



**UA STREET TREES SHRINK
UA's CARBON FOOTPRINT -**

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The results are in! The Campus Arboretum is proud to report data from our Street Tree Inventory, a project in collaboration with the City of Tucson in documenting tree species distribution, determining annual net costs/benefits, and establishing priorities for maintenance in the urban forest.

The UA Campus is an oasis in the middle of Tucson, with over 2000 UA trees lining the streets we service. These street trees contribute to the quality of life for all our neighbors, providing shade on pavements, and reducing air pollution, storm-water and the University's 'carbon footprint'.

Although there are over 7000 individual trees on the UA campus, only the 2000 trees directly flanking public streets were counted in this study. Since many of the UA's largest trees are situated in the interior of the campus, we can only guess at the greater benefit (possibly 3-4 times larger) that might result from an inventory of the entire collection.

Annual Contributions of the 2000 UA Street Trees:

Annual net CO ₂ sequestered/held	246,620 lbs CO ₂ per year
Annual reduction in energy costs for UA facilities	\$18,230 per year
Total reduction of emission, pollutants, particulates	9,994 lbs particulates per year
Total annual rainfall or storm water intercepted in gallons	1,096,871 gal per year

As trees age, their benefits rise, but then may fall. As we plant more small trees, we ensure increased potential benefits for ensuing years. As older trees are removed, the ratios shift. Sometimes an older tree is less efficient in stormwater uptake, but it holds more Carbon in its trunk and branches. The STRATUM program model calculates yearly benefits for the inventoried species, based on this year's snapshot.

Assumptions of the STRATUM software program, part of the i-Tree Suite developed by the Center for Urban Forest Research at UC Davis:

- Each species of tree has an average life span.
- Each individual tree's current condition gives potential to reach that life span.
- Each tree's current size relates to ability to take up water and provide other benefits.
- Orientation on the streets influenced default shade benefit.
- Aesthetic benefits relate to median home costs in a particular area.
- Energy benefits depend on UA's cost per KWH of electricity and Therm of gas.