Here are two articles that clearly demonstrate the City of Shoreline is not protecting its assets held in our tree canopy, both publicly owned and privately owned trees need to be tracked. And they need to be counted based on canopy leaf volume, NOT stem count.   The value of trees comes from the amount of leaf surface area is available to convert CO2 to oxygen, intercept rainfall, retain, clean, and slow stormwater runoff, enhance business profits, enrich neighborhoods and reduce crime levels.   Therefore, a mature evergreen which has leaves year-round and a large canopy will provide a much higher return to the city than a 15 ft tall deciduous street tree with a small seasonal canopy. To put it simply, not all trees are created equally when it come to return on investment.

Every week I see mature trees, often evergreens coming down and when I ask about what is being done I get responses like, but we are adding over xxx number of trees along Aurora. This answer may be truthful, but is inadequate to address off-sets for the value of trees being taken from the city coffers.

I ask that the City Council provide clear direction that our assets be protected before they are lost!

Please see the two articles attached for suggestions on what can be done and the dollar value to the citizens through reduction of stormwater retention, heating/cooling costs, local business (tax income for the city) and quality of life.

sincerely,
Boni Biery

Shoppers are increasingly interested in the experience of shopping, as well as the goods and services they expect to purchase. A series of studies has investigated associations between the urban forest and peopleâ€™s response to shopping settings.

These studies show that providing for trees in the streetscape is an important investment for a business community. The presence of a quality urban forest positively influences shoppers' perceptions, and probably, their behavior. The information below includes research studies, and a guidelines booklet to help create and sustain beautiful streetscapes.

Studies

Trees and Business - Growing Together
A National Research Program

Trees provide environmental benefits in cities, but also contribute to the economy of communities. A program of scientific studies has found that shoppers respond positively to trees in downtown business districts. These findings have been consistent across large, small and mid-size cities of the United States. The most positive consumer response is associated with streets having a mature, well-managed urban forest where overarching tree canopy helps create a "sense of place." These materials describe the results across several research studies. Details of research done in different sized U.S. cities are found in sections below.

Wolf, K.L. 2013 (spring). The Urban Forest. Communities & Banking 24, 2: 25-27. (1.7 M pdf)

Joye, Y., K. Willems, M. Brengman, & K. Wolf. 2010. The Effects of Urban Retail Greenery on Consumer Experience: Reviewing the Evidence from a Restorative Perspective. Urban Forestry and Urban Greening 9, 1: 57-64. (222 K pdf)

Wolf, K. L. 2009 (August). Trees Mean Business: City Trees and the Retail Streetscape. *Main Street News* 263: 1-9. (2 M pdf)

Wolf, K. L. 2009. More in Store: Research on City Trees and Retail. *Arborist News* 18, 2: 22-27. (456 K pdf)

Wolf, K.L. 2007. The Environmental Psychology of Trees. *International Council of Shopping Centers Research Review* 14, 3:39-43. (124 K pdf)

Augustin, S., and J.M. Cackowski-Campbell. 2007. Research Design Connections. *Landscape Architecture* 97, 8: 60. (pdf 1.6 M)

Trees are worth downtown's investment. April 2006. *Downtown Idea Exchange*. (pdf 204 K)

Wolf, K. L. 2005. Business District Streetscapes, Trees And Consumer Response. *Journal of Forestry* 103, 8, 396-400. (pdf 608 K)

National Public Radio broadcast, Autumn 2005 (link)

Urban Small Malls :
Public Response to Strip Malls and Roadside Landscapes

Strip malls evoke all sorts of response from urban observers. Some find them problematic in communities, due to inefficient use of space and poor visual quality. Others note that small malls provide convenient, local goods and services, and are important for new business start up. Public interest in urban sustainability is growing. New and renovated strip malls can incorporate more plantings and environmental design features. This study tested public response to varied landscape treatments of urban strip malls.

> Wolf, K.L. 2009. Strip Malls, City Trees, and Community Values. Arboriculture & Urban Forestry 35 (1): 33-40. (1.2 M pdf)

> Wolf, K. L. 2008. Community Context and Strip Mall Retail: Public Response to the Roadside Landscape, Paper 08-0842. Proceedings of the 87th Annual Meeting of the Transportation Research Board (January 13-17, 2008). Transportation Research Board of the National Academies of Science (Washington D.C.) (920 K pdf)

Trees Are Good for Business:
Guidelines for Planning, Planting, and Managing Trees in Business Districts

Long term and consistent stewardship of trees is needed to achieve economic benefits. This technical publication lays out the basics of planning and managementf for a retail urban forest. It outlines the goals, partners and actions needed to create and sustain a quality urban forest for business benefit. The brochure was a collaborative project of the University of Washington and the Pacific Northwest Chapter of the International Society of Arboriculture.

> Trees are Good for Business. Technical Publication of the Pacific Northwest Chapter of the International Society of Arboriculture, Portland OR. June 2005. (pdf 14.7 MB)

Trees and Revitalizing Business Districts in Large Cities:
A Survey of Consumers & Merchants

This research compared the attitudes and values of urban residents and business people regarding the urban forest in retail business districts. Research methods included photo-based surveys and interviews. The project was national in scope; surveys were distributed in cities throughout the United States having greater than 250,000 population. The results demonstrated public preferences for trees in business districts, and differences in response between business people and nearby residents. Differences in shopping behaviors were also detected for business districts having trees. Those surveyed claimed they would be willing to pay up to 12% for goods sold in a district having a quality urban forest.

> Growing with Green: Business Districts and the Urban Forest - *Fact Sheet 2* (pdf 144K)

> Trees in Business Districts: Comparing Values of Consumers and Business - *Fact Sheet 4* (pdf 272 K)

> Trees in Business Districts: Positive Effects on Consumer Behavior! - *Fact Sheet 5* (pdf 216 K)

> Grow for the Gold. In TreeLink, newsletter of the Washington Department of Natural Resources

Community Forestry Program, No. 14, Spring 1999. (pdf 348K)

Tree Investment Brings Cities Many Happy Returns. Seattle Daily Journal of Commerce, August 2001. (pdf 168 K)

Wolf, K. L. 2004. Nature in the Retail Environment: Comparing Consumer and Business Response to Urban Forest Conditions. Landscape Journal, 23, 1, 40-51. (pdf 3.1 M)

Wolf, K. L. 2003. Retail and Urban Nature: Creating a Consumer Habitat. Population and Environmental Psychology Bulletin, 29,1,1-6 (reprint of Amsterdam People/Plant Symposium proceedings). (pdf 268 K)

Wolf, K. L. 2003. Public Response to the Urban Forest in Inner-City Business Districts. Special Issue on Social Aspects of Urban Forestry. Journal of Arboriculture, 29, 3, 117-126. (pdf 212 K)

Wolf, K. L. 1999. Nature and Commerce: Human Ecology in Business Districts. In C. Kollin (ed.) Building Cities of Green: Proceedings of the 9th National Urban Forest Conference. Washington D.C.: American Forests. (pdf 453 K)

Wolf, K. L. 1997. Enterprising Landscapes: Business Districts and the Urban Forest. In C. Kollin (ed.) Cities by Nature's Design: Proceedings of the 8th National Urban Forest Conference. Washington D.C.: American Forests. (pdf 647 K)

Wolf, K. L. 1997. Psycho-Social Dynamics of the Urban Forest in Business Districts. In P. Williams & J. M. Zajicek (eds) People Plant Interactions in Urban Areas: Proceedings of a Research and Education Symposium. Blacksburg, VA: People Plant Council. (pdf 2.8 M)

Trees in Small City Business Districts:
Comparing Responses of Residents & Potential Visitors

This study was a replicate of the large city study and tested consumer response to trees in communities that have 10-20,000 population. Measures of preference, perception and economic willingness-to-pay were used again. Research methods included interviews and mail-out surveys. Survey respondents prefer having large trees in retail streetscapes. Trees are also associated with reported increases in patronage behavior (such as travel distance and visit frequency), and willingness to pay more for products (up to 9%). Few differences in response were detected between small city residents and potential visitors who reside in nearby large cities.

Trees in Small City Business Districts: Comparing Resident and Visitor Response - *Fact Sheet 16* (pdf 160 K)

Trees on Main Street: Influences on Retail and Shopping Behavior - *Fact Sheet 17* (pdf 104 K)

Wolf, K. L. 2005. Trees In the Small City Retail Business District: Comparing Resident and Visitor Perceptions. Journal of Forestry, 103, 8, 390-395. (pdf 604 K)

Wolf, K. L. 2002. Human Dimensions of the Urban Forest in Small City Business Settings. In SAF (ed.), Forestry at the Great Divide: Proceedings of the 2001 National Conference. Washington D.C.: Society of American Foresters. (pdf 555K)

The Urban Forest in the Athens, GA Business District:
Case Study Research on Consumers and Trees in a Mid-Size City

Prior studies suggest positive consumer response to the presence of trees in business districts, based on hypothetical shopping scenarios. A contingent behavior study was conducted in Athens, Georgia

(about 100,000 population) to evaluate visitor reactions in a familiar retail setting that has an established urban forest canopy. Visitors of the Athens business district indicated strong preferences for the presence of trees, and specified how the presence of streetscape canopy influences their shopping activities.

Visitor Preferences for Trees in Streetscapes: Nature and Commerce in Athens, GA - *Fact Sheet 12* (pdf 964K)

Research on Business Visitors' Behavior: Trees and Commerce in Athens, GA - *Fact Sheet 13* (pdf 564K)

Wolf, K. L. 2004. Trees and Business District Preferences: A Case Study of Athens, Georgia, U.S. Journal of Arboriculture, 30, 6, 336-346. (pdf 376K)

Human Dimensions of Urban Forestry and Urban Greening
Nature & Consumer Environments – Trees & Transportation - Civic Ecology
Policy & Planning - Urban Forestry & Human Benefits

updated March 4, 2013

Want Your City to Thrive? Look to Its Trees

Communities like Culver City, California, are focusing on urban forest plans to help protect a major economic and environmental asset: the tree canopy.

- **DEBORAH SNOONIAN GLENN**
- @deborahglenn
- Feb 13, 2015
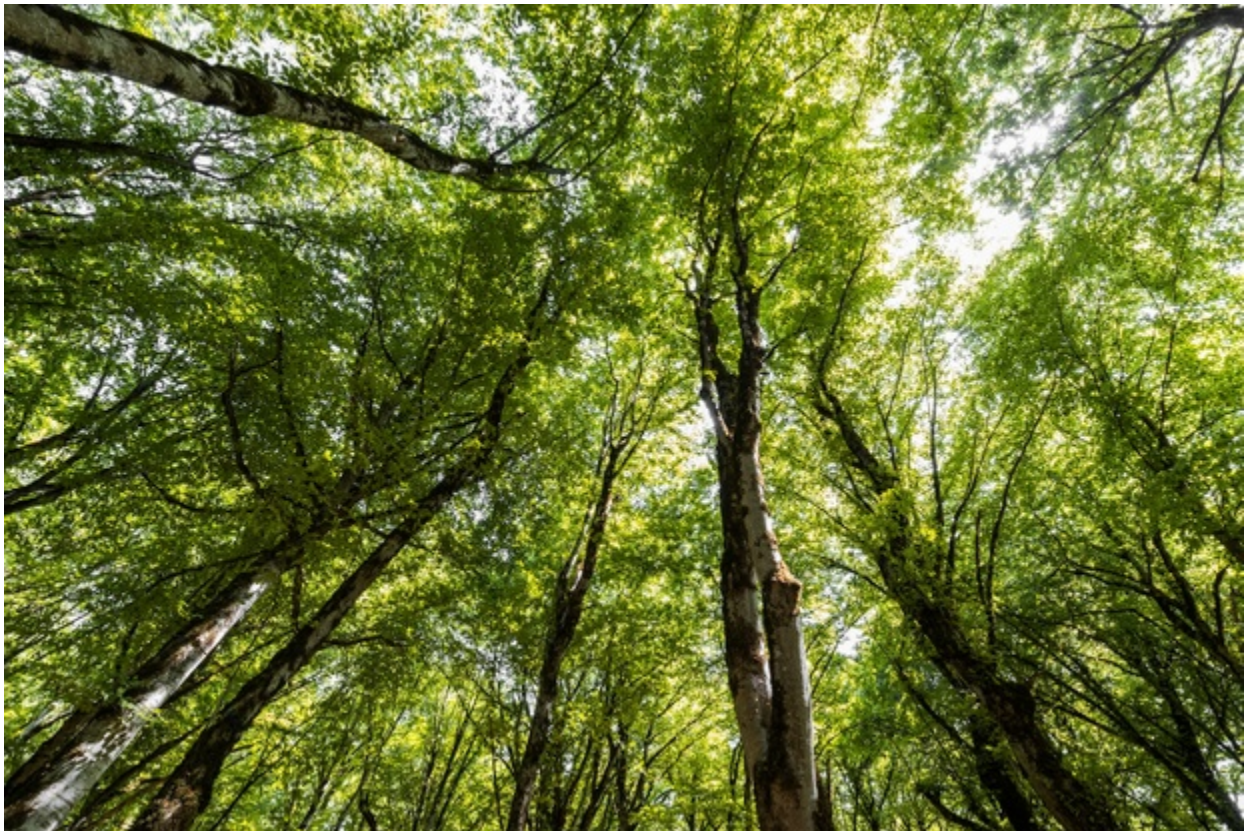
To paraphrase a beloved children's book, <u>trees are nice</u>—they give us oxygen, filter air pollutants, and absorb rainwater. Plus, <u>research shows</u> that trees in urban areas slow down traffic, foster civic pride and identity, and improve property values.

These perks haven't been lost on officials in Culver City, a neighborhood in <u>ever-greenifying</u> Los Angeles whose picturesque tree-lined streets are among the most coveted and expensive places to live in the area. Like a growing (sorry) number of American cities, Culver City is developing an urban forest master plan to ensure the long-term health and sustainability of its tree canopy.

Because of Los Angeles's size and diverse geography, not to mention a stripped-to-the-bones tree maintenance budget, the city would have a tough time ginning up a unified plan. But incorporated areas of L.A. County like Culver City, a town of roughly five square miles and 40,000 residents, have the freedom to act more nimbly.

The tree canopy in Culver City (Ryan Vaarsi/Flickr)

"Our trees provide measurable environmental and economic benefits year after year," says Charles Herbertson, city engineer and director of public works. "It's hard to imagine this area without the wonderful collection we have. People move here for the old-growth trees."

"People move here for the old-growth trees."

At the same time, he says, a large portion of Culver City's mature trees are reaching the end of their natural lifecycle. This increases the risk of losing many trees at once, especially in areas planted with the same species. The final urban forest master plan, which will be presented to the city council for approval in late 2015, will outline best practices for establishing a diverse canopy with respect to species, age, and pest and disease resistance, and will lay out criteria for adding trees when and where needed.

Culver City's efforts follow similar moves in nearby Santa Monica as well as in larger cities such as Pittsburgh, San Francisco, and Tampa. Increasingly, cities have recognized that trees provide not only environmental benefits and curb appeal—they're also good for business.

At Keep Indianapolis Beautiful (KIBI), a nonprofit partnership for creating public spaces, tree-planting initiatives are seen as a vehicle for community development, says David Forsell, president of KIBI. "When we first mapped our canopy in 2006, we noticed that tree cover was lower in areas with higher crime and poverty," he says.

"So we began adding trees in those hot spots and engaging local residents to care for them, since we've noticed there's a strong correlation between this engagement and higher social cohesion, people acting collectively on their own behalf. In planting more trees, we hope to set these areas up for success."

Increasingly, cities have recognized that trees provide not only environmental benefits and curb appeal—they're also good for business.

The uptick in urban forest planning has also been enabled by advances in technology that permit faster and easier analyses of tree data. The geographic information system (GIS)-enabled software program i-Tree, developed by the U.S. Forest Service in 2006 and upgraded in mid-2014, uses algorithms to calculate the dollar value of tree canopies and to assess future planting strategies; many other tools have followed.
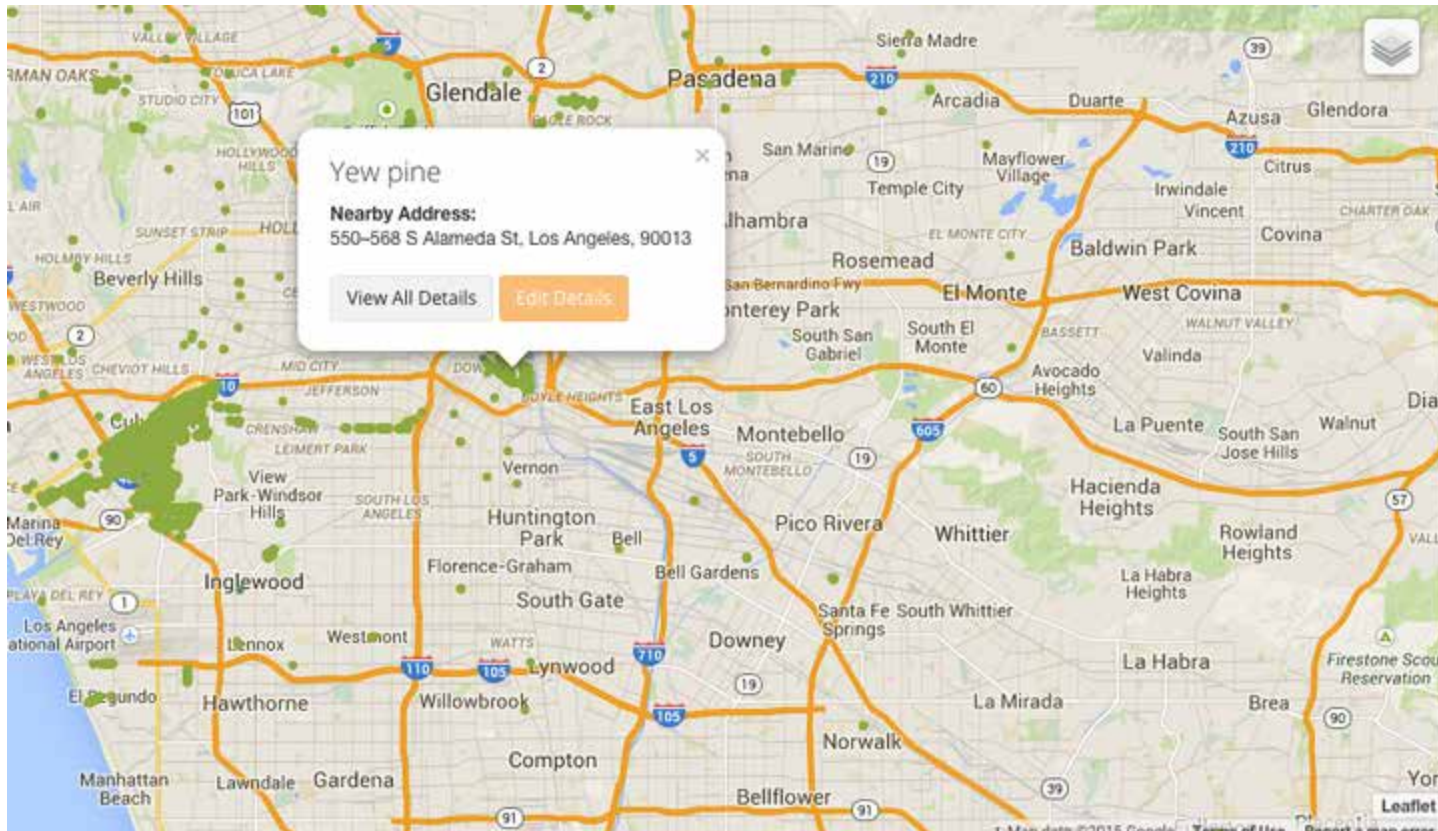
It's now possible to map and measure the value of a city's trees, even at the level of an individual tree. (TreeMapLA)

"Mapping exercises are incredibly useful for urban forestry," says Pamela Palmer, a landscape architect and president of Artecho, the design firm that's working with Culver City on its plan. "They help us fine-tune which trees to plant where and identify areas where a change in planting strategy is needed." Herbertson adds that easy-to-read maps and charts generated from Culver City's tree inventory have been effective tools for generating public interest and feedback, and believes they'll encourage buy-in and approval from the city council.

(For tree gawkers, the collaborative effort TreeMapLA has put together an interactive map covering many areas of the county, a ~~massive time suck~~ useful tool that lets you find your favorite local species or finger the nuisance one that drops sticky berries onto your freshly washed vehicle every January.)

Though Culver City makes up a mere one-one thousandth of L.A. County's land area, eco-minded Angelenos are glad for any initiative that chips away at the city's oversimplified and undeserved reputation as a wasteland of tract houses and strip malls connected by freeways. Plus, there's a case to be made that as a city's trees go, so goes the vitality of that city.

"Most national forestry resources today are diverted to mitigating disasters like forest fires … cities and grassroots organizations must take up the slack."

A 2012 study showed that some four million urban trees in the U.S. are lost each year to development and natural causes, while impervious areas (read: pavement and buildings) are on the rise, a one-two punch leading to downers like more stormwater runoff and higher temperatures from the urban heat-island effect.

The solution is local action, says Sarah Anderson of the Washington-based advocacy group Alliance for Community Trees. "Most national forestry resources today are diverted to mitigating disasters like forest fires," she says. "So collectively, cities and grassroots organizations must take up the slack, and they can have a huge impact by investing in their tree canopies. But there's no one-size-fits-all approach—each place has different needs."

In other words, think globally, plant locally.

http://www.citylab.com/weather/2015/02/want-your-city-to-thrive-look-to-its-trees/385455/?utm_source=Alliance+for+Community+Trees+Contacts+List&utm_campaign=1dec0b34c6-Treebune_News_15_Feb_17&utm_medium=email&utm_term=0_35dd42c65f-1dec0b34c6-31365497