Why are city trees & urban greening important?
Ecosystem Services

- intangible (vs. tangible products)
- human life support
- emerging/new markets
City Trees & Nature
Ecosystem Services

- Air pollutants reduction
- Nitrogen, phosphorus and sediment interception
- Carbon emissions reduction & sequestration
- Urban heat-island cooling
- Reduced “bad” ozone
- Stormwater runoff reduction
- Wildlife habitat
Conserving Energy
Tools for assessing and managing Community Forests

**i-TREE**

**Assessing Urban Ecosystems**
Find out how to assess all the trees in your community.
[click here to begin](#)

**Assessing Street Tree Populations**
Learn how to assess just the street trees in your community.
[click here to begin](#)

**Applications and Utilities**
Access tools available for your tree management.
[click here to begin](#)

The i-TREE Tools help quantify the structure, function and value of tree populations. They provide a scientific process for data collection, analysis and quantification of the benefits.

[Find out more >>](#)
The Competitive Place

Human Capital and Economics

- stock of skills and knowledge embodied in a person’s ability to perform labor so as to produce economic value

- direct - education and training
- indirect – professional development, computer training, medical care plan, life skills workshop
Basis of U.S. Economy?
built capital – 20th century
human capital – 21st century
Civic Nature
A Competitive Advantage

- nature in cities
- beautification and aesthetics
- ecosystem services
- economic value
Richard Florida
the Creative Class

The Rise of the Creative Class
and how it's transforming work, leisure, community and everyday life

CITIES AND THE CREATIVE CLASS
big visions :: creative class!
Beauty & more . . .
trees & nature build human capital
Municipal Trees Academy
Trees for Better Communities

- 10:00 – 10:15  Introduction and Overview
- 10:15 – 11:15  Urban Forest & Community Benefits
- 11:15 – 12:00  Social Marketing Principles and Worksheet
- 12:00 – 12:30  Lunches available
- 12:00 – 1:00  Lunch and Worksheet Discussion Sessions
- 1:00 – 1:45  Street Trees and Safety – an urban forest barrier?
- 1:45 – 2:30  Trees in Parking Lots – code & design
- 2:30 – 2:45  Revisit Social Marketing Worksheet and Strategies
- 2:45 – 3:00  snack break and load buses
- 3:20 – 5:00  Field Trip – trees in urban design of retail centers
Nature and Consumer Environments

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 people'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, booklets to help create and sustain beautiful streets.

Studies

Trees and Business - Growing Together A National Research Program

Trees provide environmental benefits in cities, but also contribute to the program of scientific studies. Shoppers spend more time and money in areas with trees. The most positive consumer response is associated with the urban forest where the canopy helps create a sense of safety. The results have been consistent across large, semi-urban States.

Human Dimensions of Urban Forestry and Urban Greening

featuring research on people's perceptions and behaviors regarding nature in cities

Projects Director
Kathleen L. Wolf, Ph.D.
City Trees & Nature Community Economics

- Residential real estate values - 3-7% with trees in yard
- Residential real estate values - 5-20%, proximity to natural open space
- Commercial property rental rates - 7%
- Improved consumer environments in business districts - 9-12% product spending
Roadside Landscape & Traffic Stress Response

- **Roadside Features - Driving Simulations**
  - Forest, golf course, strip mall

- **Physiological Response**
  - E.g. heart beat, blood pressure

- **Results**
  - Nature scenes - return to baseline faster, less response to new stressors
  - Immunization effect

Americans travel 2.3 billion miles per day on urban freeways & highways
Workplace Nature Views

- **Well-being**
  - desk workers without view of nature reported 23% more ailments in prior 6 months

- **Job Satisfaction**
  - less frustrated and more patient
  - higher overall job satisfaction and enthusiasm

Plants in Workplace

- **Productivity**
  - 12% quicker reaction on computer tasks
  - reports of being more attentive

- **Less Stress**
  - lower systolic blood pressure
directed attention fatigue
Fukuoka City Hall, Tokyo, Japan
Trees & Retail Environments Research
Visibility = customer appeal?
“low maintenance”
Trees & Retail Environments Research

• Research Questions •
  trees and visual quality?
  trees and consumer behavior?
  trees and product pricing?

• Methods:
  mail out/in surveys
  national or local sample
  residents/nearby city residents

partners: U of Washington, NGOs, business organizations
funded by USDA Forest Service & NUCFAC
Methods

surveys

mailings across selected districts

person-to-person contact

interviews
Image Categories (sorted by ratings)

Pocket Parks
mean 3.72
(highest)

Scale: 1=not at all, 5=like very much, 26 images

Full Canopy
mean 3.63
Enclosed Sidewalk 3.32

Intermittent Trees 2.78
No Trees
mean 1.65 (lowest)
(high - 3.72)
Small Malls (strip malls)

Preference ratings 1-5

1: Mixed Screen - mean 3.18, 0.91 sd

Mean 3.18

2: Ordered Trees, mean 3.09, 0.78 sd

Mean 3.09

3: Shrub Edge, mean 2.35, 0.96 sd

Mean 2.35

4: No Vegetation, mean 1.39, 0.83 sd

Mean 1.39
Small Malls (strip malls)

Mall Having Trees

- Amenity: much higher
- Business Quality: higher
- Positive Merchants: higher
- Wayfinding: much lower

Product Pricing

- willingness-to-pay
  - 8.8% more

Wolf, Arb & UF, 2009
funding by ISA Tree Fund
Product Pricing

![Bar chart showing mean reported WTP for goods categories with and without vegetation.
- Convenience: Low WTP for both categories.
- Shopping: Higher WTP for mature vegetation, lower for no vegetation.
- Specialty: Highest WTP for mature vegetation, significantly higher than shopping and convenience categories.]
1. Place Perceptions
   • Place Character
   • Interaction with Merchants
   • Quality of Products

2. Patronage Behavior
   • travel time, travel distance
   • duration & frequency of visits
   • willingness to pay for parking

3. Product Pricing
   • higher willingness to pay for all types of goods
   • higher in districts with trees – 9-12%
retail & place marketing

“Companies stage an experience when they engage customers in a memorable way.”
Bell Town District, Seattle, WA
Double row trees, Conifer plantings
Edmonds, Washington
Winslow, WA
Austin, TX
Planning Guidelines for Trees and Retail Business

Pacific Northwest Chapter
International Society of Arboriculture
Nature and Consumer Environments

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Human Dimensions of Urban Forestry and Urban Greening

Trees and Business - Growing Together A National Research Program

Trees provide environmental benefits in cities, but also contribute to the health and well-being of the people who live there. Studies have shown that shoppers respond positively to trees in the streetscape. The most positive consumer response is associated with urban forest where the trees provide a sense of place, helping create a "sense of place" across several research studies. Details of research found in sections below.

www.naturewithin.info
trees = livability & human capital