

North Central Texas  
Council of Governments

# Germinating Equitable Outcomes Through Urban Forestry

NCTCOG Webinar  
October 25, 2023

*Prepared in cooperation with the  
Texas Commission on Environmental Quality  
and U.S. Environmental Protection Agency*

Alyssa Knox, NCTCOG  
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[www.nctcog.org/WaterResources](http://www.nctcog.org/WaterResources)

# Procedures for Webinar

- The webinar is being recorded and will be posted to NCTCOG's website under the green banner called "Webinars" here:

<https://www.nctcog.org/envir/natural-resources/water-resources>

- If you submitted a RSVP for this webinar, you will receive an email with the presentation slides, and eventually, a link to the recording. If you did not RSVP and would like these webinar materials, please email [aknox@nctcog.org](mailto:aknox@nctcog.org).
- Please keep your microphone on mute until the Question-and-Answer period at the end of each presentation.
- Thank you!



# Webinar Agenda

- Welcome and Introduction of Speakers
  - “Managing the Need To Be Treed- Review of the Dallas Tree Equity Planting Map & Greening of North Texas Schoolyards”
  - Emily Plauché, Urban Forestry Coordinator, and Lindsay Hoot, Cool Schools Coordinator, Texas Trees Foundation
  - Emily will discuss the Dallas Tree Equity Planting Map and Lindsay will present on the Cool Schools program.
- Time for Q & A after each presentation

# Speaker Introduction

**Emily Plauché**

- Urban Forestry Coordinator,  
Texas Trees Foundation

# Managing the Need to Be Treed Dallas Tree Equity Planting Report

Emily Plauché- Urban Forestry Coordinator



# AGENDA

01

The Importance  
of Trees

02

Dallas Tree Equity  
Planting Map

03

Equity Project  
Status & What's  
to Come



# About Texas Trees Foundation

The Texas Trees Foundation (Texas Trees) serves 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 for a better quality of life.

# How do we create cleaner, greener, cooler, and healthier cities?

Urban Forest Preservation & Expansion



Cool Schools Program™



Southwestern Medical District Streetscape & Park Improvement



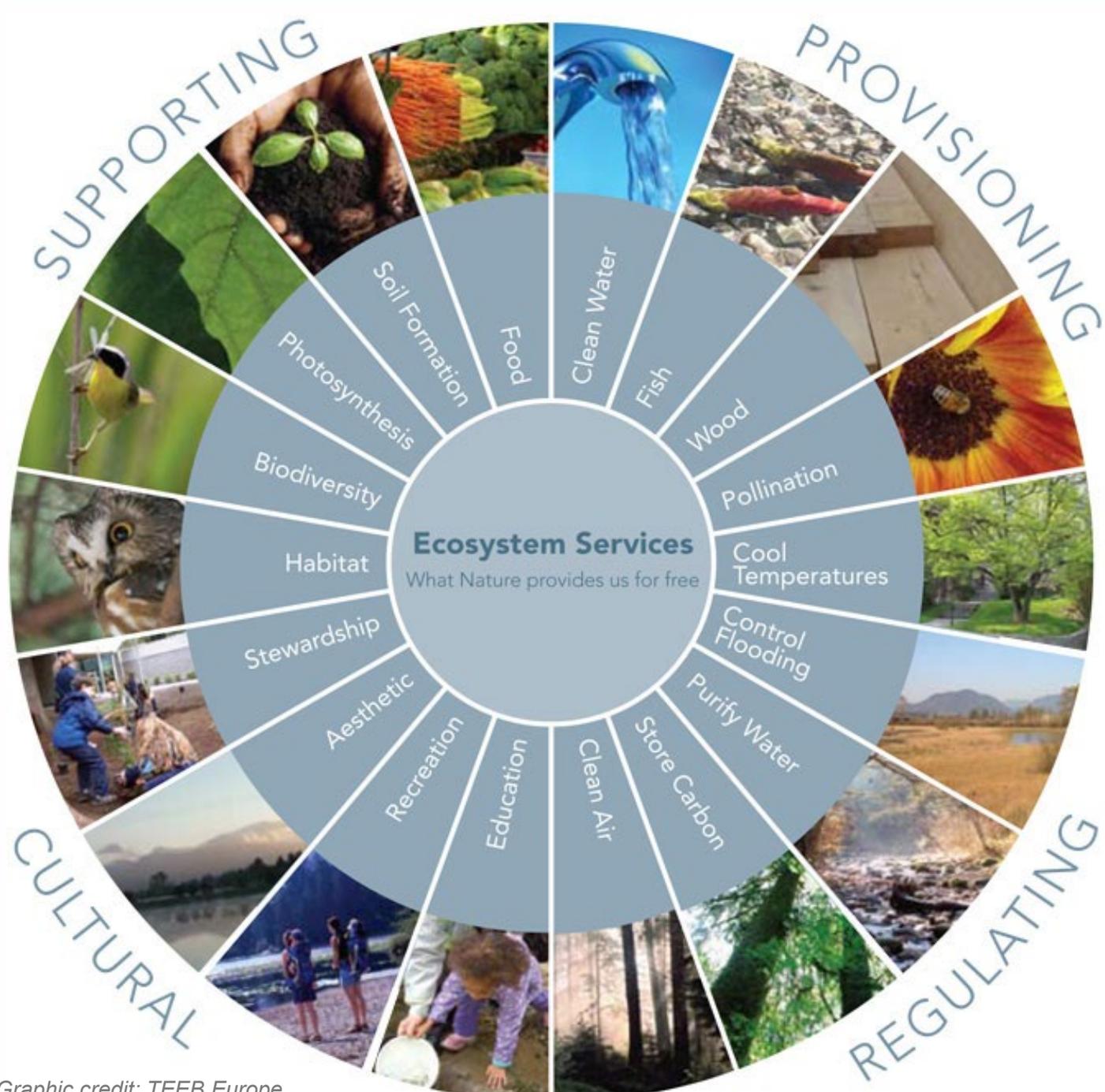
***Connecting & Celebrating Trees and People***



# 01



The importance of trees in our cities



# Urban Forestry

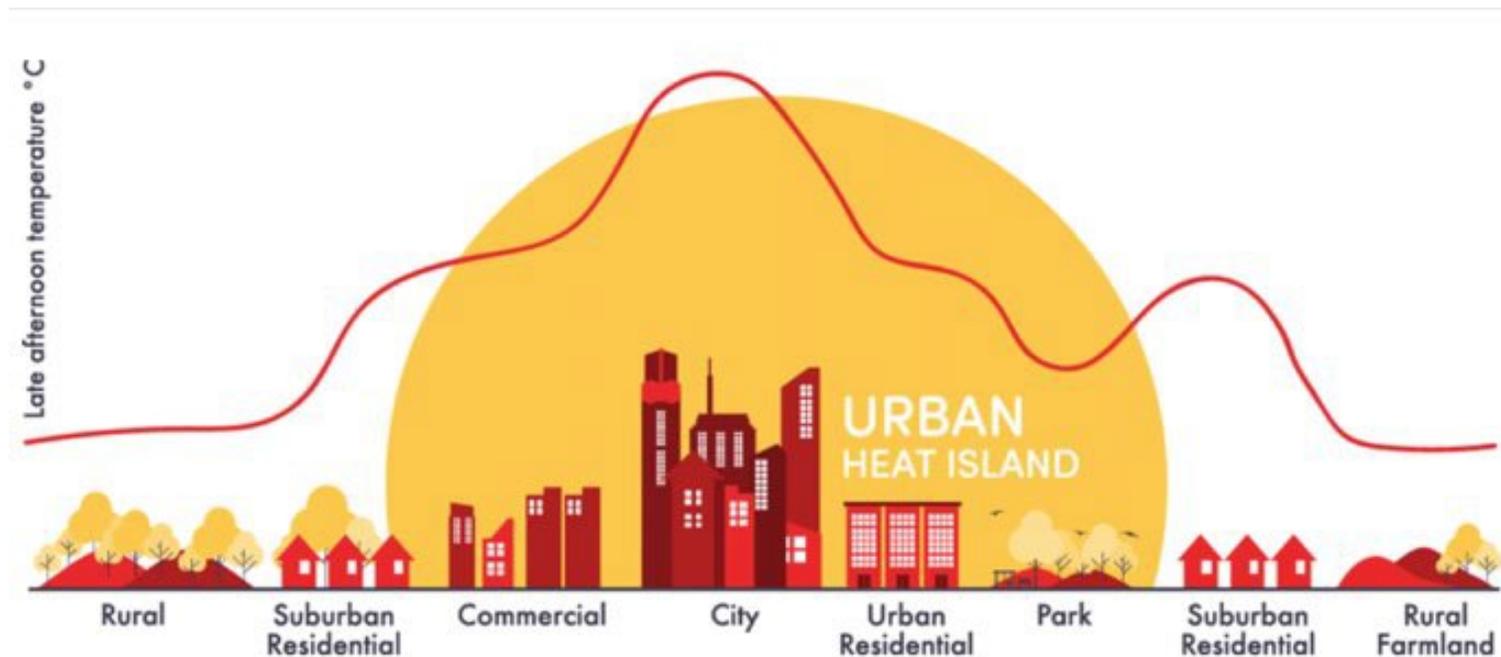
The art, science, and technology of managing trees and forest resources in and around urban community ecosystems for the physiological, sociological, economical, and aesthetic benefits trees provide society (Helms 1998).

Graphic credit: TEEB Europe

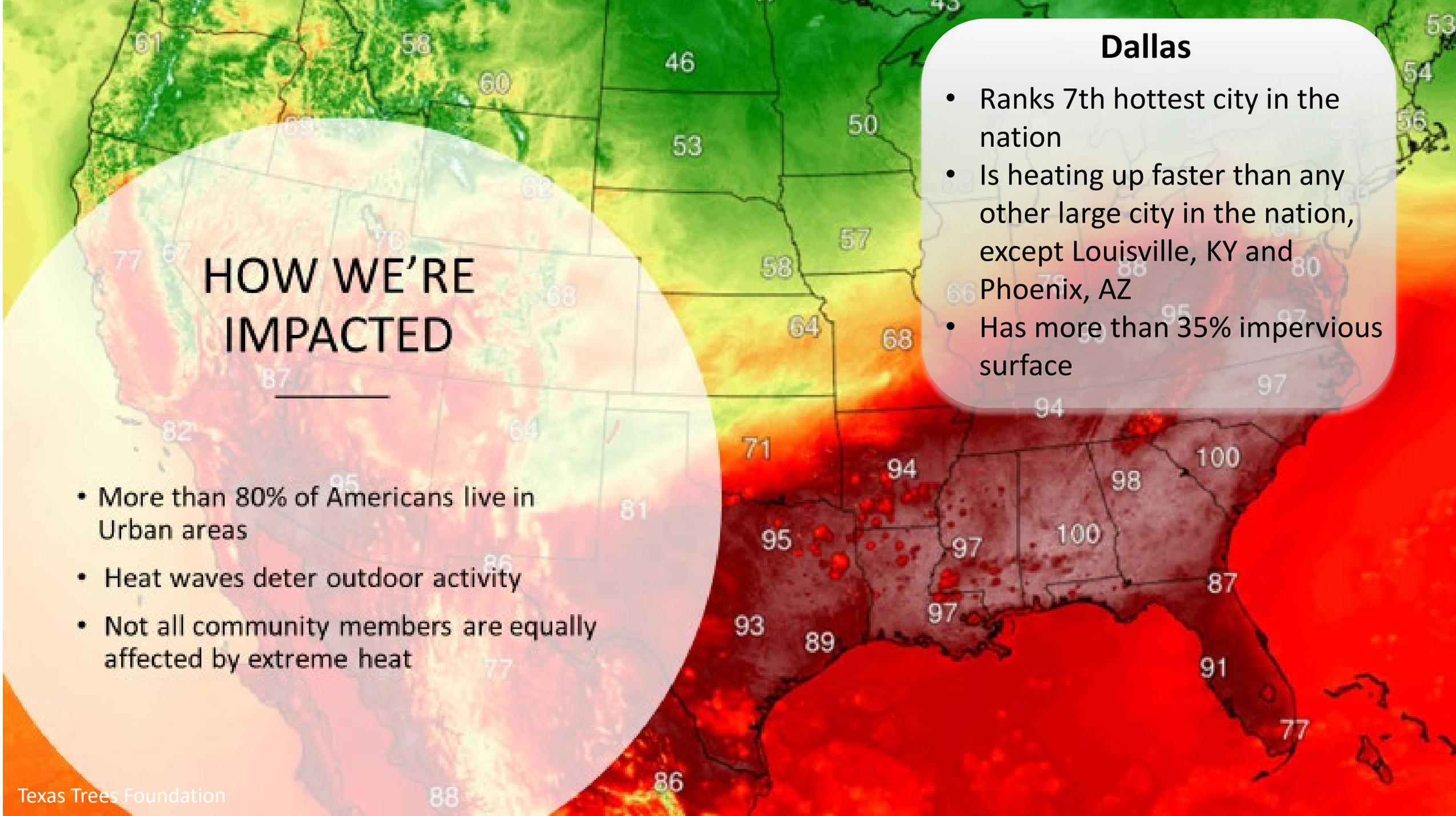
# Urban Heat Island Effect

## WHAT ARE HEAT ISLANDS?

- Structures such as buildings and roads absorb and re-emit sun's heat more than natural landscapes such as forests and water bodies
- This leads to hotter days and even hotter nights in our urban environment



Fuladlu, Kamyar & Riza, Müge & Ilkan, Mustafa. (2018). THE EFFECT OF RAPID URBANIZATION ON THE PHYSICAL MODIFICATION OF URBAN AREA.



## HOW WE'RE IMPACTED

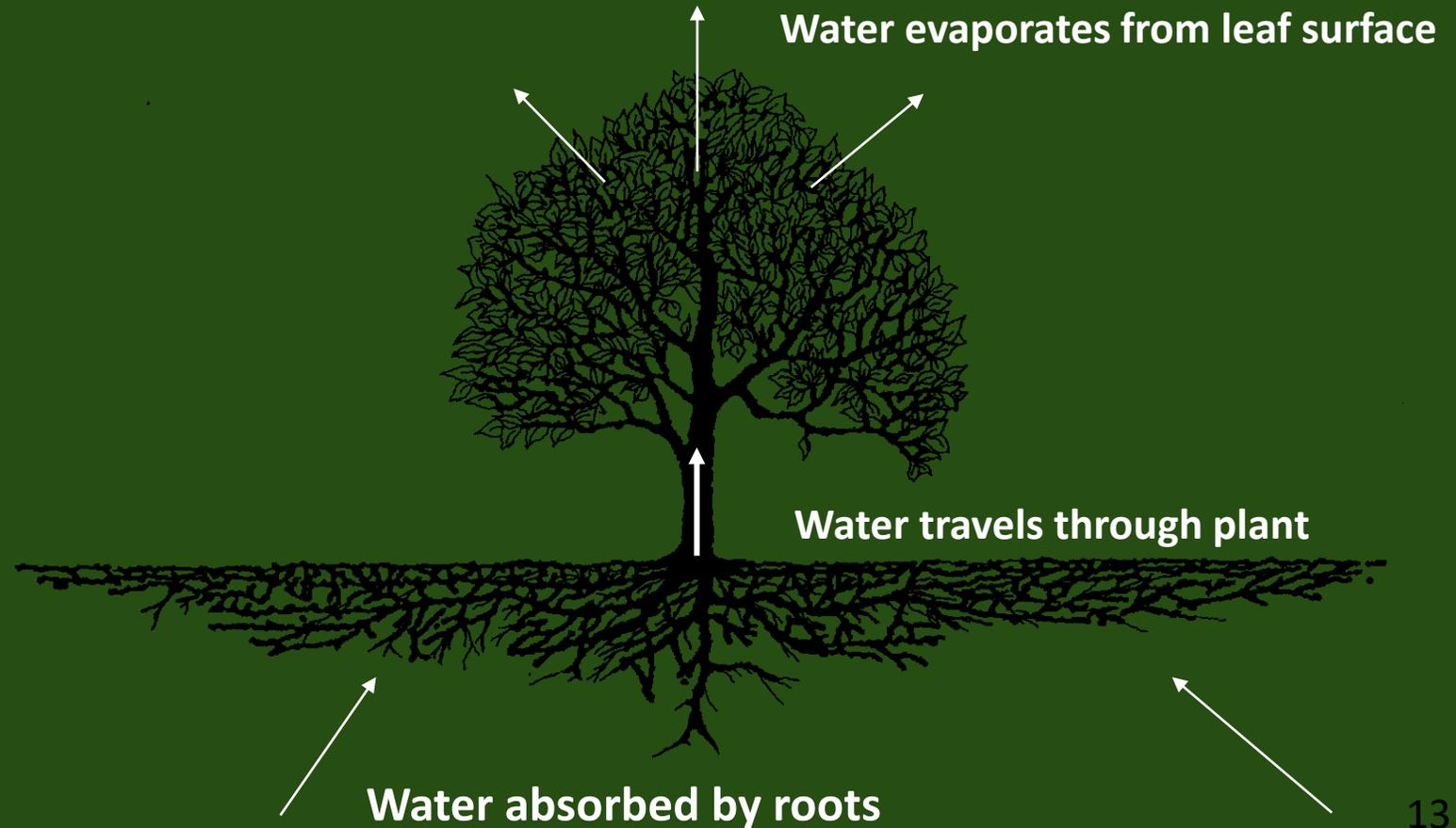
- More than 80% of Americans live in Urban areas
- Heat waves deter outdoor activity
- Not all community members are equally affected by extreme heat

## Dallas

- Ranks 7th hottest city in the nation
- Is heating up faster than any other large city in the nation, except Louisville, KY and Phoenix, AZ
- Has more than 35% impervious surface

# SOLUTIONS

## GREENING STRATEGIES



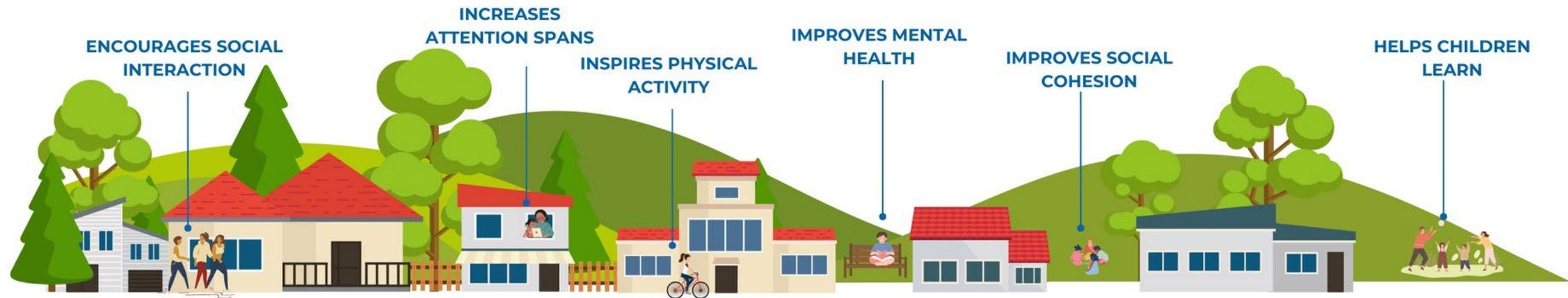
Microclimate  
Matters to  
Human  
Comfort

Effect of  
Shade on  
Surface  
Temperature



# Trees and Human Health and Wellbeing

- Reduces the burden of chronic, lifestyle-related diseases
- Improves mental and physical health and well-being
- Promotes physical activity & reduces stress
- Contributes to social cohesion
- Improves air and water quality
- Heat Reduction
- Improves children's opportunities for healthy development
- Provides environmental education



# Equity and the Urban Forest

- Critical infrastructure in low-income neighborhoods often lack trees to mitigate UHI effect, poor air quality, climate change, etc.
- Making the tree canopy more equitable, we're balancing the playing field for those who have not had a strong voice or discretionary income to invest in their yards or neighborhoods
- Improve the quality of life for all
- **Tree equity is ensuring trees are in every part of every city**



# 02



## Dallas Tree Equity Planting Map 2022

# 5 Planting Priority Categories



This report provides a guide for decision-makers, city staff, developers, builders, and other stakeholders to better identify where trees should be strategically planted



<b>Demographic</b> Population density People of color (% non-white) Educational attainment	<b>Health</b> Vulnerable populations Heart disease and obesity
<b>Economic Development</b> Home ownership rates Median income Median home value Poverty percentage	<b>Air Quality</b> Future traffic congestion
	<b>Urban Heat Island</b> Average maximum temperature

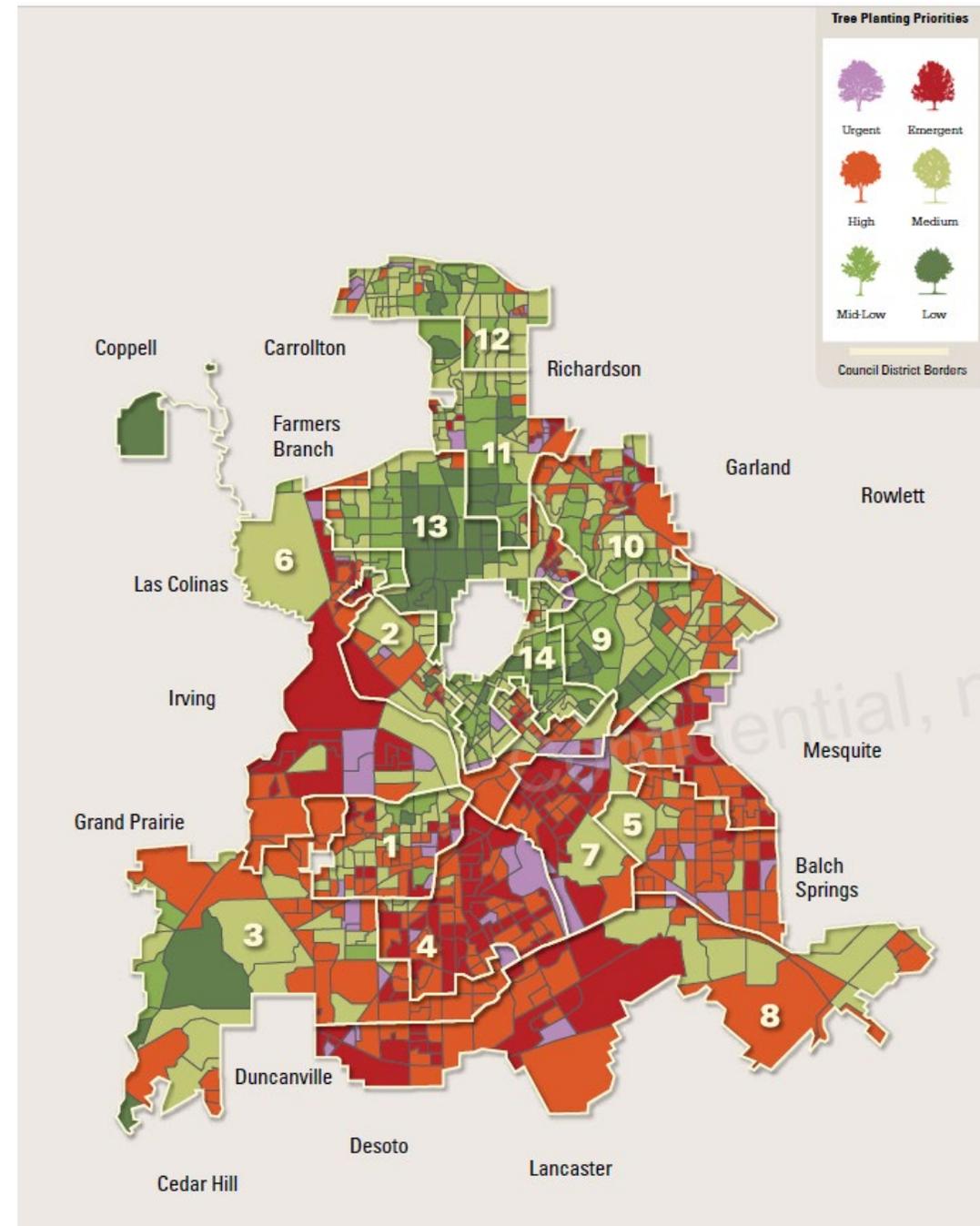


MANAGING THE  
**NEED TO BE  
Treed**  
DALLAS TREE EQUITY  
PLANTING MAP  
2022

# Dallas Tree Equity Planting Map, 2022

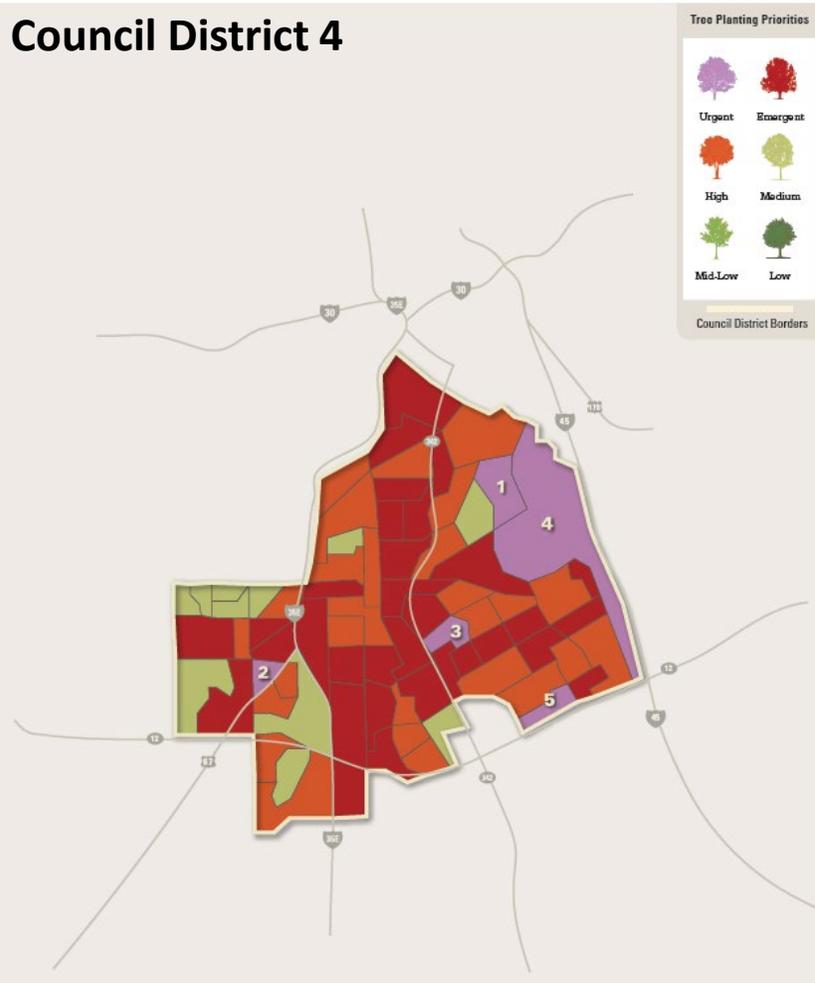
TABLE 4:  
Results of planting prioritization analysis  
for Dallas City Council Districts

Council District	Overall Planting Priority	Tree Canopy (%)	Non-Tree Vegetation (%)	Average Maximum Temp (°F)
District 1	6	31%	21%	98.19°
District 2	7	21%	17%	98.76°
District 3	8	34%	25%	96.44°
District 4	1	36%	27%	98.34°
District 5	5	38%	26%	96.16°
District 6	2	22%	24%	99.04°
District 7	3	29%	26%	96.96°
District 8	4	32%	34%	96.26°
District 9	11	37%	22%	98.01°
District 10	9	26%	20%	96.47°
District 11	10	27%	16%	96.79°
District 12	12	25%	21%	96.66°
District 13	13	34%	17%	97.12°
District 14	14	25%	14%	98.49°

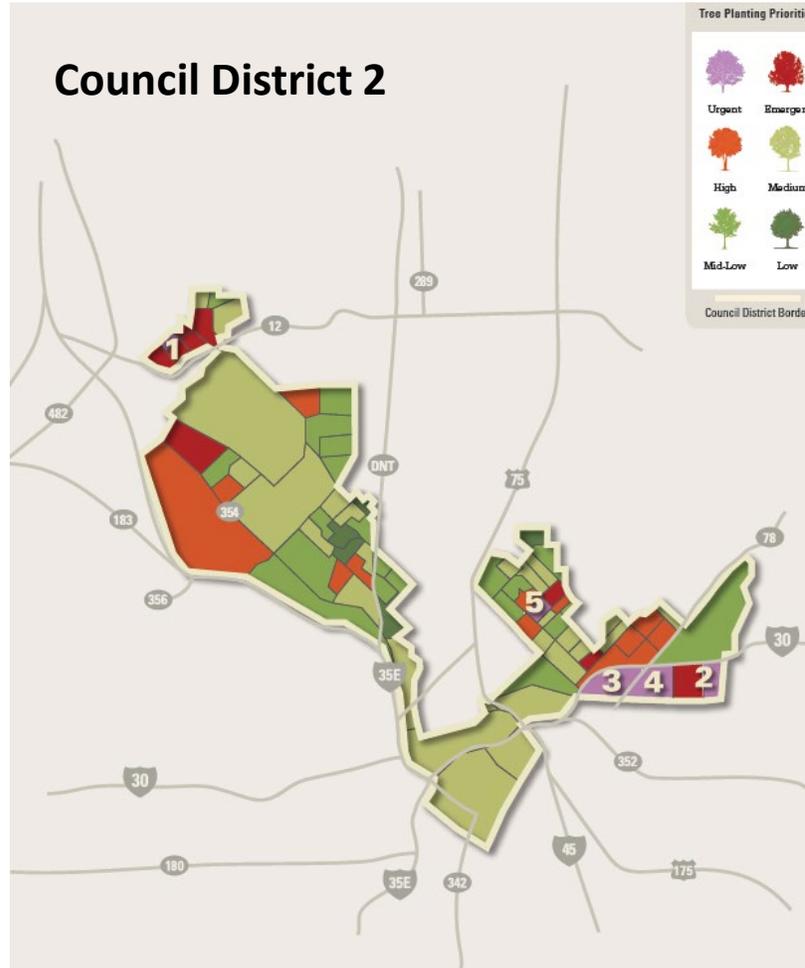


# Need To Be Treed By Council District

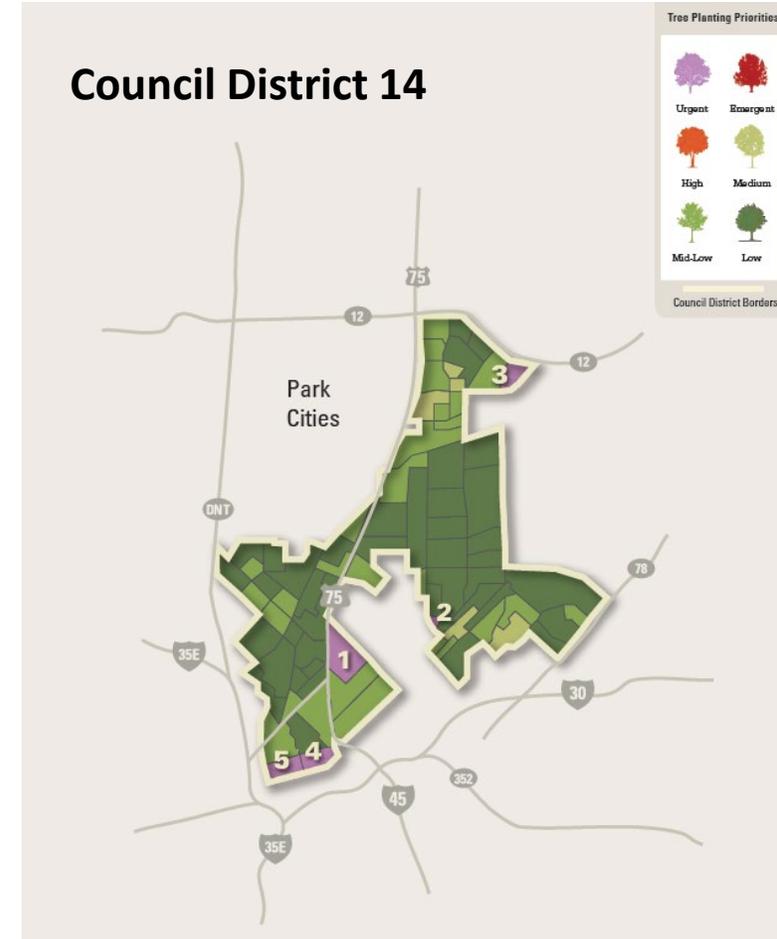
## Council District 4



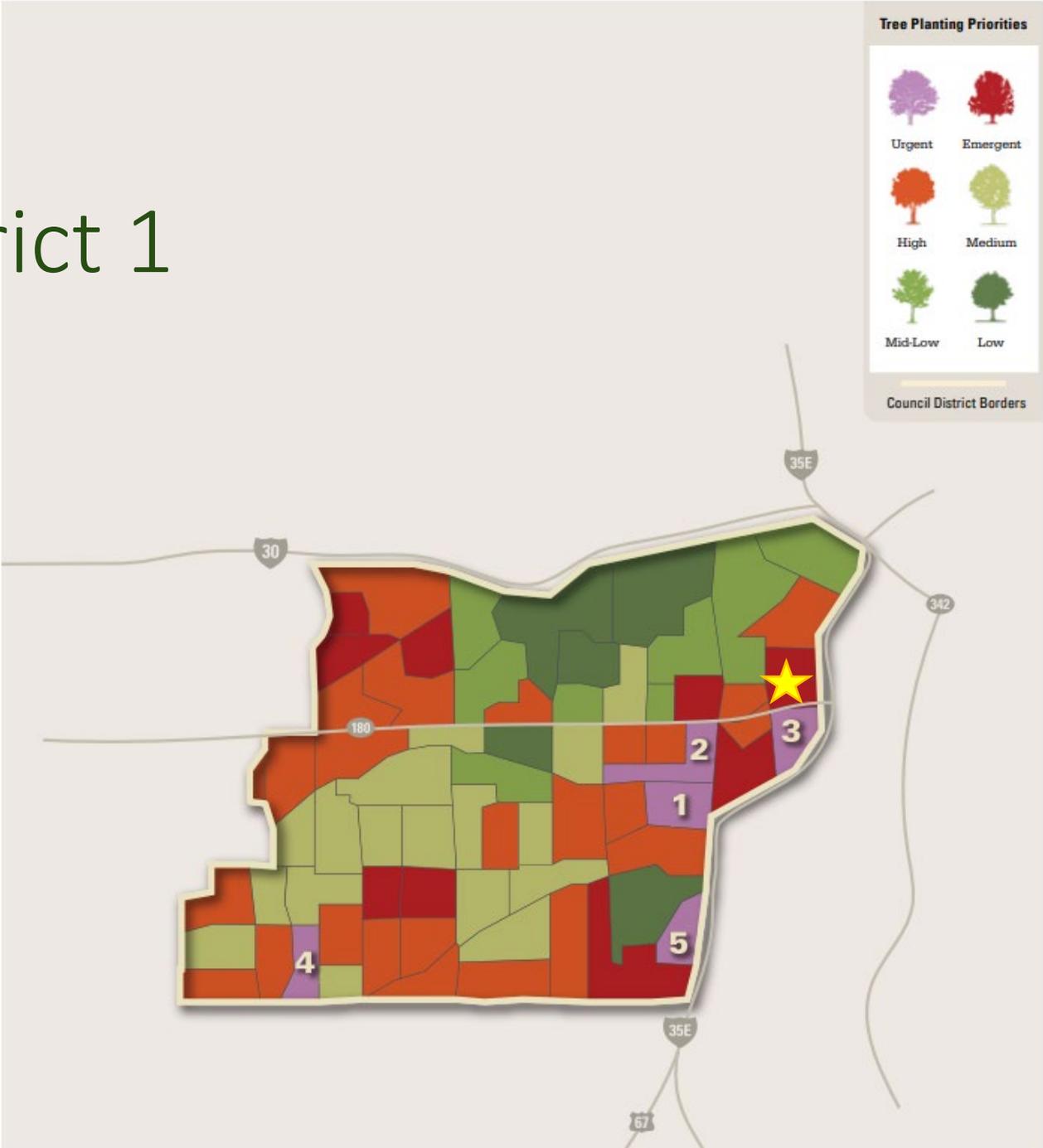
## Council District 2



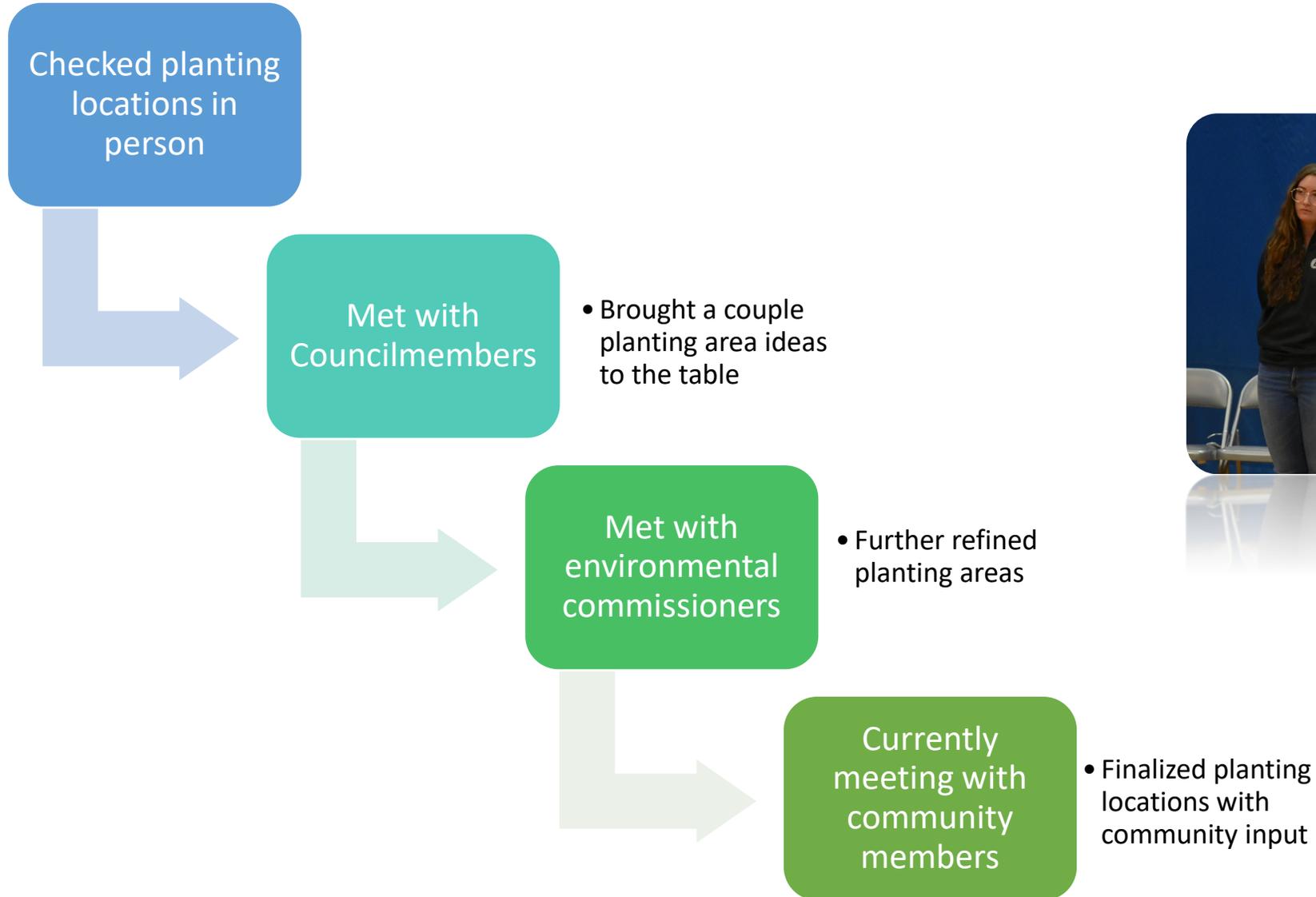
## Council District 14



# Council District 1



# Equity Planting Report Implementation



# What goes into tree planting?

- Location
  - Public property
  - Need permission
  - Maintenance agreement- MOWmentum
- Watering- trees to be watered until established (usually 2 years)
  - Irrigation- need existing water meter or must install one
  - Hand watering
- Dig holes
  - Equipment used to dig holes then volunteers help plant



# 03



## Looking Forward

# Current Status and Next Steps

- 4 projects have funding for Fall 2023
- Looking at the remaining districts in Spring 2024
- American Forest- TESA (Tree Equity Score Analysis) tool- for community use
- Equity reports for other cities throughout Texas
- Launching our work force program January 2024



Planting in council district 9 at Charles Gill Elementary

# Creating Equity in Communities through Workforce Opportunities

- Equitable communities are more than just planting trees, it begins with a quality of life.
- TTF's goal is to assist with building equitable communities through a workforce training program that will pay a living wage and opportunities for career advancement.
- Living wage = better quality of life = better future
- The tree equity map highlights neighborhoods that are in need of more trees
- TTF would like to partner with those same neighborhoods to recruit participants for our workforce training program



TEXAS TREES  
FOUNDATION

Questions?

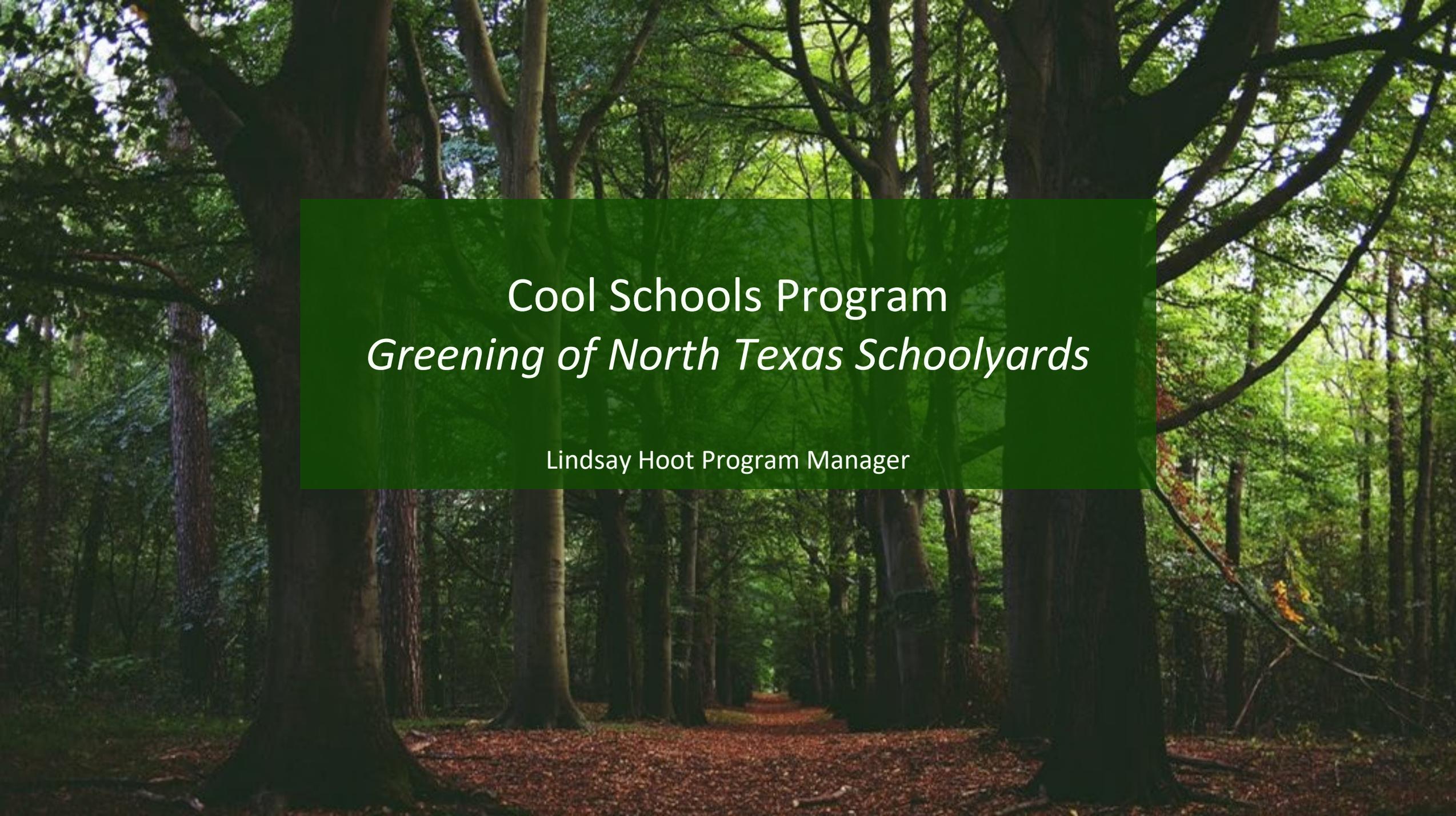
[emilyp@texastrees.org](mailto:emilyp@texastrees.org)

Workforce- [willette@texastrees.org](mailto:willette@texastrees.org)

# Speaker Introduction

**Lindsay Hoot**

- Cool Schools Education Coordinator,  
Texas Trees Foundation



Cool Schools Program  
*Greening of North Texas Schoolyards*

Lindsay Hoot Program Manager



# AGENDA

01

The Cool Schools  
Program

02

Designing  
Greenspaces

03

Increasing Park  
Access

01



## The Cool Schools Program

# Cool School Program



Increase tree canopy coverage and biodiversity on each campus



Promote outdoor education by providing teachers with training and curriculum



Improve public health



Building playgrounds to provide an accessible green space for communities



## Research Behind Our Program



Increased exposure to outdoor green space relieves symptoms of inattentiveness and improves focus upon returning indoors.



Outdoor classroom and direct experience methods are associated with increased comprehension of various subjects - while simultaneously enhancing problem solving and critical thinking skills.



Tree planting and preservation is 3.5 times as effective at lowering temperatures than other strategies. 2,980 tons of air pollution are removed every year by Dallas' urban trees.

# Cool Schools Program Components



Trees & Greenery



New Playground & Walking Trail



Outdoor Learning Area

## Fostering Nature Connection



- ❑ STEAM-based, TEKS-aligned curriculum that promotes environmental stewardship
- ❑ Unique learning amenities offer hands-on opportunities to explore our natural surroundings and engage with the urban forest
- ❑ Natural exploration is encouraged outside of the classroom, through family and community resources that promote the usage of our parks

- ❑ School-wide tree planting events offer educational opportunities to students of all ages
- ❑ Increasing tree canopy to at least 30% and planting a minimum of 15 native species of varying sizes
- ❑ Other greenery enhancements: rain gardens, bioswales, sensory gardens, fruit orchards, pollinator gardens, and carbon sink groves

## Enhancing Greenery



## Promoting Outdoor Play



- ❑ Sustainably-made, heat-safe play equipment offers opportunities for students and families to get outside year-round
- ❑ Playgrounds are designed to be inclusive and accessible to everyone and promote team-building, coordination skills, and positive risk taking
- ❑ Natural play components are incorporated to enhance aesthetics and spark a child's curiosity on the natural environment.

# Impact of Cool Schools

25

Cool School  
Neighborhood Parks

with playgrounds, loop  
trails and seating

115,000

Serving over

0

Dallas residents that lack  
a park nearby

over 2,100

Medium-  
trees  planted

At 30 campuses



Impacting

16,000+

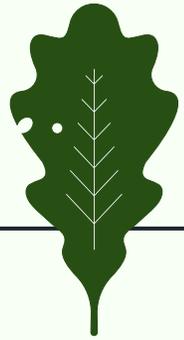
Students!

# 02

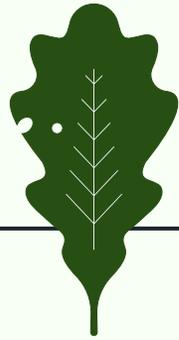


## Designing Greenspaces

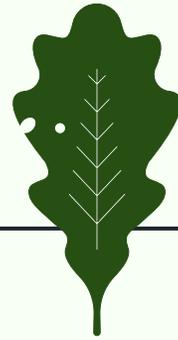
# Constructing Green Campuses



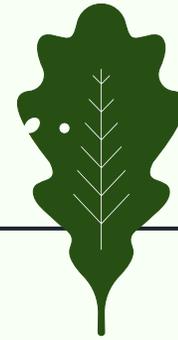
Site Analysis



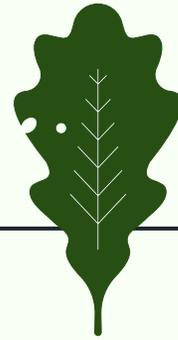
Engagement + Input



Develop Landscape  
Design



Construction + Planting



Usage + Stewardship

# Site Analysis

Inventory existing trees

Calculate canopy coverage

Develop maintenance/preservation plan

Forecast trees needed to increase coverage to +30%

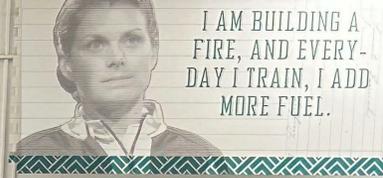


# Engagement + Input

Collaborate with school staff, teachers, and students

Collect input from community stakeholders through outreach and surveys

Work with community partners on opportunities where project aligns



# Develop Landscape Design

Design with needs in mind

- Prioritize shade where students play
- Screening bus lanes
- Providing immediate shade

Right tree, right place

Integrate educational opportunities



# Construction + Planting

Work with school in mind

- using school calendar to minimize disruptions
- align project with bond renovations

Irrigating with success

School-wide tree plantings and giveaways

- School and community involvement
- NeighborWood tree giveaways



# Usage + Stewardship

Celebrate park opening with school,  
community and partners

Promote usage with bilingual  
resources

Build relationships that can help with  
maintenance



# Transforming Dallas Schoolyards



Pilot began

2017

70% of DISD elementary schools with 7% or less tree canopy coverage; limited outdoor learning



33 campuses completed

2022

33 campuses with 20% canopy (28 with learning areas) – projected 3,000 trees planted at schools



At least 55 Cool Schools

By 2026

At least 55 schools with Cool School Program

**\*ONE FOURTH OF ALL DALLAS ISD SCHOOLS**

# 03



## Increasing Park Access

# Improving ParkScore

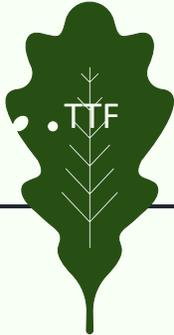
ParkScore based on:

1. **Park Access:** percentage of residents living within .5 miles of a park
2. **Park Size:** city's median park size and % of total area dedicated to parks
3. **Facilities and Investment:** park spending per resident and availability of amenities

In 2017, the Trust for Public Land reported only 58% of Dallas residents had a park within a 10-minute walk of their home (over 500,000 people lacked park access)

Developed interlocal agreement between City of Dallas and Dallas ISD to identify schools that could be transformed into parks during afterschool hours

# Success through Partnerships



- Capital
- Project Management
  - Community Engagement
  - Curriculum and Teacher Training
  - Tree Planting + Maintenance



- Capital
- Land
- Design + Construction Collaboration
- Operations + Maintenance (groundskeeping and outdoor classroom)



- Capital
- Park Signage + Trash Cans
  - Trees
- Operations + Maintenance (trash, graffiti, safety checks)

# Increasing Access with the Cool Schools Program™

2018-2022

Increased ParkScore  
from 58-69%

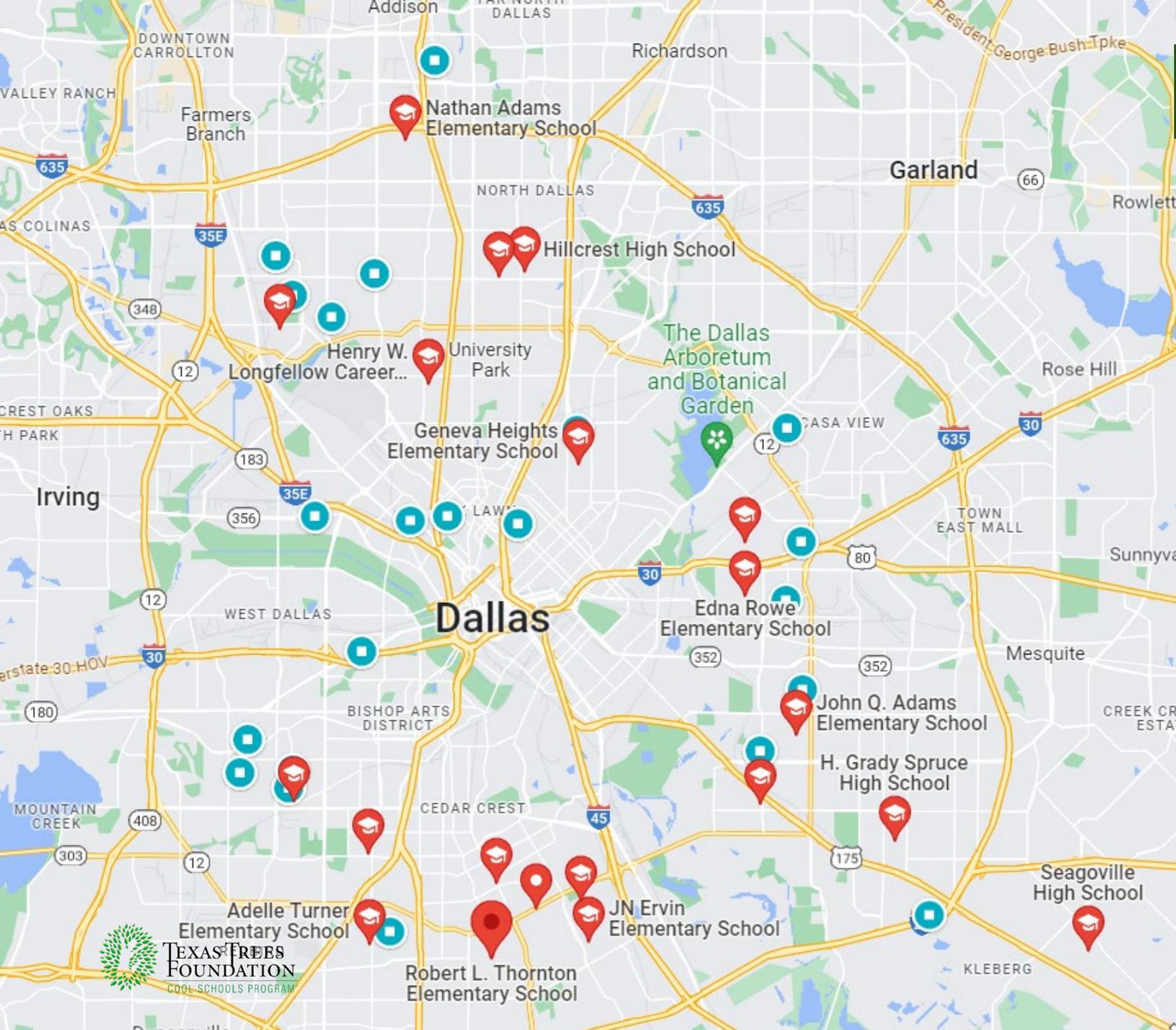
with 25 new  
Neighborhood Parks

2022-2026

Increased ParkScore  
from 69-78%

with 20 additional  
Neighborhood Parks





# Future Forecast

20+

Cool School

Neighborhood Parks

Throughout Dallas by  
2026

143,800

Serving over  
0

Dallas residents that lack  
a park nearby



## How To Get Involved

Volunteer at a future school or park planting (or get your company/organization to volunteer)

Promote greening strategies and best practices for future developments- help us expand!

Visit **TexasTrees.org** to donate, find future volunteer opportunities or learn more about the Cool School Program

Subscribe to our monthly newsletter <http://weblink.donorperfect.com/TTFNewsletter>



TEXAS TREES  
FOUNDATION

Questions?

[Lindsay@texastrees.org](mailto:Lindsay@texastrees.org)

IG: @TexasTreesFoundation

FB: @TexasTrees

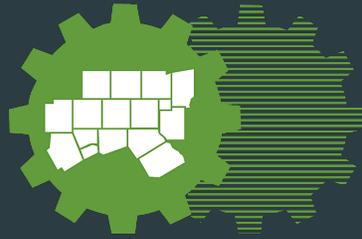
# Wrap-Up

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# Webinar Feedback

- Please provide your feedback on today's webinar in this 4-question survey. Thank you!

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# Thank you for attending!

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