

City of Tempe Urban Forestry Master Plan

Council Work Study Session
September 18, 2017



Council Priorities



Quality of Life

Council Priority #3: Enhancing the quality of life for all Tempe residents and workers through investment in neighborhoods, parks, the arts, human services, and city amenities, with an emphasis on equality and diversity.

Performance Measure #3.16: Achieve ratings of “Very Satisfied” or “Satisfied” with the Quality of City recreation, arts, and cultural centers greater than or equal to the national benchmark cities as measured in the Community Survey.

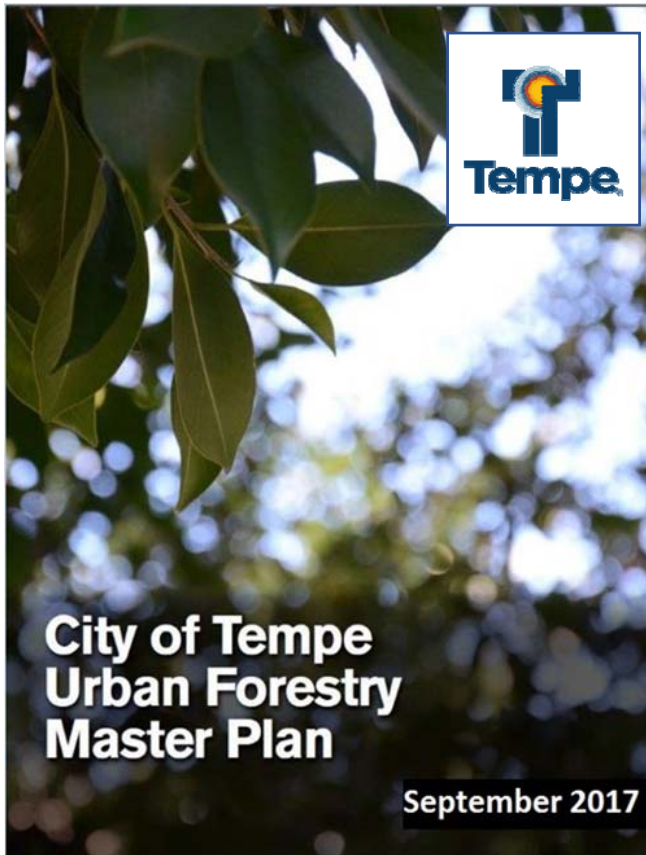


Sustainable Growth
& Development

Council Priority #4: Implementing sustainable growth and development strategies, including improving Tempe’s public transit system to meet future needs, by actively seeking innovative technologies and leading the way in creating a more sustainable community.

Performance Measure #4.11: Achieve a tree coverage of 25 trees per acre on average on City owned property.

Introduction



We are here to present the final draft of the Urban Forestry Master Plan and obtain your feedback.

The presentation includes:

- Guiding Principles
- Public Outreach
- Strategy
 - Education
 - Collaboration
 - Implementation

Develop an Urban Forestry Master Plan to implement the strategic economic, environmental & quality of life values of the General Plan 2040





URBAN FOREST GUIDING PRINCIPLES



- **Cultivate Collective Action**
- **Expand Shade to Maximize Urban Cooling**
- **Improve Walkability Equitably**
- **Support Biodiversity & Habitat**
- **Use Resources Wisely**
- **Enhance Property Values**
- **Promote a Healthy Community**
- **Enhance Community Beautification & Livability**
- **Right Tree, Right Place**





Public Participation

Staff has prepared a communication plan and conducted outreach:

● Public Workshops & Meetings:

Winter Wonderland Event	Dec. 4, 2015
Public Workshop & Tree Expo	Feb. 27, 2016
Regional Tree & Shade Summit	Mar. 9, 2016
2 nd Annual Tour de Trees Tempe	April 9, 2016
Public Workshop & Tree Expo	Feb. 25, 2017
3 rd Annual Tour de Trees Tempe	April 1, 2017

● Presentations to Boards & Commissions:

Parks, Recreation, Golf & Double Butte Cemetery Advisory Board
Neighborhood Advisory Commission
Sustainability Commission
Transportation Commission
Historical Preservation Commission
Commission on Disability Concerns





Grants & Demonstration Projects

2017 Grants & Research:

American Forests Community ReLeaf

- Bank of America funding \$65,000
- Partners: ASU/Urban Offsets/Duke, ASU Research
- Planting 150 trees @ Rio Salado Park
- **October 28, 2017**

ASU/Urban Offsets/Duke

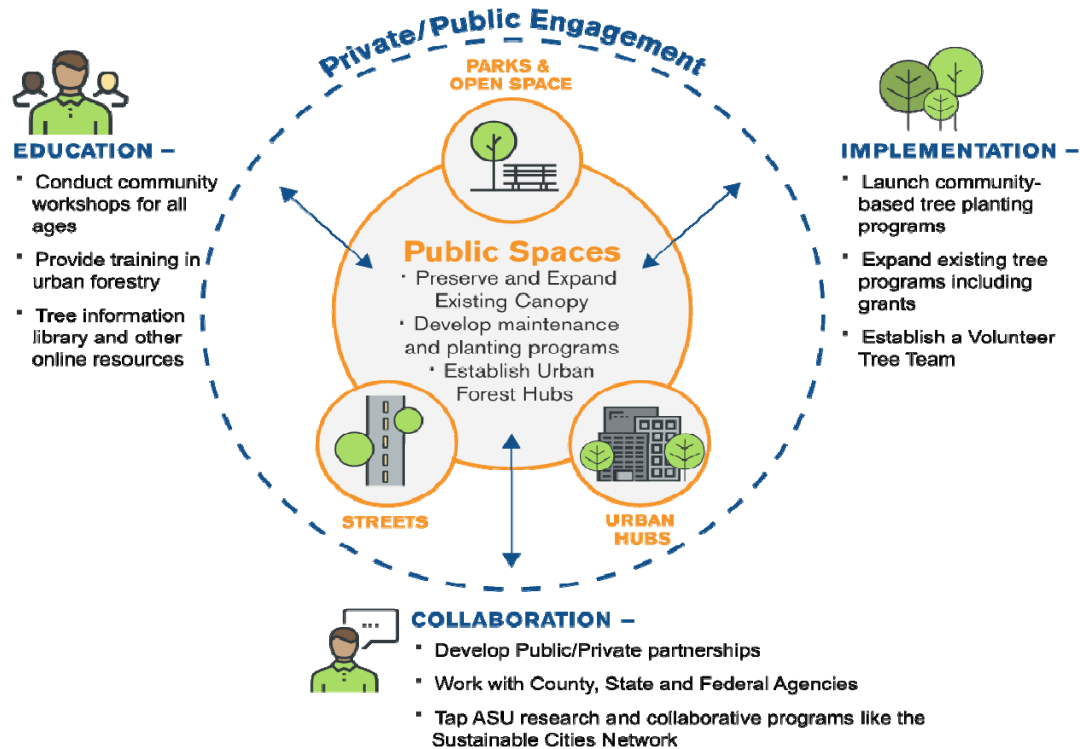
- Funding \$50 - \$100 per tree
- Planted 42 trees at Esquer Park - \$4,200
- Adding \$5,400 funding for trees @ Rio Salado Park, collaborating with CoT & American Forests

Tempe Rotary Clubs (Rio Salado & Camelback Crossroads)

- Planting 1 tree/member = 100 trees @ Svob Park
- Funding \$7,500
- **November 18, 2017**



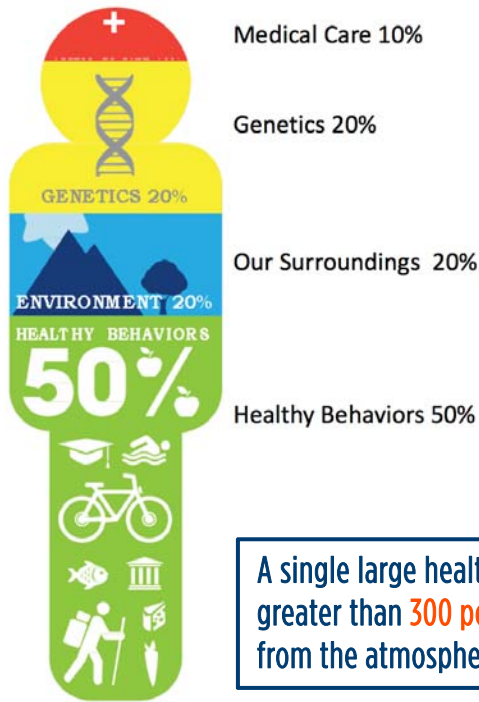
Strategy



Education



Promote a Healthy Community



A single large healthy tree can remove greater than 300 pounds of carbon dioxide from the atmosphere every year.

Expand Shade to Maximize Urban Cooling

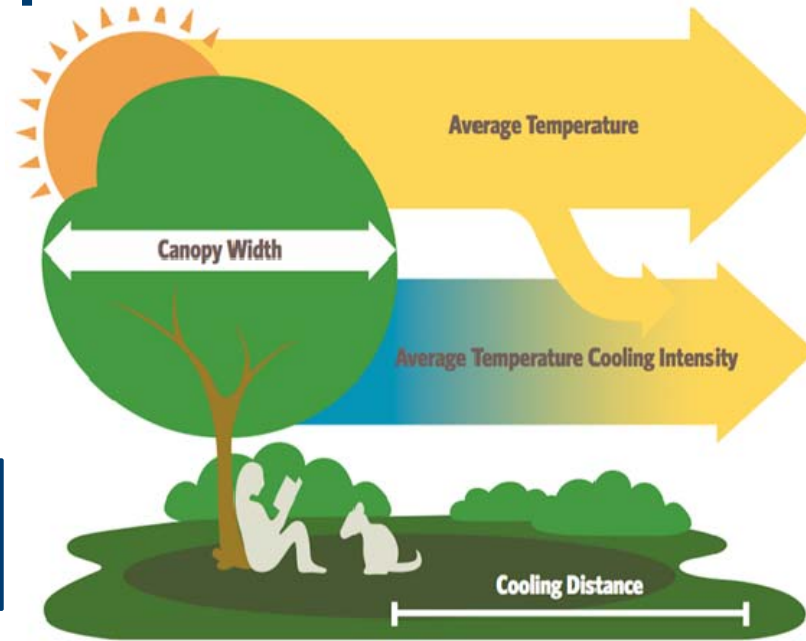
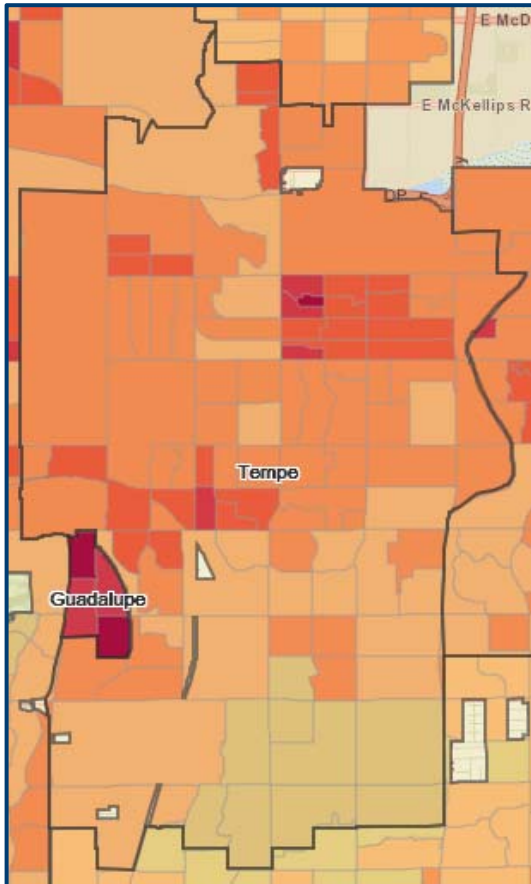


Figure 36. Diagram of temperature mitigation by trees. Illustration: © Mackinzie Jones.





Education



- Conduct community workshops for all ages
- Provide training in urban forestry
 - Citizen Forester Program
 - Staff Training
 - Local & Regional Issues
 - Support grant projects
- Tree information library & online resource

Tempe Heat Island Map

Darker areas identify tree planting priorities

[2016 Shade Tree Planting Prioritization Advanced Web Map](#)

Az Forestry Service

updated 01/25/2017





Collaboration: cultivate collective action

Arbor Day 2017 Tree Planting – Esquer Park



Esquer Park

“We planted **42 trees** in this neighborhood park, with **49 volunteers** from the community and ASU generating **122.5 hours of volunteer labor,**”

Corey Hawkey,
Sustainability Manager, ASU

Urban Forestry Community Meeting & Tree Expo



Implementation



ROW

PARKS

Urban Forestry Program

TRANSIT





Implementation

Shaded surfaces may be **20-45 degrees cooler**, and evapotranspiration can reduce peak summer temperatures by 2-9 degrees.



PARKS

- **Inventory trees**
 - Data on trees existing, declining, & removed
 - In flood irrigation
 - System irrigation
- **Rank & prioritize parks for tree planting**
 - Require minimal new water infrastructure
 - Equitable locations
 - Current parks improvement projects
- **Address deficiencies & opportunities**



Challenges



IMPROPER PRUNING



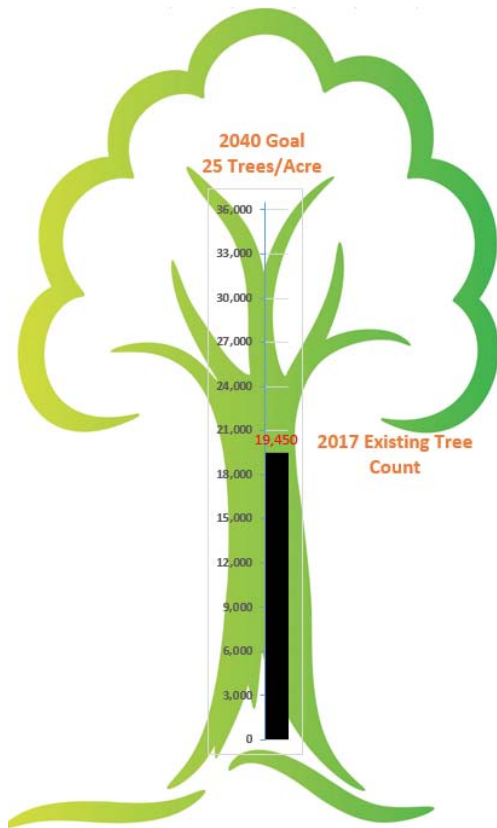
WATER SYSTEMS



LACK OF STREET TREES



Investment in Living Infrastructure



Urban Canopy on city-owned property:

- Current tree count = 19,450
- New trees needed to reach goal = 16,837 (750/year)
- New trees to replace dead trees = 100/year*

Average tree cost/benefit:

- Cost of Tree (new irrigation + staking):
 - 24" box \$ 400
- Annual Care: \$ 68
- Annual Community Value of Tree: \$ 80*

Average annual cost/benefit (new trees):

- 850 trees/year @ \$400 = \$340,000
- Total additional annual care = \$57,800
- Annual Community Value of 850 trees/year = \$68,000*

* increases over time





Timeline

- Council IRS Mar. 22, 2012
- Council IRS April 12, 2012
- Council Regular Meeting Dec. 4, 2014
- Council IRS Jan. 29, 2015
- Public Meeting Feb. 27, 2016
- Council Work Study Session Dec. 15, 2016
- Public Meeting Feb. 25, 2017
- Council Work Study Session Sept. 18, 2017
- Regular Council Meeting for Adoption Oct. 26, 2017



Nearly one-quarter of America's tree canopy exists in our backyards, city streets and parks, and they are essential to healthy communities.

NATURE CONSERVANCY

<http://www.plantabillion.org/locations/united-states/>

