

# GROWING A HEALTHIER COMMUNITY

## KEY TREES – PHOENIX



**LACEBARK ELM**  
*Ulmus parvifolia*  
height 40'-60'  
canopy 35'-40'



**TEXAS HONEY MESQUITE**  
*Prosopis spp*  
height 12'-20'  
canopy 35'-45'



**ARIZONA ASH**  
*Fraxinus velutina*  
height 35'-45'  
canopy 30'-40'



**DESERT IRONWOOD**  
*Olneya tesota*  
height 20'-40'  
canopy 40'-80'



**PALO VERDE**  
*Parkinsonia spp*  
height 13'-20'  
canopy 30'-50'



**DESERT WILLOW**  
*Chilopsis linearis*  
height 15'-40'  
canopy 30'-50'



**CHINESE PISTACHE**  
*Pistacia chinensis*  
height 45'-65'  
canopy 35'-45'



**ALEPPO PINE**  
*Pinus halepensis*  
height 50'-80'  
canopy 75'-85'



**LIVE OAK**  
*Quercus virginiana*  
height 40'-60'  
canopy 50'-80'



**EUCALYPTUS / GUM**  
*Eucalyptus spp*  
height 50'-90'  
canopy 40'-65'

**Total Annual Value in Urban Tree Benefits: \$40.25 million/year**

Combined values for annual benefits provided for pollution removal, carbon sequestration, carbon avoidance, energy savings, and storm water avoidance.

**Total Structural Value in Urban Trees: \$3.842 billion**

Structural Value is the standing value of each tree plus the carbon it stores.

## SUMMARY OF KEY FINDINGS



### Key Highlights

#### AIR QUALITY

The City of Phoenix urban tree population as a whole stores 305,000 tons of carbon and removes 35,400 tons of carbon from our air each year (valued at \$2.52 million/year). Trees remove enough carbon to offset 10,412 cars per year - based on a 25mpg car traveling 12,000 miles/year and producing 14 lbs of CO<sub>2</sub> per gallon of gas.

#### POLLUTION REMOVAL

Trees within the City of Phoenix intercept 1,770 tons/year of air pollution (valued at \$5.76 million/year).

#### STORMWATER RUNOFF

Trees within the City of Phoenix reduce stormwater runoff by 91.7 million cubic feet per year. That is enough water to fill approximately 23,000 swimming pools (based on an average pool size of 4,000 cubic feet); valued at \$6.11 million/year.

#### ENERGY USE

It is estimated in the City of Phoenix that trees reduce energy-related costs from residential buildings by \$22.9 million annually.

#### PROVIDE SHADE

Trees in the City of Phoenix account for 9% shade within the city. That is shade equivalent to 107,186,640 umbrellas or approximately 186,000 football fields.



Produced in cooperation with the USDA Forest Service, which is an equal opportunity service provider and employer

DATA	PHOENIX
Number of Trees	3,166,000
Project Study Area	384.5 sq mi (996 sq km) 246,064 acres
City Land Area	519 sq mi (1,344 sq km) 332,160 acres
Number of Species Sampled	60
Tree Cover	9.0% – 12.9 trees/acre
Most Common Species	Velvet Mesquite 8.3% California Palm 7.5% Sweet Acacia 6.7%
Percentage of Trees less than 6" DBH* <small>DBH is the diameter at 4.5 feet above ground</small>	44.8%
Pollution Removal	1,770 tons/year (\$5.76 million/year)
Carbon Sequestration	35,400 tons/year (\$2.52 million/year)
Carbon Storage	305,000 tons (\$21.7 million/year)
Avoided Carbon Emissions	\$2.96 million/year
Oxygen Production	89,200 tons/year
Building Energy Savings	\$22.9 million/year
Avoided Stormwater Runoff	91,700,000 cu ft (\$6.11 million/year)
Replacement Values	\$3.82 billion (\$1,207/tree)



# 1.5

The City of Phoenix population.

# 519

Phoenix encompasses 519 square miles of land.

**These numbers are more than simple statistics; they are contributing factors to the increasing intensity of the city's urban heat island (UHI).**

**The UHI effect equates to increased energy and water consumption, which leads to increased costs and strained resources.**

# 92

Average number of days per year of 100°F or more in Phoenix.

## Air pollution

# \$5.76

 million/year

Trees within the City of Phoenix intercept 1,770 tons /year of air pollution. Valued at \$5.76 million/year.

## Stormwater Runoff

# \$6.11

 million/year

Trees within the City of Phoenix reduce stormwater runoff by 91.7 million cubic feet/year valued at \$6.11 million/year.

## Carbon Sequestration

# \$2.52

 million/year

The City of Phoenix urban tree population as a whole stores 305,000 tons of carbon and removes 35,400 tons of carbon from our air each year valued at \$2.52 million per year.

