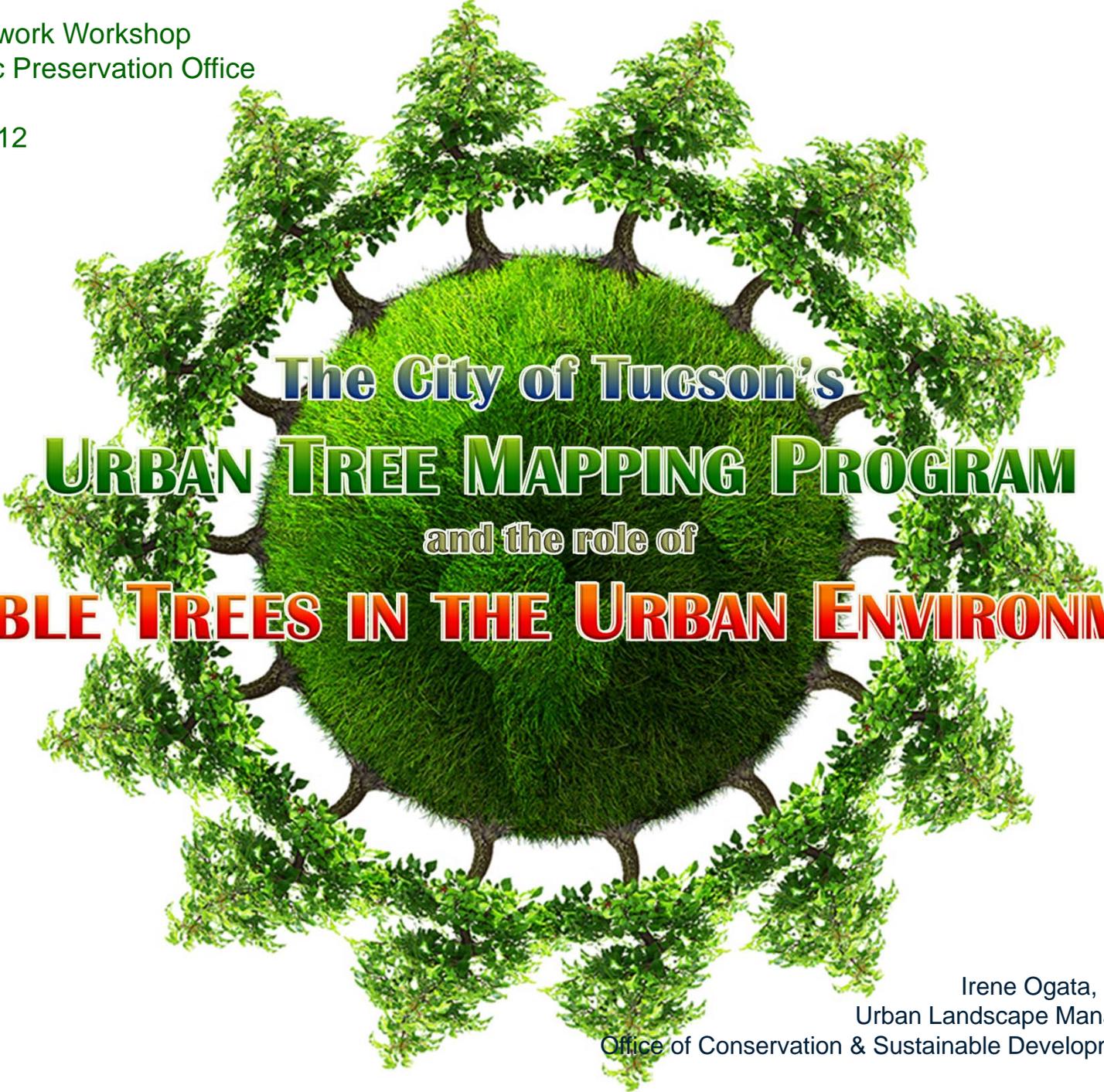


L.E.A.F. Network Workshop
COT Historic Preservation Office
Tucson, AZ
Sept. 14, 2012



The City of Tucson's
URBAN TREE MAPPING PROGRAM
and the role of
EDIBLE TREES IN THE URBAN ENVIRONMENT

Irene Ogata, RLA
Urban Landscape Manager
Office of Conservation & Sustainable Development

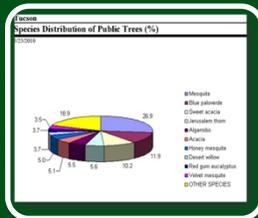




CITY'S URBAN FOREST



Tree Inventory



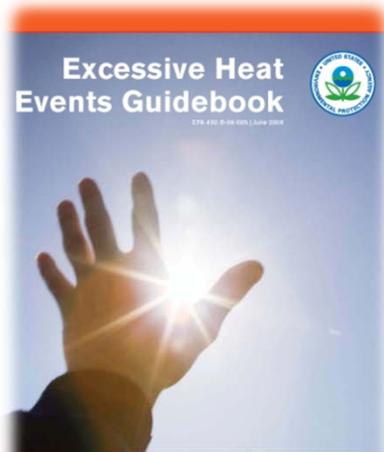
Data to date



? Future Direction



CITY'S TREE INVENTORY



 United States Environmental Protection Agency
Office of Research Programs 60075
1301 Pennsylvania Avenue NW, Washington, DC 20460





CITY'S TREE INVENTORY



Structure



**Environmental
Services**



**Comprehensive
Value**



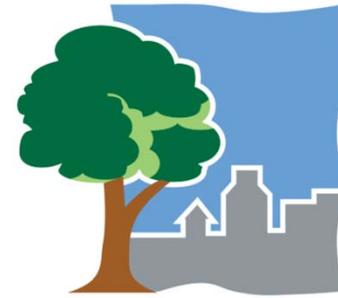
**Strategic Management
& Advocacy**



i-Tree Tools



CITY'S TREE INVENTORY



i-Tree™

Eco



i-Tree™

Streets



i-Tree™

Vue



i-Tree™

Storm



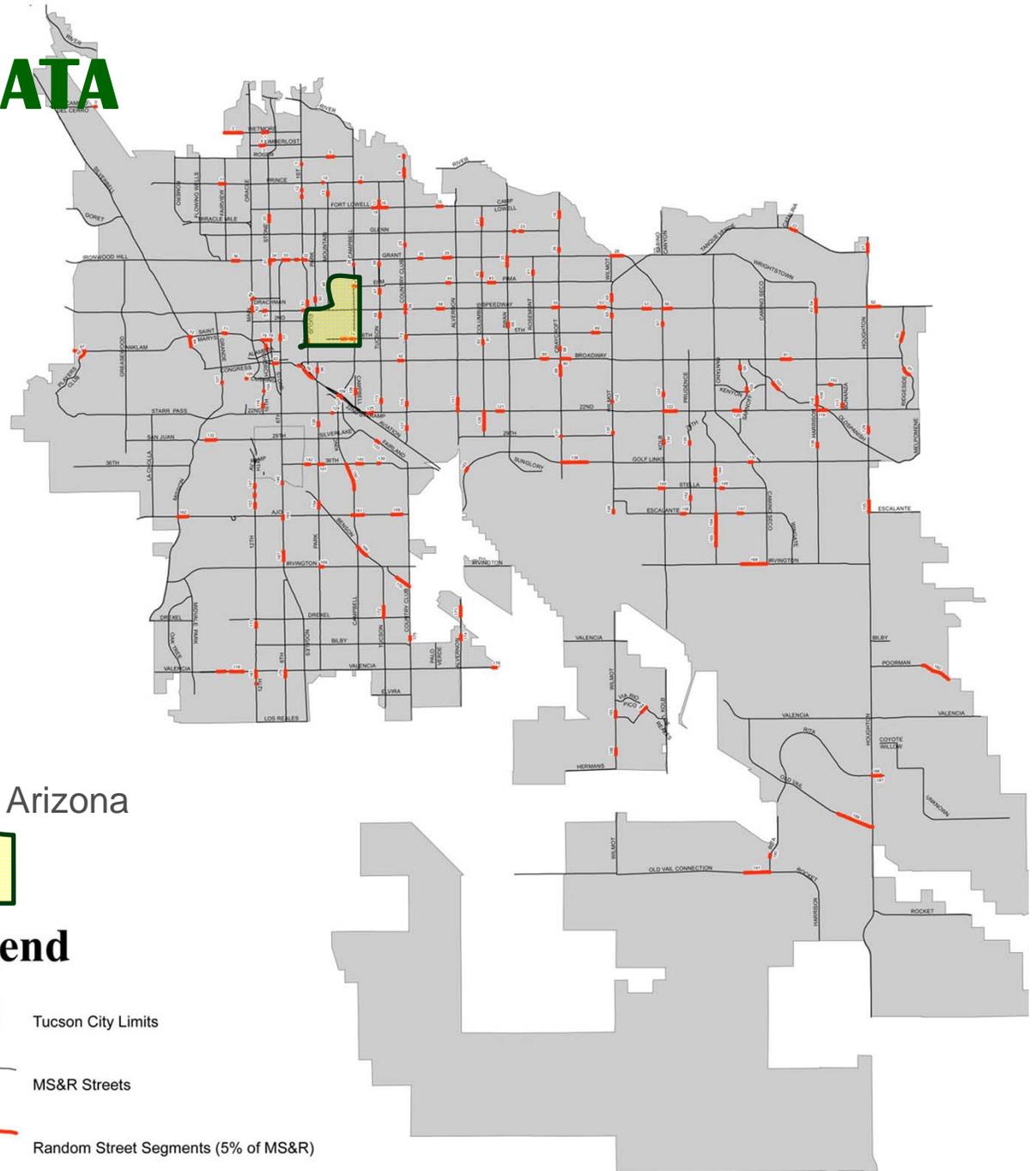
i-Tree™

Species

i-Tree Tools v3



CITY DATA



Univ of Arizona



Legend



Tucson City Limits



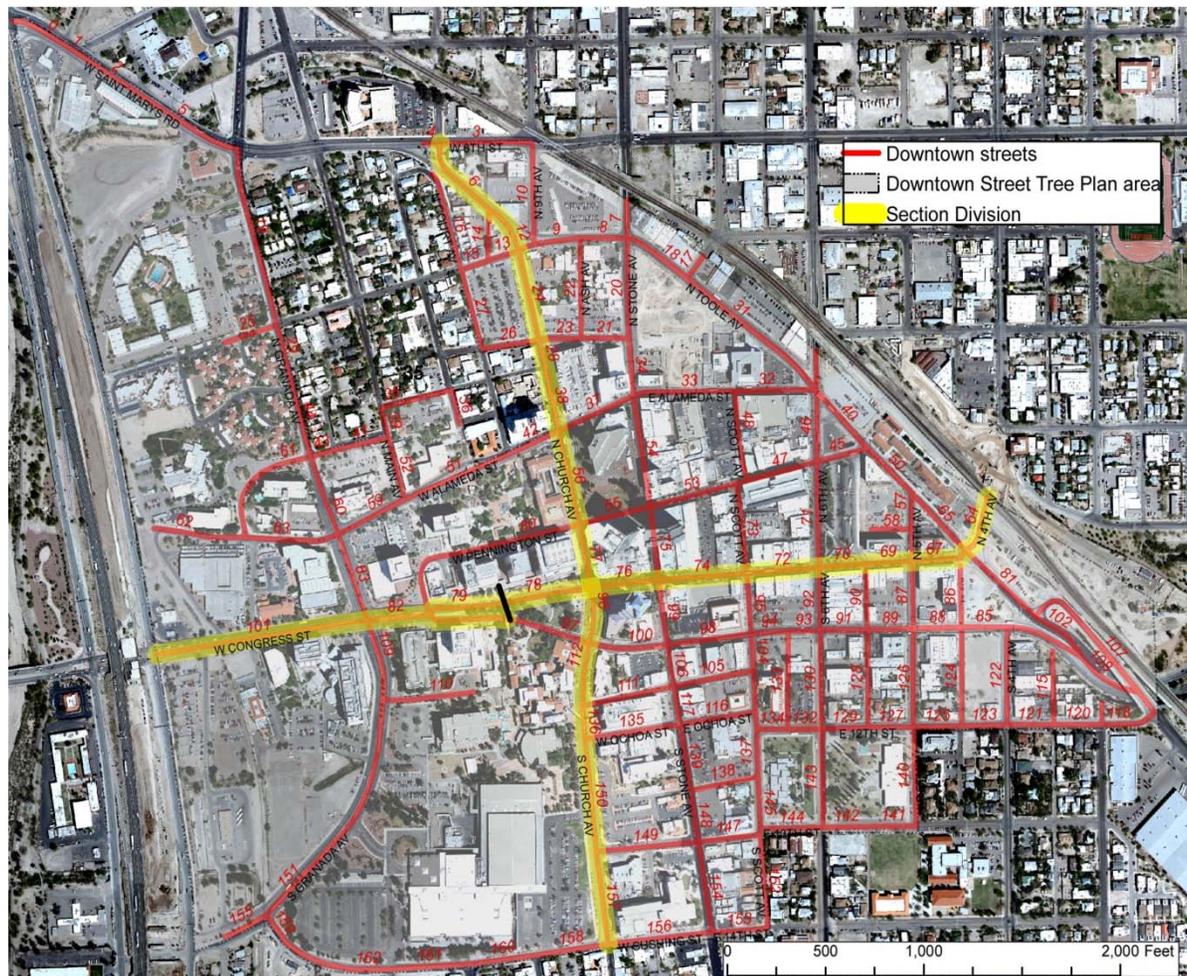
MS&R Streets



Random Street Segments (5% of MS&R)



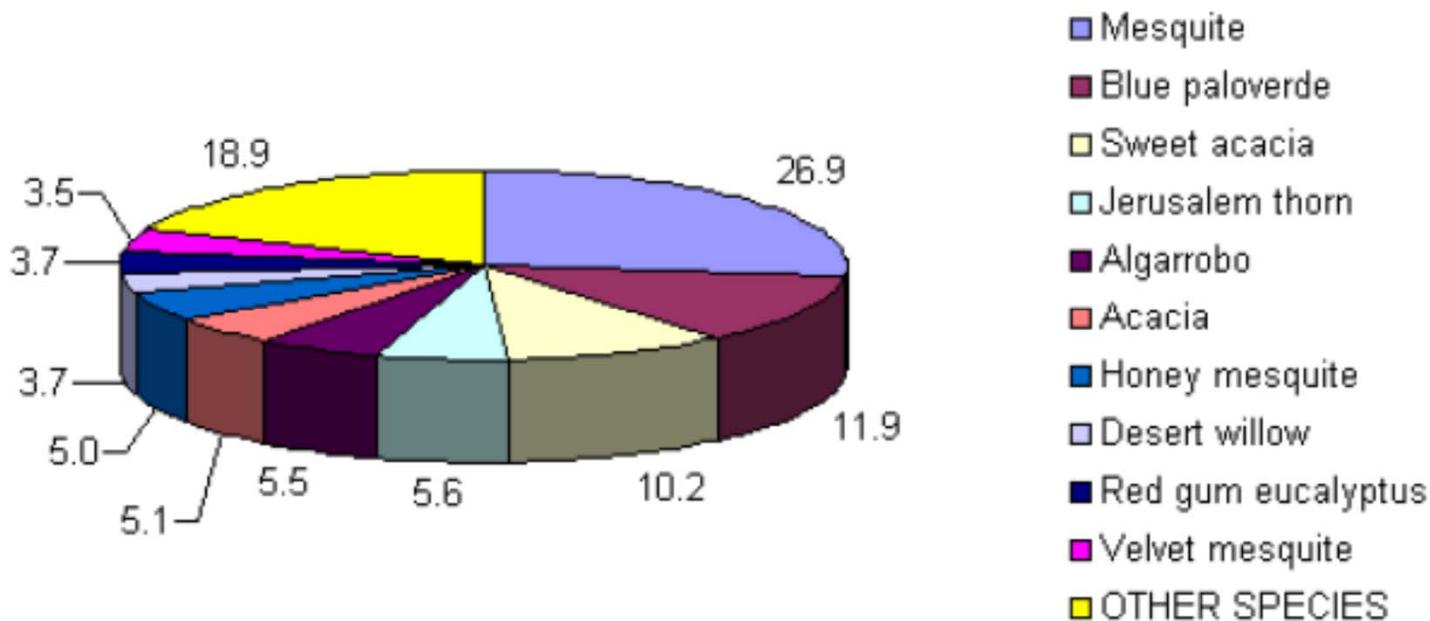
CITY DATA





CITY DATA

Major Street & Routes



924 trees surveyed (extrapolates to 18,840 trees)

1 tree every 240 feet

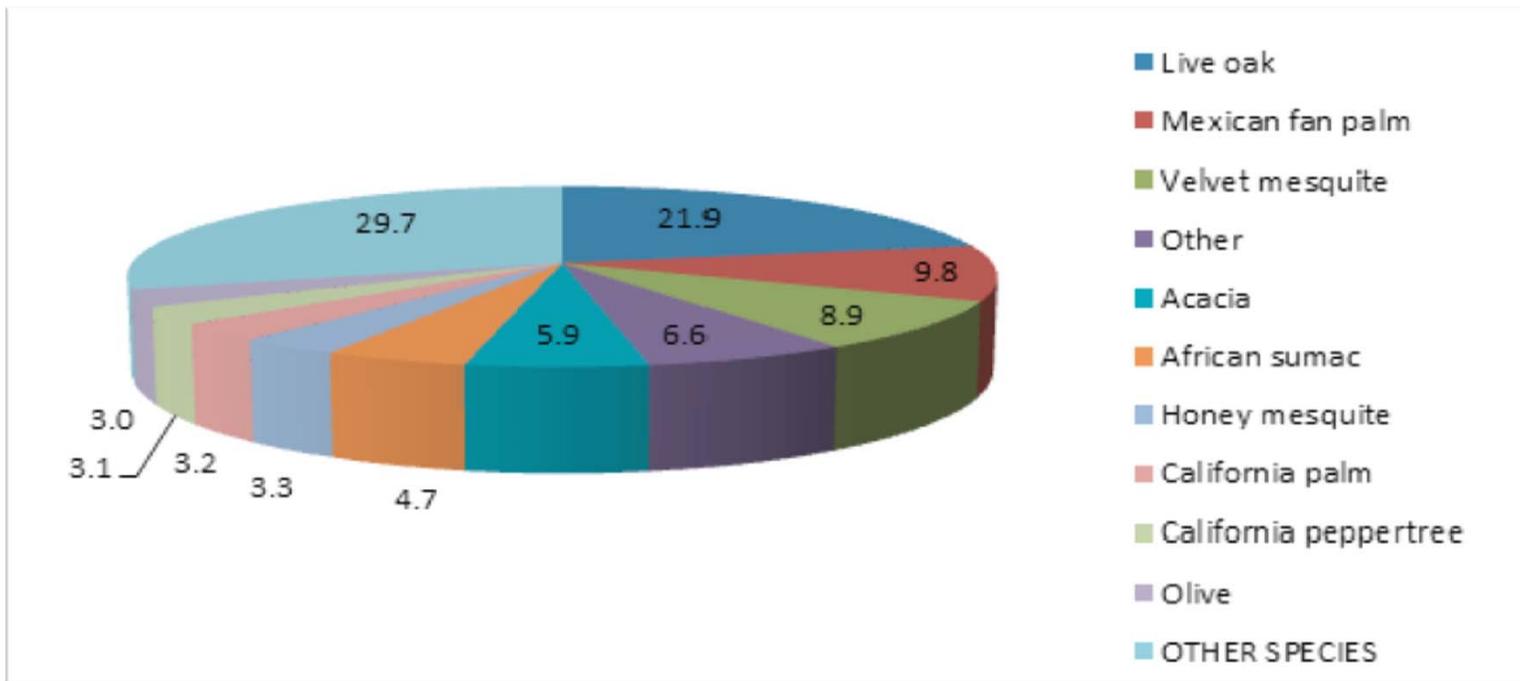
1343 planting sites immediately available

Potential for 1 tree every 93 feet



CITY DATA

Downtown



1199 trees surveyed

1 tree every 98 feet

237 planting sites immediately available

But only for 41 species every 98 feet



CITY DATA

Tucson's Importance Values

MS&R

| Species | % of population | % of leaf area | % of canopy | Importance Value |
|-----------------|-----------------|----------------|-------------|------------------|
| Mesquite | 26.9 | 37.2 | 36.2 | 33.4 |
| Blue Paloverde | 11.9 | 10.6 | 15.4 | 12.6 |
| Sweet acacia | 10.2 | 3.6 | 4.9 | 6.2 |
| Jerusalem thorn | 5.6 | 4.7 | 5.8 | 5.4 |

Downtown

| Species | % of population | % of leaf area | % of canopy | IV |
|------------------|-----------------|----------------|-------------|------|
| Live oak | 21.9 | 18.9 | 21.7 | 20.8 |
| Mexican fan palm | 9.8 | 2.7 | 1.9 | 4.8 |
| Velvet mesquite | 8.9 | 11.8 | 12.7 | 11.1 |
| African sumac | 4.7 | 5.7 | 6.3 | 5.5 |
| Honey mesquite | 2.2 | 6.1 | 6.4 | 5.2 |



CITY DATA

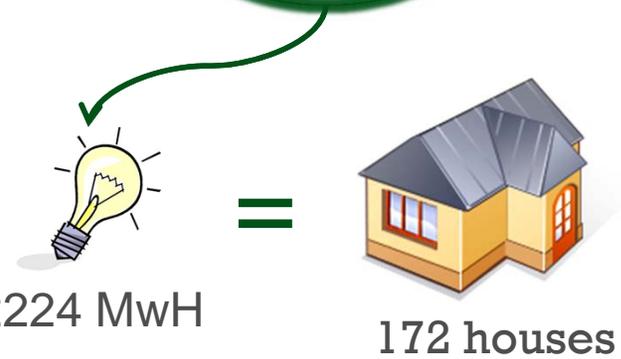
Water Use

| ADWR Water Use Ranking | Species | Percent of Downtown Trees |
|---|--|---------------------------|
|  | Acacia | 5.9% |
|  | Mexican fan palm Velvet mesquite African sumac | 23.4% |
|  | Live oak | 21.9% |

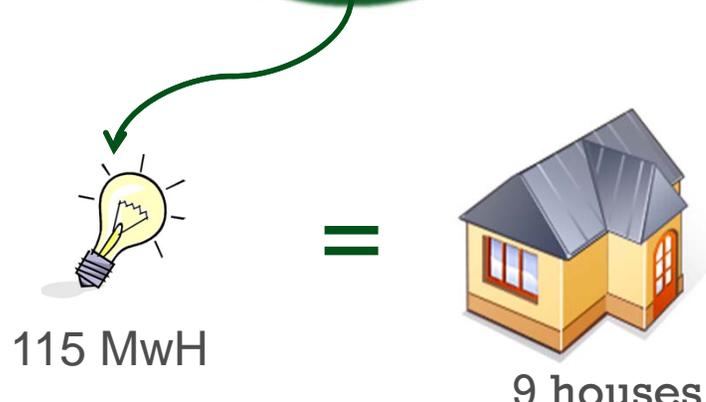
| ADWR Water Use Ranking | Street Tree Species | Percent of MS&R Trees |
|---|--------------------------------------|-----------------------|
|  | Acacia | 15.3% |
|  | Mesquite Palo Verde Eucalyptus | 56.5% |
|  | Willow | 0.7% |



CITY DATA

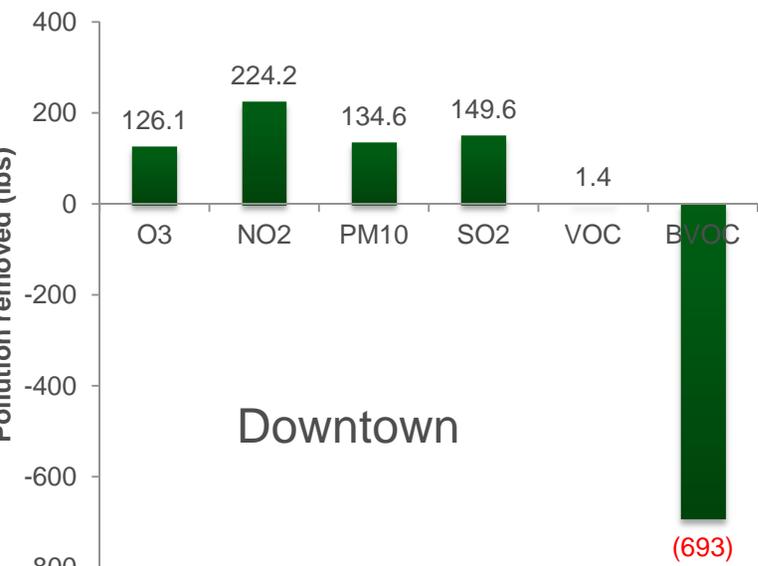


Energy Benefits



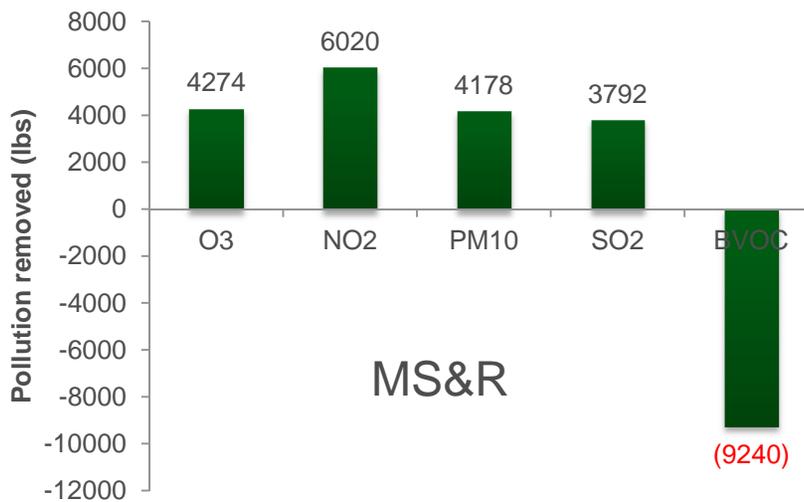


CITY DATA



Downtown

Air Quality



MS&R

Net absorb/avoid 1/2 lb per tree per year



CITY DATA

Carbon Dioxide Benefits



18,840 MS&R trees



1199 Downtown trees

SEQUESTER/AVOID
D
3,589,040
pounds of CO2



=



346 cars

SEQUESTER/AVOID
D
161,780
pounds of CO2



=



14 cars



CITY DATA

Stormwater Benefits



MS&R trees intercept more than 15 million gallons of stormwater each year



CITY DATA

Summary EcoService Benefits



MS&R Trees:

\$22.27 in services benefits
\$50.04 in aesthetic benefits
\$72.31 per tree per year

Downtown Trees:

\$17.23 in services
\$35.06 in aesthetic benefits
\$52.29 per tree per year



CITY DATA

Potential to identify inventory by spatial location

Inventory by street segment



? FUTURE DIRECTION



? FUTURE DIRECTION

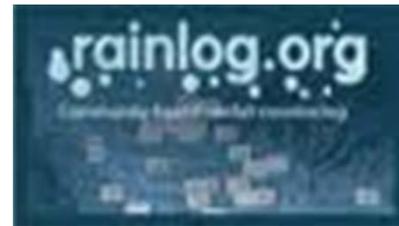




? FUTURE DIRECTION



? FUTURE DIRECTION





? FUTURE DIRECTION



? QUESTIONS

