Green Communities, Healthy Communities
Creating Healthy Places to Live
part II

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Research Reviews

http://www.greenhealth.washington.edu

summaries complete: June 2012
additional products
study of economic valuation with MSU’s Dr. Grado

Metro nature - including trees, parks, gardens, and natural areas - enhance quality of life in cities and towns. The experience of nature improves human health and well-being in many ways. Nearly 40 years of scientific studies tell us how. Here’s the research...

RESEARCH THEMES

- Livable Cities
- Place Attachment & Meaning
- Community Building
- Community Economics
- Social Ties
- Crime & Fear
- Reduced Risk
- Wellness & Physiology
- Active Living
- Healing & Therapy
- Mental Health & Functioning
Urban Green :: Public Health & Well Being

> 1,800 articles

% distribution
Local Economics

Trees in cities are not grown and managed for products that can be bought and sold on markets, but they do provide many intangible services and functions! This article serves two purposes. First, it introduces valuation methods that are used to convert intangible benefits to dollar sums.\(^1,2\) Then, it shows how nonmarket valuations can support local decision-making.

Fast Facts

- The presence of larger trees in yards and as street trees can add from 3% to 15% to home values throughout neighborhoods.

- Averaging the market effect of street trees on all house values across Portland, Oregon yields a total value of $1.35 billion, potentially increasing annual property tax revenues $15.3 million.\(^9\)

- A study found 7% higher rental rates for commercial offices having high quality landscapes.\(^14\)

- Shoppers claim that they will spend 9% to 12% more for goods and services in central business districts having high quality tree canopy.\(^34\)

- Shoppers indicate that they will travel greater distance and a longer time to visit a district having high quality trees, and spend more time there once they arrive.\(^34\)
1. Community Economics
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%
- Increased rent values – ROW & yard trees (Donovan 2011)
- Improved consumer environments in business districts - 9-12% product spending
Red Fields to Green Fields is a research effort analyzing the effects of:

- Acquiring financially distressed properties (real estate “in the red”) in major U.S. cities
- Converting them into green space: public parks and adjacent land “banked” for future sustainable development.

The Problem

The Promise
Trees & Retail Environments Research
Trees & Shopper 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
Methods

surveys

mailings across selected districts

person-to-person contact

interviews
Image Categories (sorted by ratings)

Pocket Parks
mean 3.72
(highest)

Full Canopy
mean 3.63

Scale: 1 = not at all, 5 = like very much,
26 images
Enclosed Sidewalk 3.32

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

4: No Vegetation, mean 1.39, 0.83 sd

mean 3.18

mean 1.39

3: Shrub Edge, mean 2.35, 0.96 sd

mean 3.09

mean 2.35

2: Ordered Trees, mean 3.09, 0.78 sd

preference ratings 1-5
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
retail & place marketing

“Companies stage an experience when they engage customers in a memorable way.”
Bell Town District, Seattle, WA
Austin, TX
Planning Guidelines for Trees and Retail Business

Pacific Northwest Chapter
International Society of Arboriculture
Human Dimensions of Urban Forestry and Urban Greening

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.

Studies

Trees and Business - Growing Together
A National Research Program
Trees provide environmental benefits in cities, but also contribute to business districts. These findings have been consistent across large, mid-sized, and small cities. The most positive consumer response is associated with urban forest where overarching tree canopies help create a sense of place. The results across several research studies. Details of research found in sections below.

Nature and Consumer Environments
Research about how the urban forest influences business district visitors.

Trees and Transportation
Studies on the value of having quality landscapes in urban roadways.

Civic Ecology
Studies of human behaviors and benefits when people are active in the environment.

Policy and Planning
Integrating urban greening science with community change.

Human Dimensions of Urban Forestry and Urban Greening

Kathleen L. Wolf, Ph.D.
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University of Washington

Contact Info

List of all
- Presentations
- Products

- Fact Sheet
- Professional Publication
- Scholarly Publication

College of the Environment
University of Washington

Green Cities, Good Health
Human health & well-being research

More resources, studies and links...
2. Healing & Therapy

% distribution
directed attention
fatigue . . . .

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
the better office cubicle!

bottom line = $$ benefits of trees & nature
hospital healing gardens: patients; family and friends; professional staff

health care $$ savings
healing gardens
soothing
distracting
calm focus
Elders & Horticulture Therapy
方法
実験1:
課題①:2種の土を混ぜる
課題②:土を鉢に入れる
課題③:花を鉢に植える

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園芸作業中のOxy-Hb濃度変化
Grants
Open Spaces Sacred Places: The Healing Power of Nature

National Awards Initiative for Integrated Design and Research

The TKF Foundation announces the final phase of the Open Spaces Sacred Places (OSSP) National Awards Program. The program was enacted in 2 phases, a Planning Grant Phase, now closed, and an open call for proposals. Final Awards will fund development of significant new sacred public green spaces in urban settings that demonstrate a combination of high quality design-build and rigorous research about user impacts. The total remaining funding pool is $4 million. Funding will be provided to cross-disciplinary
Elements of an Open Space Sacred Place

Portal

An opening through which the individual passes into the space within. Whether an archway, a gate, a stand of trees, a pergola, a sign – or some less well-defined marker – the Portal clearly delineates the space of everyday life and functioning from the liminal space of experience within the OSSP. Walking through a Portal, the individual lives the experience of entering a sacred place.

Path

Provides some structure to the individual’s experience of the space. Whether linear and well-defined, or more meandering, the Path gives the individual a sense of safety in the groundedness of time and space. Walking on a Path, the individual lives the experience of walking in liminality – having one’s feet on the ground at the same time that one is experiencing a connection to a greater reality.

funding for integrated design & research
Trees & Nature Benefits

- messages
- health
- quality of life
- ecosystem services
- public values
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

Richard Florida
Human Dimensions of Urban Forestry and Urban Greening

featuring research on peoples’ perceptions and behaviors regarding nature in cities

Nature and Consumer Environments
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Trees and Transportation
Studies on the value of having quality landscapes in urban roadsides.

Civic Ecology
Studies of human behaviors and benefits when people are active in the environment.

Policy and Planning
Integrating urban greening science with community change.

Urban Forestry and Human Benefits
More resources, studies and links . . .

www.naturewithin.info