



Benefits of Trees in an Urban Environment

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City of Jacksonville

Public Infrastructure





Is this Infrastructure?

Urban Tree Benefits and Infrastructure

Traditional

- Electricity
- Sewer/Runoff
- Water Treatment
- Recreation
- Engineers/Planners

“Green” Infrastructure

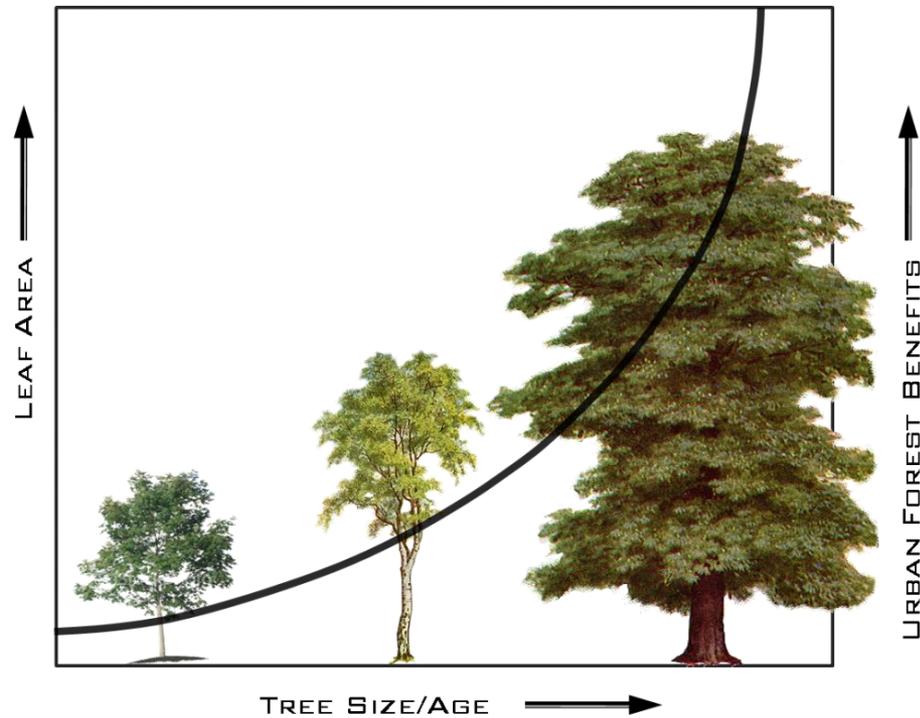
- Shading
- Water retention/Erosion control
- Filtration
- Wildlife opportunity
- Foresters/Arborists



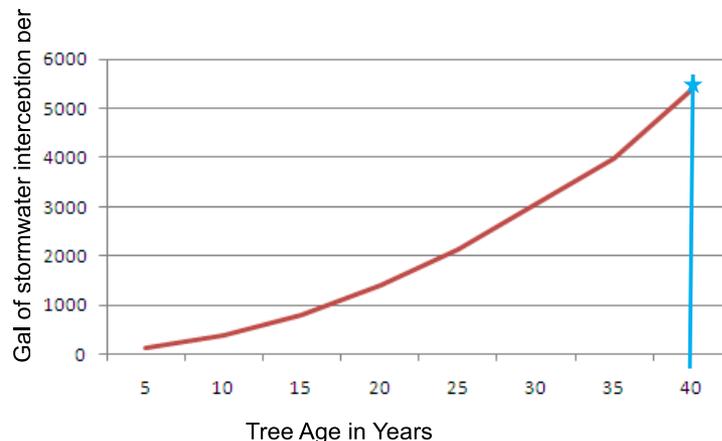
Issues Facing Urban Areas & How Trees Affect Them

- **Human Comfort**
- Water Quality
- Air Quality
- Property Values
- Recreation and Wildlife

Urban Forest Benefits Increase with Tree Size



Stormwater Interception by Hackberries versus Age of Tree



Source: Adapted from McPherson et al 2006

*“A **30 inch DBH tree** provides 70 times the ecological services of a **3” DBH tree.**”*

McPherson et al, 2004 USDA Forest Service, Co-Author of i-Tree

That's a lot of water..

Stormwater Interception by Hackberries versus Age of Tree

**150 Gal.
Year 5**



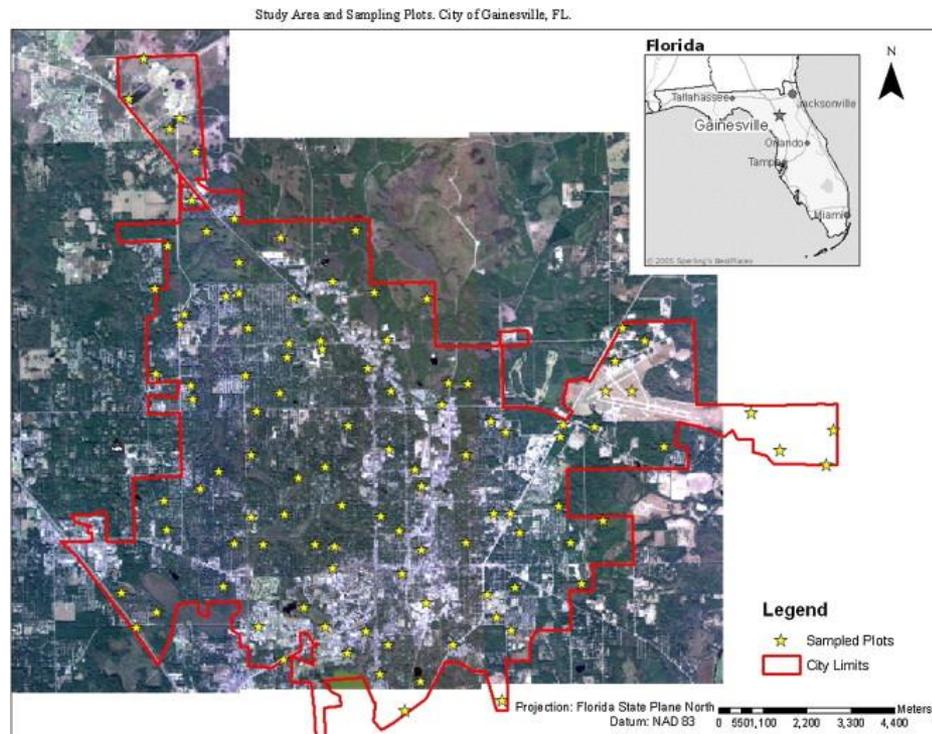
**5000 Gal.
Year 40**



Riverside

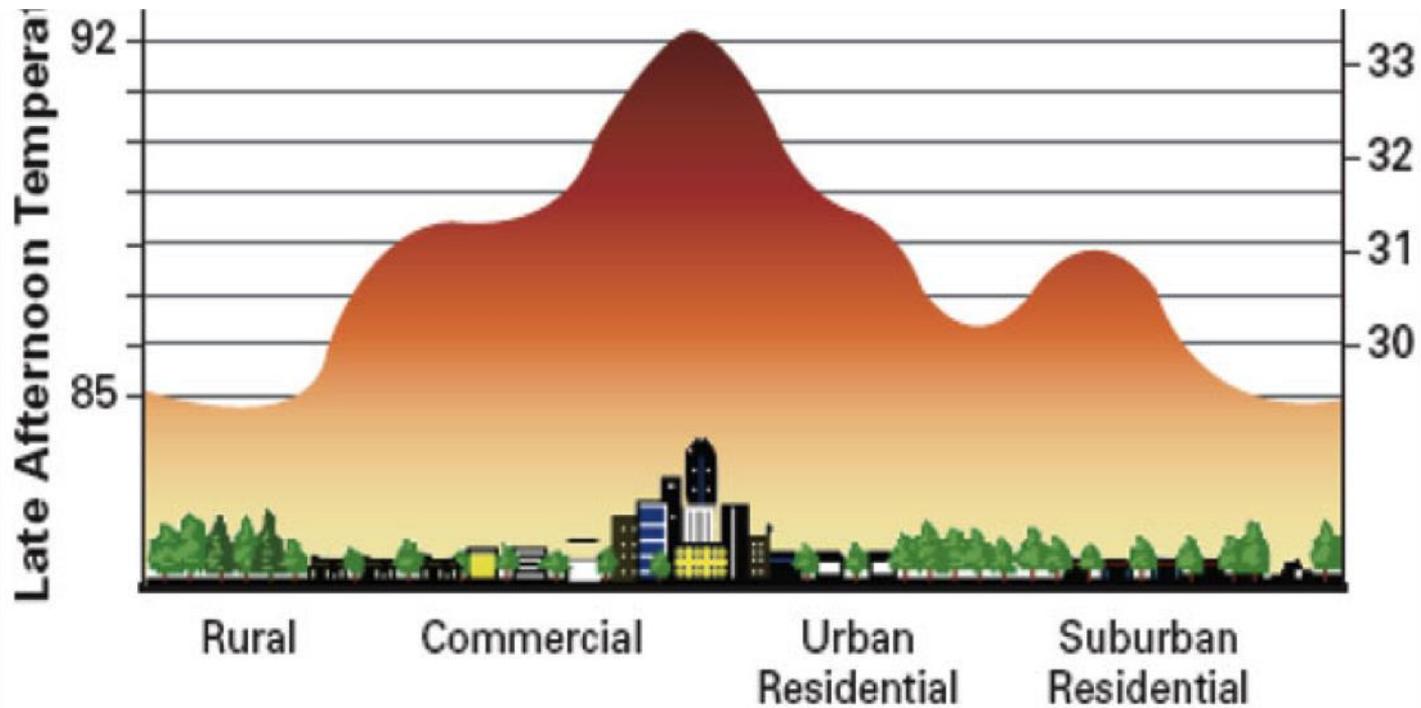


Gainesville Study



Quantitative benefits of trees..

Heat Island Effect







Recreation

People hold different values of nature.

Inner city residents often prefer well maintained parks and find densely wooded areas, disorderly and unsafe.”

Does this tree have value?



90677654 © Will Watson / NPL / Minden Pictures

Urban Forest Diversity



- Age
- Size
- Species
- Life Cycle

Species Selection

Why is Diversity Important??



Diversify at the **Species** AND **Genus** level.. Row of Betula sp.



EAB: One BIG Reason to Diversify

Toledo, Ohio



Credit: Dan Herms, Ohio State University

2006 (Before EAB)

2009 (After EAB)

Community Economics



Our Team

Dalton Smith



Kathleen McGovern



Basic Tree Risk Assessment



- **Failure:** breakage of stem, branches, roots or loss of mechanical support in roots
- There is no way to make a tree safe, only mitigate risk.



More Trees? Yes Please.



One of charms of living in the Springfield Historic District is the robust tree canopy that graces much of the neighborhood, as depicted on this 1909 postcard. Through the years, age, storms and disease have taken a toll on our tree canopy.

We are working with the City of Jacksonville to ensure we have plenty of mature, healthy trees in the neighborhood for decades to come. If you would like a tree planted in front of your home, [please complete this survey](#) and the city's arborist will contact you to discuss location and tree specifics.

Postcard courtesy of State Archives of Florida, Florida Memory

Avondale Tree Planting Plan



Neighborhood approach

Do you have space in your ROW?

Call 630-CITY and request a tree be planted in the right-of-way

King St Median Project

News Environment Economics Lifestyle History Transportation Business Brief



RIVERSIDE'S KING STREET TO RECEIVE GREEN TREATMENT



March 12, 2018

King Street District medians to receive much needed refresh.

Thinking Outside of the Box



15 – 3.5" Cal. *Taxodium distichum* 'Baldcypress'



10 – 3" Cal. *Carpinus caroliniana* 'American Hornbeam'



8 – 3" Cal. Standard *Lagerstroemia indica* 'Muskogee' Crapemyrtle planted 12" on center

Planting medians to include: 3,449 – *Trachelospermum asiaticum* planted 12" on center

King Street District



**So, can trees be considered infrastructure?
Does it provide a public service?**



Air
pollution
Removal

Rain Water
Interception

Wildlife
Habitat

Property
Value

Cooling

Stormwater

Lower Crime