



Trees in Retail Districts studies about consumer ‘habitat’

Kathleen Wolf, Ph.D.
Research Social Scientist

University of Washington
College of the Environment

seminar – Trees & Design Action Group
Glasgow & Edinburgh; June 22/23, 2015

the canopy of a city

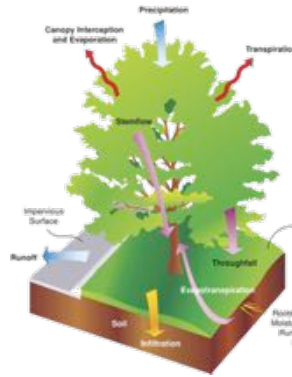




Eco (UFORE)
 Streets (STRATUM)
 Hydro
 Vue

tools provided
 by USDA
 Forest Service

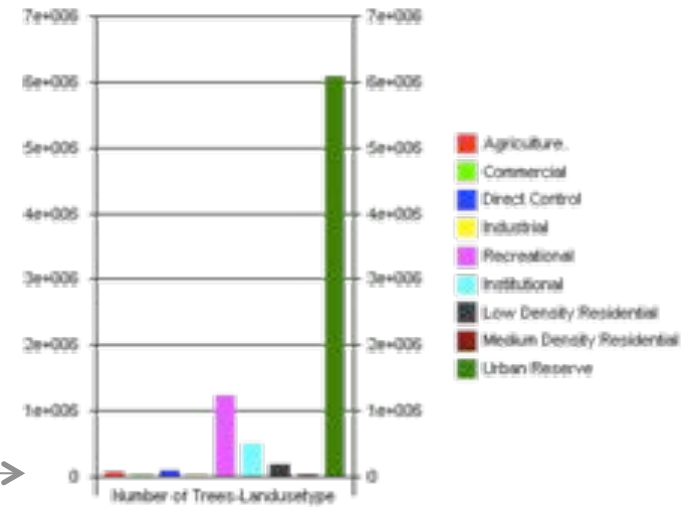
**STRUCTURE
 FUNCTION**



VALUE



MANAGEMENT



Reducing Stormwater Runoff

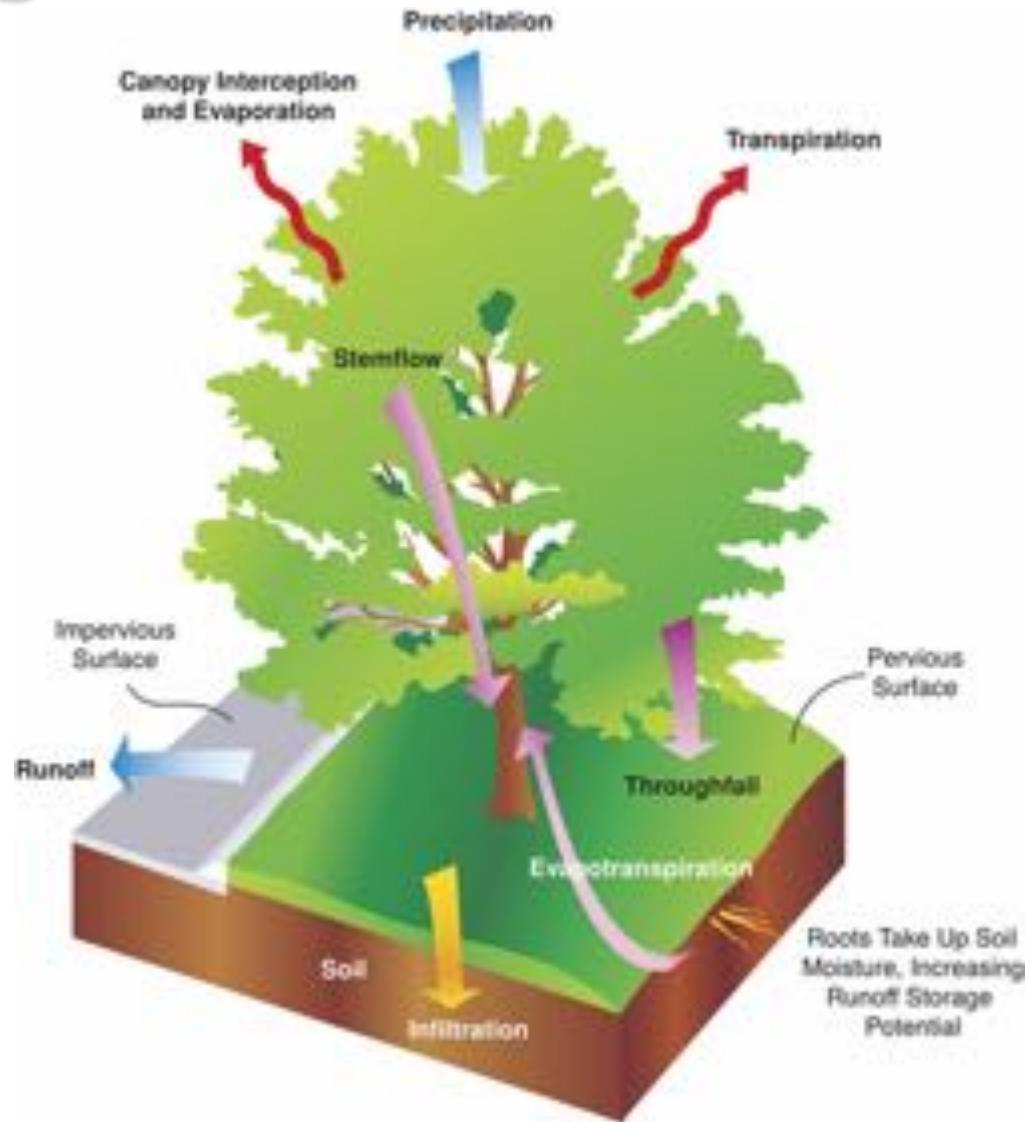


Image courtesy of the Center for Urban Forest Research

Improving Air Quality

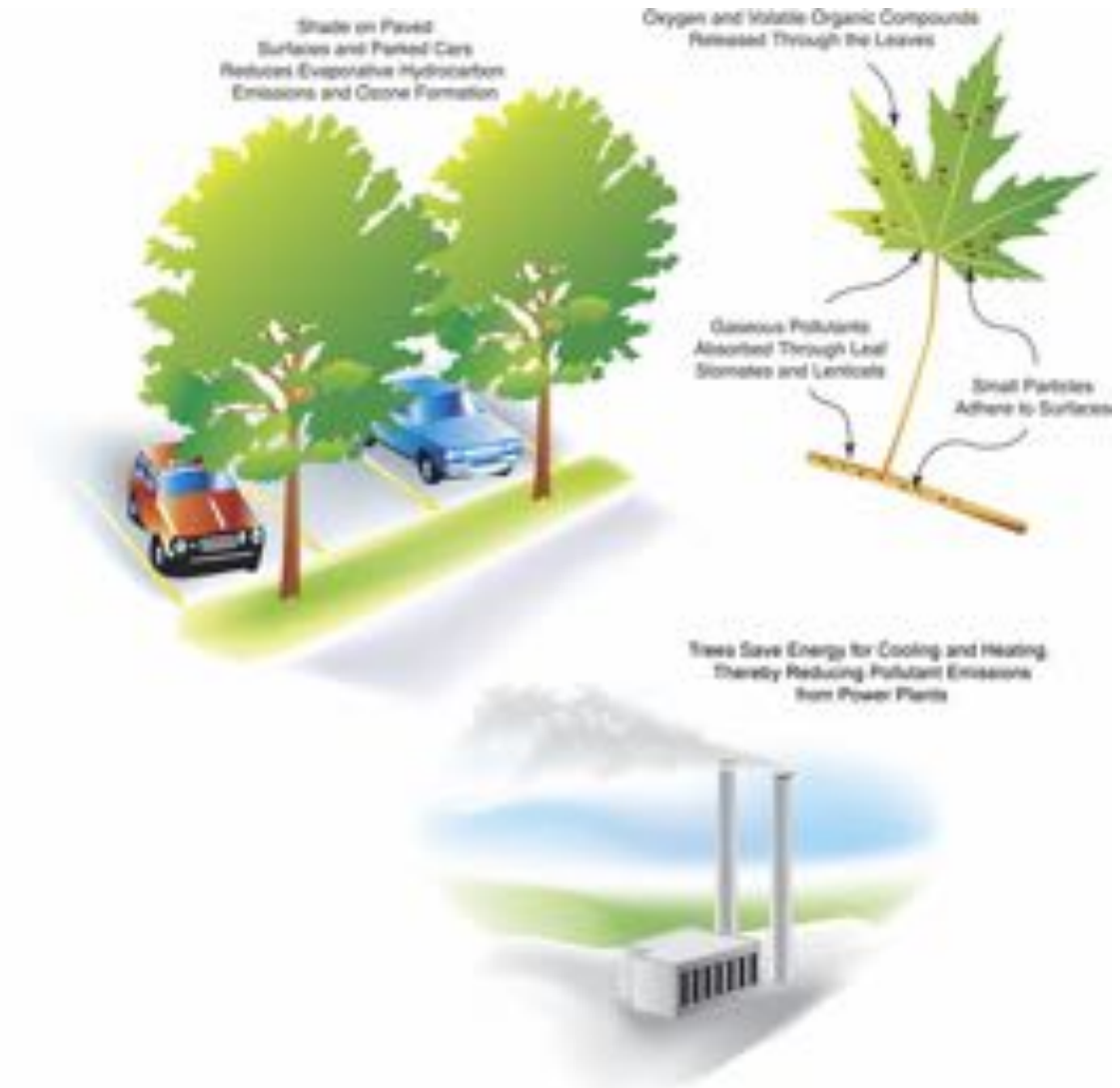


Image courtesy of the Center for Urban Forest Research



WHO (World Health Organization) health definition

*a state of complete
physical, mental, and social well-being
and not merely the absence
of disease or infirmity (1946)*

science & evidence re: environment
role of 'metro nature', including trees!



Determinants of Health



To Your Good Health! trees & urban greening

**~ 40 years of research
disease prevention!
health promotion!**

**understanding ALL the benefits of trees
engaging more (non-tree) partners**

Discovery: Human Health Benefits Across the Life Cycle





Urban Forests and Newborns

Natural environment may affect
pregnancy outcomes . . .

10% increase in tree-canopy cover
within 50m of a house

= Lower number of low weight births
(1.42 per 1000 births)

Donovan et al., Health & Place, 2011





Alzheimer's Disease & Dementia

Provide wander gardens & horticulture therapy

- 10.5% reduction in amount of medications used in dementia facility
- 30% fewer falls, accompanied by a reduction in fall severity

Detweiler et al. 2009. *American Journal of Alzheimer's Disease and Other Dementias*



Tim Lynch Associates



www.rph.org/eden.html

Green Cities: Good Health

www.greenhealth.washington.edu



Sponsors:
USDA Forest Service, U&CF Program
University of Washington
NGO partners

thanks!
to U of WA students:
Katrina Flora
Mary Ann Rozance
Sarah Krueger



research review & summaries



Community Building

Local Economics ▶

Place Attachment & Meaning

Crime & Fear ▶

Safe Streets ▶

Active Living ▶

Reduced Risk

Wellness & Physiology

Healing & Therapy

Mental Health & Function ▶

Work & Learning

Culture & Equity

Lifecycle & Gender

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

[RSS Feed](#)

[Print](#)



street trees boost market value of houses, providing tax revenue for communities





Trees in Retail Districts

studies about consumer 'habitat'
local economics

overview

trees in retail settings
studies overview
design ideas
conclusions

Trees & Retail Environments Research

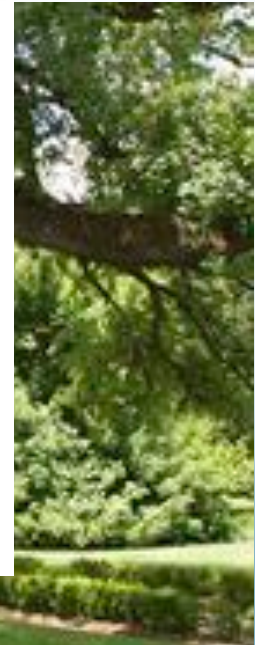




week long vigil
and 8,000
signature
petition



Awesomeness!



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

Image Categories (sorted by ratings)

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

Pocket Parks
mean 3.72
(highest)



Full Canopy
mean 3.63

**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%



Place Marketing

**Relationship
Marketing**

Shopping Area Two

Refer
survey



View "A"



View "B"



View "C"

Shopping Area One

Use the
survey



View "A"



View "B"



View "C"

strip malls

vegetation varied
using image
editing

shopper survey

freeway roadside importance of 'gateways'



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

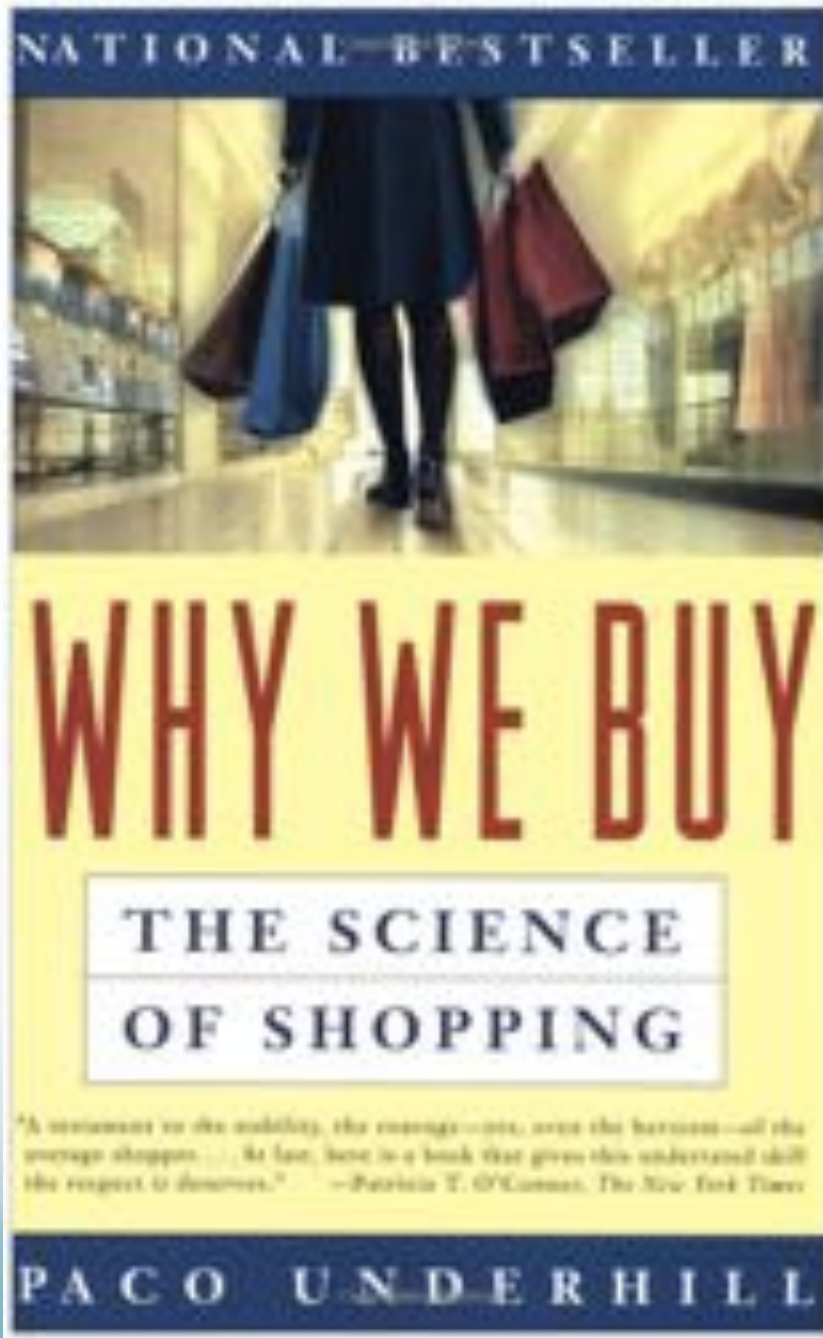
3. Product Pricing

- higher willingness to pay for all types of goods
- higher in districts with trees – 9-12%



Place Marketing

**Relationship
Marketing**

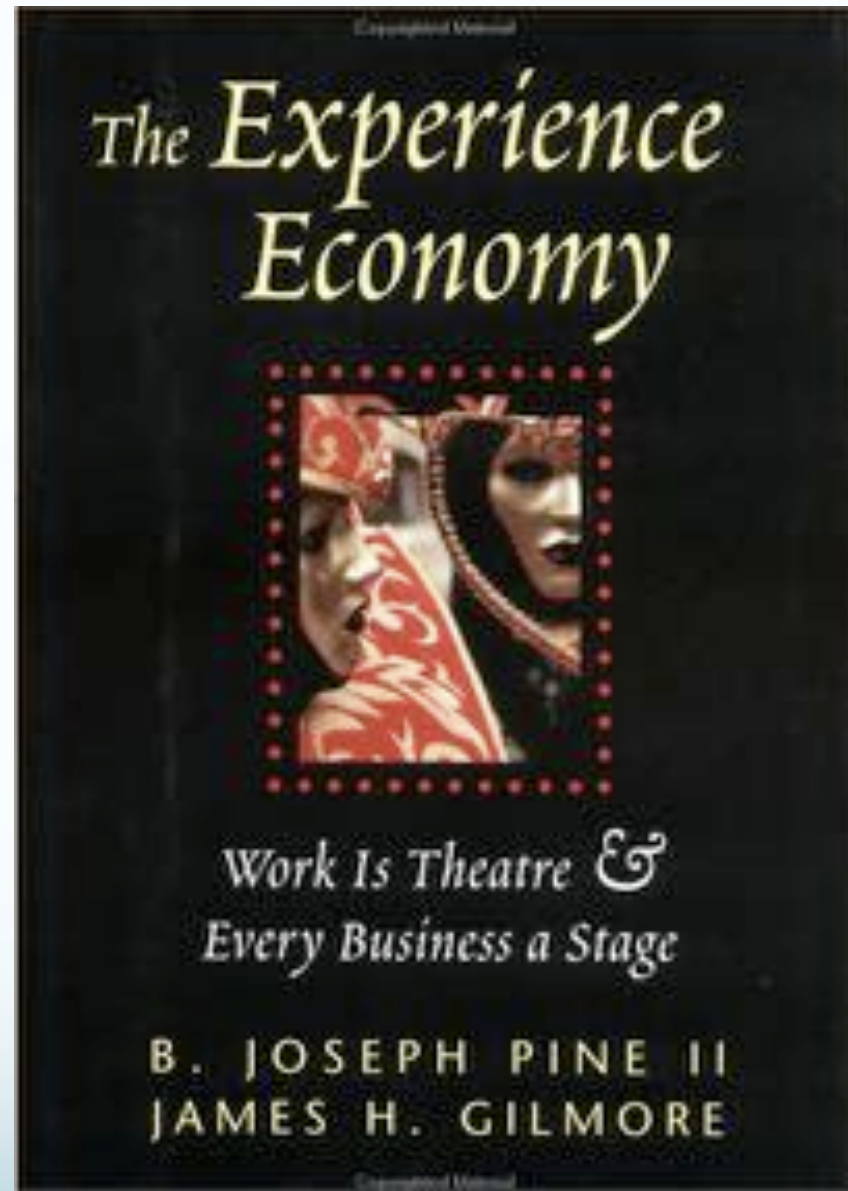


social science of
consumer
behavior

‘atmospherics’

retail & place
marketing

“Companies stage
an experience when
they engage
customers in a
memorable way.”



ALPHA

Awaji Landscape Planning & Horticulture Academy

The screenshot shows the homepage of the Awaji Landscape Planning & Horticulture Academy. At the top, there is a header with the school's logo and name in Japanese: 兵庫県立淡路景観園芸学校 (Hyogo Prefectural Awaji Landscape Planning & Horticulture Academy). Below the name is the text 兵庫県立大学淡路キャンパス (Awaji Campus of Hyogo Prefectural University). To the right of the header are links for お問い合わせ (Contact), 交通案内 (Transportation), and サイトマップ (Site Map), along with language options for 中文 (Chinese) and English. A search bar with the text "Google" カスタム検索 (Custom Search) and buttons for 検索 (Search), 文字サイズ (Text Size), and 小 (Small) 標準 (Standard) 大 (Large) is also present.

The main navigation bar includes links for 受験生の皆様へ (For Applicants), 教職員及び在学生の皆様へ (For Faculty, Staff, and Students), 卒業生の皆様へ (For Graduates), 企業の皆様へ (For Companies), and 一般・地域の皆様へ (For General Public/Local Community). Below this is a secondary navigation bar with links for ホーム (Home), 学校案内 (School Information), 教育課程 (Education Course), 施設案内 (Facilities), 入試案内 (Admission Information), 国際交流・留学 (International Exchange/Study Abroad), キャンパスライフ (Campus Life), and 就職・資格 (Employment/Qualifications).

The main content area features a large image of the school building with the text 景観園芸の実践 (Practical Landscape Horticulture) and 淡路島から世界へ (From Awaji Island to the World). To the right is a featured article titled 見頃の植物 (Seasonal Plants) with a photo of purple flowers and the text アガパンサス (Agapanthus) and 花期：6月半ば～7月 (Flowering Period: Mid-June to July).

At the bottom, there are three highlighted programs:

- 専門職大学院課程** (Professional Master's Course) at 兵庫県立大学大学院(専門職) 環境景観マネジメント研究科 (Graduate School of Hyogo Prefectural University (Professional) Environmental Landscape Management Research Institute).
- 園芸療法課程** (Horticultural Therapy Course) at 兵庫県立淡路景観園芸学校 園芸療法課程 (Awaji Landscape Planning & Horticulture Academy Horticultural Therapy Course).
- 生涯学習課程** (Lifelong Learning Course) at 兵庫県立淡路景観園芸学校 生涯学習課程 (Awaji Landscape Planning & Horticulture Academy Lifelong Learning Course).

typical
retail street
in urban Japan





Namba Parks, Osaka

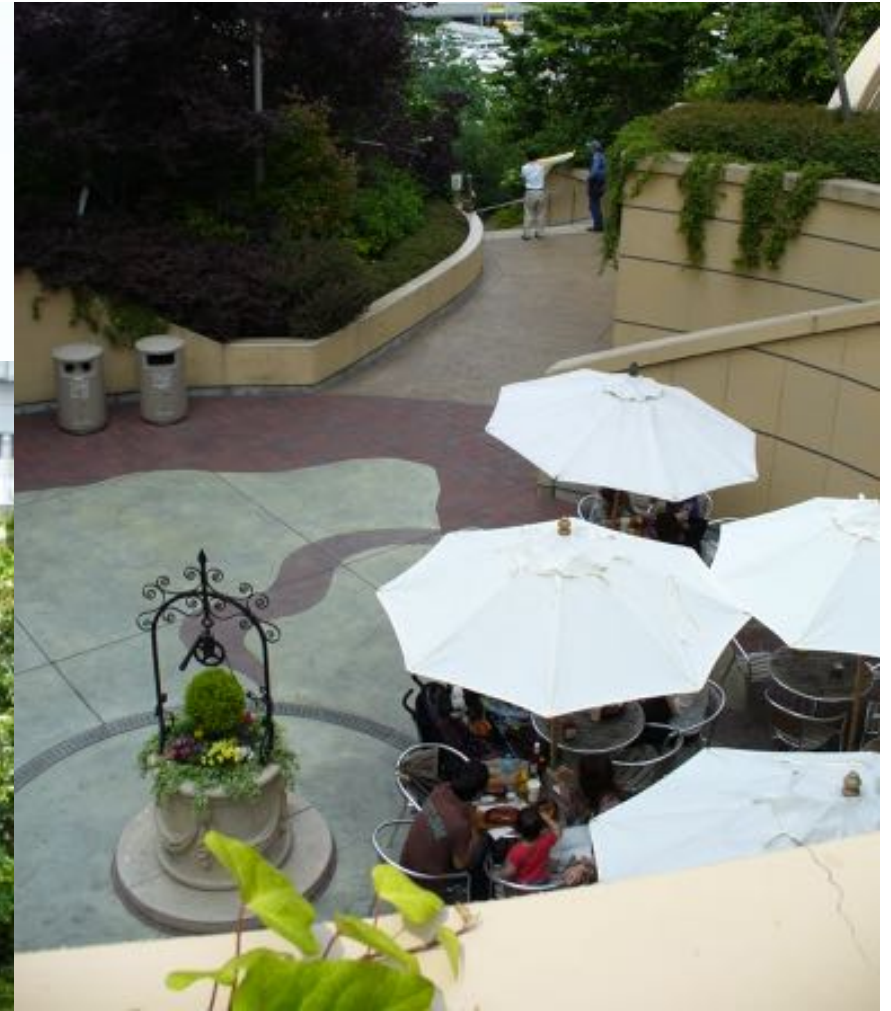
view from
nearby hotel



interior
retail space
ground level



small plazas
retail entry



up-close nature
experiences



place of
respite



Namba Parks
retail success & nature experience benefits

lessons learned?

social spaces

small rooms

variety within
unity



Bainbridge Island, WA
“main street”





**outdoor rooms
social spaces
sense of welcoming**



Austin, TX

South Congress
Avenue
redevelopment
district



public xeriscape

shared design &
management



identity

affordable
materials

message of
renewal

Trees as Place-Makers



summary

urban forests =
human habitat

studies of trees in business districts
perception, preference & behavior
design & place messaging/identity
customer relationships





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. Information below includes research studies, a fact sheet, a professional publication, and a booklet to help create and sustain beautiful streets.

Kathleen L. Wolf, Ph.D.
Research Director
University of Washington
[contact info...](#)

- List of all
- [Presentations](#)
 - [Products](#)
- = Fact Sheet
 = Professional Publication
 = Scholarly Publication

Studies

Trees and Business - Growing Together A National Research Program

Trees provide environmental benefits in cities, but also contribute to the quality of life. A national program of scientific studies has found that shoppers respond positively to urban forests. These findings have been consistent across large, metropolitan areas in the United States. The most positive consumer response is associated with urban forests where overarching tree canopy helps create a "sense of place." The results across several research studies. Details of research found in sections below.

College of the Environment | University of Washington

Human Dimensions of Urban Forestry and Urban Greening

What's New?

- 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 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 ...

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

Green Cities: Good Health
human health & well-being research

Projects Director
Kathleen L. Wolf, Ph.D.

Sponsors

