Connecting Health Outcomes and Urban Forests

Climate Action Team
Public Health Workshop

Sacramento .CA
April 19, 2016

Ray Tretheway
Executive Director, Sacramento Tree Foundation
Our Mission

Building healthy, livable communities in the Sacramento region by growing the best urban forest in the nation.
Our Regional Influence is Aligned

Greenprint Plantings
Since 2010

Number of Trees Planted
- 50 or Less
- 51 – 100
- 100+
- Multiple Plantings 200+ per Event
35% Tree Canopy Goal

- 17% regional average tree canopy cover
- 80%+ of places to increase tree canopy are on private property
- Under-resourced neighborhoods have the least tree canopy cover
Air Quality

100 mature trees remove about 1000 lbs of pollutants per year including:
   400 lbs of ozone
   300 lbs of particulates
   150 lbs of nitrogen oxides

Center for Urban Forest Research, Pacific Southwest Research Station, 1999

Young children living in areas with more street trees have a lower prevalence of asthma

Lovasi, Journal of Epidemiology and Community Health, 2008
Urban Heat Island Effect
5 – 15 degrees F Cooler
when walking on tree canopied sidewalks
Burden, 22 Benefits of Urban Street Trees, 2006
Tree Foundation Strategic Focus

**Engagement**
- Social Media
- Partnership Building
- Communications

**Urban Forest**
- Service-Learning
- Habitat Restoration
- Land Enhancement
- Monitoring

**Education**
- Expert Consultation
- Training and Instruction
- Translate science into language for every day people
Research and Innovation

- Sacramento Urban Forest Ecosystem
- SunSmart
- Urban Heat Island Study
- Urban Forest for Clean Air
- Fruit for Families
- Young Tree Survival
Research and Innovation

- Governor’s Obesity Prevention Plan
- California’s Health in All Policies
- Governor’s Let’s Get Healthy Report
GreenRx

- Statistical Modeling
- Predictive Modeling
- Multiple Health Indices
- Adults, Teens & Children
Study Team

- Urban Design 4 Health
- Expert Advisory Committee
- California Health Interview Survey, UCLA
- University of Vermont Spatial Analysis Lab
- WebWorks and GeoSprocket
- California Department of Water Resource LIDAR data
Advisory Committee

Desirée Backman, DrPH, MS, RD
Chief Prevention Officer
UC Davis Health System & California Department of Health Care Services

Kathy Wolf, PhD
Research Social Scientist
Urban Forestry & Urban Ecology
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Project Leader
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Health in All Policies Task Force
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State Urban Forester
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Landscape Architect / Community Planner
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Executive Director
Trees Forever, Iowa

Robert Waste, PhD
Health Sciences Clinical Professor &
Government Relations Director
UC Davis Health System

Aimee Sisson, MD, MPH
Health in All Policies Task Force
California Department of Public Health
California Health Interview Survey

4,821 adults (18-65)
601 teens (12-17)
1,244 children (11 and younger)
Tree Canopy Data
Aerial Imagery – NAIP 2009
LIDAR – DWR 2008
Hypotheses

• Attention Deficit Hyperactivity Disorder
• Asthma
• Body Mass Index
• Type 2 Diabetes
• General Health Status
• Cardiovascular Disease
• Social Cohesion
• Physical Activity
• Mental / Emotional Health
Residents in neighborhoods with more tree canopy:

- Lower **Body Mass Index**
- Reduced likelihood of being **Overweight/Obesity**
- Greater participation in **Vigorous Activity**
- Lower likelihood of **Asthma**
- Higher levels of **Social Cohesion**
- Improvements in **Mental Health**
- Better reported **General Health**
GreenRx Predictive Modeling Results
For healthy neighborhoods immediate actions are needed to nurture those trees now in the ground, and to plant new ones.
Tree canopy coverage
Interactive Regional Mapping
Tree Canopy Cover and Health Outcomes by zip code
Next Steps

• Build connections to climate and health equity communities
• Think twice before removing a tree
• Focus new trees in under-resourced neighborhoods
• Impact policy - advocate
• Support targeted research
NeighborWoods
South Sacramento
GHGR Grant

3,000 new trees for public and private property

New curriculum on social justice, urban environment and civic engagement

Build capacity to monitor trees and educate homeowners/renters on increasing tree growth, health and survivability
Urban Wood Rescue

GHGR Grant

CalFire Saw Mill Grant

City of Sacramento MOA

West Coast Arborist Partnership
“Maybe we want to start thinking of trees as part our public health infrastructure. Maybe trees are not only essential for the natural environment but just as essential for our well being.”

G. Donavon, US Forest Service
Thank You...Questions?

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