# GROWING AHEALTHIER COMMUNITY

#### **KEY TREES** – PHOENIX



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



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



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



DESERT IRONWOOD PALO VERDE Olneya tesota Parkinsonia spp height 20'-40' height 13'-20' canopy 40'-80' 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 Quercus virginiana height 50'-80' height 40'-60' canopy 75'-85' canopy 50'-80



LIVE OAK

**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

DATA



### **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, 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

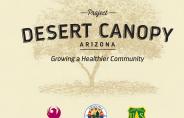
Trees within the City of Phoenix reduce stormwater runoff by 91.7 million cubic feet per year. That is enough water to fill approximately 23,000 swimming pools (based on an average pool size of 4,000 cubic feet); valued at \$6.11 million/year.

#### **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 employed

### **PHOENIX**

**Number of Trees** 3.166.000

Project Study Area 384.5 sq mi (996 sq km) 246.064 acres

City Land Area 519 sa mi (1.344 sa km) 332.160 acres

Number of Species Sampled

Tree Cover

Most Common Species

9.0% - 12.9 trees/acre Velvet Mesquite 8.3%

California Palm 75% Sweet Acacia 6.7%

Percentage of Trees less than 6" DBH\* DBH is the diameter at 4.5 feet above ground

44.8%

Pollution Removal

1.770 tons/vear (\$5.76 million/year)



Carbon Sequestration

35.400 tons/vear (\$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 millon/year)



Replacement Values

\$3.82 billion (\$1,207/tree)







1.5

The City of Phoenix population.

519

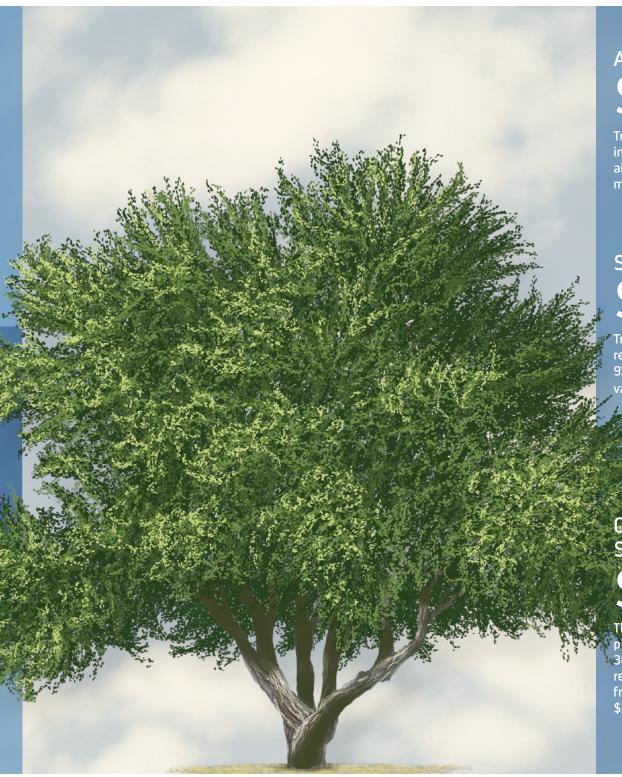
Phoenix encompasses 519 square miles of land.

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.

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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  $^{\scriptscriptstyle{\mathsf{m}}}$ 

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/

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.