



Parks and other green environments: Essential components of a healthy human habitat

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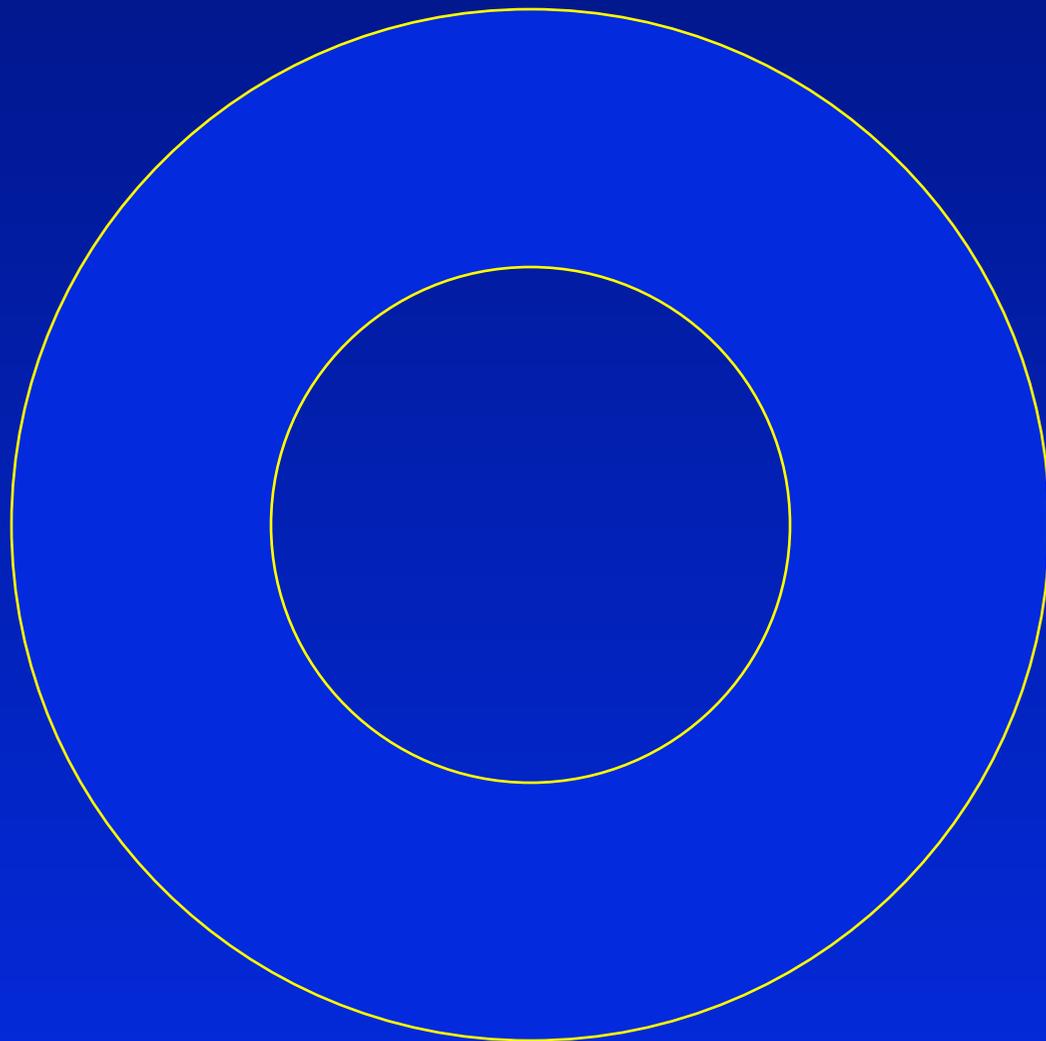
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- ◆ US Forest Service and NUCFAC, CREES
- ◆ US Housing & Urban Development





A healthy food diet



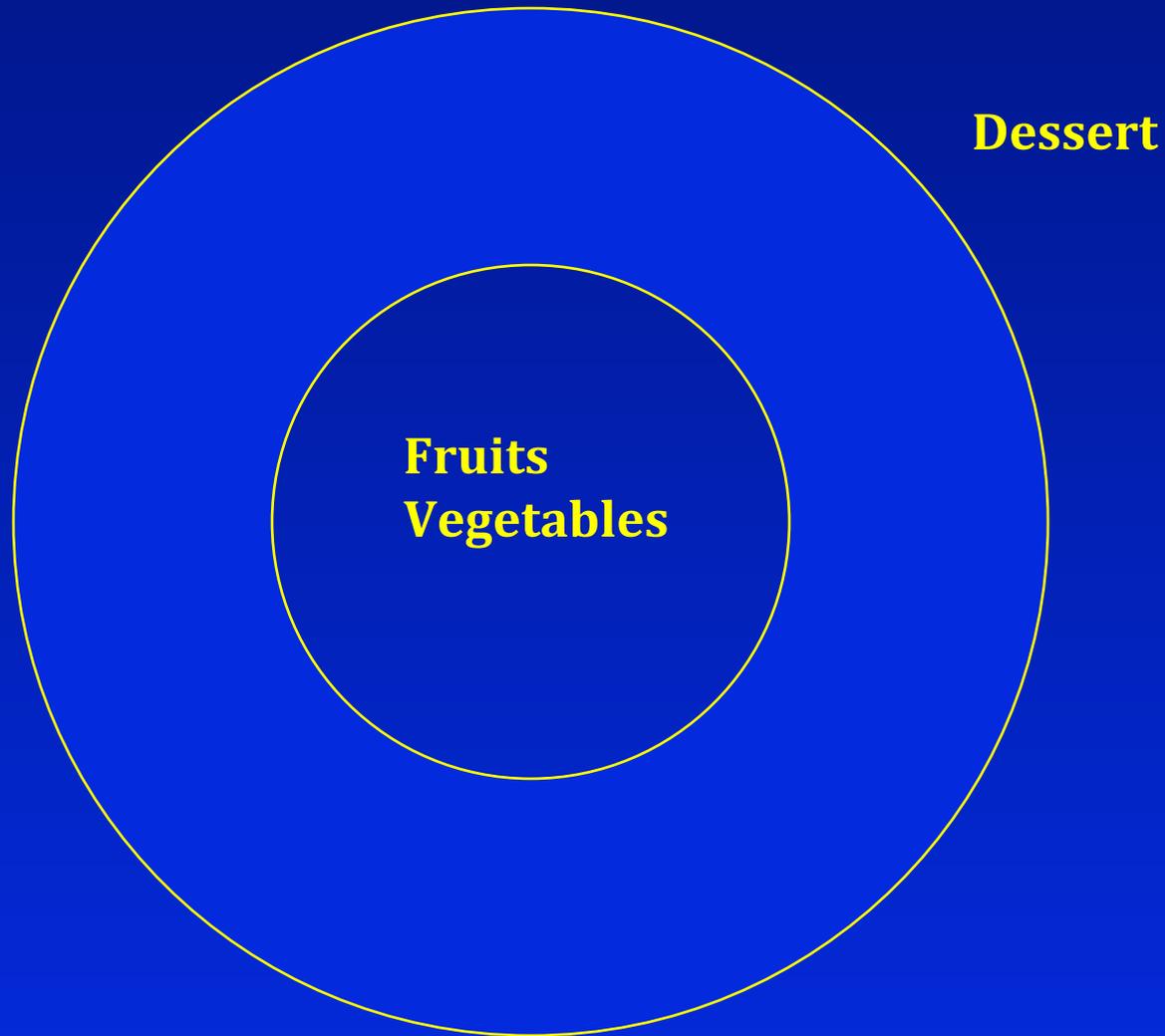


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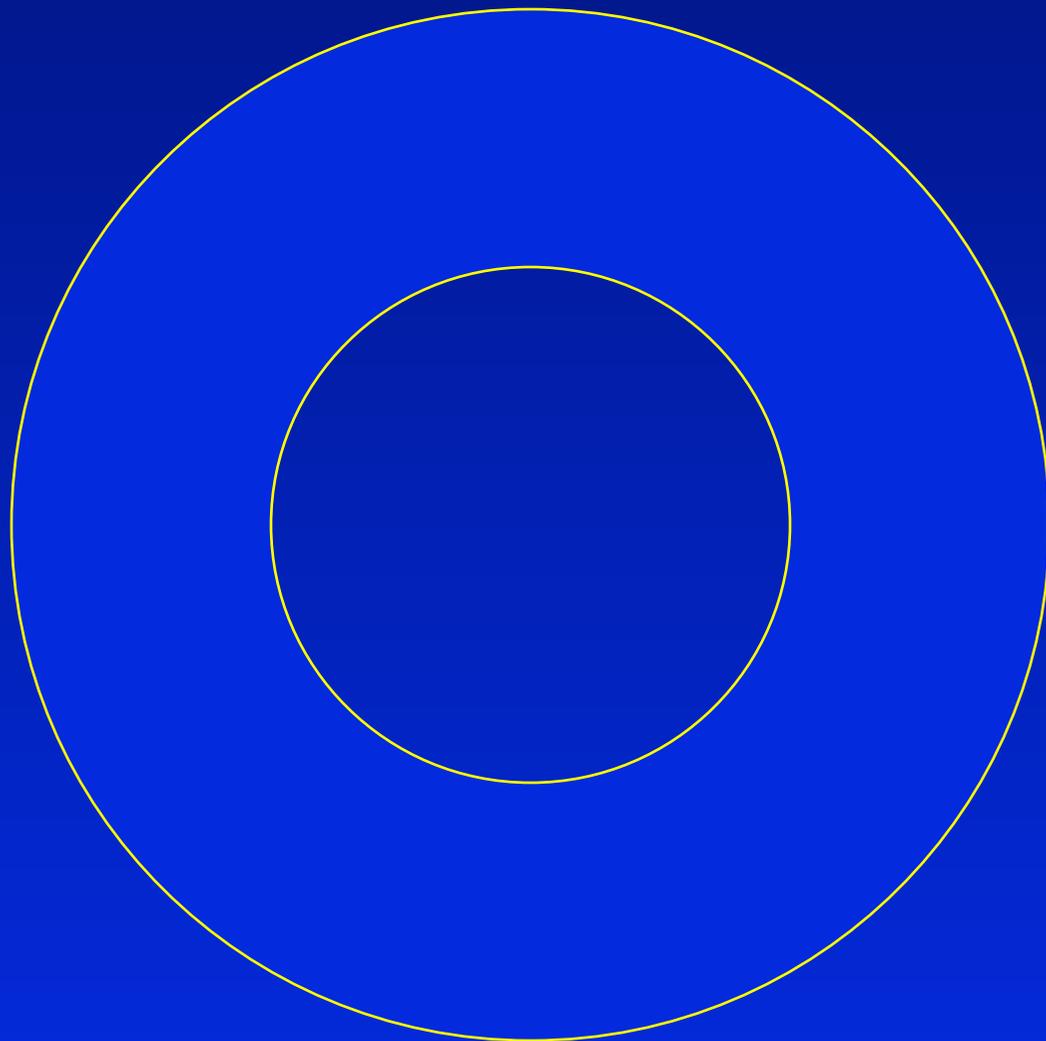


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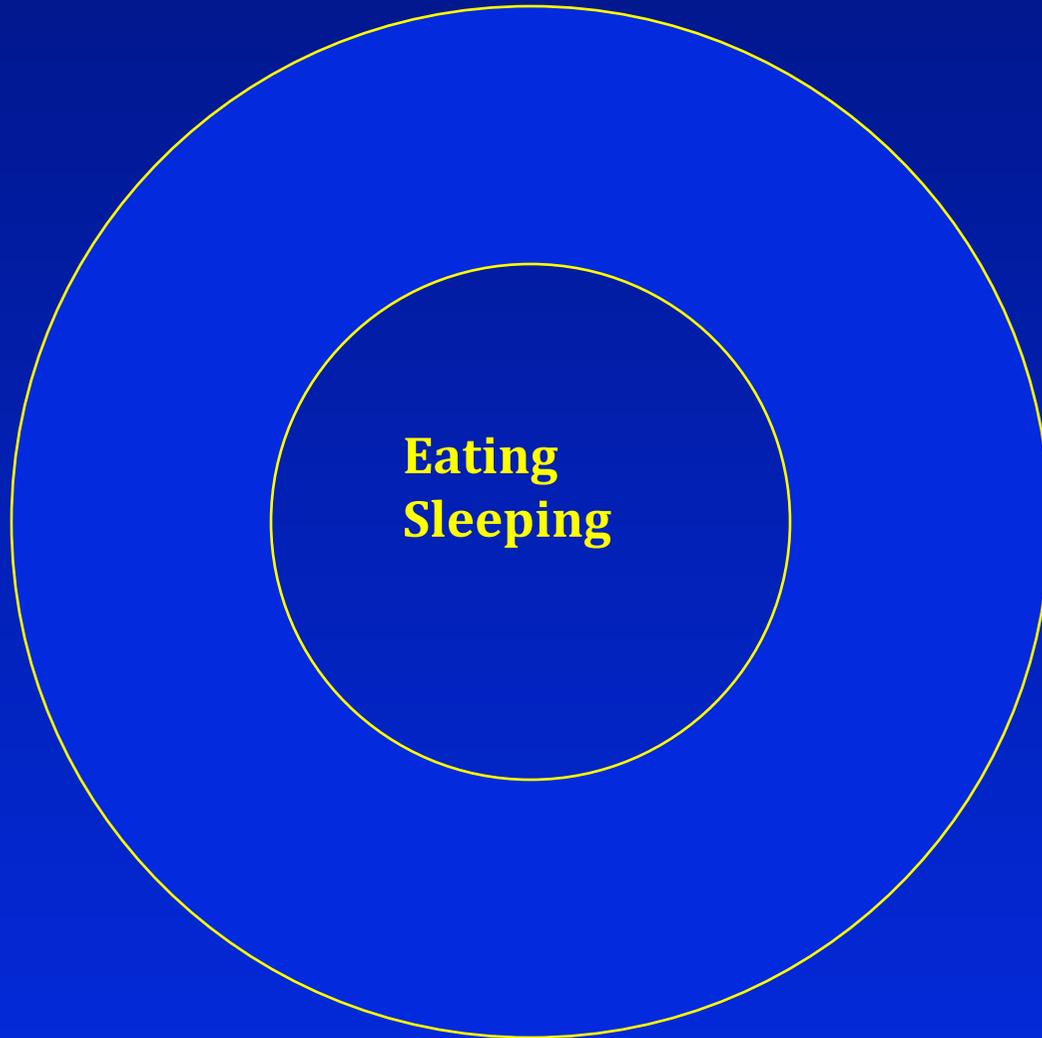


A healthy activity diet





A healthy activity diet





A healthy activity diet



Spending time in parks,
green env' ts



**Are green environments
essential to a healthy human
habitat?**



**Are green environments
essential to a healthy human
habitat?**

Why would we ask?



Hints from ethology, zoo/lab animals

- ◆ Habitat selection theory -- mobile organisms will prefer fit habitats
- ◆ If you want to know what constitutes a fit habitat for an organism, see what habitats it likes
- ◆ What environments do humans prefer?









Humans prefer environments incorporating natural/green elements

- ◆ 25 years of landscape preference research
- ◆ A strong and ubiquitous finding



Humans prefer environments incorporating natural/green elements

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**Green environments may be essential
to a healthy human habitat**



**Are green environments
essential to a healthy human
habitat?**



**Are green environments
essential to a healthy human
habitat?**

How would we tell?



More hints from ethology

- ◆ Organisms are tuned to their environments in subtle and profound ways
- ◆ Organisms housed in unfit habitats undergo social, psychological, and physical breakdown



If green env' ts are essential components of a healthy human habitat, then

Humans deprived of them will undergo social, psychological, and physical breakdown



**Robert Taylor Homes
without greenspace**



**Robert Taylor Homes
with greenspace**









**Are green environments
essential to a healthy human
habitat?**

Specific findings



Signs of breakdown

Social Breakdown





Signs of breakdown

Social Breakdown

- ↓ Strength of community
- ↓ Courtesy, mutual support
- ↓ Supervision of children outdoors

- ↑ Loneliness
- ↑ Graffiti, noise, litter
- ↑ Loitering, illegal activity, property crime
- ↑ Aggression, violence
- ↑ Violent Crime



Signs of breakdown

Psychological Breakdown



Signs of breakdown

Psychological Breakdown

↓ Attention

↓ Learning

↓ Management of major life issues

↓ Impulse control

↓ Delay of gratification

↑ AD/HD symptoms

↑ Clinical depression, anxiety attacks



Signs of breakdown

Physical Breakdown



Signs of breakdown

Physical Breakdown

- ↓ Poorer recovery from surgery
- ↓ Self-reported physical health
- ↓ Immune functioning

- ↑ Obesity in children
- ↑ Physician diagnosed diseases
- ↑ Mortality



**Are green environments
essential to a healthy human
habitat?**

How strong is the evidence?



Many, diverse health outcomes



Many, diverse health outcomes

Digit Span Backwards, SDMT, creativity, impulse control (Matching Familiar Figures, Category Matching, Stroop), delay of gratification, reaction times, aggression and violence, incidents of self-mutilation, psychological distress, life satisfaction, job satisfaction, residential satisfaction, mood, blood pressure, heart rate, ADHD symptoms, mortality, self-reported health, health symptoms, use of health care services, cardiac health, Beck Depression Inventory...



Many, diverse research designs and exposures to nature



Many, diverse research designs and exposures to nature

window view from home (% natural), # trees in view from home, ecological restoration volunteering, gardening, recreational activities in nature, photos of nature, paintings of nature, nature sounds, videos of nature walks, actual nature walks, vacations in natural and other settings, “greenness” of residential landscape, %age natural in 1 km radius, #parks and public greenspaces in GIS, skyview occlusion...











Many, diverse populations



Many, diverse populations

college sophomores, children 5-18 years old, older adults, much older adults, urban public housing residents, Americans, Japanese, Dutch people, individuals with ADHD, individuals with Alzheimer's, children in residential treatment facilities for conduct disorders, incarcerated prisoners, cholecystectomy patients, urban, rural, suburban, small town residents ...



**Green environments are
essential to a healthy human
habitat**

**Emergent themes and
implications**



Emergent Themes

- ◆ Every bit helps; vote early and vote often
- ◆ Vitamin G works in any form
- ◆ Must be present to win
- ◆ Vitamin G crucial for vulnerable populations



Implications for Practice

- ◆ A connected, hierarchy of diverse parks
- ◆ Make parks close, safe, attractive
- ◆ Program!
- ◆ Include wildlife habitat
- ◆ Reach children, older adults, the poor



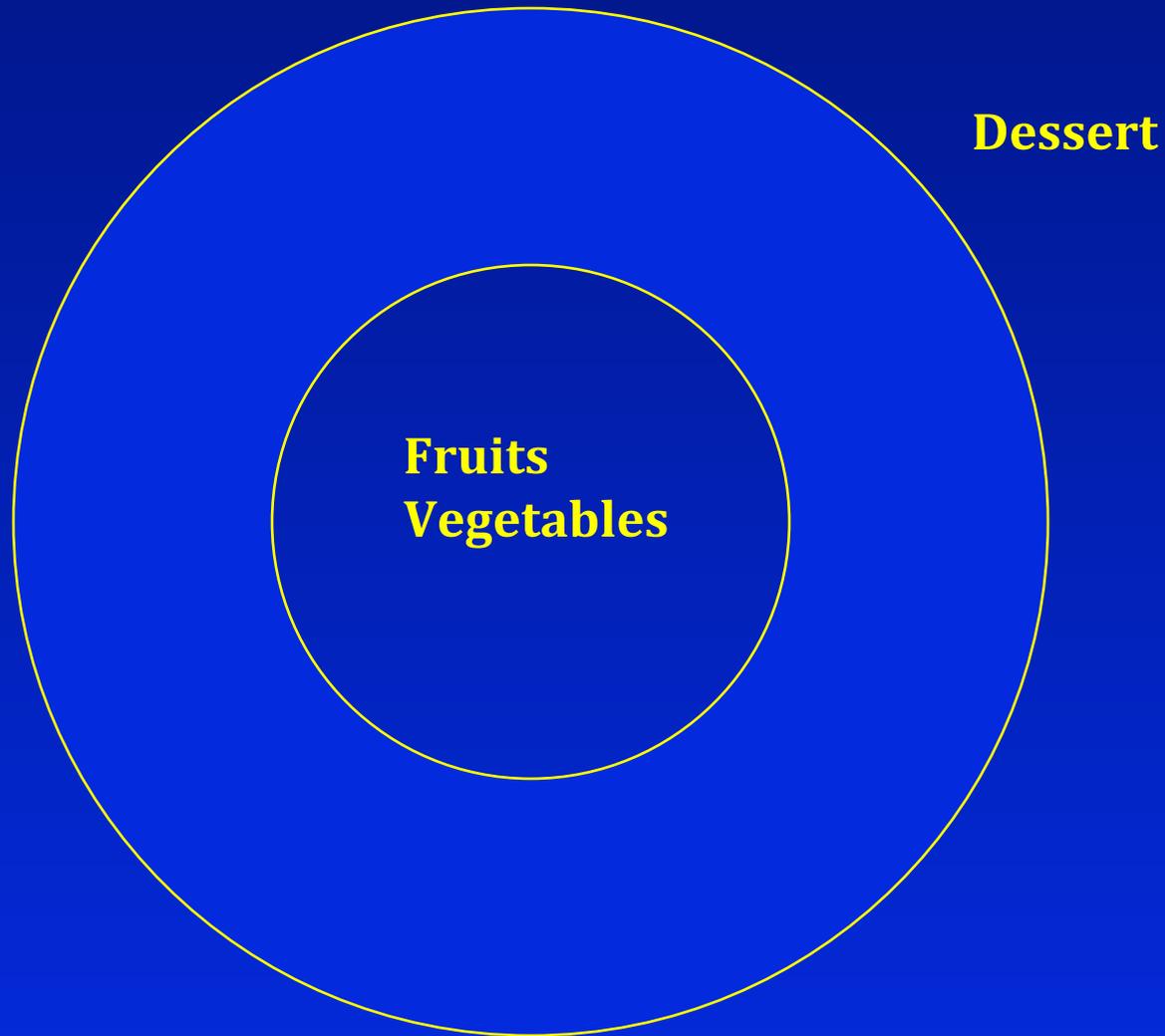
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Spending time in parks,
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**Green environments are
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Policymakers are listening!

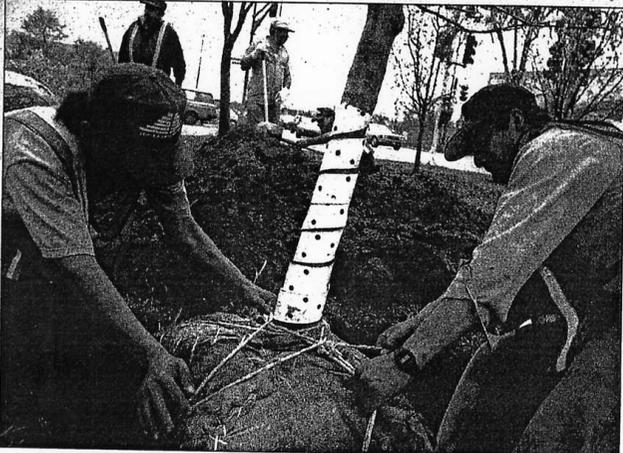


Policymakers are listening

- ◆ **City of Chicago: \$USD 10 M tree planting; Green Urban Design metrics**
- ◆ **US Conference of Mayors Urban Forestry Resolution**
- ◆ **American Society of Landscape Architects Sustainable Sites Initiative (LEED-style credit system)**



'Planting a tree is the ultimate act of love.'
Forrest Claypool, Chicago Park District general superintendent

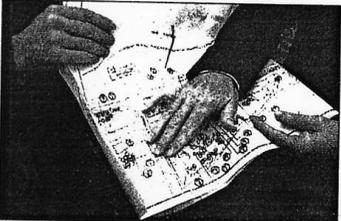


Tribune photos by Chris Walker

Under a Chicago program, landscapers add foliage along Garfield Boulevard, east of the Dan Ryan Expressway. Some 20,000 trees are to be planted in the city this spring at a cost of almost \$10 million.

Tree-dimensional

Chicago digs in for a record planting season



By William Rechtenwald
TRIBUNE STAFF WRITER

Together, they would be a small forest, and, with 47 species, they could likely be an arboretum. This spring, 20,000 trees—enough to cover some 400 acres—are being planted in Chicago at a total cost of nearly \$10 million.

Throughout the city—on parkways and in parks, along historic boulevards and the sidewalks of business districts—more trees are being planted than ever in Chicago's history. It is part of a growing conviction among urban planners that the aesthetics of trees can help temper social ills, in city and suburbs alike.

Beyond that, said Forrest Claypool, general superintendent of the Chicago Park District, "Planting a tree is the ultimate act of love. The person who plants it never really gets the full benefit of that tree. Some future generation gets it."

This spring, the Park District will put 7,000 trees

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Chicago Park District officials confer over plans for the planting by Lake Shore Drive and 31st Street. The Park District expects to put 7,000 trees in the ground before spring is over.

Chicago Tribune

- ◆ \$USD10 M tree-planting
- ◆ 20,000 trees -- more than ever in Chicago's history
- ◆ “growing evidence... trees can help temper social ills”



URBAN AND COMMUNITY FORESTRY

WHEREAS, the vitality of communities is strongly dependent on the quality of the city's infrastructure. Parks, tree cover, streetscapes and other green open space are an integral part of urban green infrastructure planning; and

WHEREAS, tree cover and associated green infrastructure provide significant ecological, social and economic benefits, including: reducing air and water pollution, slowing storm water runoff, and helping conserving energy; and

WHEREAS, access to green open space and tree sheltered streets alleviates the mental fatigue of urban life, increases socialization in those areas and promotes a greater sense of community; and

WHEREAS, people are more prone to spend time outdoors in a pleasing tree shaded environment and increased pedestrian traffic results in more eyes on the street that tends to reduce violent behavior and crime; and

WHEREAS, properly planned and managed green infrastructure saves municipal governments millions of dollars in air and storm water management costs, helps cities meet federal regulatory requirements for air and water quality, and increases property values; and

WHEREAS, federal funding of the USDA Forest Service Urban & Community Forestry program provides critical financial support for forestry programs in many municipal forestry programs,

NOW, THEREFORE, BE IT RESOLVED that the United States Congress should provide for full funding of \$50 million for the Forest Service's Urban and Community Forestry Program in Fiscal Year 2003.

US Conf of Mayors

◆ Resolution in support of urban and community forestry



If you would like citations or more information on the research presented in this talk:

Google: Kuo NRPA Parks

Click on the first link