

Urban Forest Master Plan



City of Dallas

Environment & Sustainability Committee

February 1, 2021

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Sustainability, City of Dallas

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Presentation Overview



Provide update on urban forest management :

Part I - Introduction

- General background and context
- Pathway to an Urban Forest Master Plan for Dallas

Part II -

- Overview of the Urban Forest Master Plan





PART I – Introduction to Current Dallas Urban Forest Programs



Dallas Tree-related Policy



- City efforts to address the urban tree canopy on public and private property have been underway since the 1980s
- Public property is regulated under federal, state and local regulations
 - Examples include National Environmental Protection Act, Clean Water Act, Section 404, and Texas Park & Wildlife Ordinance, TPDES City Stormwater Permit;
 - Article X, including Reforestation Fund;
 - Development Design Standards (i.e. Complete Streets, paving / drainage manuals, LEED criteria, etc.)



Dallas Article X Tree & Landscape Ordinance



- Initially in the late 1980's to focus on “protection and preservation of trees”;
- Updates presented to City Planning Commission in 2017 indicated transition of focus from tree preservation to tree conservation;
- Article X, Tree Ordinance 19455 was updated on June 27, 2018, and then in September 9, 2020, to allow re-planting after storms;
- 2018/2020 revisions to Ordinance Sec. 51.A-10.135 (h.)(2) included language relative to developing and implementing Urban Forest Master Plan to guide replanting efforts towards increasing overall canopy.





CECAP FY20-21 Actions: Ecosystems/Green Space



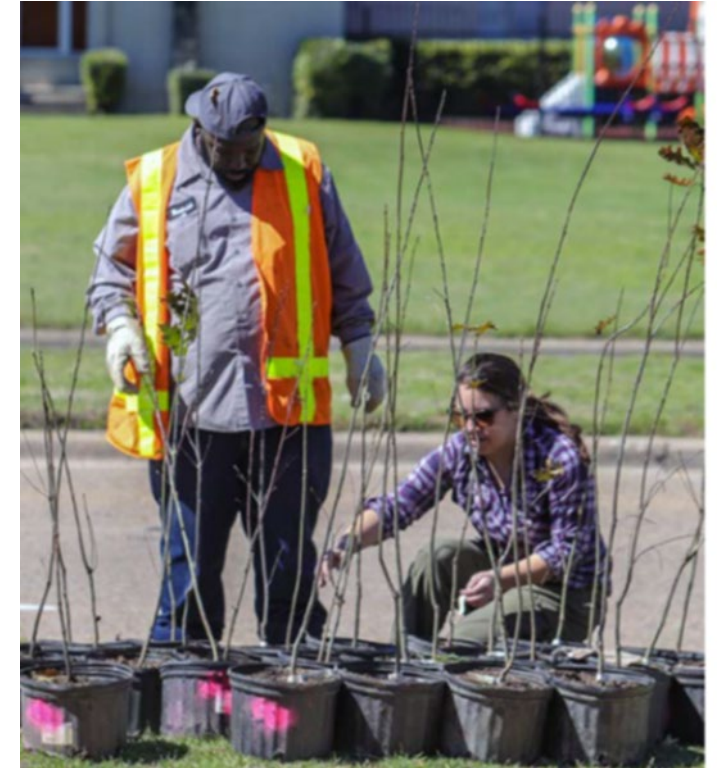
CECAP Action	Description	Lead Department
EG2	Assess opportunities for blue-green infrastructure to reduce flood risk	DWU, Sustainable Development
EG3	Increase tree canopy in both public and private realm to implement Urban Forest Master Plan	Sustainable Development, Parks, Public Works, DWU, OEQS
EG4	Collaborate with community organizations to promote tree-planting efforts, protect trees & prairies, and promote drought-tolerant landscapes	Sustainable Development, Parks, Public Works, DWU, OEQS
EG5	Update Parks O&M procedures to include eco-friendly practices	Park & Recreation
EG9	Continue partnering using nature-based solutions to address public health challenges	OEQS, Transportation



Current Tree-related Partnerships



- Formal appointed boards such as UFAC, CPC, Park Board and CECAP Environment & Sustainability Task Force
- Non-profit organizations such as Texas Trees Foundation, Master Naturalists, Trust for Public Lands, ReTree, Groundwork Dallas, etc)
- Public and quasi-public agencies such as US Army Corps of Engineers, Texas Forest Service, Texas Park and Wildlife, TXU, Oncor, etc



Background: Tree-related Initiatives



- Provide tree planting initiatives through new construction of public projects, maintenance and enhanced maintenance activities, as well as partnerships to provide trees on private property
- Extreme weather events of 2019 storms in June and October resulted in destruction of tree canopies across various parts of the City
 - Highlighted the desires of our partners to begin working towards updating and formalizing previous planning documents
 - Highlighted the loss of canopy resulting in potential opportunities to educate, preserve and restore across 400 square miles



The Pathway to the Plan



- Texas Trees Foundation reached out to City Managers Office in late 2018 to partner on a planning document for public and private initiatives related to the urban forest canopy
 - City contribution of \$50,000
 - Texas Trees Foundation \$230,000 (Texas Trees Foundation, Oncor & Lyda Hill Foundation)
- Project initiated through Technical Advisory Committee of City and external technical support, including UFAC and City staff working on urban canopy initiatives
 - Participants included City Manager's Office, OEQS, SDC, PKR, PBW, DWU and P+UD
 - External Focus groups held with landscape and arboricultural professionals
- Public Surveys held to attain community input into the plan
 - Summer 2020; ~600 respondents
- Technical Advisory Committee and City staff provided drafts in November 2019, January 2020, July 2020, and November 2020 for review and comment





PART II – Dallas Urban Forest Plan



Dallas Urban Forest Master Plan 2021

Texas Trees Foundation and The City of Dallas

A Walk in Dallas



A Walk in Dallas



A Walk in Dallas





AGENDA

01

Introduction

Trees in Dallas

02

Urban Forest
Master Plan

Understanding the
Importance of Urban
Forests in Dallas

03

Looking Forward

New Opportunities

01



Introduction

About Texas Trees Foundation

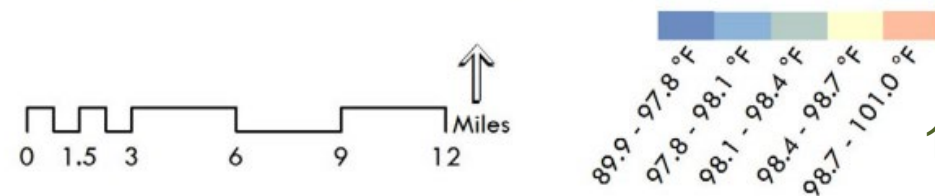
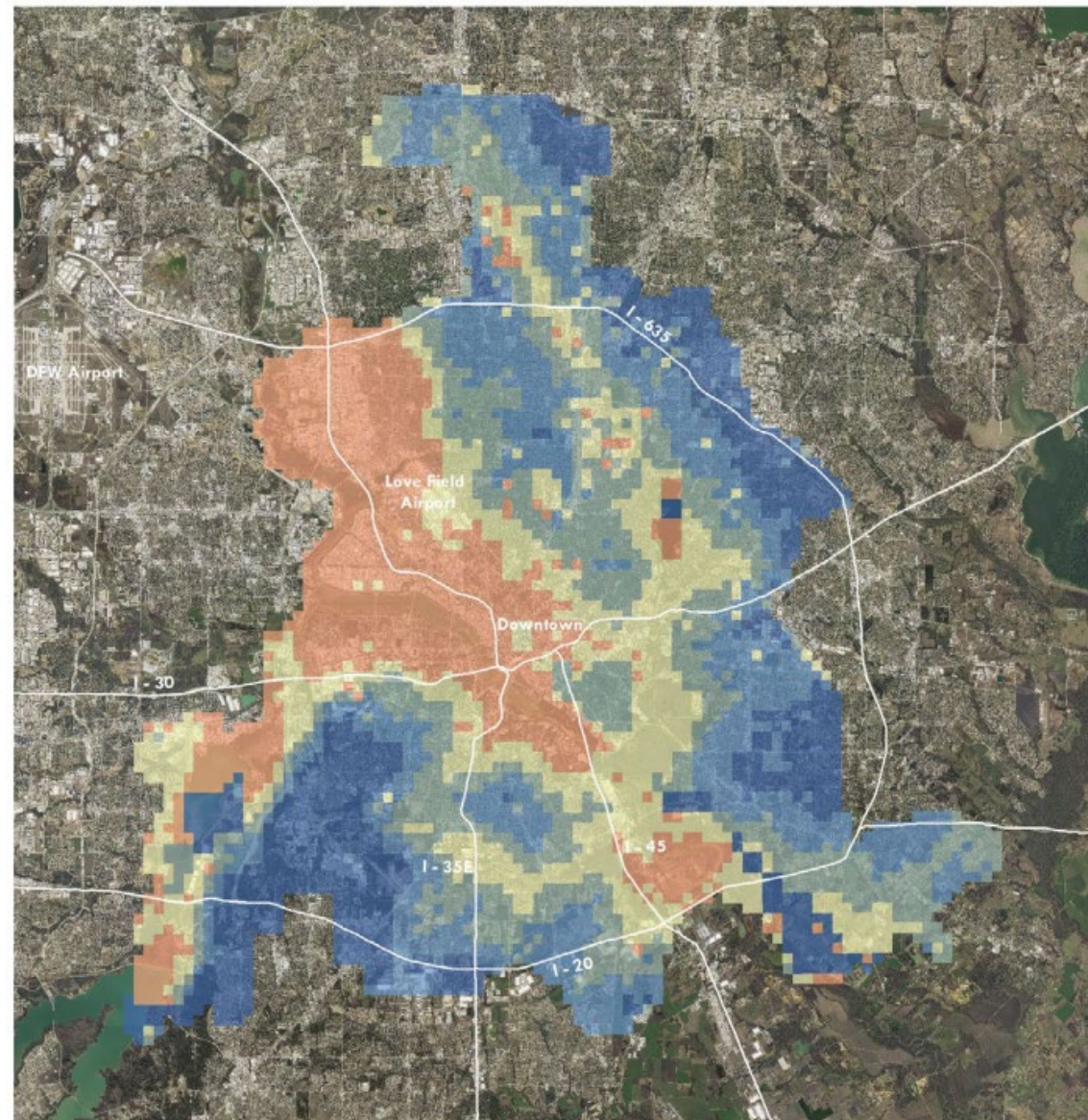
Originally founded in 1982 as the Dallas Parks Foundation, the **Texas Trees Foundation** has served as a catalyst in creating a new green legacy for North Texas through transformational, research-based plans that educate and mobilize the public to activate the social, economic, environmental, and health benefits that trees and urban forestry provide.

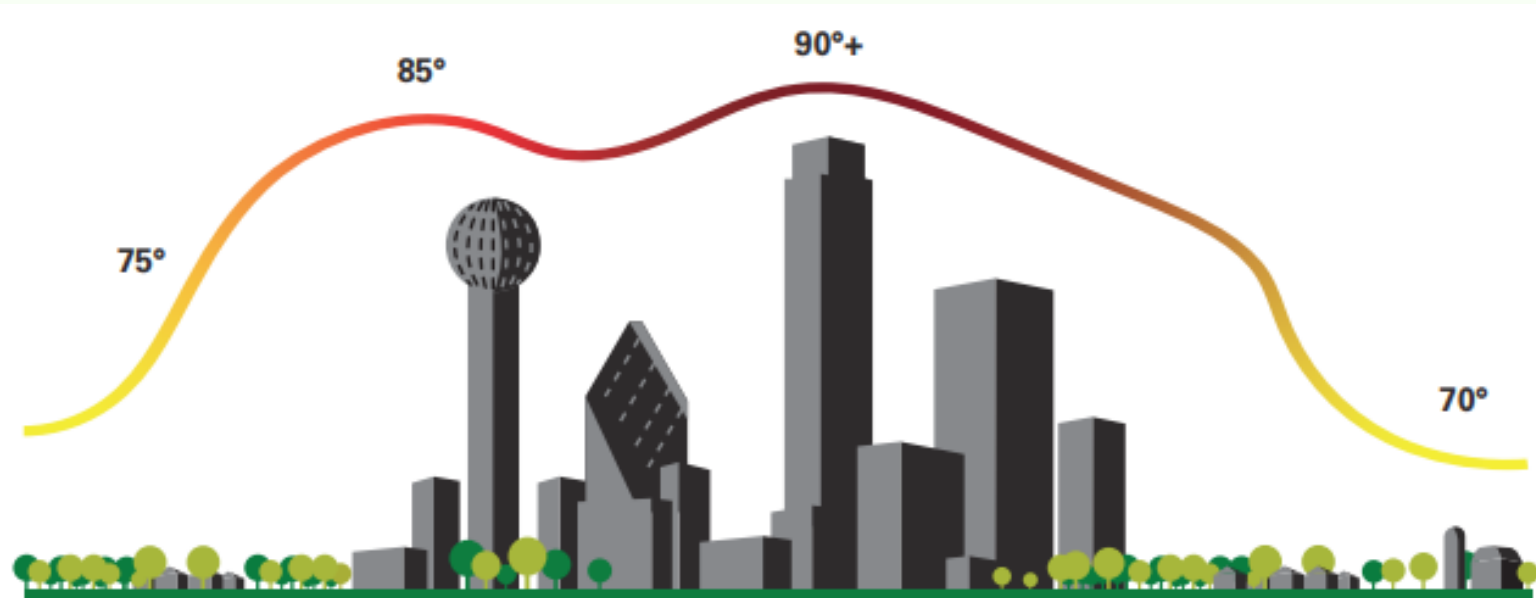
Problems Facing Dallas Residents

- Dallas Is Hot
- Dallas Is Growing Fast
- Dallas's Air is Hard to Breath

Residents' View: Role of the Urban Forest

1. Lessen effects of increasing temperatures.
2. Improve the quality of life for residents and visitors.
3. Enhance and improve community health and wellness.





The Urban Heat Island Effect

What is the Urban Forest?

- The sum of all woody and associated vegetation in urban and suburban settings
- Ecosystems within and around urban areas

Forests on a gradient: Rural → Suburban → Urban

- Examples of urban forests:
 - urban parks, street trees, landscaped boulevards, gardens, greenways, river corridors, wetlands, nature preserves

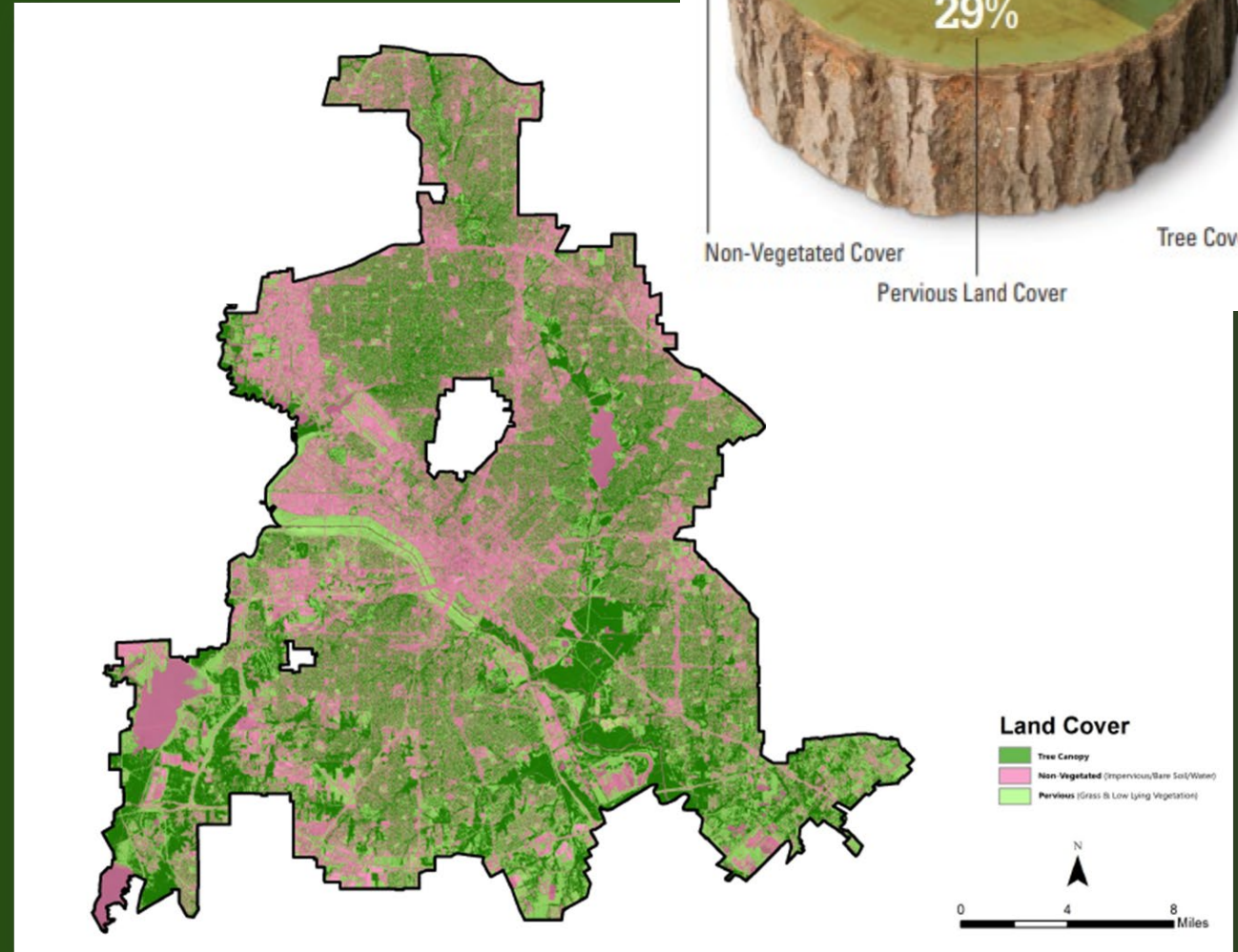


Urban Forestry

The art, science, and technology of managing trees and forest resources in and around urban community ecosystems for the physiological, sociological, economical, and aesthetic benefits trees provide society (Helms 1998).

Dallas's Urban Forest

- Percent tree canopy – 32%
- 14.7 million trees
 - Great Trinity Forest – 46%
 - Dallas at large – 54%
- CECAP canopy goal: 37% by 2040



Dallas's Great Trinity Forest

- 6,000+ acres
- Largest contiguous city-managed forest in the United States
- USACE Dallas Floodway Extension
- Managed under 2008 Great Trinity Forest Management Plan



Urban Forest Benefits

What do trees do for us?

- Capital asset that grows in value
- Regulate temperature
- Control storm water
- Purify water and air
- Beautify our communities
- Improve health outcomes
- Increase residential property values



Benefits of Urban Forests in Dallas

2016's tree canopy, reanalyzed 2020



Air Quality

CO, NO₂, O₃, SO₂,
particulate matter
\$9.9 million



Carbon

Sequestration
\$8.62 million



Stormwater

Avoided Runoff
\$221 million

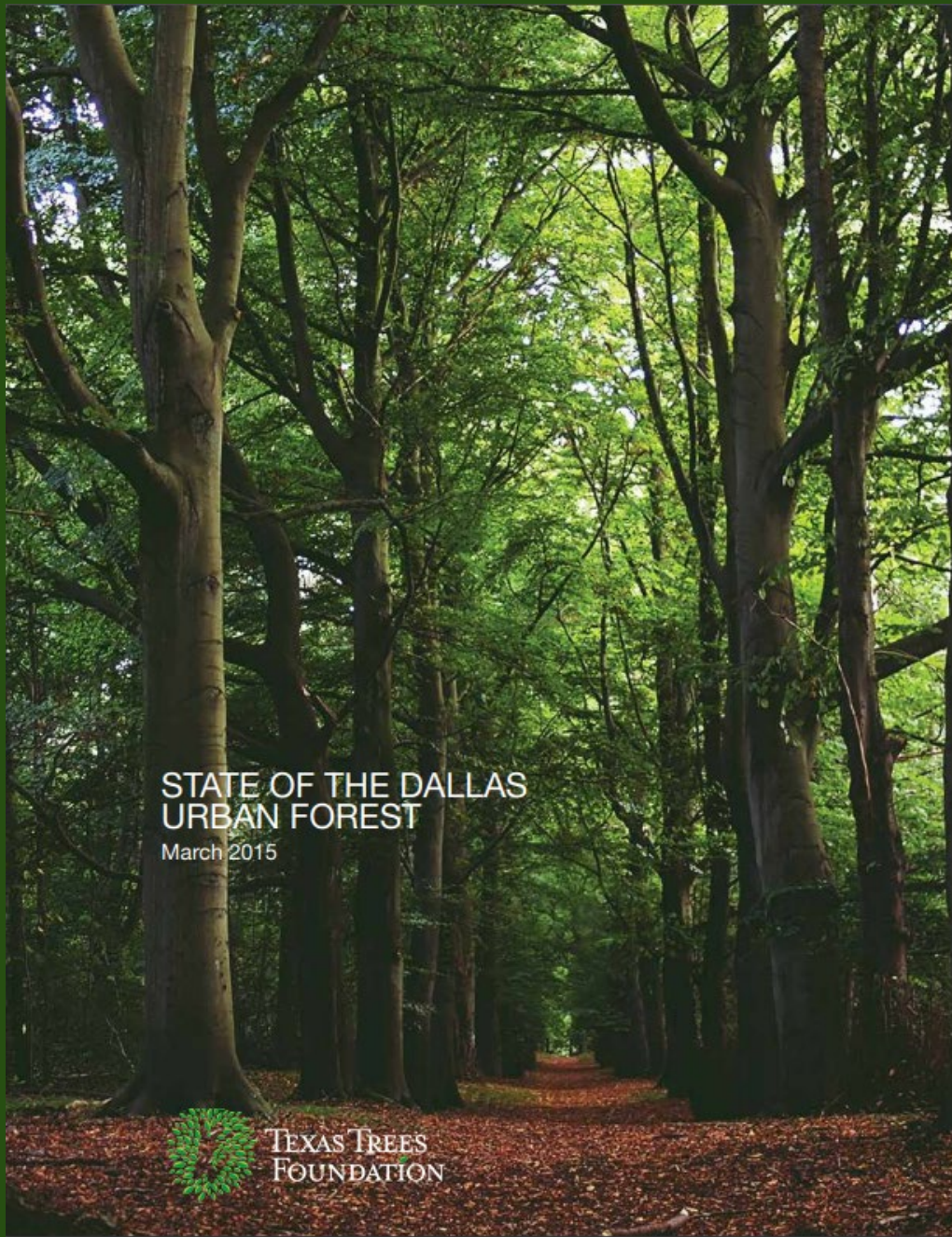
Annual: \$239 Million

Structural Value: \$9 Billion

Heat Mitigation

- Urban trees with reflective roofing and paving materials reduce summer afternoon temperatures by as much as **15°F**
- Every square meter of added tree canopy provides:
 - Cooling benefits **3.5** times greater than reflective roofing or paving
 - Shading protects infrastructure
- **Expanded tree canopy is the most effective strategy available for heat management in Dallas.**





STATE OF THE DALLAS URBAN FOREST

March 2015



TEXAS TREES
FOUNDATION



Urban Heat Island Management Study

Dallas 2017



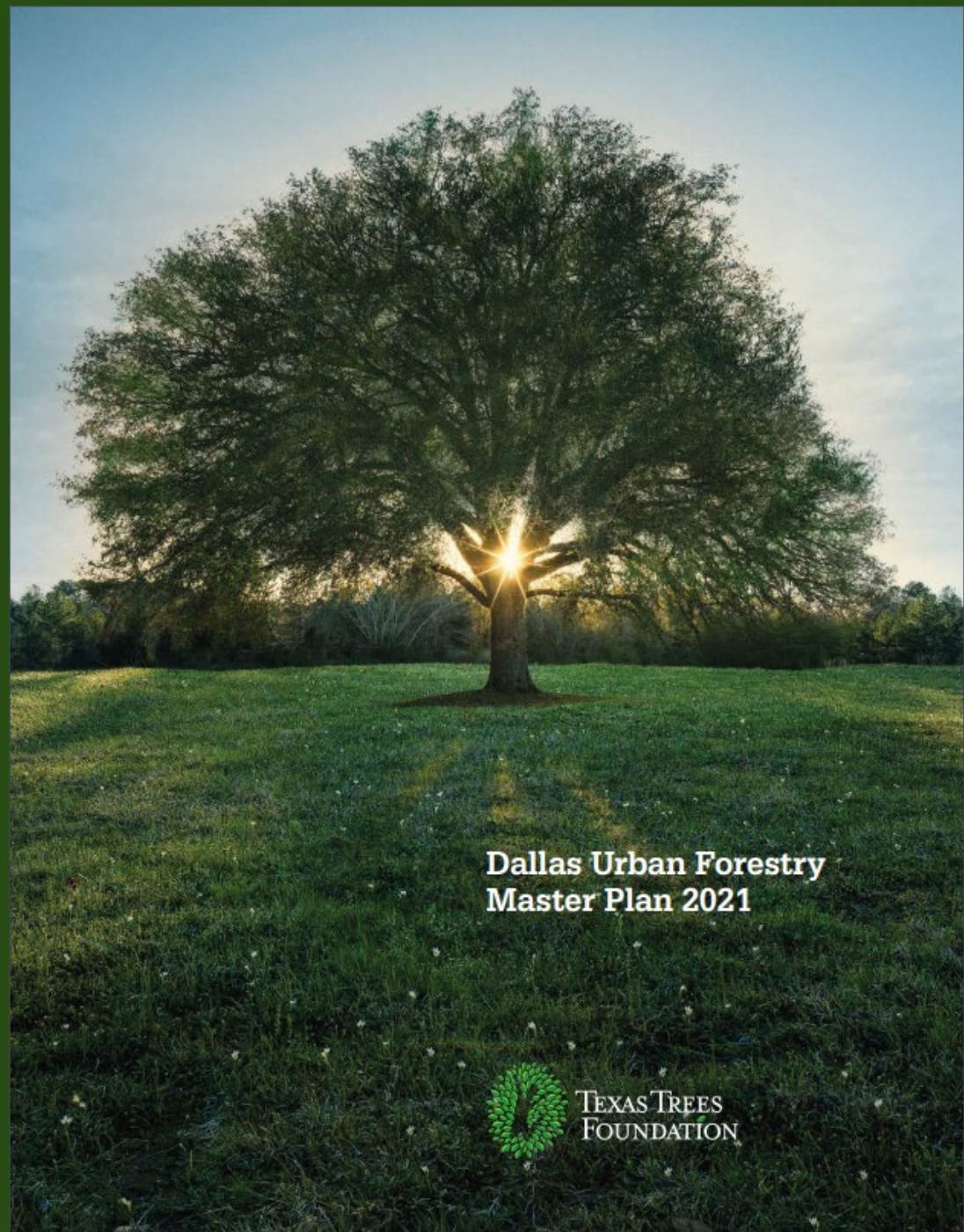
TEXAS TREES
FOUNDATION

02



Urban Forest Master Plan (UFMP)

Dallas's First UFMP



The Process

- Texas Trees Foundation
- City of Dallas
- Davey Resource Group
- Preservation Tree



The Result

- Priorities and Themes
- Guiding Principles
- Goals
- 14 Recommendations
 - Action steps
 - Short Term Targets



Recommendations and action steps will help Dallas to...

Plan – Manage – Protect – Grow – Engage

DALLAS URBAN FOREST MASTER PLAN GOALS

1. Create a healthy, equitable, and resilient urban forest through proper planning and implementation of management strategies that maximize the benefits that Dallas's trees provide.
2. Protect and grow tree canopy in Dallas to reduce temperatures, improve air quality, and address the most pressing challenges facing the city.
3. Achieve the Dallas Comprehensive Environmental and Climate Action Plan target of 37% tree canopy cover by 2040.
4. Actively engage with the community about the instrumental role they play in caring and growing Dallas's urban forest and making trees a priority.

RECOMMENDATION 1. Complete a comprehensive tree inventory of all right-of-way and park trees.			
Short-Term Target 1: Inventory 1/5 of Dallas’s Street and park trees by 2025.			
Action Steps		Timeframe	Priority for Implementation
First Step	Identify which City department(s) will manage and oversee collection of tree inventory data.	Immediate	1
1.A	Conduct a small pilot tree inventory in a neighborhood identified as having low canopy cover and high need based on the social equity and health data.		
1.B	Create a work plan and budget to complete tree inventory.		
1.C	Secure funding to complete tree inventory.		
1.D	Develop and release tree inventory bid; select consultant (if applicable).		
1.E	Prepare and implement plan to regularly update inventory as maintenance and tree planting occurs by ALL City departments.		

RECOMMENDATION 2. Centralize the City of Dallas’ urban forestry programs and activities.

Short-Term Target 2: Establish the urban forest working group by September 2021.

Action Steps		Timeframe	Priority for Implementation
First Step	Form an urban forestry working group with forestry staff from Park and Recreation, Public Works, Water Utilities, Sustainable Development, and Department Leadership.	Immediate	2
2.A	Explore options for centralizing City urban forestry programs and activities.		

RECOMMENDATION 3. Develop a Storm Response and Recovery Plan.			
Short-Term Target 3: Create storm response plan team by June 2021.			
Action Steps		Timeframe	Priority for Implementation
First Step	Create a team of City of Dallas staff that are involved in tree maintenance and representatives from the City and County emergency response departments to develop plan.	Immediate	3
3.A	Identify team lead and department that will oversee plan development.		
3.B	Utilize resources and planning guides to assist in developing the storm response and recovery plan.		

03

Looking Forward



OUR ASK:

- Briefing to Environment & Sustainability Task Force and Park Board with review of plan
- Consideration of Urban Forest Master Plan by ENVIS Committee and recommendation for City Council Adoption
- City Council Adoption
- Implementation of Recommendations in this UFMP

ACTION & MOMENTUM

- Perpetual action pursuing recommendations and goals
- Take Ownership, be a Champion!



A Walk in Dallas



Plan Sponsors

- The Lyda Hill Philanthropies
- Oncor
- City of Dallas

Plan Prepared by Davey Resource Group, Inc.

- Kerry Gray
- Dana Karcher

Project Team

- Zach Wirtz, Texas Trees Foundation
- Matt Grubisich, Texas Trees Foundation
- Susan Alvarez, City of Dallas
- Micah Pace, Preservation Tree (The Consulting Group)

Technical Advisors

- Janette Monear, President/CEO, Texas Trees Foundation
- Norm Daley, Director of Operations, Texas Trees Foundation

Contributing Organizations

- City of Dallas
- Dallas City Attorney's Office
- Code Compliance
- Dallas Water Utilities
- Public Works
- Office of Environmental Quality & Sustainability
- Park and Recreation
- Planning and Urban Design
- Sustainable Development and Construction
- AECOM
- Advanced Tree and Shrub Care, Inc.
- CCA Landscape Architects, Inc.
- Cross Timbers Urban Forestry Council
- Davey Tree Expert Company
- Dallas Urban Forest Advisory Committee
- Friends of Oak Cliff Parks

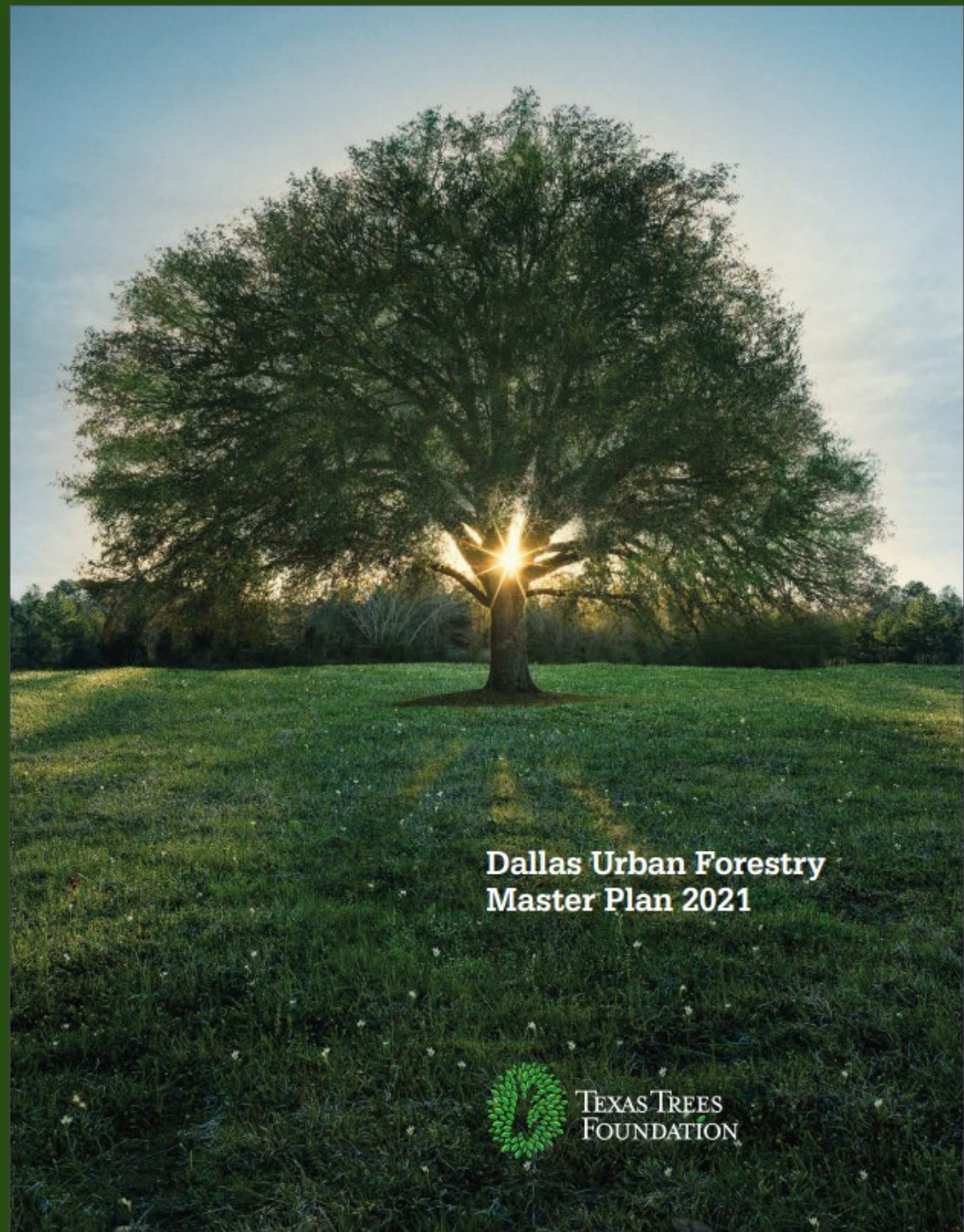
- Indian Trail Master Naturalists
- Landscape Forms
- Moore Tree Care
- North Central Texas Council of Governments
- Oncor
- Pacheco Koch
- Preservation Tree Services, Inc.
- RETREET
- SWA Group
- TBG Group
- Texas A&M Forest Service
- Texas Tree Surgeons
- The Nature Conservancy
- Trinity Park Conservancy
- Trinity Blacklands Urban Forestry Council
- Trust for Public Lands
- Urban Tree Harvest

Thank You to Our Project Sponsors and Supporters

Questions

Contact:

Zach Wirtz, Urban Forestry Manager
zach@texastrees.org



**Dallas Urban Forestry
Master Plan 2021**





APPENDIX I



Background: Article X Tree & Landscape Ordinance



(2) Administration.

(A) In general. Except as provided in this paragraph, the director shall administer the reforestation fund to purchase trees to plant on public property, to create an urban forest master plan and to update it periodically, to fund a staff position for managing and directing the fund for planting and urban forest education, or to acquire conservation easements or wooded property. A minimum of 50 percent of all funds provided for each fiscal year must be available for planting trees on public property or to acquire conservation easements or wooded property.

(B) Exception for natural deforestation events. In response to natural deforestation events, the director may administer the reforestation fund to purchase trees to plant on private property.



Current City Forest Programs



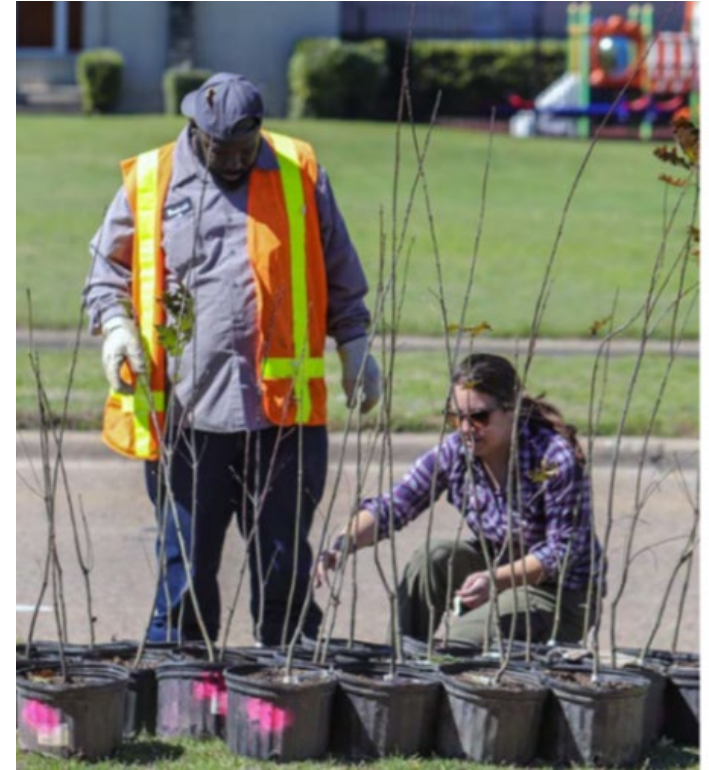
Department	Urban Forest FTEs	Urban Forest Annual Budget	Focus Areas
Dallas Water Utilities	NA	NA	Great Trinity Forest/Dallas Floodway Extension; O&M of city-owned channels and floodway management areas in coordination with PKR and PBW; Branch-Out Dallas
Park & Recreation	20 FTEs	~\$700,000	Tree O&M for 397 Park and Recreation properties; Branching Out Dallas
Public Works	6 FTEs	\$548, 656	Tree O&M for street median trees within roadway ROW; Mowmentum Program*; new trees in Complete Streets* (* Program services not reflected in budget)
Sustainable Development	5 FTEs	~\$400,000	Implementation of Article X, and Reforestation Fund

Background: Texas Trees Foundation



Advocating and Acting for Dallas' Urban Forest since 1982; planted ~300,000 trees in N. Texas:

- Pioneer Plaza (1991) and Katy Trail (2000)
- Urban Tree Canopy Studies (2015, 2019)
- State of the Dallas Urban Forest Report (2015)
- Urban Heat Island Management Study (2017)
- TXU Energy Tree Farm and Education Center (2000)
- Branching Out Dallas Partner (ongoing)
- Cool Schools Parks (with DISD and D-PARD) (ongoing)
- South West Medical District sustainable streetscape, corridor, and park design (ongoing)



Background: Urban Forest Advisory Committee



- Established in 2005 by Mayor Laura Miller to advise City Quality of Life Council Committee and the Park Board on tree issues;
- Pursue public and private grant monies for tree-planting and educational programs
- Provide public education on “right-tree/right place” and tree maintenance;
- Advocated for Article X, Tree Ordinance in June 2018
- Advocated for centralized Forestry Department
- Last presentation: Quality of Life Committee, May, 2016





APPENDIX II

Recommendations from the Urban Forest Master Plan

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3.A	Identify team lead and department that will oversee plan development.		
3.B	Utilize resources and planning guides to assist in developing the storm response and recovery plan.		

RECOMMENDATION 4. Strengthen and support existing relationships and partnerships.

Short-Term Target 4: Host the first Dallas Tree Summit in 2022.

Action Steps		Timeframe	Priority for Implementation
First Step	Identify all public, private, and non-profit organizations involved in urban forestry, natural resources, environmental justice, and equity efforts in Dallas.	Immediate	4
4.A	Build momentum around Dallas' urban forest and the UFMP by planning and hosting a "Dallas Tree Summit."		
4.B	Use the Dallas Tree Summit to identify ways to continue to engage, strengthen, and support existing relationships throughout the year.		

RECOMMENDATION 5. Work towards development of a City Urban Forest Management Plan.

Short-Term Target 5: Develop the first annual work plan for fiscal year 2022.

Action Steps		Timeframe	Priority for Implementation
First Step	Develop an annual urban forestry work plan, coordinated among the different City departments that conduct tree work, detailing the tree maintenance and planting activities.	Short-Mid Term	5
5.A	Identify City of Dallas department responsible for leading the development of the urban forest management plan and whether the plan will be written by City staff or an outside consultant.		
5.B	Utilize data from tree inventory to develop Urban Forest Management Plan.		

RECOMMENDATION 6. Ensure Dallas regulations, best management practices and guidelines are in place to support tree canopy growth, protection, and preservation.

Short-Term Target 6: Complete the Tree and Landscape Manual revisions by December 2022.

Action Steps		Timeframe	Priority for Implementation
First Step	Provide resources to support completion of revisions/updates to Tree and Landscape Manual.	Short-Term	6
6.A	Create a new City urban forestry webpage to serve as a "one-stop shop" for tree related information in Dallas.		
6.B	Compile a revised list of management activities in Article X that the existing Reforestation Fund can support.		
6.C	Review existing landscaping and tree planting policies and requirements for alignment with best management practices.		
6.D	Engage the development community in revising Article X to build support for trees and identify solutions where healthy, mature trees and development can co-exist.		
6.E	Develop best management practices for tree planting and maintenance to support the proper care.		
6.F	Explore development of a heritage tree program that could recognize and provide protection for significant, historic, and/or large trees in Dallas.		
6.G	Train and educate City of Dallas design/engineering staff and consultants on the benefits and value of the urban forest and their role in supporting the UFMP goals, targets, and recommendations.		

RECOMMENDATION 7. Develop and implement a strategy to maximize investment and resources to meet Dallas's desired level of service for urban forestry programs and management.

Short-Term Target 7: Develop an action plan and funding strategy for one UFMP recommendation by January 2022.

Action Steps		Timeframe	Priority for Implementation
First Step	Identify one UFMP recommendation that is a priority for implementation and develop an action plan and funding strategy for its implementation.	Short-Term	7
7.A	Conduct an analysis to determine the level of funding needed to perform urban forestry activities that will improve and grow Dallas' urban forest, and develop an action plan and funding strategy.		
7.B	Create messaging about the value of Dallas urban forest and its benefits to the community.		
7.C	Foster, nurture, and grow relationships with potential funders by inviting them to attend the Urban Forestry Summit. Utilize messaging to demonstrate value of urban forest.		

RECOMMENDATION 8. Create a plan to strategically plant and care for trees to ensure equitable access to tree canopy across Dallas.

Short-Term Target 8: Develop a one-year tree planting plan for fiscal year 2022.

Action Steps		Timeframe	Priority for Implementation
First Step	Utilize the prioritized planting maps to develop a one-year planting plan, with a goal of developing multi-year planting plans in the future.	Short-Term	8
8.A	Identify health and socio-economic issues that are a priority in Dallas and develop plans to direct tree planting and maintenance activities in neighborhoods of highest needs.		
8.B	Cultivate relationships with neighborhood residents to implement plans and build community support about the important role that trees play in their neighborhood.		

RECOMMENDATION 9. Create and implement a management program to monitor and address environmental threats to Dallas' urban forest.

Short-Term Target 9: Develop and implement an emerald ash borer monitoring program in 2021.

Action Steps		Timeframe	Priority for Implementation
First Step	Use information from the UFMP to understand current pest and diseases that are a threat to Dallas' urban forest and develop a program to begin to scout and monitor for these threats.	Short-Term	9
9.A	Develop an urban tree health program to conduct field assessments and scout/monitor for threats.		
9.B	Support and encourage City of Dallas staffs' attendance at urban forestry conferences, webinars, and other education events to stay up to date on new threats to Texas' trees and the urban forest.		

RECOMMENDATION 10. Develop and implement public engagement, outreach, and education plan.

Short-Term Target 10: Develop and implement an outreach campaign for one key urban forestry message by June 2022.

Action Steps		Timeframe	Priority for Implementation
First Step	Utilize the results of the UFMP community input activities to identify which messages should be the first priority in an outreach and education campaign.	Short-Term	10
10.A	Conduct Focus Group or other engagement activities with urban forestry, environmental, and equity partners to identify key messages for the outreach campaign.		
10.B	Identify advertising/marketing agency to help with the urban forestry branding and messaging and develop budget for campaign.		
10.C	Seek funding for outreach and education campaign.		

RECOMMENDATION 11. Formulate a strategy to manage wood waste and identify the highest and best use of wood from trees removed by the City.

Short-Term Target 11: Create an initial list of companies and organizations that may be able to utilize City generated wood waste by 2022.

Action Steps		Timeframe	Priority for Implementation
First Step	Determine how much wood waste is generated from City forestry operations.	Mid-Term	11
11.A	Research local wood workers, tree care companies, and resource recovery operations that may be able to use wood waste generated by the City.		
11.B	Establish evaluation criteria for different wood markets.		
11.C	Create partnerships with companies and individuals who can use City-generated wood waste.		
11.D	Identify wood waste strategies and develop pilot program(s) to test feasibility and identify challenges/opportunities for implementation.		

RECOMMENDATION 12. Strengthen working relationships and partnerships with private utilities, organizations, and contractors whose activities impact trees by instituting regular dialogue and project coordination.

Short-Term Target 12: Compile list of utilities, organizations, and contractors by December 2021.

Action Steps		Timeframe	Priority for Implementation
First Step	Assemble a list of utilities, organizations, and contractors, including contact information, that work within the City; and identify City staff to contact and create working relationship.	Long-Term	12
12.A	Educate businesses, organizations, and contractors on City best management practices and tree related policies.		
12.B	Identify opportunities for partnership and collaboration on projects that can preserve and save trees.		

RECOMMENDATION 13. Enhance and develop programs that encourage and support active participation by residents and volunteers in the planting and care of Dallas' urban forest.

Short-Term Target 13: Develop list of existing urban forestry volunteer programs by September 2021.

Action Steps		Timeframe	Priority for Implementation
First Step	Identify appropriate activities that volunteers can participate in and develop a list of existing programs that can best utilize volunteer assistance.	Long-Term	13
13.A	Evaluate, improve, and expand upon current volunteer programs.		
13.B	Identify advertising/marketing agency to help with the urban forestry branding and messaging and identify ways to engage vulnerable populations in the planting and care of trees.		
13.C	Establish volunteer programs that utilize groups from local corporations/businesses.		

RECOMMENDATION 14. Review and update the Great Trinity Forest Management Plan.

Short-Term Target 14: Create Great Trinity Forest Management Plan Update Team by June 2021.

Action Steps		Timeframe	Priority for Implementation
First Step	Develop a team of City of Dallas staff and outside partners to undertake the Great Trinity Forest review and update.	Long-Term	14
14.A	Identify the most immediate opportunities and challenges facing the Great Trinity Forest.		
14.B	Develop management and maintenance recommendations to address opportunities and threats—and revise plan.		
14.C	Identify the next sections of the plan to revise and update.		



Urban Forest Master Plan

**Environment & Sustainability
Committee**

February 1, 2021

Susan Alvarez, Assistant Director
Office of Environmental Quality &
Sustainability, City of Dallas

Zach Wirtz
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