



Massaging the Message

Translating Eco-Benefits to Public Health

**Under One Canopy
San Diego, California
June 26, 2014**

**Cindy Blain
Research & Innovation Director**



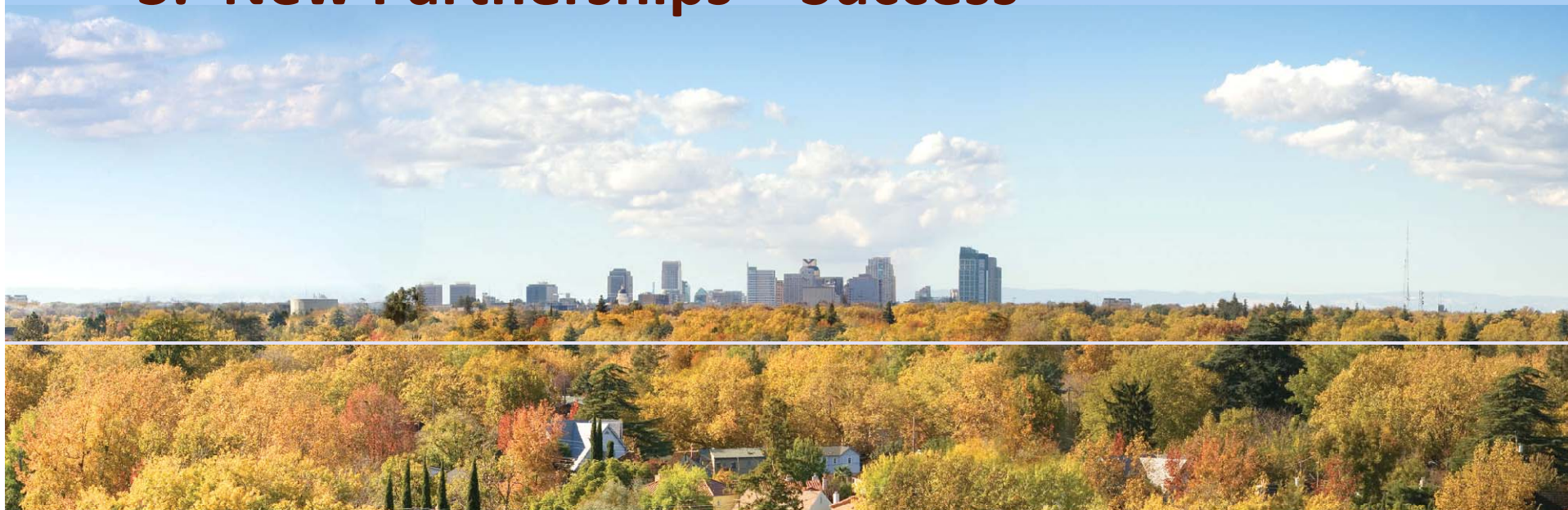
Thank You





Take Aways

- 1. Trees = Critical to Our Health**
- 2. Health = Critical to Urban Forest Message**
- 3. New Partnerships = Success**

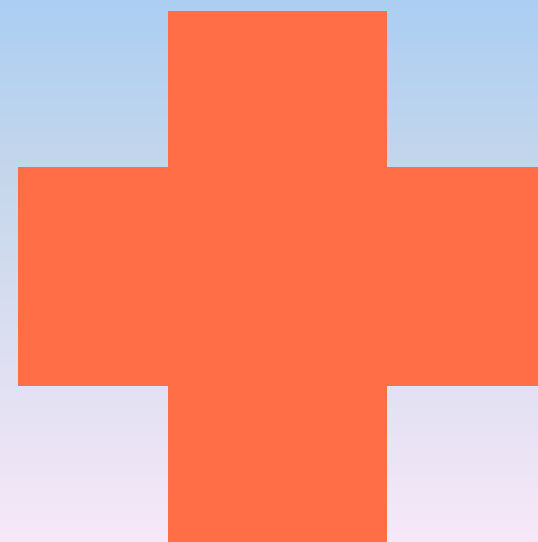




Biggest Health Threat

Chronic Disease:

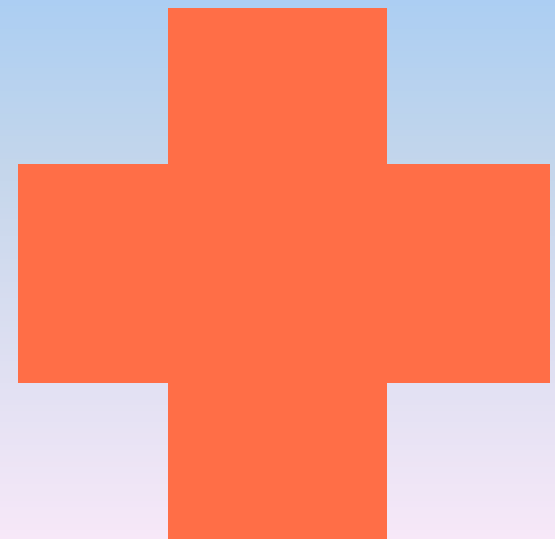
- Obesity
- Diabetes
- Hypertension



Determinants of Health



- Clinical Health Care: 10 - 20 %
- Social & Environmental : 60 - 70%
- Genetics: 20-30%





Human Health Projects

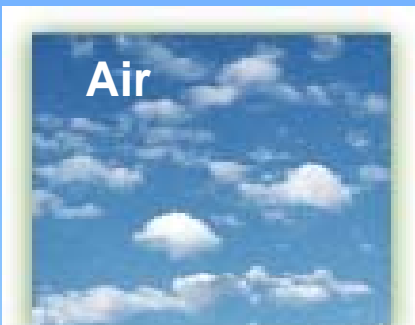
- Skin Cancer / CDPH (1990s)
- Urban Heat Island / NASA (1998 – 2001)
- Urban Forest for Clean Air /AQDs (2006)
- Fruit for Families / CDPH (2009)
- Green Rx / USFS (2010)
- Green Rx Expansion / CALFIRE (2012)
- Spreading the Canopy / Trees Forever (2012)

ALL Our Projects are Human Health Projects



Sac Region: 7 Million Trees

\$ Infrastructure Benefits



\$35M Air Pollution Clean-up/Year
14M lbs of air pollution



\$24.5M Stormwater Runoff Cost/Year
2.45B gal of rainwater



\$70M Energy Savings/Year
30% Summer Cooling Cost Savings



Eco Benefits

- Air Quality
- Rainwater capture
- Energy Savings
- Urban Heat Island
- Carbon Storage

Health

- Heart Disease
- Obesity/Overweight
- Asthma
- Heat Stress
- Quality of Life



Eco Benefits

Health

- Air Quality
 - Rainwater capture
 - Energy Savings
 - Urban Heat Island
 - Carbon Storage
-
- Two red arrows originate from the "Air Quality" bullet point. One arrow points horizontally to the right, ending at the "Heart Disease" bullet point. The other arrow points diagonally down and to the right, ending at the "Asthma" bullet point.
- Heart Disease
 - Obesity/Overweight
 - Asthma
 - Heat Stress
 - Quality of Life

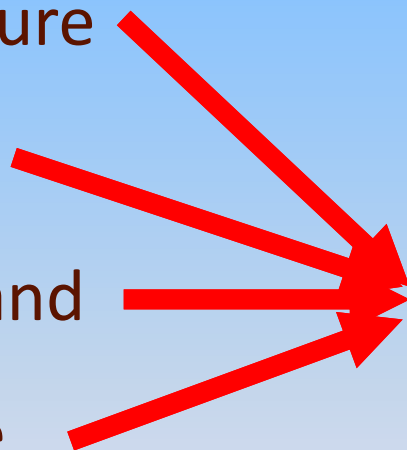


Eco Benefits

- Air Quality
- Rainwater capture
- Energy Savings
- Urban Heat Island
- Carbon Storage

Health

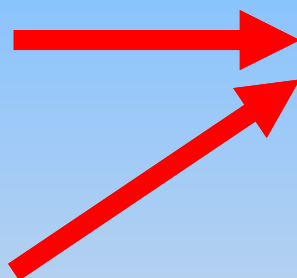
- Heart Disease
- Obesity/Overweight
- Asthma
- Heat Stress
- Quality of Life





Eco Benefits

- Air Quality
- Rainwater capture
- Energy Savings
- Urban Heat Island
- Carbon Storage



Health

- Heart Disease
- Obesity/Overweight
- Asthma
- Heat Stress
- Quality of Life

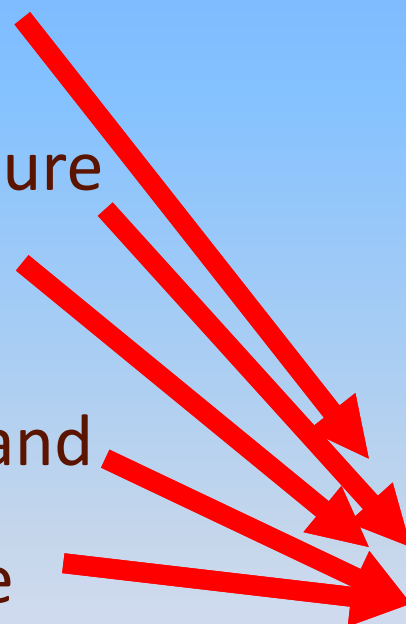


Eco Benefits

- Air Quality
- Rainwater capture
- Energy Savings
- Urban Heat Island
- Carbon Storage

Health

- Heart Disease
- Obesity/Overweight
- Asthma
- Heat Stress
- Quality of Life





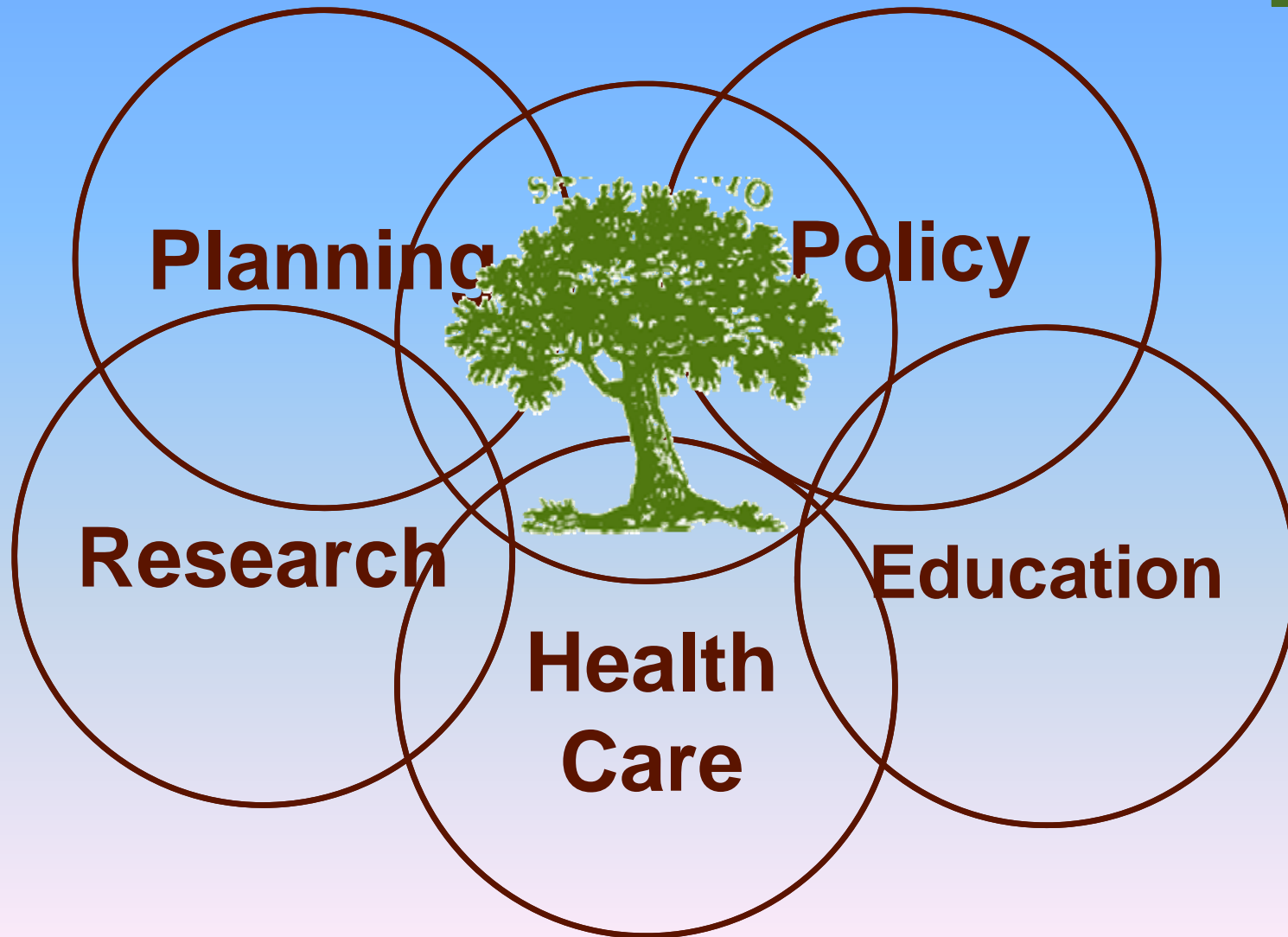
Direct Benefits

Health

- Trees →
- Trees →
- Trees →
- Trees →

- ↓ Stress (Heart Disease)
- ↑ Social Cohesion
- ↑ Mental Health
- → Oxygen

Who Are the Partners?



Summit Videos

<http://www.sactree.com/GreenprintSummit>



ABOUT SERVICES EVENTS PUBLICATIONS CONTACT

 Plant Volunteer
Learn Join

Donate Now!

SEARCH

Plant

Create safer, cleaner, and healthier neighborhoods by planting trees in your yard, on your street, and in your parks, and schools.

HOME » PLANT » ACROSS THE REGION » GREENPRINT »

Greenprint Summit

PLANNING FOR TREES & PUBLIC HEALTH

[Watch the Greenprint Summit Overview video to see highlights about the New Green Prescription.](#)

Individual Presentations and Videos from the Summit are available below.

Welcome and Overview of the Summit

- Ray Tretheway, Executive Director, Sacramento Tree Foundation

[Slides \(.pdf\)](#)
[Video](#)

Expectations of the Day

- Cindy Blain, Community Partnerships & Innovation Director, Sacramento Tree Foundation

[Slides \(.pdf\)](#)
[Video](#)

Place and Health

- Dr. Anthony Iton, Senior Vice President, The California

Around Your Home
In Your Community
In Your Jurisdiction
Across the Region
5 Million Tree Campaign
Greenprint
The Greenprint Initiative
Greenprint Summit
The Greenprint Toolkit
Research and



OPEN



Greenprint Summit 2014

Sacramento Tree Foundation - 18 videos



Welcome by Ray Tretheway

Sacramento Tree Foundation

21 views

11:51



Expectations of Greenprint Summit 2014 - Cindy Blain

Sacramento Tree Foundation

8 views

7:32



Place & Health - Anthony Iton

Sacramento Tree Foundation

29 views

27:37



Economic Impact of Urban Forests - Geoffrey Donovan

Sacramento Tree Foundation

14 views

17:05



Recognizing Resilience - Mary Northridge

Sacramento Tree Foundation

8 views

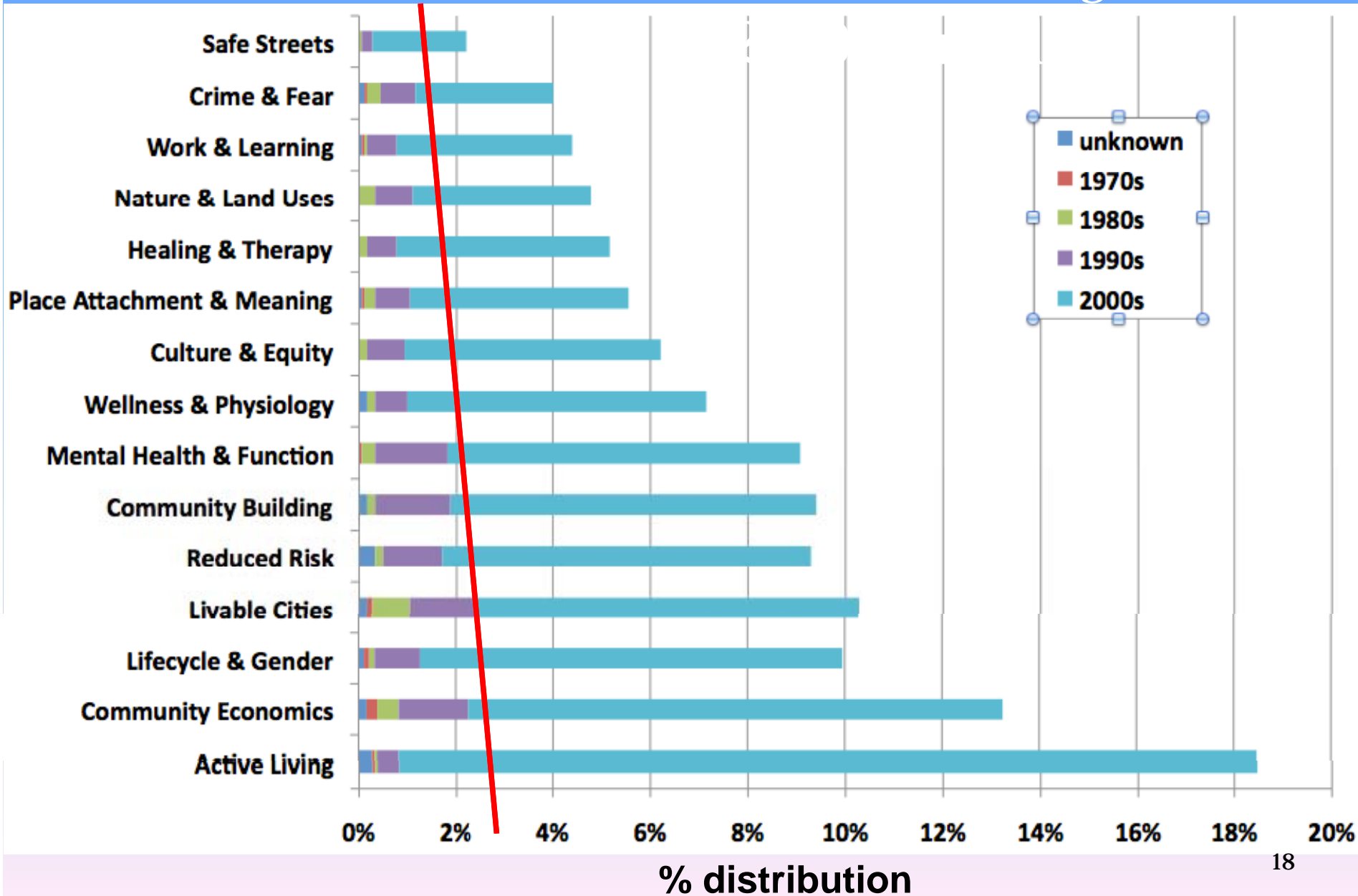
21:07



Panel Conversations with Anthony Iton, Geoff Donovan, Mary Northridge

Dr. Kathy Wolf

Urban Green :: Human Health & Well Being



Green Rx



Correlation or Association:
Urban Greening
to
Health Behaviors & Outcomes



Expert Advisory Committee



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

Teri Duarte, MPH
Executive Director
WALKSacramento

Greg McPherson, PhD
Project Leader
US Forest Service

Aimee Sisson, MD, MPH
Organic Farming Apprentice
Soil Born Farms

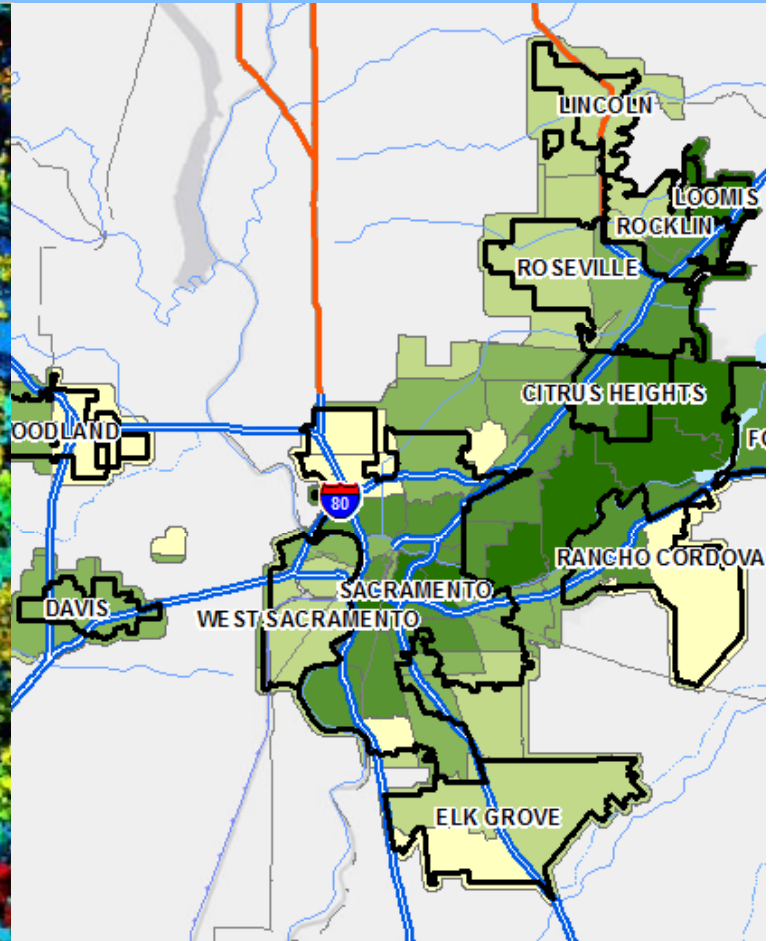
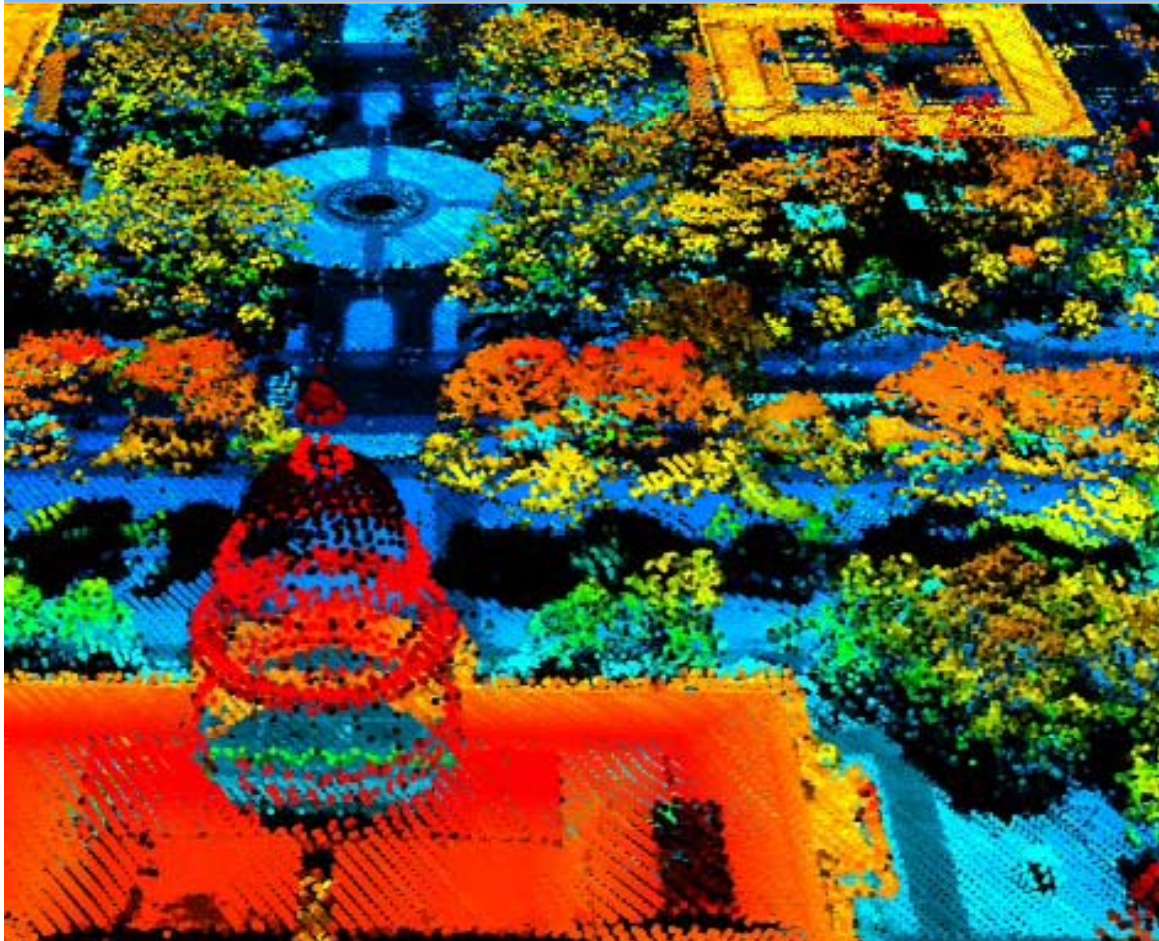
Mary E Northridge, PhD, MPH
Editor-in-Chief, American Journal
of Public Health

Glennah Trochet, MD
Former Sacramento County
Public Health Officer

Kathy Wolf, PhD
Research Social Scientist
Urban Forestry & Urban Ecology
Univ of Washington

Hi Res Canopy Data

- Aerial Imagery – NAIP 2009
- LIDAR – DWR 2008



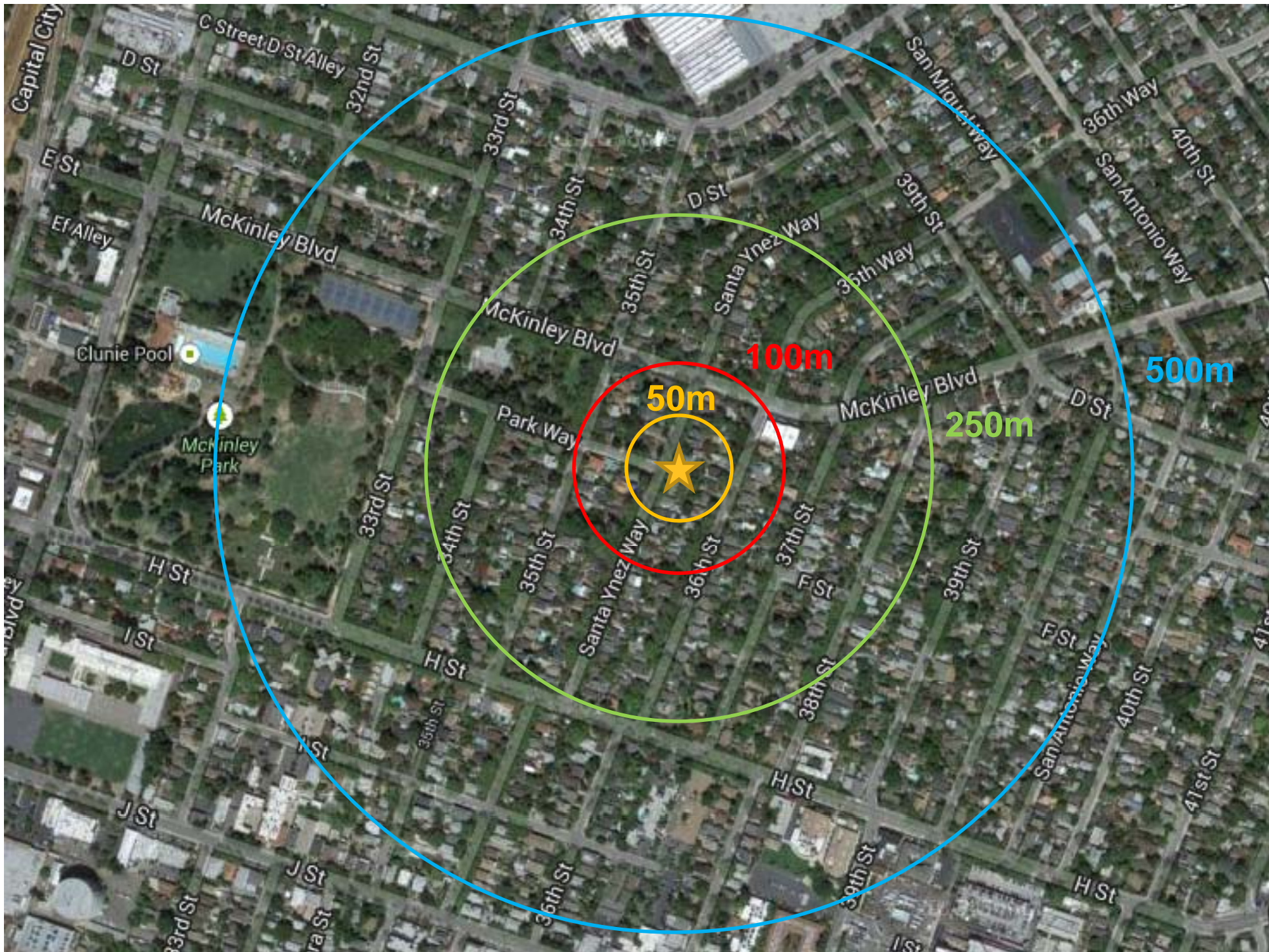


Hi Res Health Data

California Health Interview Survey

- 50,000 households
- Residences geo-coded – not zip code level

The screenshot shows the website for the UCLA Center for Health Policy Research. The header includes the center's name and logo, along with navigation links for Newsroom, Join Our Newsletter, Contact, and Login. A secondary navigation bar contains links for About The Center, Publications, Programs, Making an Impact, California Health Interview Survey, AskCHIS, and Health Profiles. The main content area features a large image of a diverse group of people and the title "California Health Interview Survey". Below this, a breadcrumb trail reads "Home > California Health Interview Survey". On the left, a sidebar menu lists "About CHIS", "AskCHIS", "Get CHIS Data", "Analyze CHIS Data", and "Design & Methods". The main text area is titled "Welcome to CHIS" and describes the survey as the nation's largest state health survey. To the right, there is a "HEALTH DATA ALL-STAR" badge and a call to action: "Vote now for the data most important to".





Green Rx: Hypotheses

- ADHD
- Asthma
- Overweight/Obesity
- Diabetes
- General Health
- High Blood Pressure
- Social Cohesion
- Physical Activity
- Mental Health



Green Rx: Results

- ADHD
- **Asthma - Adult**
- **Overweight/Obesity - Adult / Child**
- Diabetes
- **General Health - Adult / Teen / Child**
- High Blood Pressure
- **Social Cohesion - Adult**
- **Vigorous Physical Activity - Adult**
- Mental Health

Updated Predictive Modeling



In two neighborhoods with **identical populations** and different Tree Canopies of **18% and 28%...**

With **28%** canopy, we would expect to find:

- Adult Obesity 18% ↓
- Adult Type 2 Diabetes 20% ↓
- Adult Overweight/Obese 10% ↓
- Adult Vigorous Physical Activity 11% ↑



Updated Predictive Modeling



In two neighborhoods with **identical populations** and different Tree Canopies of 18% and 28%.

With 28% canopy, we would expect to find:

- Teen Obesity 15 % ↓
- Teen Overweight/Obese 23% ↓



Updated Predictive Modeling



In two neighborhoods with **identical populations** and different Tree Canopies of 18% and 28%.

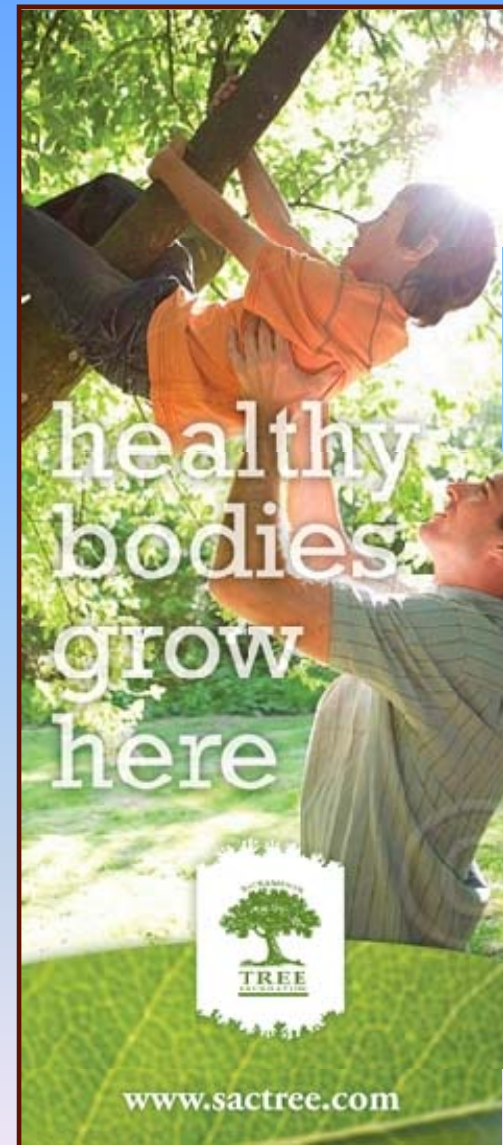
With 28% canopy, we would expect to find:

- Child ADHD 27% ↓
- Child Obesity 20 % ↓
- Child Overweight/Obese 13%↓
- Child Asthma 11 % ↓



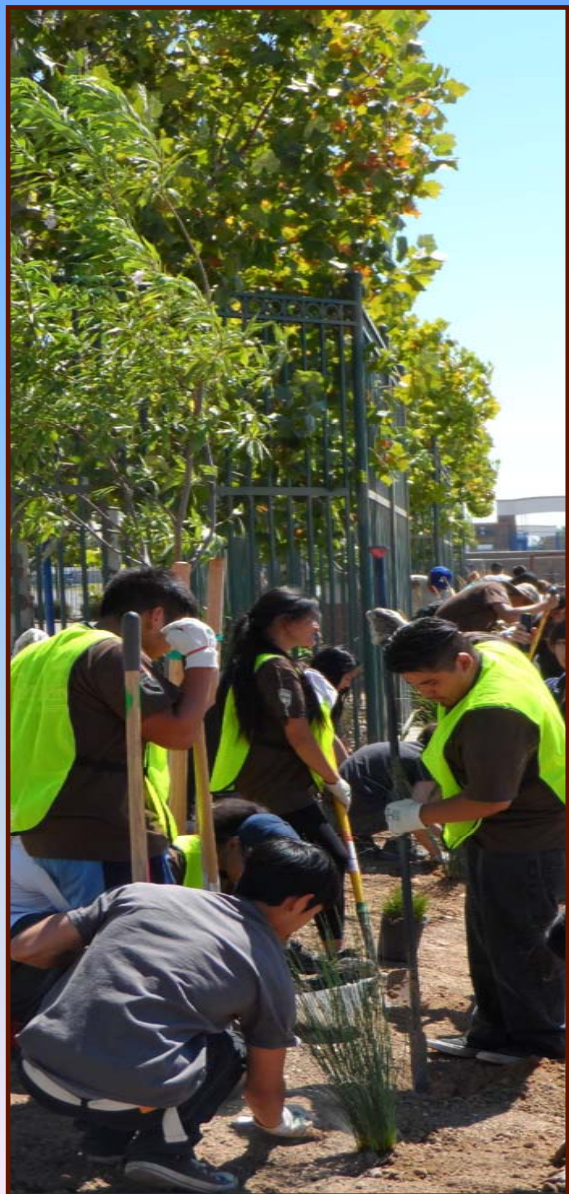
New Lingo

- Public Health vs Clinical care
- Population Health
- Health Behaviors vs Outcomes
- Health disparities
- Chronic illnesses
- Correlation vs causality
- Social and Environmental Determinants of Health





New Lingo...



- Place Based Health Initiative
- Built Environment
- Urban Form
- Walkability
- Self-Efficacy
- Social Cohesion

New Partners



- Local Health Care Organizations
- American Planning Association
- Metropolitan Planning Organization
- Local Community Groups – Ubuntu Green/WALKSac
- Local and State Health Foundations



The California Endowment:

health happens **here**





- **Health promoting land use policies incorporated into planning instruments**
- **Joint use strategies**
- **Walkability/bikeability**
- **Parks & open space**
- **Mixed income housing**
- **Supermarkets, community gardens, farmers markets**
- **Reducing fast food and liquor store density**



- **Health promoting land use policies incorporated into planning instruments**
- **Joint use strategies**
- **Walkability/bikeability**
- **Parks & open space**
- **Mixed income housing**
- **Supermarkets, community gardens, farmers markets**
- **Reducing fast food and liquor store density**



- Health promoting land use policies incorporated into planning instruments
- Joint use strategies
- Walkability/bikeability
- Parks & open space
- Mixed income housing
- Supermarkets, community gardens, farmers markets
- Reducing fast food and liquor store density

= TREES



Messages:

“Since 2000, research has grown exponentially about how much trees impact our health.

Especially in the face of climate change and hotter temperatures, it is vital our urban areas increase tree canopy.”



Messages:

“Health professionals and urban planners are coming to realize how important the built environment is to population health...

and trees are a key component of a health oriented built environment.”



Messages:

“We’ve known for years that trees clean the air by capturing particulate matter. Now research is showing how much cardiovascular health is impaired by PM, and that asthma is exacerbated by PM.

Trees can help. Trees at schools. In parks. Along streets. In our yards.”



Messages:

“Studies increasingly show that trees:

- Reduce stress
- Improve concentration
- Improve immunity
- Promote physical activity
- Lower blood pressure
- Accelerate healing
- Reduce absenteeism”



Messages:

“Recent studies show a connection between increased tree canopy and :

- Less obesity and overweight
- Less asthma
- Better general health
- Increased social cohesion”



Messages:

“We don’t have perfect science...more research is needed...but we have enough to know that trees positively affect health.

We need to protect and expand our urban forest and tree canopy for the health of our families and communities.”



How to use this info:

- **Talk to new partners**
- Influence our health care approach
- Impact policy
- Lead to more targeted research
- Change school design standards
- **Activate our communities!**
- ...How else?

Suggestions

- Connect
- Invite
- Invest the time
- Demonstrate
- Share strengths



GAMECHANGERS IN THE REGION 2014 SPEAKER SERIES



Innovation is in the air. Gamechangers in land development, housing, transportation and the environment surround. This year's Speaker Series will focus on ground-breaking projects and the associated evolving dynamics that have the capacity (or will have the capacity) to (re)create sweeping impacts on our Region. In year seven of the Sacramento Valley American Planning Association's Speaker Series, we will join with our partners to describe the projects and/or dynamics, how they are different and potentially represent "the new normal," and offer participants a chance to consider and discuss how these monumental efforts in this Region might change the way we conduct future planning.

Sessions will be held from 8:30-10:30 a.m. Join us for coffee & networking from 8:00-8:30 a.m.
West Sacramento Community Center, 1075 West Capitol Avenue, West Sacramento
Free, Unrestricted Parking at 1271 West Capitol Avenue (behind Walgreens)



May 30 - Hosted by APA & AIA

Changing the Face of Downtown: Sacramento's Entertainment and Sports Complex

Presenters: Desmond Parrington, City of Sacramento (moderator); Michael Heller, Heller Pacific; Michael Ault, Downtown Sacramento Partnership; Michael Laviano, AECOM

Imagine Downtown Sacramento as a vibrant destination. With approximately 190 events per year that will generate an estimated 1.65 attendees and hundreds of permanent jobs, Sacramento's Entertainment and Sports Complex (ESC) has the potential to transform Downtown Sacramento into a regional attraction. Other businesses want to be located in the vicinity to take advantage of the facility's draw, and new use developments are being proposed in the area. This session will provide a broad perspective on the future of Downtown Sacramento with ESC as a major catalyst.



June 27 - Hosted by AEP & APA

Implementation of the Bay Delta Conservation Plan

Presenters: Tom Gohring, The Water Forum; Jennifer La Pierre, ICF International

Everyone knows that it's a big and controversial project, but what exactly will happen with implementation of the Bay Delta Conservation Plan? Come hear an overview of the plan and its potential environmental impacts as well as some local agency perspectives on how they are implementing BDCP in their own planning efforts. A brief presentation will be immediately followed by perspectives on the plan from representatives from several local flood protection and water-related issues.



July 18 - Hosted by Sacramento Tree Foundation & OPR

Responding to Drought: New Solutions for Sustainable Cities

Presenters: Andy Lipkis, LA TreePeople; Jay Lund, Center for Watershed Sciences, UC Davis; Debbie Davis, Governor's Office of Planning Research

According to Andy Lipkis, "Sustainability is not a far-off unattainable goal; it's a practical way to solve more than one problem at once" ... including the immediate issue of extreme drought. Los Angeles has been dealing with water shortages a lot longer than Sacramento. Come learn about the innovative solutions TreePeople has spearheaded with local governments to adapt neighborhoods for drought as well as flooding. Discuss with Jay Lund the economic benefits and resources for implementing new, alternative solutions. Is this drought the wake-up call for Northern California to change embedded traditions in residential and commercial real estate design? Is there the political and community buy-in to embrace real change? With Debbie Davis, hear how the state is working with cities and counties to deal with the drought at a local level, and how the upcoming General Plan Guidelines encourage sustainable water use. Join us for a lively presentation discussion!



Grant Proposals

1. Leverage credentials
2. Footnote research
3. Reference policies
Health in All Policies
Calif. Obesity Prevention Plan



- iv Local Government Commission, (2006). The Ahwahnee
- v Op. cit., McPherson research, the Tree Guidelines for S energy savings.
- vi ICF International, an environmental consulting firm.
- vii Ibid.
- viii Taha, H. et al. (1999) Impacts of Heat Island Mitigation Berkeley National Laboratory, Berkeley, CA.
- ix Op. cit., McPherson research, the Tree Guidelines for S energy savings.
- x Iton, A. (2011) Presentation to the Urban Land Institute California. Dr. Iton is the Senior Vice President of the Cali ecological approach to improving health, the importance need to develop young people and build power within ui
- xi Op. cit., Local Government Commission, (2006), pp. 36
- xii Op. cit., McPherson research, the Tree Guidelines for : energy savings.
- xiii Op. cit., McPherson research, the Tree Guidelines for energy savings.
- xiv Bell JF, Wilson JS, Liu, GC. (2008). Neighborhood gree youth. *American Journal of Preventive Medicine*, 35(6), 5
- xv Ellaway A, Macintyre S, Bonnefoy X. (2005). Graffiti, g cross sectional survey. *British Medical Journal*, 331, 611-
- xvi Ulrich RS, Simons RF, Losito BD, Fiorito E, Miles MA, Z urban environments. *Journal of Environmental Psycholog*

Resources...

- **Green Cities:: Good Health** – Human Health & Well-Being Research in relation to trees. Website – Dr. Kathy Wolf.
<http://depts.washington.edu/hhwb/>



Urban Forestry/Urban Greening Research

Green Cities: Good Health

INTRODUCTION RESOURCES FUTURE RESEARCH REFERENCES

- Social Strengths ▶
- Local Economics ▶
- Place Attachment & Meaning
- Crime & Public Safety ▶
- Safe Streets ▶
- Active Living ▶
- Reduced Risk
- Wellness & Physiology
- Healing & Therapy
- Mental Health & Function ▶
- Work & Learning
- Culture & Equity
- Lifecycle & Gender

Active Living

Inactive lifestyles and resulting obesity is causing an epidemic of poor health in adults and children. Change of diet and medication can help, but daily moderate activity is essential for weight control. Recent research indicates that quality outdoor environments affect activity attitudes and behaviors.³ Urban greening contributes to more walkable places. Trees and other greening elements can encourage physical activity.

Fast Facts

- 65% of U.S. adults are overweight and one in three are obese, putting them at increased risk of chronic diseases such as heart disease, high blood pressure, stroke, Type II diabetes, arthritis, cancer, and resulting in billions of dollars in annual medical costs.²
- Moderate physical activity, such as 30 minutes of brisk walking 5 days a week, reduces health risks. 50% of U.S. adults do not get enough activity; 24% are not active at all during their leisure time.²⁸
- The character of a neighborhood has a significant affect on residents' physical activity. People in communities with abundant greenspace generally enjoy better health.⁶
- People who use parks and open spaces are three times more likely to achieve recommended levels of physical activity than nonusers.¹² People prefer nearby, attractive, and larger parks and open spaces for their activity.
- Childhood obesity has more than tripled in the past 30 years. Active living is one solution to turn back this trend. Tree lawns contribute to neighborhoods of more walkable streets, which can promote more

positive landscape aesthetics supports active living

having parks and green space near one's home encourages participation in physical activity

Resources...



- Environmental Protection Agency - Eco-Health Relationship Browser. PDF of bibliography on health and nature:
<http://www.epa.gov/research/healthscience/browser/introduction.html>
- Greenprint Summit Videos:
<http://www.sactree.com/GreenprintSummit>
- Download Summit Videos:
<http://www.sactree.com/DownloadVideos>
- California Obesity Plan 2010
<http://www.cdph.ca.gov/programs/COPP/Pages/default.aspx>
- Health in All Policies
<http://www.sgc.ca.gov/hiap/about.html>

Resources...



- Environmental Protection Agency - Eco-Health Relationship Browser. PDF of bibliography on health and nature:
<http://www.epa.gov/research/healthscience/browser/introduction.html>
- Greenprint Summit Videos:
<http://www.sactree.com/GreenprintSummit>
- Download Summit Videos:
<http://www.sactree.com/DownloadVideos>
- California Obesity Plan 2010
<http://www.cdph.ca.gov/programs/COPP/Pages/default.aspx>
- Health in All Policies
<http://www.sgc.ca.gov/hiap/about.html>

Thank you!



Questions?
Call me...

Cindy Blain

cindy@sactree.com

(916) 974-4319