Being Well: Nearby Nature for Vital, Safe Communities

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Public Safety Strategy:
Green Cities/Safe Cities Forum
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Outline:
urban greening & human health research review
public safety & crime sustainability
WHO 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’?
not a panacea, but important!
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
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. 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.
- A study found 7% higher rental rates for commercial offices having high quality landscapes.
- Shoppers claim that they will spend 9% to 12% more for goods and services in central business districts having high quality tree canopy.
- 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.
Determinants of Public Health
Outline:
urban greening & human health
research review
public safety & crime
sustainability
Human Health Benefits Across the Life Cycle
Urban Forests and Newborns
the urban natural environment and 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; similar studies in Lithuania, Vancouver B.C., Munich, Tel Aviv Israel, Spain
Hygiene Hypothesis

- presence of soil bacteria in body, *Mycobacterium vaccae* = increased seratonin
- may alleviate depression
- dirt or Prozac?

Lowry et al. 2007. Neuroscience
Eat Dirt!

immune function prep
Fiddleheads Forest School
Washington Park Arboretum (Seattle)
cognitive
social & physical learning
combatting obesity
CDC moderate activity recommendations

parks prescription
Elders: mobility & social connections
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*

www.rph.org/eden.html
Outline:
urban greening & human health research review
public safety & crime
sustainability
Trees & Crime Reduction

- trees in the public right of way are associated with lower crime rates
- smaller, view obstructing trees are associated with increased crime
- larger trees are associated with reduced crime

Donovan & Prestemon. 2012. *Environment and Behavior*
10% increase in tree canopy
~ 12% decrease in crime

green stormwater infrastructure

Philadelphia

reduction in narcotics arrests (18–27 %) for green not gray vs. 65% increase across city

Kondo et al. 2015. Journal of Public Health
Green & Crime Reduction

- vacant lot greening

- Philadelphia, 4 sections
- consistent reductions in gun assaults across 4 sections
- consistent reductions in vandalism in 1 section

Branas et al. 2011. *American Journal of Epidemiology*
Attention Restoration Theory
Rachel & Stephen Kaplan, U of MI
directed attention
fatigue . . . .
directed attention fatigue... leads to...
directed attention fatigue . . . .

leads to . . .

• irritability
• reduced impulse control
• inability to concentrate
• impatience
Green Streets for Walkability

lower frustration & higher meditation brain waves when moving into the greener streets

Aspinall et al. 2013. The Urban Brain: Analysing Outdoor Physical Activity with Mobile EEG. British Journal of Sports Medicine
ART Design Elements

- being away
- ‘soft’ fascination
- extent
- compatibility
Outline:
urban greening & human health
research review
public safety & crime
sustainability
green stormwater infrastructure tools & strategies
in cities . . . .

expensive land values
reduced public funds
increasing community needs
new parks??

SO . . . . . .
multi-tasking nature
creating co-benefits
Stormwater Management

Thornton Creek Water Quality Channel (Seattle, SvR Design)
1 hectare, treats runoff from 275 hectares
water management + placemaking
Tanner Springs Park
Portland OR
neighborhood social cohesion

environmental education & social learning
streets that work like the forest
design concept

biodiversity &
soft fascination
Design Elements ::
Attention
Restoration Theory

- being away
- ‘soft’ fascination
- extent
- compatibility
design concept

bring people in!
let them see nature!
outdoor rooms
social spaces
sense of welcoming
green stormwater infrastructure :: co-benefits
Summary:
urban greening & human health
40 years of research
public safety & crime
consider behavior set up
sustainability
co-design for co-benefits
Human Dimensions of
Urban Forestry and
Urban Greening

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

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.

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

Urban Forestry and Human Benefits
More resources, studies and links

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