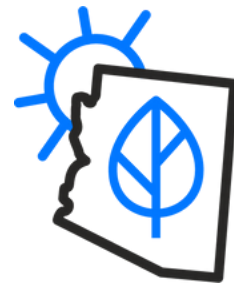


# TREE EQUITY SCORE BUSINESS TOOLKIT



PRODUCED BY:

**VL** **IMPACT MAKER**

VERSIÓN EN ESPAÑOL





## ABOUT THIS TOOLKIT

The Valley Leadership Environmental Sustainability Impact Team, in partnership with the City of Phoenix and American Forests, have teamed up to increase the tree canopy in Arizona. We are using American Forests' Tree Equity Score tool to identify the most heat-vulnerable, historically marginalized communities in need of canopy cover for pedestrian corridors, public transit stops, and parks.

Our goal is to increase awareness and increase Tree Equity Scores in Maricopa County. We want to engage businesses and commercial property owners within their respective census block groups and equip them with information on how to increase tree canopy in their neighborhoods.

**Interested in participating in this work?**  
Visit [www.vleads.org/treeequityform](http://www.vleads.org/treeequityform)

## ABOUT IMPACT MAKER

The Valley Leadership Impact Maker program consists of groups of Arizona leaders, partner organizations, and community champions who come together to address Arizona's most pressing issues, including Environmental Sustainability, Health, Education, Child-Well Being, Jobs and the Economy, and Racial Justice.



## WHY TREES?

According to the National Oceanic and Atmospheric Administration (NOAA) 2022 State Climate Summary used by Arizona State University's Climate Office, current average temperatures in Arizona are the warmest so far in this century, which could intensify future heat waves and severe dry conditions. The maximum average summertime temperature between 2000 and 2019 increased from 95 to 97 degrees and the number of average days above 100 degrees increased from 42 to 58 days.

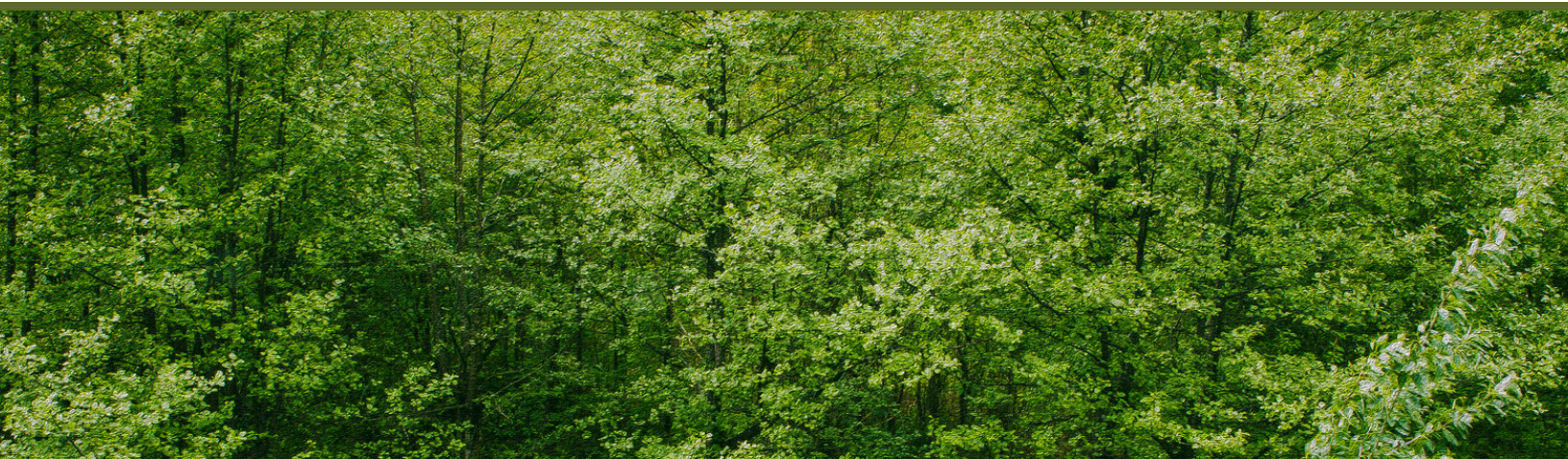
Arizona has been in a long-term drought since roughly 1994. Recently, during the three summer months of 2023, Phoenix set a record for the number of days with a max temperature above 110 degrees at 55, passing the record of 53 set during 2020. For 31 consecutive days in July, the max temperature broke 110 degrees. These conditions will only continue to worsen, and one analysis projects that in 2053 Phoenix will reach a max temperature of 125 degrees during at least one day annually.

Trees can be a major contributor to improving environmental and social equity in areas of Arizona that are affected by extreme heat and drought conditions. Trees function as shade from the blazing sun on increasingly hot days, along with acting as a contributing mechanism for reduction of pollution and dust. Trees also help to retain and absorb rainwater during the monsoon season.

## FIND OUT ABOUT YOUR NEIGHBORHOOD

What is the Tree Equity Score in your neighborhood? Find out [here](#).

[This 5-minute video](#) provides a an overview of Tree Equity Score (TES) and its importance in the prioritization of tree planting efforts.



# WHAT IS TREE EQUITY SCORE?



Tree Equity Score measures how well the benefits of trees are reaching limited-income communities, communities of color, and others disproportionately impacted by extreme heat and other environmental hazards.

- Tree Equity Score is a nationwide score that highlights inequitable access to trees.
- The score is calculated at the neighborhood (Census block group) level.
- The score ranges from 0-100. The lower the score, the greater priority for tree planting. A score of 100 means the neighborhood has enough trees.
- Tree Equity Score covers every urban Census block group in the United States, including Hawaii and Alaska.

## DEVELOPED BY:



## PRIORITY INDEX

The Priority Index helps prioritize the need for planting to achieve Tree Equity based on seven equally-weighted climate, health and socioeconomic variables that are then integrated into the Tree Equity Score. A higher priority index indicates a population more likely to be hit first and worst by climate change and environmental hazards. More information about these variables and where the data is sourced can be found [here](#).

Along with current canopy cover percentage sourced from Google Environmental Insights Explorer and canopy cover targets selected with guidance from the USDA Forest Service and feedback from stakeholders, the following equally weighted variables are used to calculate a Tree Equity Score:

- Age
- Unemployment rate
- Health burden
- Heat disparity
- People in poverty
- Linguistic isolation
- People of color



# WHAT CAN YOU DO TO HELP

Benefits of trees near businesses include shading for the building which can reduce cooling needs and electricity costs, increased walkability to allow for engagement with the local community, and increased property values. If you're ready to support increasing your neighborhood's tree canopy, here are some steps you can take:

1

**Plant trees on your property.**

Ideally, the focus should be areas that people frequent, such as paths into the building or along a public sidewalk. Trees planted near large windows will help to cool the building and lower your electric bill. See Tree Planting Resources below for more information.

2

**Organize a tree planting in your neighborhood.**

Valley Leadership can help you partner with local groups to organize tree plantings. If your neighborhood has a high Tree Equity Score, but you would still like to support a low-score area, Valley Leadership can help you identify an area of need.

3

**Support financially.** Valley Leadership's Environmental Sustainability Impact Team will be evaluating areas around Phoenix for strategic tree-planting projects using the Tree Equity Score tool.



Want to get involved? Visit [www.vleads.org/treeequityform](http://www.vleads.org/treeequityform) to support this initiative or to help organize a tree planting.



# SPREAD THE WORD ABOUT TREES

In exchange for your participating in this work, VL can help promote your efforts through a few different means:

## Feature on Our Social Media Channels:

We will showcase your tree planting initiative or financial contribution through dedicated posts on our Facebook, Instagram, Twitter, and LinkedIn accounts (with your company tagged in each). Our engaging and visually appealing content will highlight the significance of your project towards limiting heat stress in Arizona communities, capturing the attention of our followers and yours.

**Tree Tags:** We can attach tree tags with your business information to any trees you help plant.

**Website promotion:** If you are planting trees or organizing a planting, VL will promote your participation on our [Impact Maker website](#). This provides an opportunity to express your shared values, build a personalized success story, and strengthen your relationship with the local community. If you are contributing financially, the website will show your company name/logo amongst other Arizona businesses as “key contributors.”





# TREE PLANTING RESOURCES

Before starting a large-scale landscaping project, consider consulting with experts:

- [City of Phoenix Landscaping Resources](#)
- [American Society of Landscape Architects](#)
- [Arizona Chapter of the American Society of Landscape Architects](#)
- [Irrigation Professionals \(trained through Smartscape\)](#)
- [International Society of Arboriculture](#)
- [Arizona Landscape Contractors Association \(AZLCA\)](#)
- [Arizona Certified Landscape Professionals \(ACLP\)](#)
- [ALCA Certified Irrigation Technician \(ACIT\)](#)
- [Sustainable Landscape Management Professionals \(SLM\)](#)
- [Request for Proposal \(RFP\) resources from Arizona Landscape Contractors Association](#)

## PLANTING IN PHOENIX?

The City of Phoenix requires review of landscaping projects for commercial projects to ensure code compliance. [See the City's landscaping resources for more information.](#)

The [City of Phoenix's Office of Heat Response and Mitigation](#) has two [grant programs](#) to support tree plantings in neighborhoods of specific needs:

The [Canopy for Kids Grant](#) is available for public school districts, nonprofit schools, and nonprofit organizations that provide services to youth.

The [Community Canopy Grant](#) is available for neighborhoods associations, community nonprofits, multi-family residential sites, non-residential sites and community members.

These grants are available to those organizations within a [Qualified Census Tract](#). The Office of Heat Response and Mitigation will help neighborhoods organizing tree plantings.

Please contact Lora Martens at [lora.martens@phoenix.gov](mailto:lora.martens@phoenix.gov) for more information.



# TREE PLANTING RESOURCES

## PLANTING IN MESA?

The City of Mesa is committed to fostering solutions with long-term community benefits, including growing a healthy, sustainable urban forest. Mesa's [Trees Are Cool](#) website, the [Low Impact Development toolkit](#), [Greater Phoenix Metro Green Infrastructure Handbook](#), and the [Zoning Ordinance Landscaping Chapter](#) have useful information about permitting requirements, planting guidance, and care information.

Businesses can join in the [Trees Are Cool Initiative](#) and help plant one million desert-adapted trees by 2050:

- Cool your community and plant a tree at your business. [Record your new tree.](#)
- Contribute to the [Foundation for Mesa Parks and Recreation Tree Program](#) to plant a tree in your business' favorite park.
- Is your business located in a [high priority planting neighborhood](#)? Connect with the City of Mesa to coordinate a future planting event. contact Stephen Addison at [stephen.addison@mesaaz.gov](mailto:stephen.addison@mesaaz.gov) for more information.

Using water efficiently is good for the community and good for trees:

- The Water Conservation Program is offering a new, [Grass-to-Xeriscape Landscape Incentive](#) to businesses for converting grass to Xeriscape and updating irrigation equipment. Reduce your landscape water use, increase efficiency and save money.

These programs are available to Mesa business owners and residents. Please contact Stephen Addison at [stephen.addison@mesaaz.gov](mailto:stephen.addison@mesaaz.gov) for more information.

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## WANT TO ADD INFORMATION ON PLANTING IN YOUR CITY TO THIS TOOLKIT?

Contact  
[amanda@valleyleadership.org](mailto:amanda@valleyleadership.org)

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# GENERAL OVERVIEW OF PLANTING, IRRIGATION, AND MAINTENANCE

## Understand Maricopa County's unique environment

Maricopa County has a hot desert climate with long, hot summers and mild winters. Soil in the area can often be dry and lack organic matter. It is important to consider these factors when planning your tree landscaping project.

## Choose the right trees

Make sure to select trees that are well-suited to the arid climate and can tolerate hot and dry conditions. Some suitable tree species include Palo Verde, Mesquite, Desert Willow, and Ironwood. Consult the resources below, or with your local nurseries or an arborist, to determine the best tree species for your site.

## Choose the right site

Use the Trees Matter guide below to determine the best location for your planting project. Some especially important factors to consider are how to maximize the tree's shade for home cooling and making sure to not plant a tall growing species near a powerline. Plan ahead for future growth by choosing a planting location that won't obstruct your business sign as the tree matures.

## Ensure a safe planting site

Before starting any tree planting project, it is important to call 811 at least two full business days in advance and have all underground utilities marked before digging. This will keep you safe and help to ensure there are no service disruptions to your neighborhood.

## Proper planting

Practicing proper planting techniques will give your trees the best chance at long-term survival. Start by digging a wide planting hole, two to three times the width of the root ball, but no deeper than the root ball's height. Avoid planting too deep as it can hinder root development. Mulch around the base of the tree, making sure to leave a gap near the trunk to prevent moisture buildup.

## Mulching

Applying a layer of organic mulch (such as wood chips or bark) around the base of a tree can help conserve moisture, regulate soil temperature and reduce weed growth. Spread mulch to the tree's drip line, no more than 2-4 inches deep, while making sure to keep the mulch 3-4 inches away from the tree's trunk to prevent moisture buildup and bark rot.

## Watering

Efficient irrigation is crucial for tree health in the desert. The amount and frequency of irrigation can vary depending on the tree species and time of the year, but in general you want to water deeply each time you water, allowing the soil to dry in between waterings. Newly planted trees will need more frequent waterings until they become established, which can take 1-3 years. Consult your local nursery for your tree's specific needs and use the resources below for reference.





- **Watering Techniques-** Use drip irrigation or soaker hoses placed at the tree's drip line (where the canopy extends). This encourages roots to grow outward. Avoid overhead sprinklers that can waste water and promote shallow root growth.
- **Watering Timing-** Water trees early in the morning to minimize evaporation. Avoid watering in the evening as it can promote fungal diseases.

### **Pruning**

Regular pruning helps maintain the health and, particularly in the early years, guide the shape of your trees. Prune dead, damaged, or diseased branches promptly. Remove any suckers or sprouts at the base of the tree. Consult the pruning guides above or consider hiring a certified arborist for complex pruning tasks, especially for hazardous limbs.

### **Pest and disease management**

Monitor your trees for signs of pests and diseases. Common pests in Maricopa County include aphids, scale insects, and spider mites. If necessary, consult an arborist for appropriate treatments. Be sure to take plenty of close up pictures of the damage caused to your tree as well as the insects themselves if possible as the arborist will need those.

## RESOURCES FOR SPECIES SELECTION, PLANTING, IRRIGATION AND MAINTENANCE

The following resources provide information on appropriate tree species and critical irrigation and maintenance tips.

- The [Phoenix Metro Urban Forestry Roundtable's](#) Tree Species subcommittee put together [this list of trees that are suitable for the Valley's arid environment](#). This list highlights tree species that are climate, heat and drought adapted.
- [The University of Arizona](#) has an [extensive guide](#) for proper pruning techniques of trees and shrubs
- American Forests has a suite of tools and guides that include:
  - [Tree Equity Score](#)
  - [Maricopa County Tree Equity Score Analyzer](#)
  - [Community Action Guide for community engagement best practices](#)
  - [Vibrant Cities Lab](#) of free urban forestry action guides, research and technical resources
  - [1T.org US Chapter](#) of the Trillion Trees Initiative
  - [Climate and Health Action Guide](#) to plan and optimize each tree's impact
- Maricopa County Air Quality Department has a list of air-emission friendly trees:
  - [Trees and Air Quality | Maricopa County, AZ](#)
- [The City of Phoenix](#) has a [guide for proper watering and conservation during the summer months](#).
- The Arbor Day Foundation has a step- by- step guide with videos for planting trees. The technique varies depending on the root configuration:
  - [Bare root](#)
  - [Containerized](#)
  - [Balled and burlapped](#)
- [Trees Matter](#) has a [great guide for establishing the right Tree in the right place](#).
  - This is especially important to maximize the benefits of the tree's shade.
  - Also a valuable reference when looking to plant a tree under a powerline as there are many considerations involved.
- [The City of Mesa](#) has [published an excellent resource](#) for tree species selection, planting guides, watering and maintenance.
  - This resource includes videos, step by step guides and infographics.
- [Arizona Municipal Water Users Association \(AMWUA\)](#) has many resources for:
  - [Landscape watering guidelines](#)
  - [Native landscaping species](#)
  - [Xeriscaping](#)
  - [Water conservation rebates and resources by city](#)