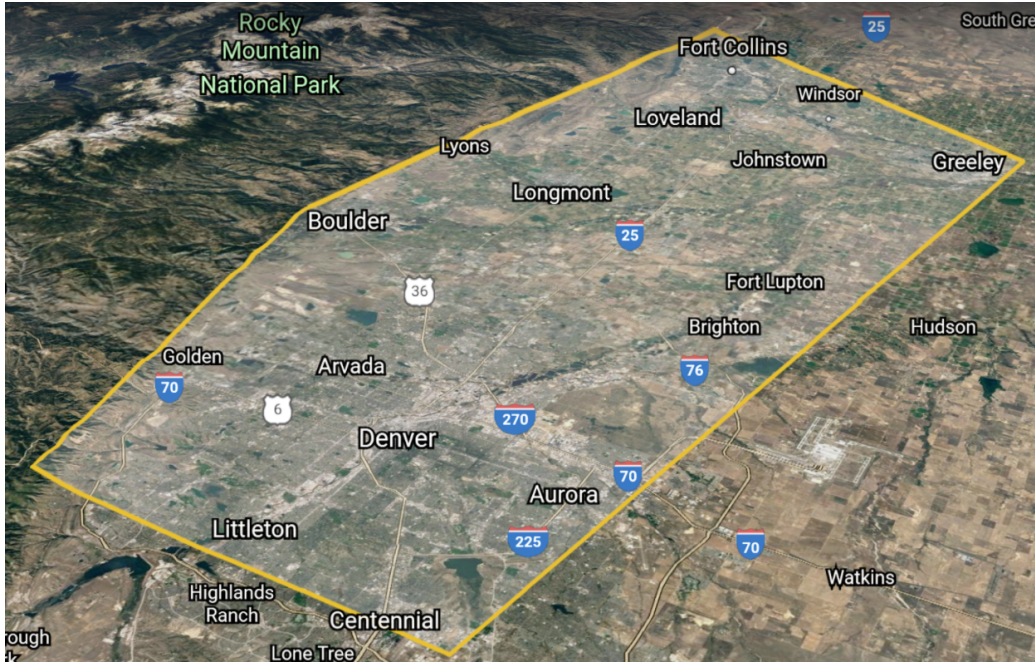
(3) 14% is from i-Tree and 16% is from the 2013 Urban Forest Assessment

(4) [Tree Equity Score](#)

(5) Threats to the region's urban forests include aging and poorly maintained trees, development pressure, climate change (drought, fires, flooding, and increasing temperature extremes), and impacts from insects and disease.

Emerald ash borer was first found in Colorado in the fall of 2013, and ash trees represent about 15% of the trees in the Metro area (Colorado State Forest Service).

FIGURE 1. COLORADO FRONT RANGE INITIATIVE PARTICIPATING MUNICIPALITIES



COLORADO FRONT RANGE STRATEGY OVERVIEW

The strategy has four major components 1. workforce development; 2. identification of priority forestry projects; 3. community engagement; and 4. research to support project siting, design, and assessment of benefits. The first three of these components are described in more detail below. Prioritizing social and environmental justice and equity is a focus of each aspect of the strategy, as is increasing resilience to climate change. Figure 2 shows the overall approach to developing the urban forestry expansion strategy. Table 1 shows key partners by sector.

FIGURE 2. STRATEGY DEVELOPMENT PROCESS

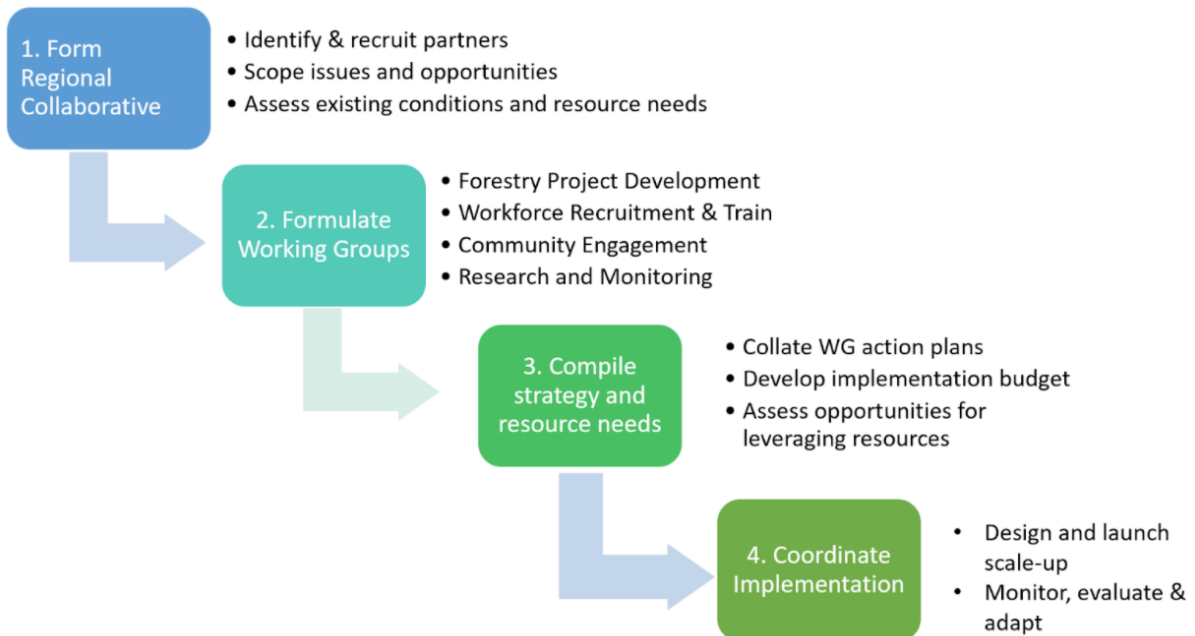


TABLE 1. KEY PARTNERS BY SECTOR

PUBLIC	NONPROFIT	BUSINESS	ACADEMIC
<ul style="list-style-type: none"> - 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 Urban Field Station - US Geological Survey 	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - Tree Care Industry Association - Davey Tree Expert Company - Davey Resource Group - Camber - We Love Trees - Utility Arborist Association - Bartlett Trees 	<ul style="list-style-type: none"> - Front Range Community College - University of CO Denver - University of CO Boulder - Colorado State University - Hunter College (NY) - Butte Community College (CA)

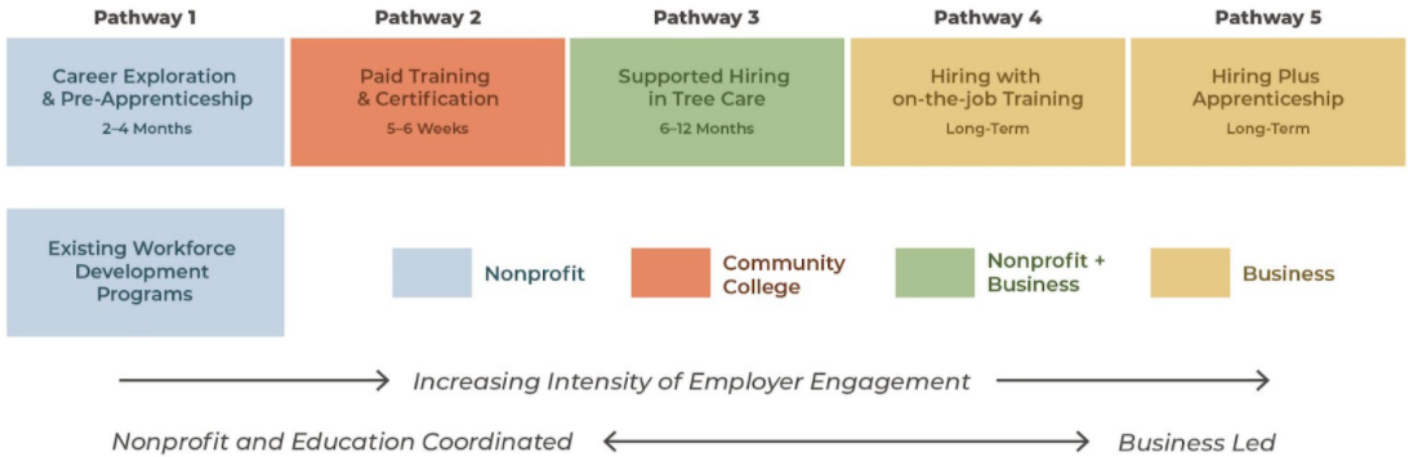
1. WORKFORCE DEVELOPMENT

Partners will work together to establish five pathways into full-time positions with tree care companies or municipal forestry programs. The pathways build on each other, and participants could move from one to another - or begin with Pathway 3, 4, or 5. All five pathways will prioritize: 1. Providing the training necessary for professional growth and long-term success in the tree care industry; and 2. Expanding equity and diversity in the tree care workforce by supporting career preparation and wraparound services as needed.

1. **Pathway 1: Career Exploration and Pre-Apprenticeship.** Participation in a 2-4 month paid nonprofit-run pre-apprenticeship program that provides wraparound services.
2. **Pathway 2: Paid Training and Certification.** Enrollment in a 5-6 week program that leads to professional certification recognized by the Tree Care Industry Association.
3. **Pathway 3: Supported Hiring for Permanent Tree Care Jobs.** Hiring for permanent tree care jobs with 6-12 months of transitional support/wraparound services provided by nonprofits.
4. **Pathway 4: Hiring for Permanent Jobs with On-the-job Training.** This pathway represents the typical existing hiring and training pathway for tree care companies; it could be supported through additional training for employers and supervisors to help improve recruitment and retention with a focus on increasing workforce equity and diversity.

5. Pathway 5: Hiring for Permanent Jobs with Apprenticeship. This pathway represents a commitment from employers to support educational expenses and one-on-one mentoring from a journeyworker. This pathway could be supported by additional training for supervisors and by funding for community college tuition.

FIGURE 3. WORKFORCE DEVELOPMENT PATHWAYS



2. FORESTRY PROJECTS

Each local jurisdiction will lead the development and implementation of their projects. Supporting them will be an advisory group made up of the Colorado State Forest Service, regional government organizations, municipal foresters and municipal planning or sustainability/resilience staff, along with key nonprofit organizations. The overall process for identifying and implementing forestry projects will involve several elements:

1. Convening an advisory group
2. Developing a preliminary approach for priority-setting with available data for year 1 projects
3. Coordinating with additional jurisdictions and partners (including Xcel Energy)
4. Developing a regional approach for priority-setting once new regional LiDAR data is available (in fall 2021) for year 2 and 3 projects
5. Collaboration to leverage additional funding and resources to implement projects
6. Implementation of projects by municipalities, nonprofits, and tree care companies

Local jurisdictions and the advisory group will identify the highest need areas based on where there is:

1. Relatively low canopy;
2. High socioeconomic vulnerability (including health inequity); and
3. High environmental vulnerability (poor air quality, high risk from heat and flooding)

Tree planting will involve diverse environmentally-adapted tree species. Native species will be included, but would not be sufficient to provide species diversity for a healthy, resilient forest in the long-term. Tree planting and protection work will be done by crews from nonprofit organizations, private tree care companies, and municipal forestry teams in coordination with workforce development efforts. Nonprofit crews will focus on tree planting, hand pruning, and other less technical stewardship work such as watering and mulching. Tree care companies and municipal teams will do more technical maintenance, including work requiring tree climbing and removal of large hazard trees. There will be targeted recruitment of residents in high-need areas for available positions with nonprofits and tree care companies.

3. COMMUNITY ENGAGEMENT

Equity-driven community engagement will be central to both the workforce development and forestry project efforts. An equity-focused workforce development task force will be convened, including paid representatives from community organizations. Specific community engagement and outreach will be done to help ensure that residents in high-need areas are aware of job opportunities and feel welcome applying for positions associated with the workforce development program.

Community engagement for forestry projects will include: 1. Community-driven opportunity assessments in priority high-need areas; 2. Extensive education and outreach related to planting sites on private land; and 3. Outreach and training for community participation and leadership in tree stewardship. Key elements of equity-driven engagement will include:

1. Working with forestry advisory group and municipalities to identify highest-need areas with a focus on socioeconomic vulnerability, health equity, and environmental justice
2. Convening an equity-focused workforce development task force with paid community representatives
3. Identifying and funding at least 10 culturally-competent community organizations and individual community liaisons to help lead engagement with support of experienced local nonprofits
4. Investing resources in translation and language justice to reduce language barriers in outreach
5. Using initial investments to work toward sustained, long-term engagement to support community empowerment and tree stewardship

Engagement efforts will involve collaboration of nonprofit staff, municipal forestry staff, and community liaisons. Because of legitimate concerns about legal and financial liability for trees, in some areas it may be difficult to identify large numbers of residents willing to plant trees on their property. Groups such as The Nature Conservancy, Trust for Public Land, Park People, and Groundwork Denver have been working with community leaders to identify strategies to address these issues and build community trust and ownership over these types of projects. Long-term expansion and stewardship of the urban forest, especially in high-need areas, will be very time and resource intensive and will require strong partnerships among municipalities, nonprofits with green infrastructure and community engagement expertise, and culturally-competent community organizations.

RESOURCE NEEDS

Table 2 shows the proposed budget for the Colorado Front Range Urban Forestry Expansion Strategy. Table 4 shows a potential breakdown for strategy funding, including funding leveraged from local, state, federal, business, and philanthropic sources.

TABLE 2. BUDGET FOR COLORADO FRONT RANGE URBAN FORESTRY EXPANSION STRATEGY

Strategy Component	Cost (1 Year)	Cost (3 Years)
Oversight and Administration	\$160,000	\$480,000
Workforce Development	\$2,347,500	\$6,822,500
Forestry Projects	\$29,850,000	\$89,350,000
Community Engagement	\$1,035,000	\$2,955,000
Research	\$500,000	\$1,500,000
OVERALL TOTAL	\$33,892,500	\$101,107,500

TABLE 3. POTENTIAL FUNDING BREAKDOWN

Funding Source	1 Year	3 Years
Municipal	\$5,000,000	\$15,000,000
County	\$3,000,000	\$10,000,000
State Support	\$5,000,000	\$15,000,000
Utility Infrastructure Protection	\$3,000,000	\$15,000,000
Philanthropic Support	\$1,000,000	\$5,000,000
Community Investment	\$500,000	\$2,500,000
USFS National Research Initiative	\$500,000	\$1,500,000
Additional Federal Funding	\$15,892,500	\$37,107,500
Total	\$33,892,500	\$101,107,500

APPENDIX A. LIST OF PARTNERS ENGAGED

The people listed below participated in calls or working group meetings as part of the development of this strategy. People who participated in meetings as part of multiple groups are shown in [blue](#). Forty-one people provided input for the Colorado Front Range strategy and many more (not listed here) were engaged as discussions related to the national Trees for Community Recovery effort.

Core Team

[Adrian Camacho, Forestry and Parks Superintendent, City of Aurora](#)

[Austin Troy, Professor of Urban and Regional Planning, University of Colorado Denver](#)

[Brett KenCairn, Urban Drawdown Initiative, City of Boulder](#)

[Brigitte Orrick, Director of Recruiting and Employee Development, The Davey Tree Expert Company](#)

[Christopher Hawkins, Urban Conservation Program Manager, The Nature Conservancy of Colorado](#)

[Cindy Chang, Executive Director, Groundwork Denver](#)

[Dana Coelho, Urban and Community Forestry Program Manager, Colorado State Forest Service](#)

[Dana Karcher, Area Manager/Project Developer, Davey Resource Group](#)

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[Jim Petterson, Colorado and Southwest Region Director, The Trust for Public Land](#)

[Kathleen Alexander, City Forester, City of Boulder](#)

[Kendra Boot, City Forester, City of Fort Collins](#)

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[Lindsay Cutler, Urban Forestry Program Associate, The Park People](#)

[Mike Swanson, City Forester, City and County of Denver](#)

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[Bob Rouse, Senior Vice President, Programs and Services, Tree Care Industry Association](#)

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Dan Kaskubar, Spur LLC and Activate Workforce Solutions
Emily Newman, CEO, Camber
Jamie Koehler Blanchard, Lutheran Family Services
Jim Skiera, Former Executive Director of International Society of Arboriculture
Josh Morin, Acting Chair, Tree Care Sector Partnership, We Love Trees
[Kim Yuan-Farrell, Executive Director, The Park People](#)
Larry Abernathy, liaison with Utility Arborist Association
[Lindsay Cutler, Urban Forestry Program Associate, The Park People](#)
Lynn Vosler, Director of Workforce Development, Front Range Community College
Meredith Stricker, Career Services Manager, Cross Purpose
Nicole Belhumeur, Recruitment Manager, Bartlett Trees
Renise Walker, Colorado Workforce Development
Sarah Anderson, Director of Career Pathways, American Forests
Scott Segerstrom, Executive Director, Colorado Youth Corps Association

Forestry Projects

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[Christopher Hawkins, Urban Conservation Program Manager, The Nature Conservancy of Colorado](#)
[Cindy Chang, Executive Director, Groundwork Denver](#)
[Dana Coelho, Urban and Community Forestry Program Manager, Colorado State Forest Service](#)
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[Jim Petterson, Colorado and Southwest Region Director, The Trust for Public Land](#)

Emily Patterson, Parks for People Program Director, The Trust for Public Land
Chandi Aldena, The Trust for Public Land
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Kenneth Bagstad, Research Economist, US Geological Survey, Geosciences and Environmental Change Science Center
Laura Dee, University of Colorado Boulder
Mehdi Heris, Hunter College
Melissa McHale, Colorado State University
Travis Warziniack, US Forest Service Denver Urban Field Station