

# SHADE & TREE PLAN FOR THE BUILT ENVIRONMENT

Development Review Board Resolution No. 10, Adopted May 7, 2026



# ACKNOWLEDGMENTS

## Scottsdale City Council

Mayor Lisa Borowsky  
Jan Dubauskas  
Barry Graham  
Adam Kwasman  
Kathy Littlefield  
Maryann McAllen  
Solange Whitehead

## Development Review Board

Jeffrey Brand  
Ali Fasih  
David Mason  
Ed Peaser  
Donna Robinson

## City Management

Greg Caton, City Manager  
Jeff Walther, Assistant City Manager  
Erin Perreault, AICP, Senior Director, Planning + Development Services

## Project Team

Tim Conner, Environmental Policy Manager  
Adam Yaron, Planning + Development Area Manager  
Taylor Reynolds, Principal Planner  
Nick Carroll, Planner  
Bryan Cluff, Planning + Development Area Manager  
Brad Carr, AICP, Planning + Development Area Manager  
Jesus Murillo, Senior Planner  
Nathan Domme, Senior Manager, Transportation Planning  
Susan Conklu, Senior Transportation Planner  
Brendan Wagner, Senior Transit Planner  
Elisa Klein, Water Conservation Program Supervisor  
Jill Brumand, Water Program & Policy Analyst  
Hasan Mushtaq, Drainage/Flood Control Manager  
Mele Koneya, GIS Analyst

## Consultant Team

Prime Consultant:



Justin Azevedo, PLA, ASLA - Project Lead  
Nikki Buckingham, ASLA



# TABLE OF CONTENTS

<b>Introduction</b>	<b>5</b>
Why a Shade & Tree Plan?	
Plan Process & Outreach	
Understanding Heat	
Benefits of Shade Infrastructure	
Shade & Water	
<b>Mission, Vision &amp; Goals</b>	<b>19</b>
Maintain our Shade	
Increase our Shade	
Collaborate on Shade	
Advancing Citywide Shade Goals	
<b>The Guidelines</b>	<b>27</b>
<b>Trees</b>	<b>29</b>
Tree Placement	
Soil Volume & Quality	
Tree Diversity	
Tree Selection	
Site-Specific Tree Lists + Tree Guides	
Tree Staking	
Efficient Watering Strategies	
Tree Pruning & Maintenance	
<b>Water Harvesting</b>	<b>57</b>
Location & Application	
Stormwater Context & Performance	
Maintenance & Longevity	
GSI Practices	
<b>Shade Structures</b>	<b>77</b>
Functional Design & Orientation	
Integration & Context	
Materials & Maintenance	
<b>Design Scenarios</b>	<b>89</b>
<b>Old Town Scottsdale Character Area</b>	<b>99</b>
Tree Selection & Location	
Old Town Scottsdale Character Area Major Streets	
Trees in Parking Areas	
<b>Appendix</b>	<b>107</b>
Glossary	
Related Plans & Policies	





# INTRODUCTION





## WHY A SHADE & TREE PLAN?

The Scottsdale Shade & Tree Plan for the Built Environment document is a resource developed to help the community maintain, increase, and collaborate on shade infrastructure across our desert city. Shade infrastructure is an integrated system—trees, water-harvesting practices, and shade structures—to cool Scottsdale, improve comfort, and strengthen long-term resilience. Through public outreach and citywide analysis, it has been determined that shade infrastructure is fundamental to daily life in Scottsdale. This Plan provides practical guidance for how shade resources can be integrated into the community over time, applying across Scottsdale’s built environment, spanning public infrastructure and civic spaces and private development sites.

The Scottsdale Shade & Tree Plan for the Built Environment document serves as an implementation item of Scottsdale General Plan 2035, which emphasizes effective operations, maintenance, and resource investment in community facilities and vegetation; the expansion of tree canopy and shade infrastructure; and broad-based community engagement to achieve community objectives. The Plan also responds to findings from the *Identifying Strategies for a Cooler Scottsdale* study, which highlighted the need for enhanced shade and cooling strategies throughout the community.

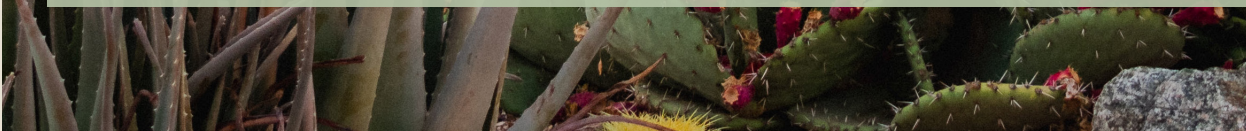
### **What this Plan is**

- A strategic, design-oriented framework to maintain and expand shade infrastructure citywide.
- Practical guidance for selecting and placing trees, integrating water-harvesting practices, and using shade structures across different locations, site types and contexts.
- A resource that can inform more detailed, site-specific plans and project designs.

### **What this Plan is not**

- A regulatory ordinance or replacement for adopted codes, engineering standards, or other City policies.
- A streetscape or construction plan that prescribes exact tree locations, spacing, or project-level designs for individual corridors or sites.
- A guarantee of City funding, installation, or maintenance for any specific site, project, or neighborhood.

This Plan is intended to enhance shade infrastructure citywide by optimizing shade elements and focusing on the selection and placement of appropriate shade infrastructure in public and private spaces. Through actionable strategies and guiding practices, it supports the creation of heat-resilient properties and neighborhoods for residents, businesses, developers, and visitors.



## Plan Process & Outreach

Development of the Scottsdale Shade & Tree Plan for the Built Environment document began in early 2024 through a collaborative and data-informed process designed to reflect community priorities and Scottsdale's unique desert context. The effort focused on understanding existing shade conditions, identifying opportunities for improvement, and ensuring strategies that would be both practical and effective over the long term.

Research included analysis of tree canopy distribution, surface heat data, and historical temperature trends, complemented by best practices from other desert cities and regional partners. These sources helped establish a foundation of existing conditions and needs related to shade, comfort, and resilience.

Extensive public engagement was central to shaping the Plan. Through six pop-up events and two open houses held in south and north Scottsdale, more than 1,000 residents and community members were asked a simple question: "Where do we need shade?" The response was consistent and emphatic—the community wants shade everywhere.

Residents identified neighborhoods, parks, paths and trails, and public or shared spaces as top priorities for additional shade. Many also emphasized the importance of selecting appropriate, desert-adapted tree species and maintaining a strong commitment to water efficiency. This feedback guided the creation of practical, balanced strategies that maintain, expand, and encourage collaboration on shade infrastructure citywide.

The Plan transforms data, design guidance, community feedback, and best practices into actionable strategies that advance Scottsdale's shade goals. These strategies work collectively to maintain existing assets, expand shade citywide, and strengthen collaboration on care and maintenance.



*Public pop-up event.*



*Public open house.*



## UNDERSTANDING HEAT

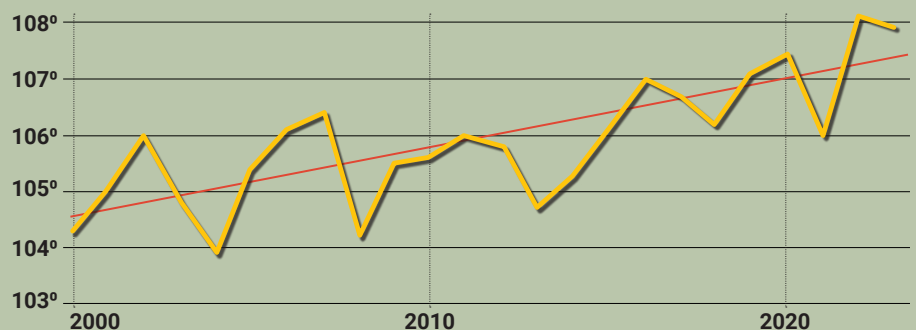
On average, Scottsdale generally experiences 314 days of clear skies each year, resulting in roughly 3,870 hours of direct sunlight. During the longest summer days, the city receives up to 14 hours of daylight, elevating temperatures that peak in July and August, when heat reaches its most extreme levels.

Heat continues to shape life across the Valley. In 2023, the region recorded both record-breaking summer temperatures and the highest number of heat-related fatalities on record as reported by Maricopa County Health. Globally, it was also the hottest year documented. These conditions reflect a long-term trend in the Sonoran Desert, where communities like Scottsdale have experienced steadily rising average temperatures for more than a century.

Yet averages alone don't tell the full story. The city now faces longer, more frequent heat waves and warmer overnight lows, which compound the effects of daytime highs. The result is prolonged periods of heat that impact daily life around the clock.

Extreme heat places strain on public health systems, increases utility costs, and discourages outdoor activity. For desert cities, addressing heat is not just about comfort—it is essential to resilience, livability, and long-term prosperity.

**Figure 0-1. Average July High Temperature, Scottsdale**



Source: National Oceanic and Atmospheric Administration (NOAA)



## Impact of Shade

Shade plays a critical role in moderating surface and ambient temperatures. Providing shade over heat-absorbing surfaces - such as pavement, walls, and turf - can significantly improve comfort and safety in outdoor spaces. For example, the City of Phoenix Cool Pavement and Cool Corridor Programs found that shaded pavements were up to 12°F cooler than unshaded ones during the day (phoenix.gov).

By recognizing how surface materials respond to sunlight, developers, business owners, and residents can make informed decisions about trees, structures, and materials that reduce heat exposure. Thoughtful integration of natural and built shade improves outdoor comfort, reduces energy demand, and enhances Scottsdale's unique character.

Understanding how heat interacts with Scottsdale's built and natural environments also helps reveal where shade is most needed. By mapping surface temperatures and existing shade coverage, patterns emerge—showing areas that stay significantly hotter throughout the day and those already benefiting from shade. The maps on the following pages illustrate these conditions citywide, providing the foundation for how and where shade and cooling strategies can be focused.

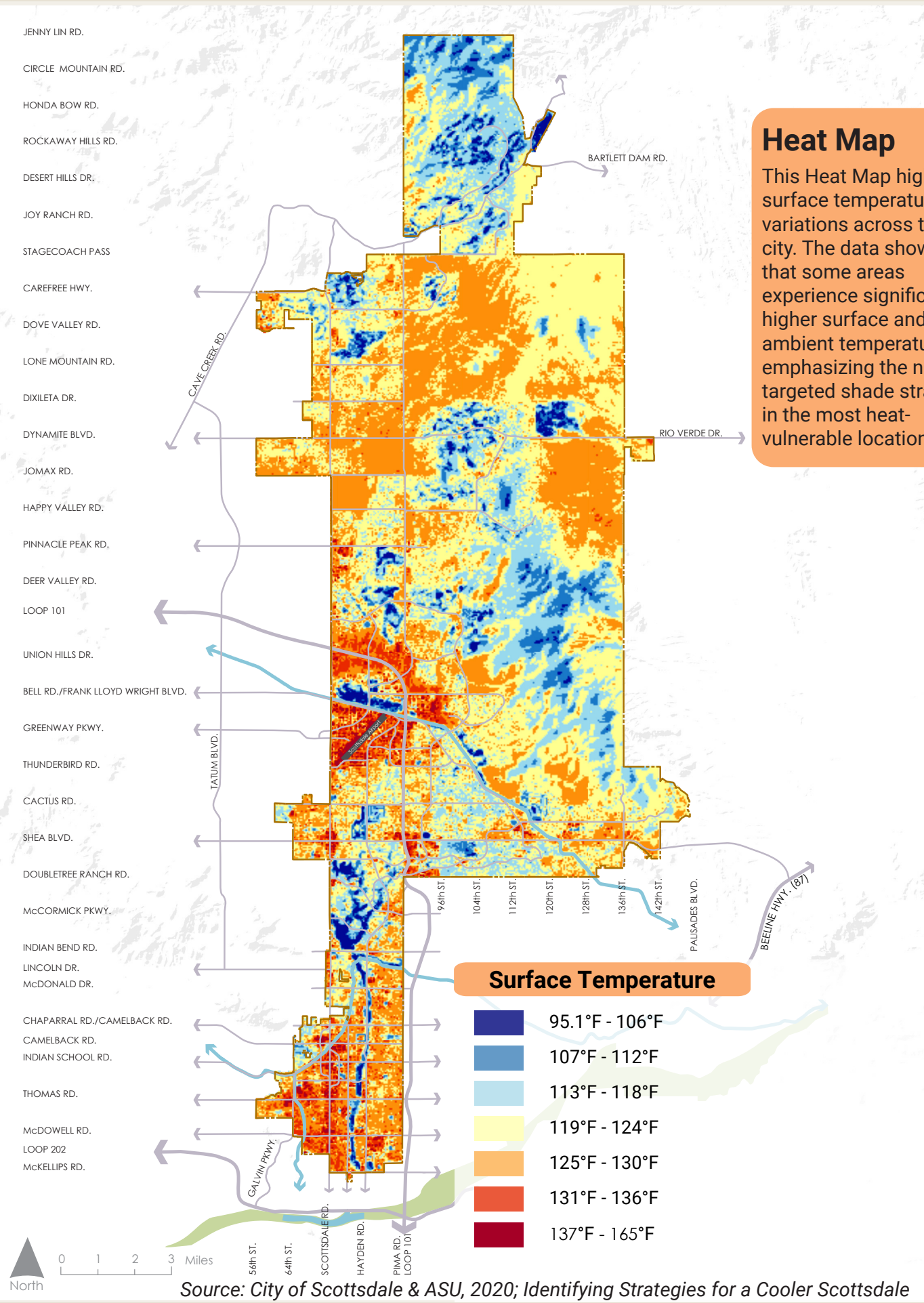
## Heat-Absorbing Surfaces

In Scottsdale's summer heat, materials such as concrete, asphalt, and artificial turf absorb and retain large amounts of solar energy, reaching temperatures far above the surrounding air. These surfaces intensify heat in outdoor spaces and highlight the need for effective shade to reduce exposure and improve comfort.



Figure 0-2. Surfaces vary in heat retention.

**Heat Map**  
 This Heat Map highlights surface temperature variations across the city. The data shows that some areas experience significantly higher surface and ambient temperatures, emphasizing the need for targeted shade strategies in the most heat-vulnerable locations.



Source: City of Scottsdale & ASU, 2020; Identifying Strategies for a Cooler Scottsdale

JENNY LIN RD.

CIRCLE MOUNTAIN RD.

HONDA BOW RD.

ROCKAWAY HILLS RD.

DESERT HILLS DR.

JOY RANCH RD.

STAGECOACH PASS

CAREFREE HWY.

DOVE VALLEY RD.

LONE MOUNTAIN RD.

DIXILETA DR.

DYNAMITE BLVD.

JOMAX RD.

HAPPY VALLEY RD.

PINNACLE PEAK RD.

DEER VALLEY RD.

LOOP 101

UNION HILLS DR.

BELL RD./FRANK LLOYD WRIGHT BLVD.

GREENWAY PKWY.

THUNDERBIRD RD.

CACTUS RD.

SHEA BLVD.

DOUBLETREE RANCH RD.

McCORMICK PKWY.

INDIAN BEND RD.

LINCOLN DR.

McDONALD DR.

CHAPARRAL RD./CAMELBACK RD.

CAMELBACK RD.

INDIAN SCHOOL RD.

THOMAS RD.

McDOWELL RD.

LOOP 202

McKELLIPS RD.

BARTLETT DAM RD.

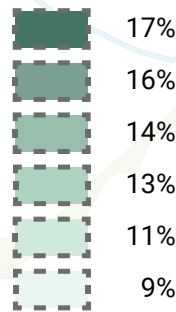
RIO VERDE DR.

CAVE CREEK RD.

TATUM BLVD.

PALISADES BLVD.

### Shade Coverage



Scottsdale McDowell Sonoran Preserve

## Shade Map

The City of Scottsdale currently has an **estimated shade coverage of 13%**, excluding the McDowell Sonoran Preserve. Of this total, 12.4% is provided by trees and 0.6% by shade structures. Coverage varies by area, reflecting differences in land use, vegetation, and urban form. In comparison with the Heat Map, areas that experience the highest temperatures, such as the Airpark, Old Town and portions of south Scottsdale, also tend to have the least shade coverage, highlighting the importance of targeted shade expansion to improve comfort and reduce heat exposure.

This Plan establishes citywide guidance that can be applied on individual projects. In lower-shade areas, future corridor- or area-specific shade planning can be useful to identify the most effective locations and approaches for targeted shade expansion.



Source: City of Scottsdale, 2024; analysis using i-Tree (USFS)



# BENEFITS OF SHADE INFRASTRUCTURE

Shade infrastructure, *an interconnected system of trees, shade structures, and water-harvesting practices*, creates a cooler, healthier, and more resilient Scottsdale. Together, these elements reduce heat, improve comfort, and support both environmental and community well-being.

Trees are the cornerstone of a shade system, providing natural cooling through and evapotranspiration while improving air quality and supporting biodiversity. Trees filter pollutants, create habitat for wildlife, and enhance neighborhood character and comfort.

Water harvesting sustains landscapes and reduces reliance on potable water. By capturing and reusing rainfall, it supports plant health, replenishes groundwater, and helps manage stormwater runoff—vital functions in Scottsdale’s arid climate.

Shade structures complement the city’s urban canopy by extending comfort to areas where trees may not thrive or provide sufficient coverage. Well-placed structures reduce surface and air temperatures, protect people and materials from ultraviolet (UV) exposure, and encourage outdoor activity throughout the year. These structures also contribute to economic value by lowering energy use, extending the lifespan of outdoor surfaces, and enhancing the usability of public spaces.

Scottsdale’s Shade & Tree Plan for the Built Environment promotes desert-adapted and native trees, efficient irrigation, and the strategic use of shade structures to balance comfort with long-term resource management, while remaining adaptable as new research, materials, and technologies improve performance over time. Collectively, these tools form an integrated approach to shade infrastructure—one that cools the city, strengthens ecological systems, and enhances livability across Scottsdale.

# Trees

Trees contribute to creating cooler, healthier, and more resilient communities. They provide shade that reduces the urban heat island, lowers energy use, and improves comfort in outdoor spaces. Tree canopies filter air pollutants to improve air quality, while their roots manage stormwater and help prevent soil erosion. Trees also support biodiversity by providing habitat for wildlife, from pollinators to birds. Beyond environmental benefits, they add economic and social value by increasing property appeal, enhancing walkability, and creating welcoming community spaces. Trees contribute to well-being—encouraging outdoor activity, reducing stress, and strengthening neighborhood connections.

## Pollution

Trees improve air quality by capturing pollutants such as carbon dioxide and filtering fine particulates. A single mature tree can absorb up to 48 pounds of CO<sub>2</sub> annually<sup>2</sup> and remove nitrogen oxides and sulfur dioxide, making neighborhoods cleaner and healthier.

## Biodiversity

Trees preserve biodiversity by providing habitat for birds, insects, and other wildlife. Trees help protect soil, maintain water quality, and reduce erosion, while mitigating the impacts of extreme heat in urban environments.<sup>3</sup>

## Economic Value

Trees can increase property values by up to 15%<sup>4</sup> and reduce energy costs through shading and cooling.<sup>5</sup> These benefits also enhance community character and encourage investment in green spaces.

## Urban Heat Island

Planting trees is a natural and cost-effective way to reduce the urban heat island effect. Increasing tree canopy cover can make surfaces 20–45°F cooler than exposed areas and lower local air temperatures by nearly 8°F.<sup>1</sup>

## Healthy Communities

Trees help create healthier urban environments by cooling air, filtering pollutants, and reducing stress. Shaded streets and parks encourage outdoor activity and social interaction, strengthening civic pride and well-being.<sup>6</sup>



1. Arizona State University. Identifying Strategies for a Cooler Scottsdale (2022).  
2. U.S. Department of Agriculture, Forest Service. The Power of One Tree: The Very Air We Breathe (2015).  
3. U.S. Department of Agriculture, Forest Service. Urban Nature for Human Health and Well-Being (2018).  
4. CABE Space (Commission for Architecture and the Built Environment). The Value of Public Space (2004).  
5. Akbari, H. Peak Power and Cooling Energy Savings of Shade Trees (1997).  
6. American Forests. Urban Forests Fact Sheet (2013).

# Water Harvesting

Water harvesting captures and reuses rainwater to support healthy landscapes, reduce heat, and conserve resources. By directing stormwater into the soil, it reduces runoff, recharges groundwater, and provides a reliable water source for trees and plants. These practices lessen dependence on potable water, improve water quality, and help manage flooding and erosion.

In Scottsdale's arid climate, integrating water-harvesting techniques sustains shade trees, enhances landscape health, and strengthens resilience to heat. Even small-scale efforts, such as contouring soil, directing roof runoff, or using permeable surfaces, can create cooler, greener, and more livable outdoor spaces while easing demand on municipal water supplies.

## Cleans Polluted Water

Water harvesting improves water quality by reducing runoff and filtering contaminants through soil and vegetation. This process helps clean stormwater and supports healthier urban watersheds.<sup>2</sup>

## Supports Plant Health

Water harvesting provides a reliable, salt-free source for irrigation, keeping trees and landscapes healthy during dry periods. Maintaining soil moisture helps sustain plant vitality and resilience in arid conditions.<sup>3</sup>

## Conserves Potable Water

Capturing rainwater for landscape irrigation reduces reliance on treated water and supports resource conservation in Scottsdale's arid environment. This practice can lower irrigation demand by up to 50%.<sup>1</sup>

## Urban Heat Island

By enhancing soil moisture and promoting healthy vegetation, water harvesting helps cool the environment and reduce heat buildup in developed areas. Evapotranspiration from irrigated landscapes further lowers surrounding air temperatures.<sup>4</sup>

## Recharges Groundwater

Water harvesting replenishes groundwater supplies by directing captured rainwater into the soil, supporting long-term water availability. This process is vital for maintaining aquifer levels in desert regions.<sup>6</sup>

## Reduces Stormwater Runoff

By capturing rainwater and allowing it to infiltrate the soil, water harvesting mitigates runoff and helps prevent flooding and erosion. It also slows the flow of stormwater and promotes groundwater recharge.<sup>5</sup>

1. University of Arizona Water Resources Research Center. Harvesting Rainwater for Landscape Use (2026).  
2. U.S. Department of Agriculture, Forest Service. Urban Forests (n.d.).  
3. U.S. Department of Agriculture, Natural Resources Conservation Service. Conservation Practice Standard: Water Harvesting Catchment, Code 636 (2020).  
4. U.S. Environmental Protection Agency. Using Trees and Vegetation to Reduce Heat Islands (2025).  
5. U.S. Environmental Protection Agency. What is Green Infrastructure? (n.d.).  
6. U.S. Environmental Protection Agency. Soak Up the Rain: The Benefits of Green Infrastructure (2026).

# Shade Structures

Shade structures provide far more than relief from just the sun. They enhance comfort, extend outdoor usability, and add long-term value to public and private spaces. By reducing surface and air temperatures, they make streets, parks, plazas, and gathering spaces more comfortable throughout the year. Shade structures also reduce UV exposure, protecting public health and improving quality of life.

Well-placed shade enhances walkability, encourages recreation, and supports social interaction by making outdoor environments usable even during the hottest months. These improvements promote community engagement, safety, and economic activity. Shade structures also contribute to energy savings by reducing cooling demands for nearby buildings and vehicles, while durable materials and thoughtful design extend the lifespan of outdoor spaces and amenities.

## Economic Value

Well-designed shade structures improve the function and appearance of public spaces, extending material lifespans and reducing maintenance costs. They also support local business activity and community character.<sup>1</sup>

## Extended Outdoor Use

By increasing comfort and usability, shaded spaces encourage recreation, play, and longer outdoor stays, especially in parks and along pedestrian corridors.<sup>3</sup>

## UV Protection

Shade structures block harmful UV rays, reducing sun exposure and the risk of heat-related illness. Effective shade can cut UV radiation by up to 90%.<sup>2</sup>

## Energy Savings

Shade around buildings, parking areas, and walkways lowers surface and vehicle temperatures, decreasing cooling costs by up to 20%. Solar-integrated canopies can further enhance efficiency by generating renewable energy.<sup>5</sup>

## Heat Reduction

Shade structures lower surface temperatures by 20–45°F, making outdoor areas cooler and more comfortable while reducing the urban heat island effect.<sup>4</sup>

1. U.S. Environmental Protection Agency. Using Trees and Vegetation to Reduce Heat Islands (2025).  
2. U.S. Environmental Protection Agency. Using Trees and Vegetation to Reduce Heat Islands (2025).  
3. Urban Land Institute. Ten Principles for Building Healthy Places (2013).  
4. U.S. Department of Commerce, National Oceanic and Atmospheric Administration. Urban Heat Island. (n.d.).  
5. U.S. Department of Agriculture, Forest Service. Quantifying Urban Forest Structure, Function, and Value (1997).



# SHADE & WATER

Ongoing drought conditions and rising temperatures across the American Southwest make efficient coordination between water use and shade infrastructure important in Scottsdale. Expanding shade coverage must be balanced with responsible water management to reduce heat exposure while conserving limited water resources. An integrated approach combining appropriate tree selection, efficient watering strategies, and water harvesting supports long-term cooling for long-term viability and a livable desert community.

## Tree Selection

Prioritize desert-native and desert-adaptive species to expand canopy cover while aligning with Scottsdale’s water conservation goals (See Tree Guidelines, pages 37 - 47).

## Watering Strategies

Use efficient irrigation methods such as drip systems, smart controllers, and seasonal scheduling to support tree health while minimizing water waste (See Tree Guidelines, pages 51 - 52).

## Water Harvesting

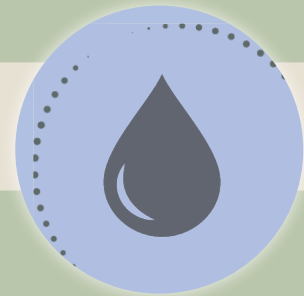
Capture and reuse stormwater to supplement irrigation, reduce reliance on potable water, and support tree establishment and long-term growth (See Water Harvesting Guidelines, pages 59 - 75).

## Water-Efficient Landscape Design



### **Grass, Artificial Turf and Trees**

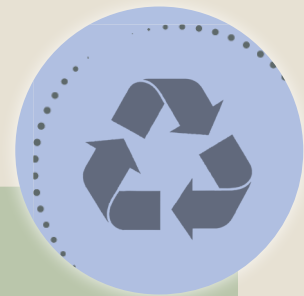
Balancing grass, artificial turf, and trees is critical to managing both heat and water use. Natural grass can reduce surface temperatures and retain soil moisture around trees but typically requires more water. Artificial turf conserves water yet can significantly increase surface temperatures, potentially stressing nearby trees. Effective site design strategically combines trees with low-water-use grass species or limited areas of artificial turf to achieve cooling benefits while maintaining water efficiency.



### **Shifting from Non-Functional Grass to Shade Solutions**

Reducing non-functional grass and replacing it with tree canopy, drought-tolerant groundcovers, or shaded seating areas can significantly lower water use while improving outdoor comfort. Tree-shaded areas retain soil moisture more effectively than exposed lawns, requiring less water usage over time. This approach creates cooler microclimates, reduces the urban heat island effect, and delivers long-term water savings without sacrificing usability of outdoor spaces.

## Gray Water Considerations



The City of Scottsdale does not actively promote gray water systems, as much of the community's water is already collected, recycled and reused. Scottsdale reuses water for landscape irrigation, energy cooling with valley-wide partners, and aquifer storage for future needs. While gray water harvesting can provide a supplemental water source for trees at a specific site, its overall impact on Scottsdale's water supply is limited given the City's robust existing water recycling efforts.





# MISSION, VISION, GOALS



# MISSION

Create cooler environments where shade seamlessly integrates with the desert landscape. By expanding Scottsdale's shade canopy and embracing innovative, water-wise practices, we envision neighborhoods, business areas, and public spaces that are comfortable, resilient, and vibrant, providing relief from heat while enhancing the quality of life for all who live, work, visit and play in our community.



# VISION

Establish Scottsdale as a model of resilience in modern desert cities, where thoughtfully designed shade infrastructure creates cooler, more livable spaces. By prioritizing long-term solutions and fostering a balanced ecosystem, we envision Scottsdale as a city of comfort, beauty, and environmental stewardship, ensuring a thriving and inviting community for generations to come.





## GOALS

The goals of the Scottsdale Shade & Tree Plan for the Built Environment document are centered on creating a cooler and more resilient city. The Plan provides a framework to expand and maintain shade infrastructure—trees, built structures, and water efficient elements. Through its implementation, the Plan aims to deliver long-term community benefits such as reducing heat, supporting biodiversity, lowering energy use, and improving comfort and livability in public and private spaces. The following goals guide Scottsdale’s approach to shade: maintaining the city’s existing shade infrastructure, increasing shade coverage through thoughtful design and placement, and collaborating with community partners to ensure the continued success of these efforts.

### Maintain our Shade:

Preserve and sustain mature trees and other existing shade infrastructure to ensure their long-term health, function, and benefit. Objectives include maintaining and monitoring shade infrastructure, sustaining funding resources, enhancing water efficiency, and ensuring long-term resilience through updated policies and training.

*(Cross Reference City of Scottsdale General Plan 2035 Character & Design, Open Space, Environmental Planning, Recreation, and Cost of Development Elements)*

### Increase our Shade:

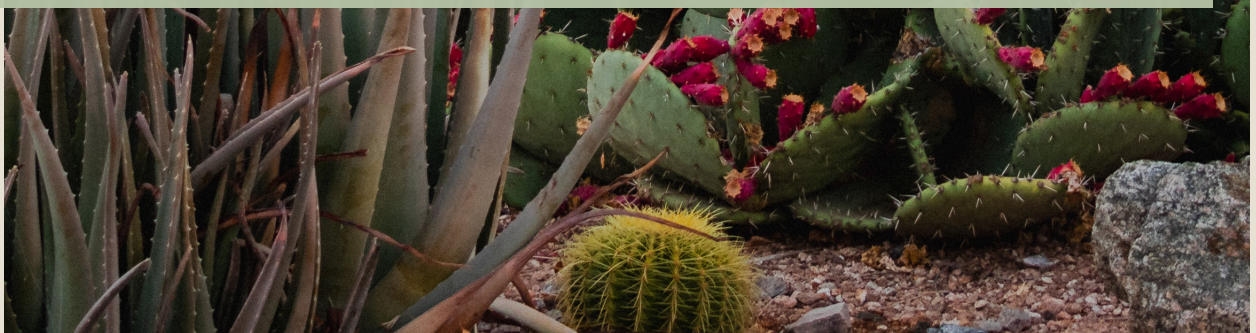
Expand shade infrastructure through strategic placement, thoughtful design, and integration into public and private projects. Objectives focus on expanding the city’s tree canopy and shade structures, continuing the incorporation of shade considerations in the development process, and enhancing the aesthetic and functional quality of shade infrastructure.

*(Cross Reference City of Scottsdale General Plan 2035 Character & Design, Open Space, and Environmental Planning Elements)*

### Collaborate on Shade:

Foster partnerships and shared responsibility to sustain and expand shade. Objectives emphasize education, community awareness, interdepartmental coordination, and participation through private developments, volunteers, and neighborhood-led efforts.

*(Cross Reference City of Scottsdale General Plan 2035 Community Involvement and Public Services & Facilities Elements)*





# MAINTAIN OUR SHADE

**Objective 1 Maintain and monitor existing shade infrastructure.**

- 1.1 Develop and implement a citywide shade management program that includes periodic condition assessments, maintenance schedules, and long-term replacement planning.
- 1.2 Maintain an inventory of public trees, structures, and other shade infrastructure.

**Objective 2 Provide programming and collaborative support for shade maintenance.**

- 2.1 Provide city staff with ongoing maintenance education and training.
- 2.2 Create public-private partnership opportunities that encourage local businesses and community organizations to invest in and sponsor shade maintenance.
- 2.3 Partner with local universities or research institutions to test and improve shade maintenance techniques and best practices.

**Objective 3 Ensure long-term shade resilience.**

- 3.1 Establish a coordinated shade infrastructure program that supports inspection and compliance efforts, organizes maintenance priorities, and identifies potential external funding or grant opportunities.
- 3.2 Regularly review and update policies and guidelines to reflect emerging best practices.

**Objective 4 Enhance water efficiency and conservation.**

- 4.1 Expand efficient irrigation and water harvesting practices to maintain existing shade infrastructure and offset water needs.



# INCREASE OUR SHADE

**Objective 1 Expand Scottsdale’s shade infrastructure.**

- 1.1 Increase tree canopy and shade structures citywide, prioritizing high-heat, low-canopy, and prominent public areas.
- 1.2 Strategically select and place trees to maximize shade coverage and ensure longevity.
- 1.3 Increase shade in the public realm for gathering, walking, and biking.

**Objective 2 Integrate shade infrastructure in the development process.**

- 2.1 Recognize shade infrastructure as an essential element of city projects.
- 2.2 Promote shade infrastructure in private development and redevelopment.
- 2.3 Apply the Scottsdale Shade & Tree Plan for the Built Environment Guidelines in the design review process.

**Objective 3 Enhance the aesthetic and functional quality of shade infrastructure.**

- 3.1 Support shade infrastructure designs that contribute to Scottsdale’s visual identity and character.
- 3.2 Provide technical guidance and examples of successful shade integration in different contexts (Greater Airport, Old Town, commercial corridors).
- 3.3 Ensure shade designs increase public comfort and accessibility.



# COLLABORATE ON SHADE

- Objective 1 Promote awareness and shared responsibility.**
  - 1.1 Develop education and outreach materials highlighting the benefits of shade and clarifying shared responsibilities for maintenance.
  - 1.2 Offer workshops, guides, and materials on the importance of selecting and implementing appropriate shade infrastructure.
  
- Objective 2 Strengthen partnerships and shared stewardship.**
  - 2.1 Establish an interdepartmental coordination group to align city shade initiatives with community priorities.
  - 2.2 Build relationships with neighborhoods, HOAs, schools, nonprofits, and businesses to develop support the provision and maintenance of shade infrastructure.
  
- Objective 3 Support community implementation and participation.**
  - 3.1 Encourage volunteer programs and neighborhood initiatives focused on shade projects.
  - 3.2 Consider offering small-scale grants or tool-lending programs to empower neighborhood-led shade projects.
  - 3.3 Recognize and incentivize community contributions.

# ADVANCING CITYWIDE SHADE GOALS

*Increasing shade begins with understanding where shade delivers the greatest benefit and how sun exposure shapes daily comfort. Building from the citywide heat and shade baseline, this page summarizes where shade matters most and how to prioritize it.*

## Desired Shade Canopy Coverage

A key focus of the Scottsdale Shade & Tree Plan for the Built Environment document is expanding citywide shade. The categories below identify high-priority locations with corresponding long-term shade goals. The ranges provided are planning targets—not mandatory, minimum requirements—and may help inform how shade performance is evaluated and communicated through site plans and related project materials, based on site context, constraints, and project type.

### Critical Shade Zones (75–100% Coverage)

Playgrounds, gathering areas, school pick-up/drop-off zones, seating in parks, and bus stops.

### Active Use Areas (50–75% Coverage)

Parking lots, streetscapes along major corridors, off-street paths/sidewalks.

### Functional Shade Areas (25–50% Coverage)

Commercial areas, streetscapes, residential sidewalks, open spaces in retention basins.

### Natural Integration Areas (30–60% Coverage)

Retention basins, green corridors, and other multipurpose areas.

### Supplemental Shade Areas (10–25% Coverage)

Industrial areas and residential yards.

## Sun Path & Shade Prioritization

Sun orientation is one of the most important drivers of thermal comfort in Scottsdale. Because afternoon sun is most intense, the west and southwest sides of streets, buildings, and public spaces typically create the greatest heat exposure for pedestrians, gathering areas, and building frontages.

Prioritize shade placement where people walk, wait, and linger during peak heat, especially along sidewalks, paths, plazas, transit stops, and entries. When trees are not feasible or need time to mature, shade structures and water-harvesting strategies can help deliver near-term relief and long-term canopy success.

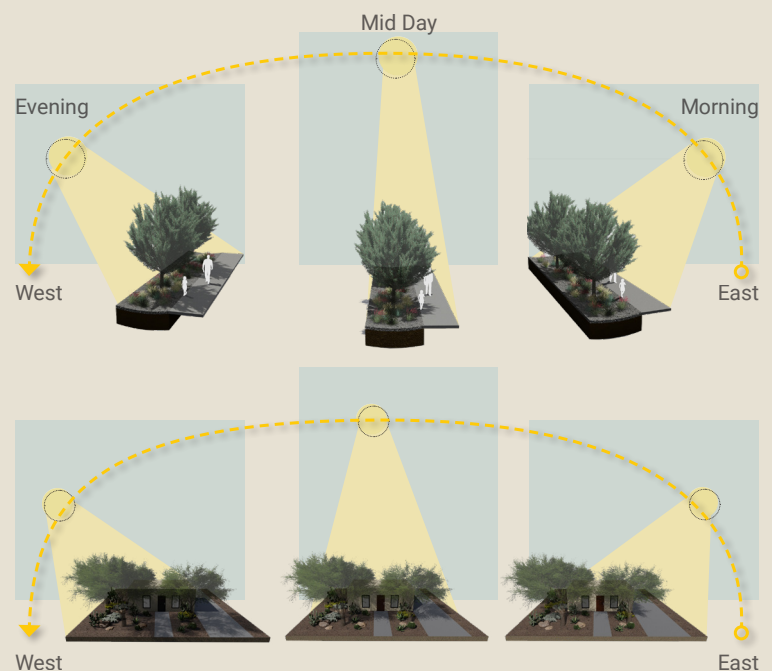


Figure 0-3. Effective shade placement based on sun orientation.

