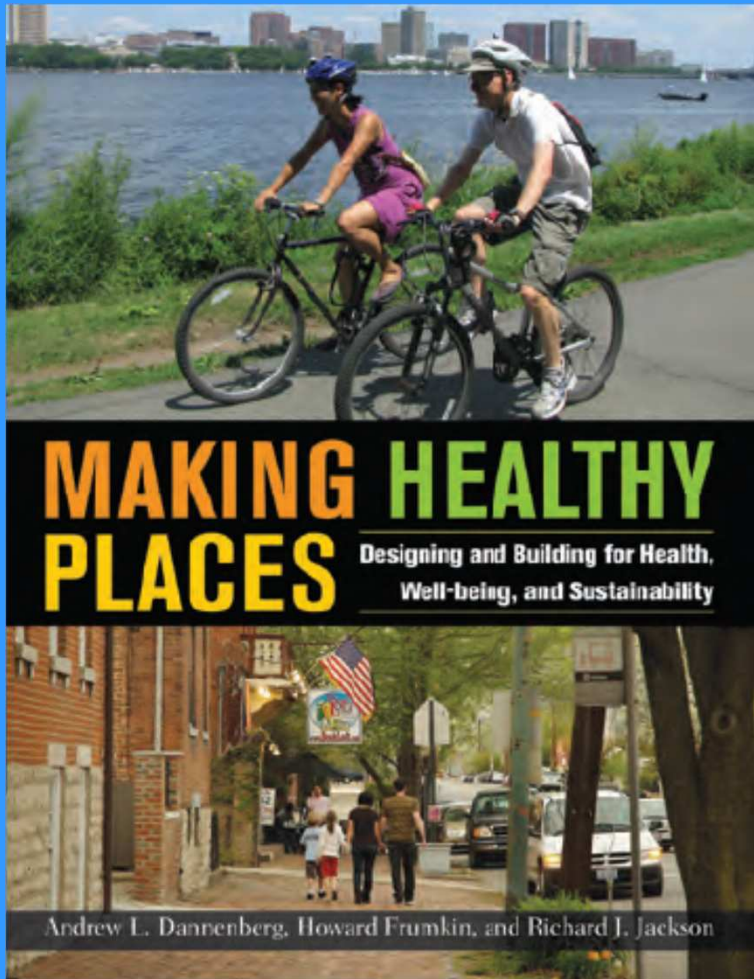


We Are What We Eat and Breathe, and Build: Preventing Chronic Diseases and Protecting the Environment by Building Healthy Communities



DESIGNING HEALTHY COMMUNITIES



RICHARD J. JACKSON WITH STACY SINCLAIR

Richard J Jackson MD MPH
UCLA Fielding School of Public Health
California Air Resources Board
Chair's Lecture – July 11, 2012

DESIGNING HEALTHY COMMUNITIES

The 2012 PBS 4-Part Series

Dr. Richard Jackson, former head of Environmental Public Health for the Centers for Disease Control, explains the link between health and the way our communities – especially our suburbs – are designed. Obesity, asthma, diabetes and heart disease are aggravated by the auto-centric way we live today. It's no secret that today's young people are likely to have shorter lives than their parents due to unhealthy lifestyles.

It doesn't have to be this way. Well-designed communities can improve both physical and mental health.



Special Offer, courtesy of the Fund for the Environment & Urban Life:

Purchase the Complete **Designing Healthy Communities** Series (4 DVDs, 1 hour each, plus 4 bonus videos) to share with colleagues. Normally \$99, the series is available at \$20.

For this special offer, visit:

www.DesigningHealthyCommunities.org/oram

Limited supply available at discount. \$6 s/h added.

<http://designinghealthycommunities.org/oram/>

Major Message

- We are at a desperately important moment for Health and Environment, and we need to again work together... a lot more and a lot better.
- And we need to start with community.

November 2010 Election Results

“What contest received more votes than any other in the nation?”

Brown for Governor (CA, D)

Boxer for Senate (CA, D)

Texas Governor (Perry, R)

Florida U.S. Senate (Rubio, R)

New York Governor (Cuomo, D)

California Propositions

REALITY SUCKS




LUCKILY THE GM COLLEGE DISCOUNT DOESN'T.




In fact, it's the best college discount from any car company,¹ and can save you hundreds — even thousands — on an eligible, new Chevrolet,² Buick or GMC. If you're in college, a grad program or even a recent grad...take advantage today and get a great deal on a new ride to call your own!



 **2012 Chevrolet Sonic**
(discount example)

| | |
|--|--------------|
| Sonic 5-Door LS MSRP starting at | \$ 15,395.00 |
| MSRP of Sonic 5-Door 1LT as shown ³ | \$ 16,495.00 |
| Preferred Pricing ⁴ | \$ 16,202.07 |
| Your Discount | \$ 292.93 |



 **2012 GMC Sierra 1500**
(discount example)

| | |
|--|--------------|
| Sierra 1500 Reg. Cab WT 2WD MSRP starting at | \$ 22,940.00 |
| MSRP of Sierra 1500 Extended Cab SLE 2WD with optional equipment as shown ³ | \$ 32,840.00 |
| Preferred Pricing ⁴ | \$ 31,026.26 |
| Your Discount | \$ 1,813.74 |

To save even more, combine your discount with most current incentives.



Stop pedaling...start driving.
Visit gmcollegediscout.com/save



GMC

CDC: Antidepressant use skyrockets 400% in past 20 years

By Janice Lloyd, USA TODAY

Updated 8h 50m ago

Comment

201

Recommend

1K

Tweet

152



[Reprints & Permissions](#)

Use of antidepressant drugs has soared nearly 400% since 1988, making the medication the most frequently used by people ages 18-44, a report from the Centers for Disease Control and Prevention shows.



Matt Detrich, AP

Doctors who prescribe some popular antidepressants should monitor their patients closely for warning signs of suicide, especially when they first start the pills or change a dose.

Eleven percent of Americans ages 12 years and older took antidepressants during the 2005-08 study period, the authors write. They add that though the majority of antidepressants were taken to treat depression, the drugs also can be used for anxiety disorders and other conditions.

The data are from the [National Health and Nutrition Examination Surveys](#), which included information from 12,637 participants about prescription-drug use, antidepressant use, length of use, severity of depressive symptoms and contact with a health professional.

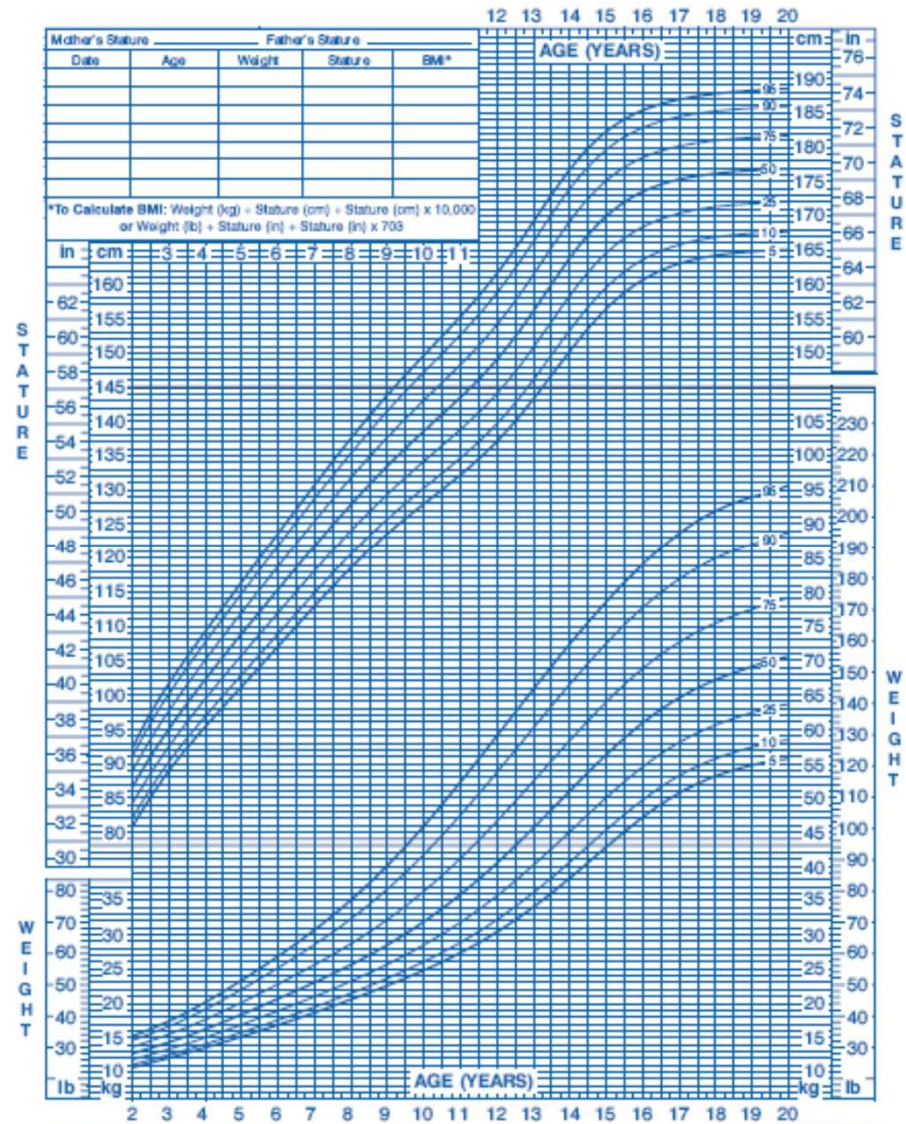
Mental-health professionals not associated with the survey cited several reasons as possible explanations for the spike:

USA Today 10/20/2011

The Check Up 10 year old boy

2 to 20 years: Boys
Stature-for-age and Weight-for-age percentiles

NAME _____
RECORD # _____



Published May 30, 2000 (modified 11/21/00).
SOURCE: Developed by the National Center for Health Statistics in collaboration with
the National Center for Chronic Diseases Prevention and Health Promotion (2000).
<http://www.doh.gov/growthcharts>



SAFER • HEALTHIER • PEOPLE™

“Problem” List

- Physical exam unremarkable
- Ht 54” (50%)
- Wt 115# (95%)
- BP 140/90
- Blood glucose elevated, urine normal
- Cholesterol 220
- Signs of Depression

Treatment Plan

- Referral to “overweight” clinic
- Weight loss program
- TV out of the bedroom; no soft drinks in the house
- Exercise program; Encourage sports

Two Months Later...



- Lost One pound
- Day is already too full
- Can't change the food at school
- No Time for exercise; “not good at sports”
- No place to Walk

2 months later the patient is taking:



- Antihypertensive medication
- Oral Hypoglycemic agent
- Antidepressant
- Cholesterol-lowering agent

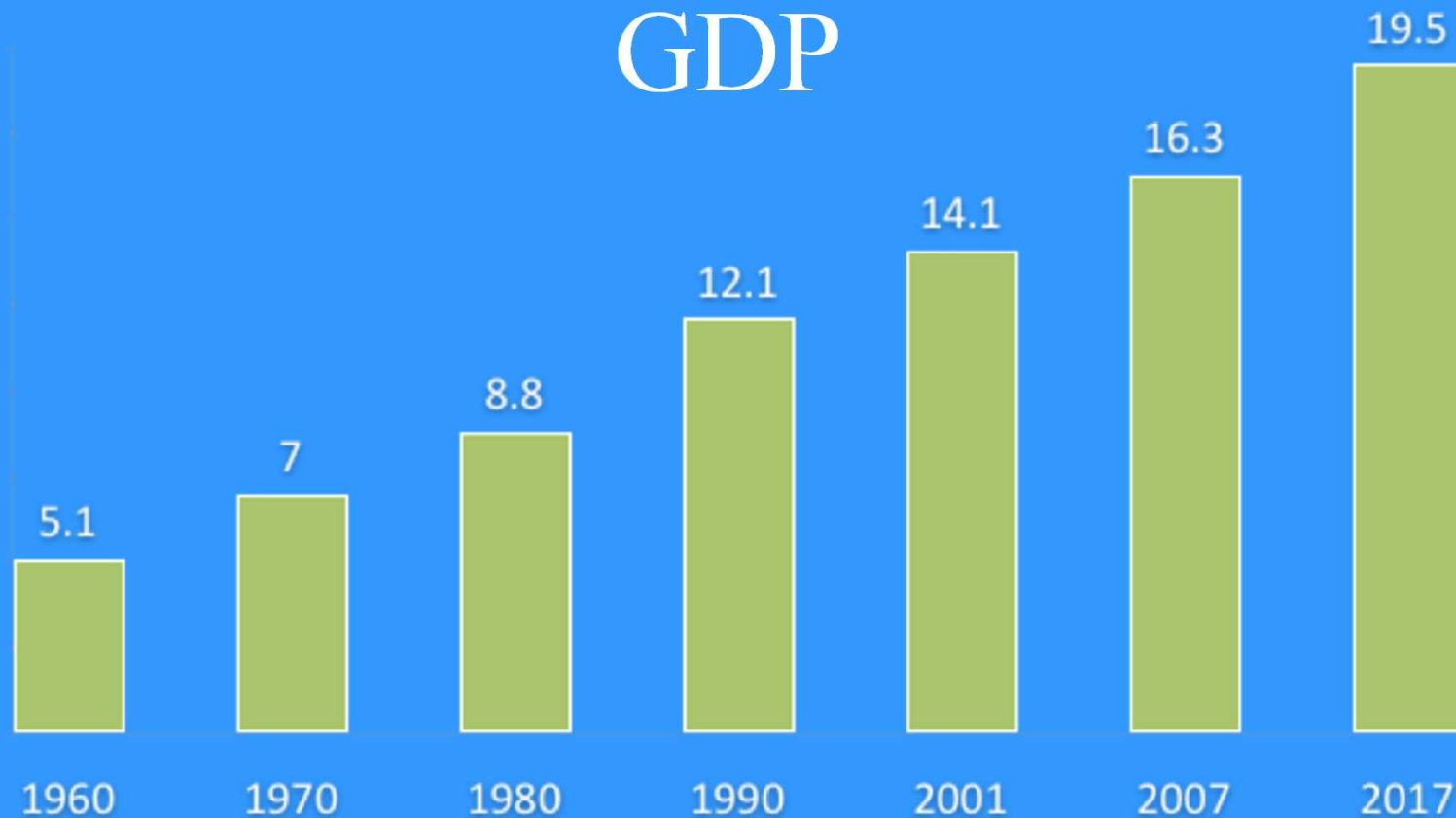


- Monthly medication costs: \$385



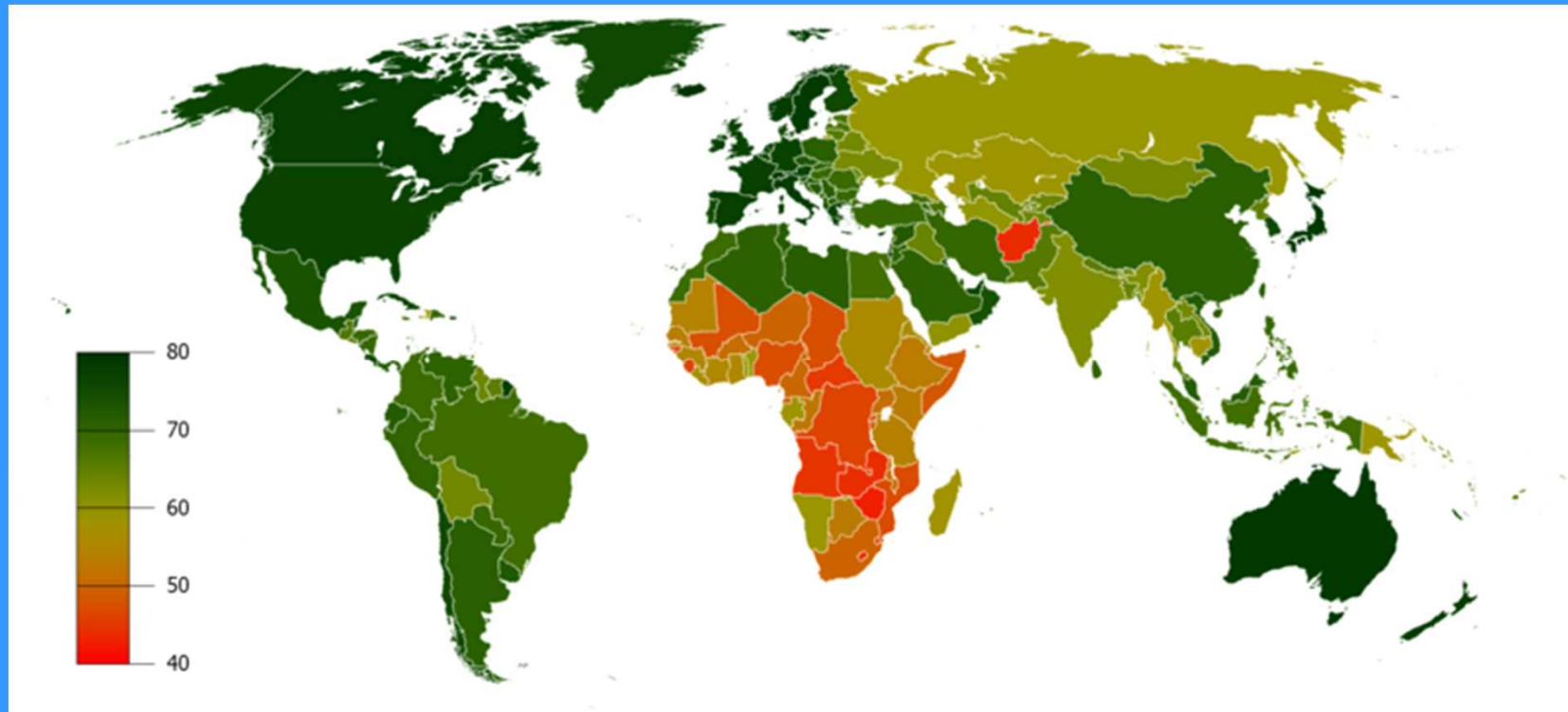
- The “environment” is rigged against the child...
 - And the doctor
 - And the economy
 - And the environment

U.S. “Health” Care Expenditures as Percent of GDP



Keehan et al: *Health Affairs*
March/April 2008 27: 145-155

Male Life Expectancy

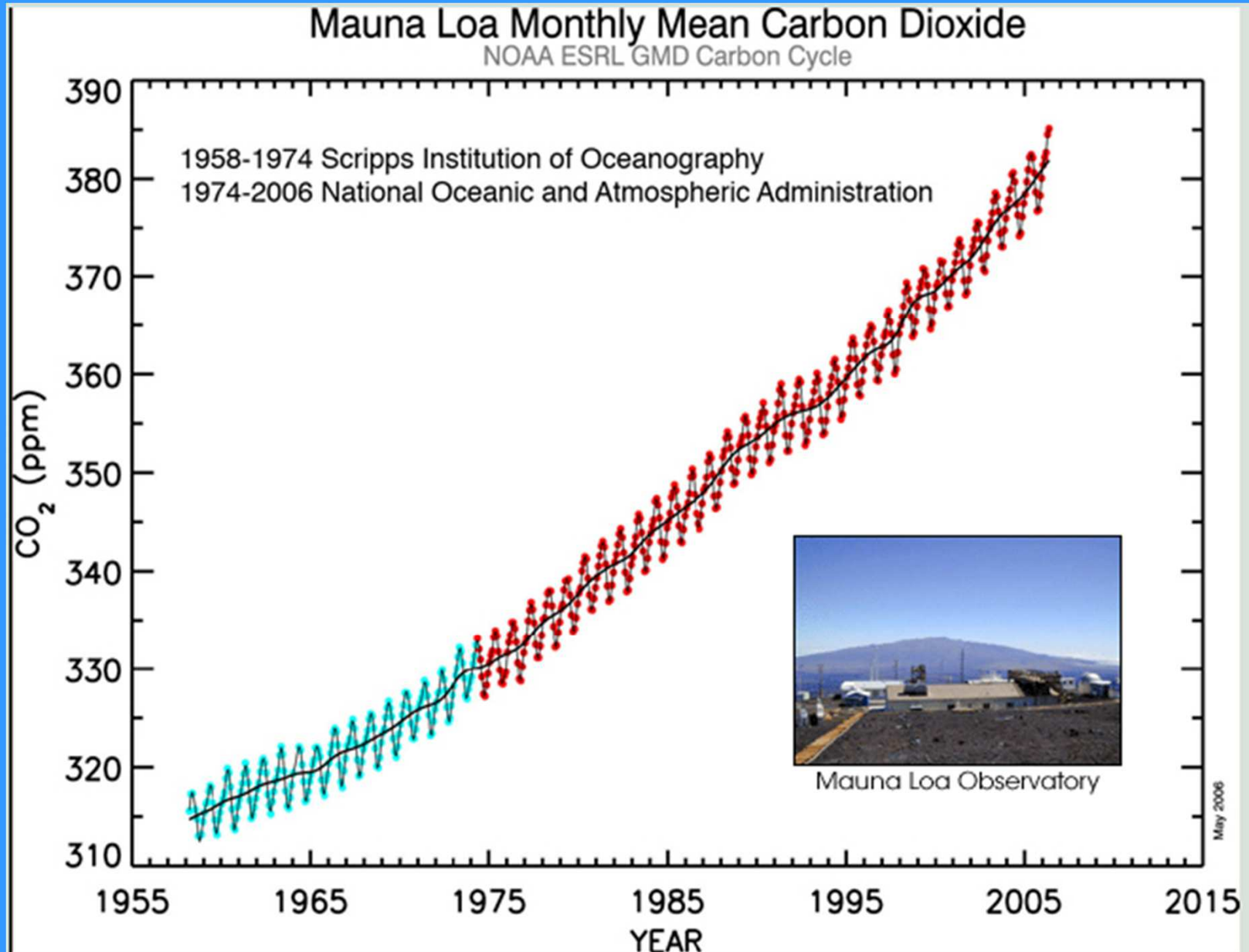


US Life Expectancy is #49 Worldwide – CIA Chartbook

CDC Headquarters - Atlanta



“Keeling Curve”





SecurityAndClimate.cna.org

**NATIONAL SECURITY
AND THE THREAT OF
CLIMATE CHANGE**

GENERAL GORDON R. SULLIVAN, USA (Ret.)

*Former Chief of Staff, U.S. Army
Chairman, Military Advisory Board*

ADMIRAL FRANK "SKIP" BOWMAN, USN (Ret.)

*Former Director, Naval Nuclear Propulsion Program;
Former Deputy Administrator-Naval Reactors, National Nuclear Security Administration*

LIEUTENANT GENERAL LAWRENCE P. FARRELL JR., USAF (Ret.)

Former Deputy Chief of Staff for Plans and Programs, Headquarters U.S. Air Force

VICE ADMIRAL PAUL G. GAFFNEY II, USN (Ret.)

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Navy Meteorology and Oceanography Command*

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ADMIRAL DONALD L. "DON" PILLING, USN (Ret.)

Former Vice Chief of Naval Operations

ADMIRAL JOSEPH W. PRUEHER, USN (Ret.)

Former Commander-in-Chief of the U.S. Pacific Command (PACOM) and Former U.S. Ambassador to China

VICE ADMIRAL RICHARD H. TRULY, USN (Ret.)

Former NASA Administrator, Shuttle Astronaut and the first Commander of the Naval Space Command

GENERAL CHARLES F. "CHUCK" WALD, USAF (Ret.)

Former Deputy Commander, Headquarters U.S. European Command (USEUCOM)

GENERAL ANTHONY C. "TONY" ZINNI, USMC (Ret.)

Former Commander-in-Chief of U.S. Central Command (CENTCOM)

SHERRI W. GOODMAN

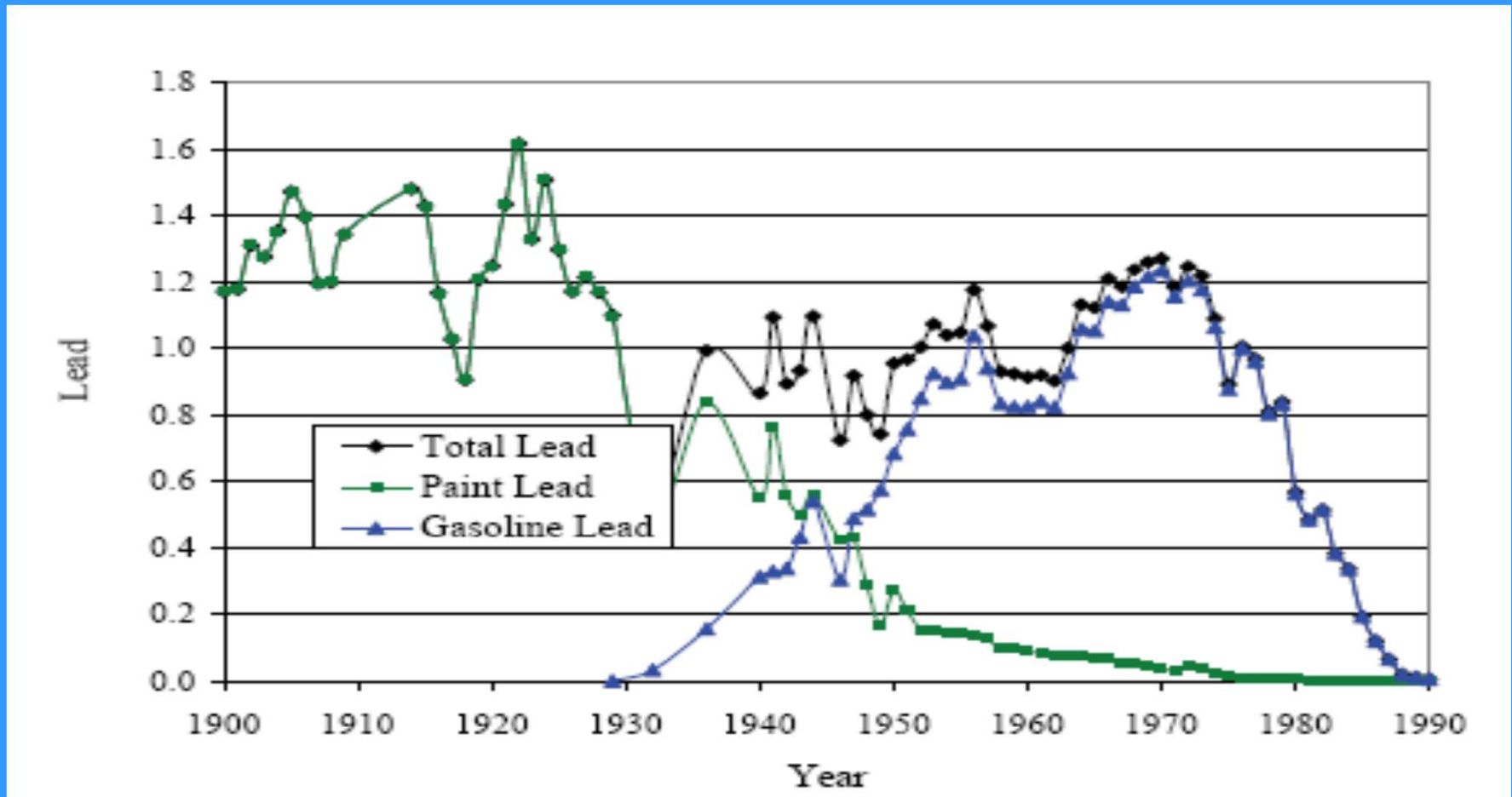
*Executive Director, Military Advisory Board
The CNA Corporation*

Childhood Lead Poisoning

- Challenge of Childhood Lead Poisoning
- In the 1950s caused deaths of more than ten children a year in New York City



Lead in Paint & Gasoline – US 1900-1990



Lead as kilotons of lead per 1 million population.

Sources. U.S. Geological Survey and U.S. Department of the Interior: 1904-1929; Mineral Resources of the U.S.; 1933-1980, Minerals Yearbook; 2001; U.S. Consumption of Lead in Manufacture of Gasoline Additives, 1941-1986.

July 6, 1999



Disease in the 21st Century

- Overweight: Diabetes II, Heart Disease
- Mental Disorders: Depression, Anxiety, Developmental, Substance Abuse
- Injuries.
- Aging Populations.
 - Diseases of and costs of care for
- Macro-environment: Climate, Conflict

These disorders (and our depletion of land, water, air and economic resources) are shaped by how and where we build our homes, farms, workplaces, towns, cities and societies.



For 65 years the US affordable housing policy was...
“Drive until you qualify.”

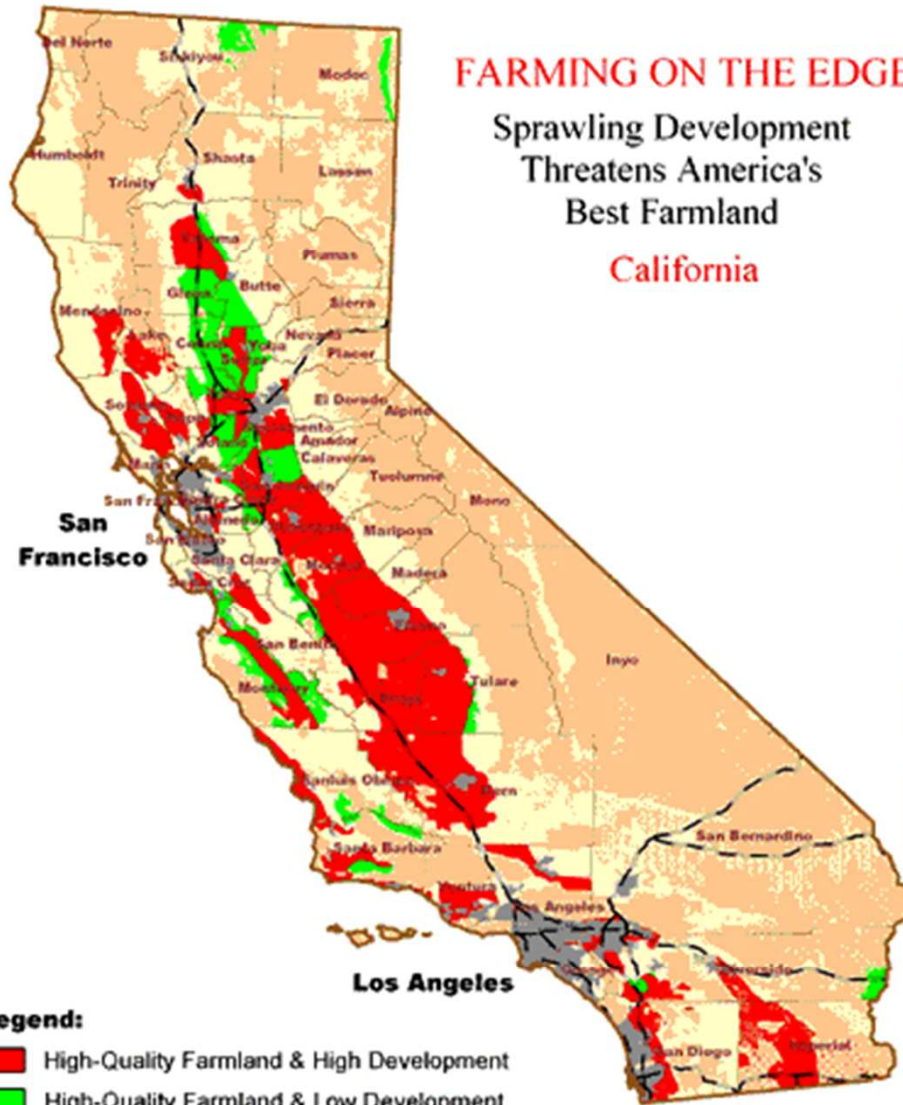


Loss of Farmland

FARMING ON THE EDGE

Sprawling Development
Threatens America's
Best Farmland

California



Legend:

- High-Quality Farmland & High Development
- High-Quality Farmland & Low Development
- Federal & Indian Lands
- Urban Areas
- Other Lands

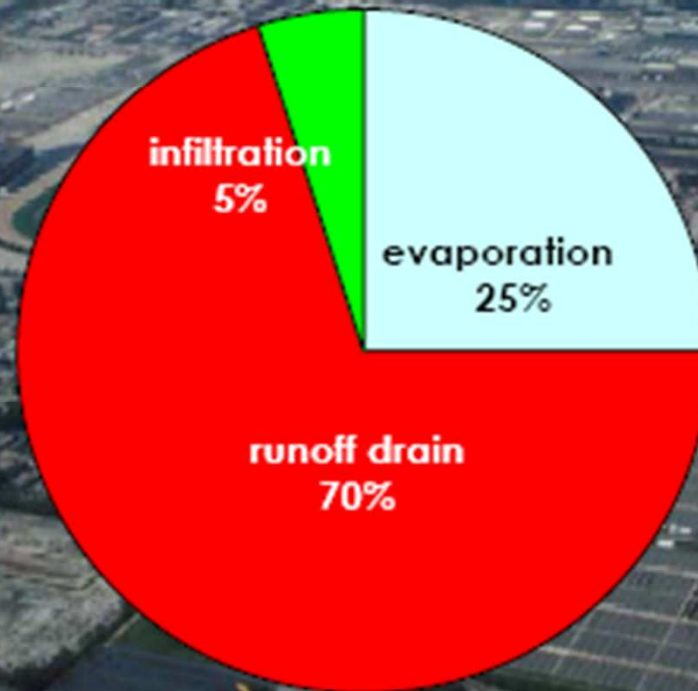
American Farmland Trust
www.farmland.org

0 20 Miles



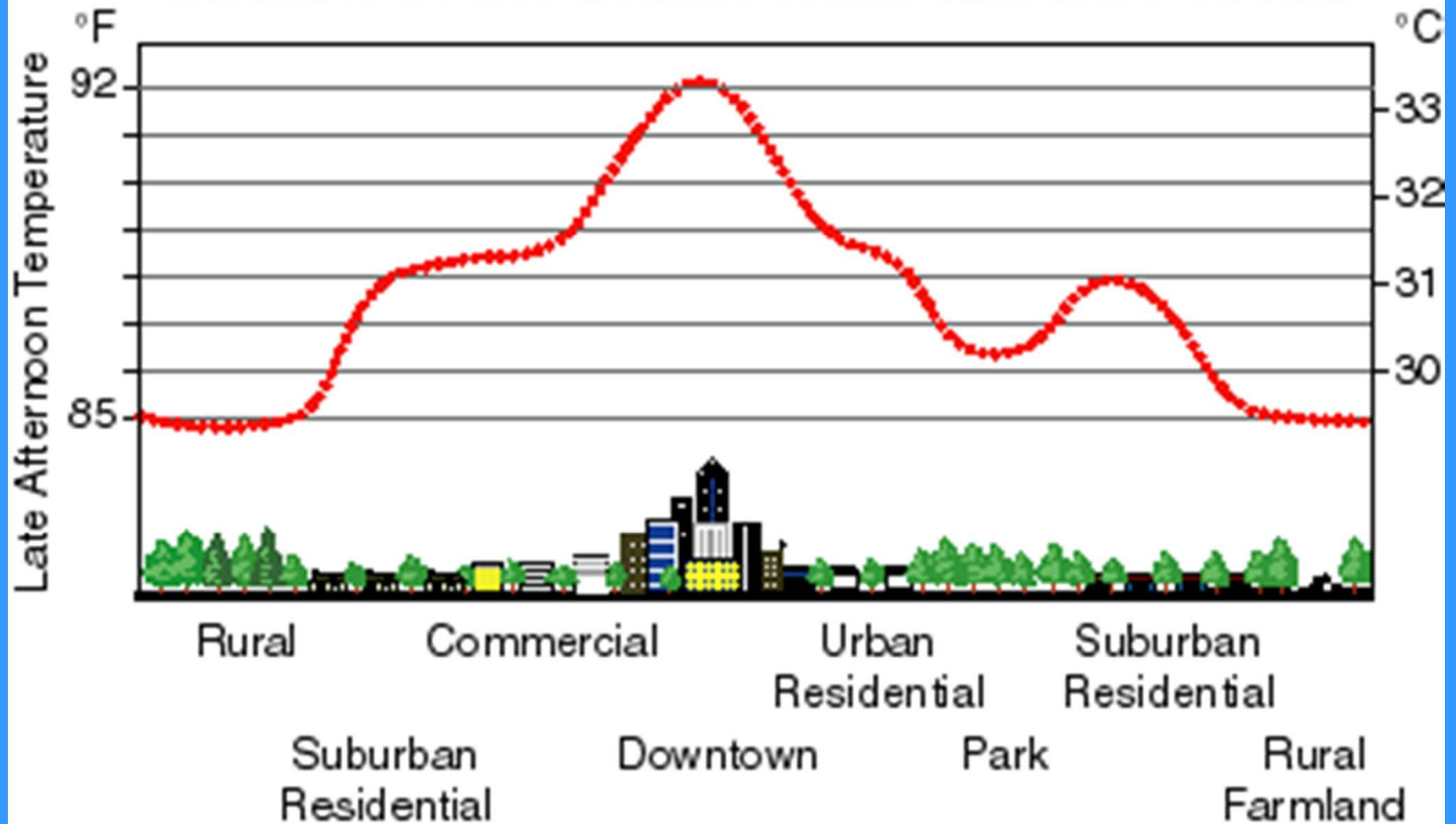
American Farmland Trust

In Urban Regions, 70% of rain runs off.



What is the best way to cool an urban area?

Sketch of an Urban Heat-Island Profile



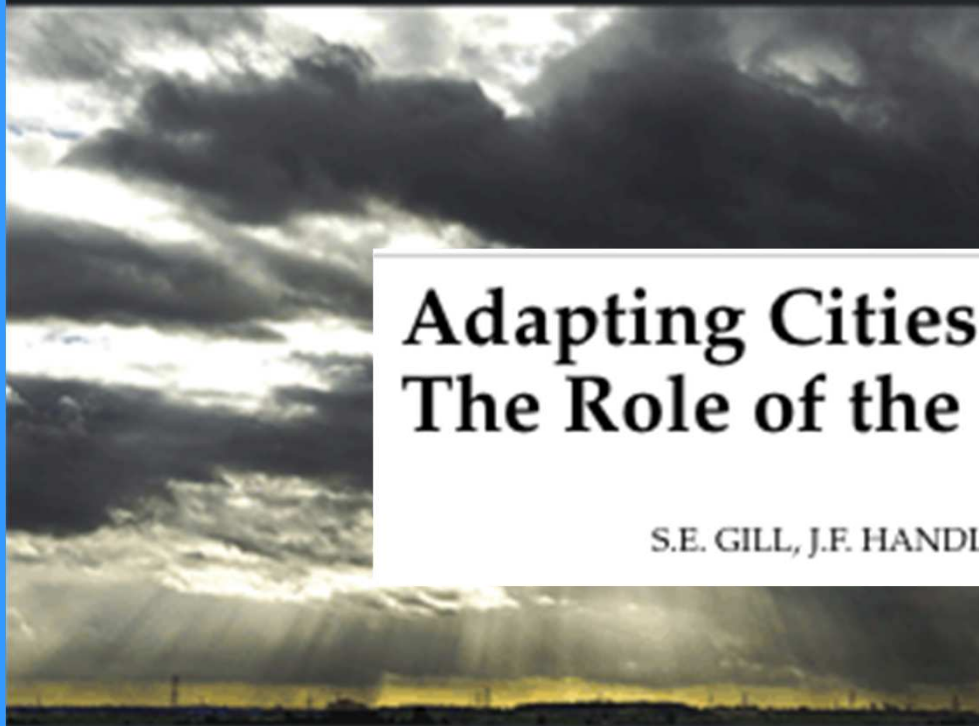
Built Environment

Volume 33, Number 1

Published by Ashgate Press and edited by Peter Hall and David Bursler

Climate Change and Cities

GUEST EDITOR: DARRYN McEVOY



10% increase in
urban parks = 4°F
decrease in urban
surface
temperature

Adapting Cities for Climate Change: The Role of the Green Infrastructure

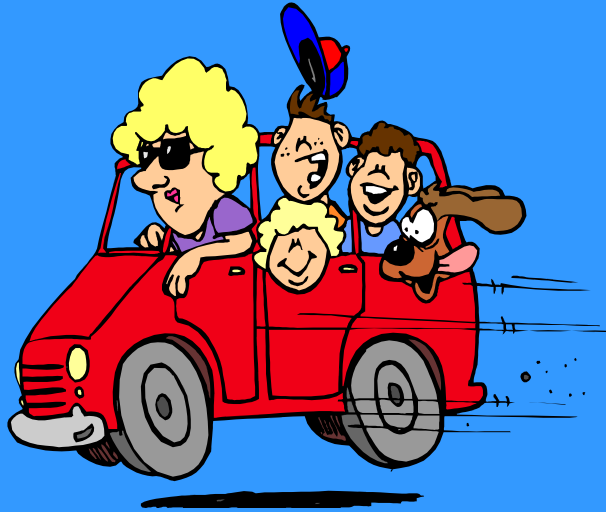
S.E. GILL, J.F. HANDLEY, A.R. ENNOS and S. PAULEIT



Overall: Compared to 1969

Americans drive:

- 88% farther to shop
- 137% farther for errands



Mega-Mileage Moms

- Family “chauffeur”
- Average minutes per day spent in car:
 - Women overall: 64 minutes
 - Single mothers: 75 minutes

“the number of cars on the road between 7:15 a.m. and 8:15 a.m. increases 30 percent during the school year”



- --Gene Benton, city traffic engineer
 - Santa Rosa, California

We have changed how much we walk or bike

- Percent of children who walk or bike to school:
 - 1974 → **66%**
 - 2000 → **13%**
- (CDC, 2000)



Fitness of California Children

Annual Fitnessgram Results

Conducted in Grades 5, 7, and 9

Measures 6 major fitness areas

(e.g. aerobic capacity, body composition, flexibility)

2011 Results: Who passed all standards?

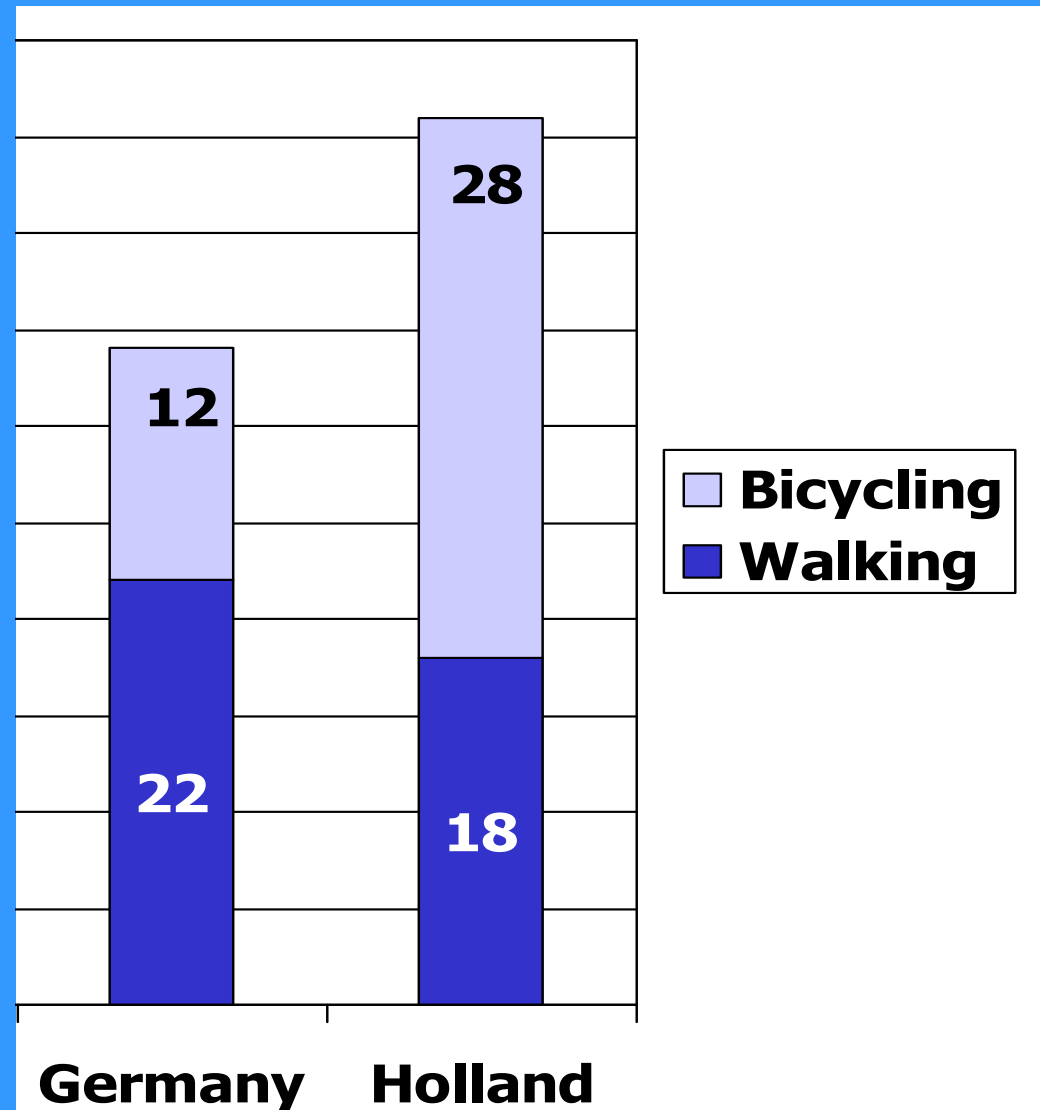
Grade 5: 25%

Grade 7: 32%

Grade 9: 37%

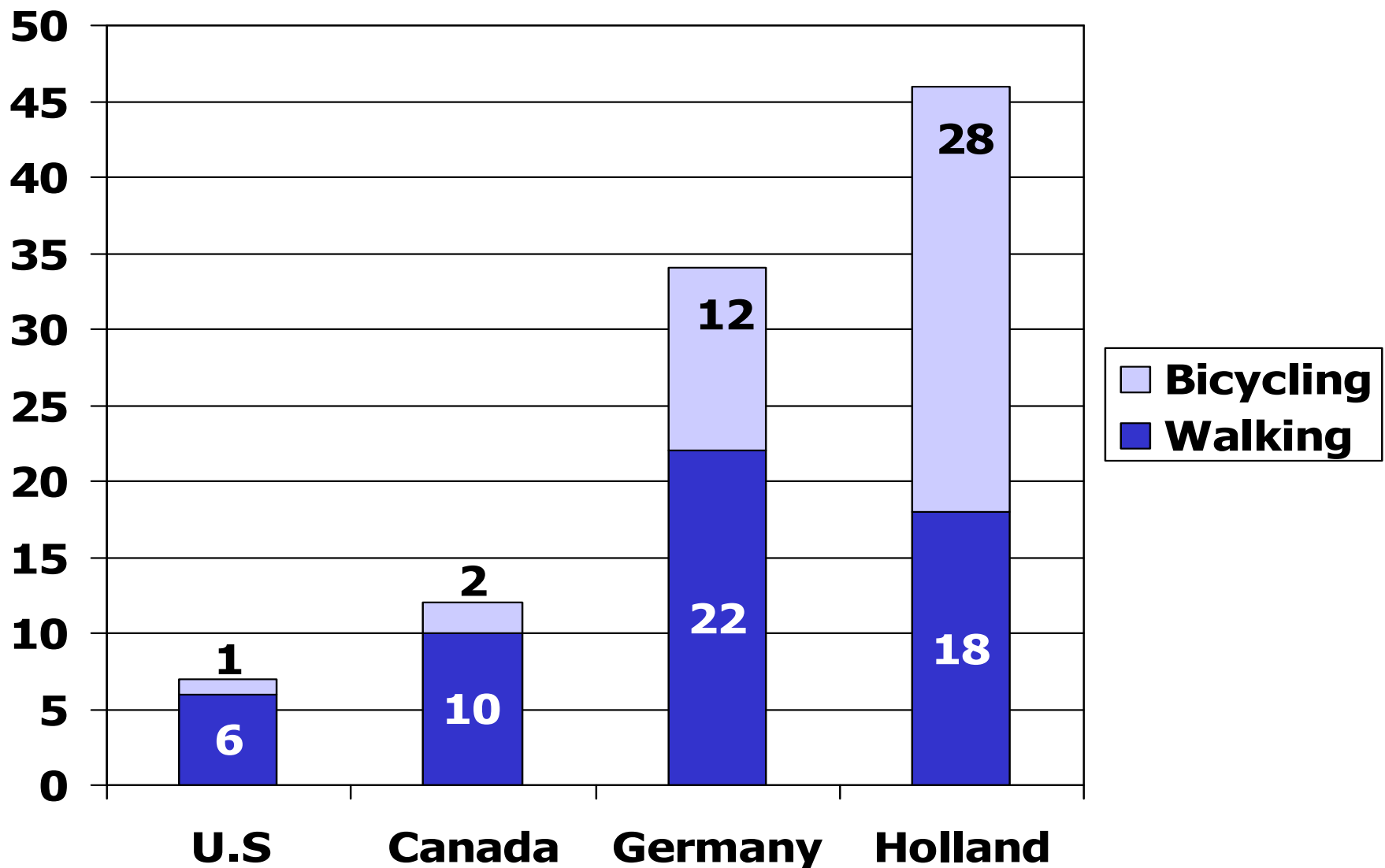
<http://www.cde.ca.gov/nr/ne/yr11/yr11rel95.asp#tab1>

Percentage of Trips in Urban Areas Made by Walking and Bicycling: North America and Europe 1995



Pucher J and Dijkstra L. Promoting Safe Walking and Cycling to Improve Public Health: Lessons From The Netherlands and Germany. AJPH, September 2003;93(9):1509-16.

Percentage of Trips in Urban Areas Made by Walking and Bicycling: North America and Europe 1995



Pucher J and Dijkstra L. Promoting Safe Walking and Cycling to Improve Public Health: Lessons From The Netherlands and Germany. AJPH, September 2003;93(9):1509-16.

Commuting by driving is mostly not good for you.



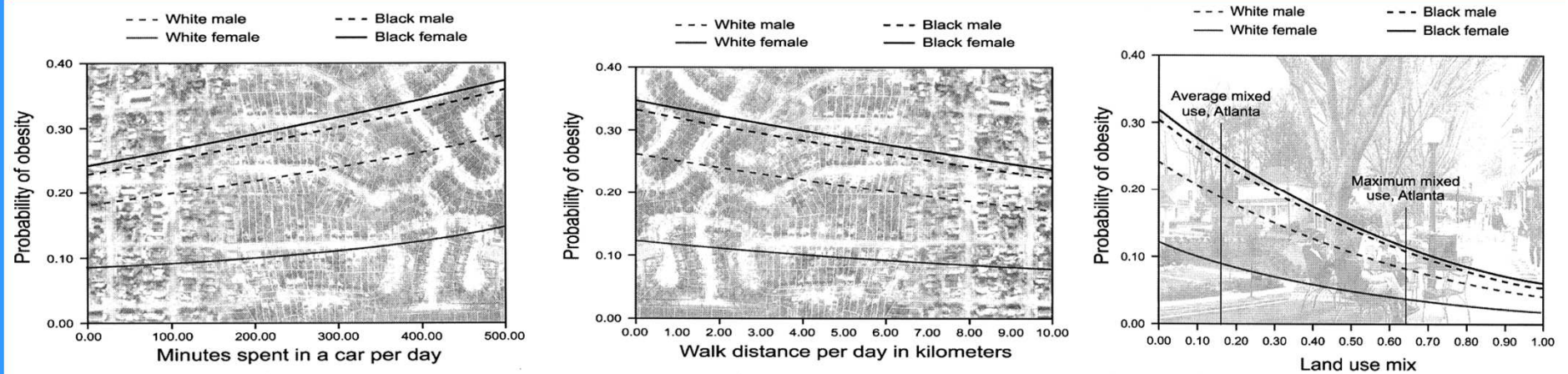
Traffic along LA freeways and Wilshire Blvd.

Atlanta Population Study

More Time in a Car → Higher Probability of Obesity

More Walking → Less Obesity

Higher Density and Connectivity → Lower Obesity



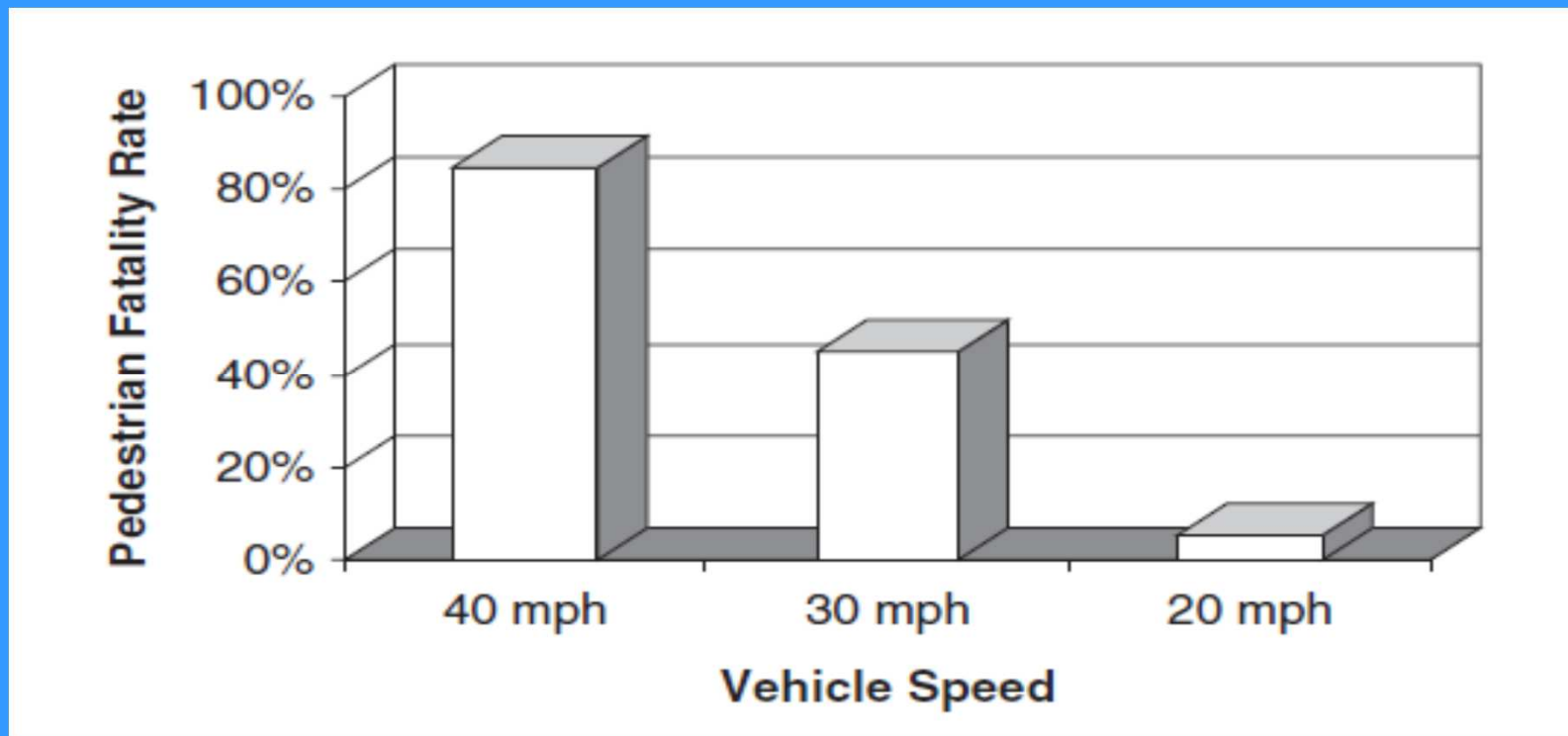
Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars

Lawrence D. Frank, PhD, Martin A. Andresen, MA, Thomas L. Schmid, PhD

| R A N K | Cause and Number of Deaths | | | | | | | | | |
|------------------|----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------|-----|
| | Under 1 | 1-3 | 4-7 | 8-15 | 16-20 | 21-24 | Other Adults | | | 65+ |
| | | | | | | | 25-34 | 35-44 | 45-64 | |
| 1 | Perinatal Period | Congenital Anomalies | MV Traffic Crashes | MV Traffic Crashes | MV Traffic Crashes | MV Traffic Crashes | MV Traffic Crashes | Malignant Neoplasms | Malignant Neoplasms | |
| 2 | Congenital Anomalies | MV Traffic Crashes | Malignant Neoplasms | Malignant Neoplasms | Homicide | Homicide | Suicide | Heart Disease | | |
| 3 | Heart Disease | Accidental Drowning | Congenital Anomalies | Suicide | Suicide | Suicide | Homicide | MV Traffic Crashes | | |
| 4 | Homicide | Homicide | Accidental Drowning | Homicide | Malignant Neoplasms | Accidental Poisoning | Malignant Neoplasms | | | |
| 5 | Septicemia | Malignant Neoplasms | Exposure to Smoke/Fire | Congenital Anomalies | Accidental Poisoning | Malignant Neoplasms | | | | |
| 6 | Influenza/Pneumonia | Exposure to Smoke/Fire | Homicide | Accidental Drowning | | | | | | |
| 7 | Nephritis/Nephrosis | Heart Disease | Heart Disease | | | | | | | |
| 8 | MV Traffic Crashes | | | | | | | | | |

For every age group from 3 through 33-- crashes were the No. 1 cause of death

Pedestrian Fatality Rates for Collisions at Different Speeds



Zegeer et al 2002

In 2009 in the US

2,953,501 million
vehicle miles traveled

33,808 people

died in motor vehicle traffic crashes

One death per 87 million miles driven

- <http://www.fhwa.dot.gov/policyinformation/statistics/2009/vm1.cfm>
- <http://www-nrd.nhtsa.dot.gov/Pubs/811363.PDF>

Get directions My places

San Francisco, CA
Los Angeles, CA
Add Destination - Show options
GET DIRECTIONS

Suggested routes

| | |
|---------|-------------------------------------|
| I-5 S | 381 mi, 6 hours 26 mins |
| | In current traffic: 6 hours 39 mins |
| CA-99 S | 411 mi, 7 hours 7 mins |
| | In current traffic: 7 hours 16 mins |

Driving directions to Los Angeles, CA

381 miles = 4.4 chances in a million or a
One in 228,000 chance of death

Clean Air Is Important

Most Air Polluted Cities

Ozone, “Year Round Particle”, “Short-term Particle”

| BY OZONE | BY YEAR ROUND PARTICLE POLLUTION | BY SHORT-TERM PARTICLE POLLUTION |
|---|---|--|
| <p>#1: <u>Los Angeles-Long Beach-Riverside, CA</u> #2: <u>Bakersfield-Delano, CA</u> #3: <u>Visalia-Porterville, CA</u> #4: <u>Fresno-Madera, CA</u> #5: <u>Sacramento--Arden-Arcade--Yuba City, CA</u> #6: <u>Hanford-Corcoran, CA</u> #7: <u>San Diego-Carlsbad-San Marcos, CA</u> #8: <u>Houston-Baytown-Huntsville, TX</u> #9: <u>Merced, CA</u> #10: <u>Charlotte-Gastonia-Salisbury, NC-SC</u> #11: <u>San Luis Obispo-Paso Robles, CA</u> #12: <u>Dallas-Fort Worth, TX</u> #13: <u>El Centro, CA</u> #14: <u>Modesto, CA</u></p> | <p>#1: <u>Bakersfield-Delano, CA</u> #2: <u>Visalia-Porterville, CA</u> #2: <u>Phoenix-Mesa-Glendale, AZ</u> #2: <u>Los Angeles-Long Beach-Riverside, CA</u> #5: <u>Hanford-Corcoran, CA</u> #6: <u>Fresno-Madera, CA</u> #7: <u>Pittsburgh-New Castle, PA</u> #8: <u>Birmingham-Hoover-Cullman, AL</u> #9: <u>Cincinnati-Middletown-Wilmington, OH-KY-IN</u> #10: <u>Modesto, CA</u> #10: <u>Louisville-Jefferson County-Elizabethtown-Scottsburg, KY-IN</u> #12: <u>Charleston, WV</u> #12: <u>Steubenville-Weirton, OH-WV</u> #12: <u>Cleveland-Akron-Elyria, OH</u> #15: <u>Huntington-Ashland, WV-KY-OH</u> #15: <u>Indianapolis-Anderson-Columbus,</u></p> | <p>#1: <u>Bakersfield-Delano, CA</u> #2: <u>Fresno-Madera, CA</u> #3: <u>Pittsburgh-New Castle, PA</u> #4: <u>Los Angeles-Long Beach-Riverside, CA</u> #5: <u>Salt Lake City-Ogden-Clearfield, UT</u> #6: <u>Provo-Orem, UT</u> #7: <u>Visalia-Porterville, CA</u> #8: <u>Birmingham-Hoover-Cullman, AL</u> #9: <u>Logan, UT-ID</u> #9: <u>Hanford-Corcoran, CA</u> #9: <u>Sacramento--Arden-Arcade--Yuba City, CA</u> #12: <u>Modesto, CA</u> #13: <u>Merced, CA</u> #14: <u>Eugene-Springfield, OR</u> #15: <u>San Diego-Carlsbad-San Marcos, CA</u> #16: <u>Stockton, CA</u></p> |

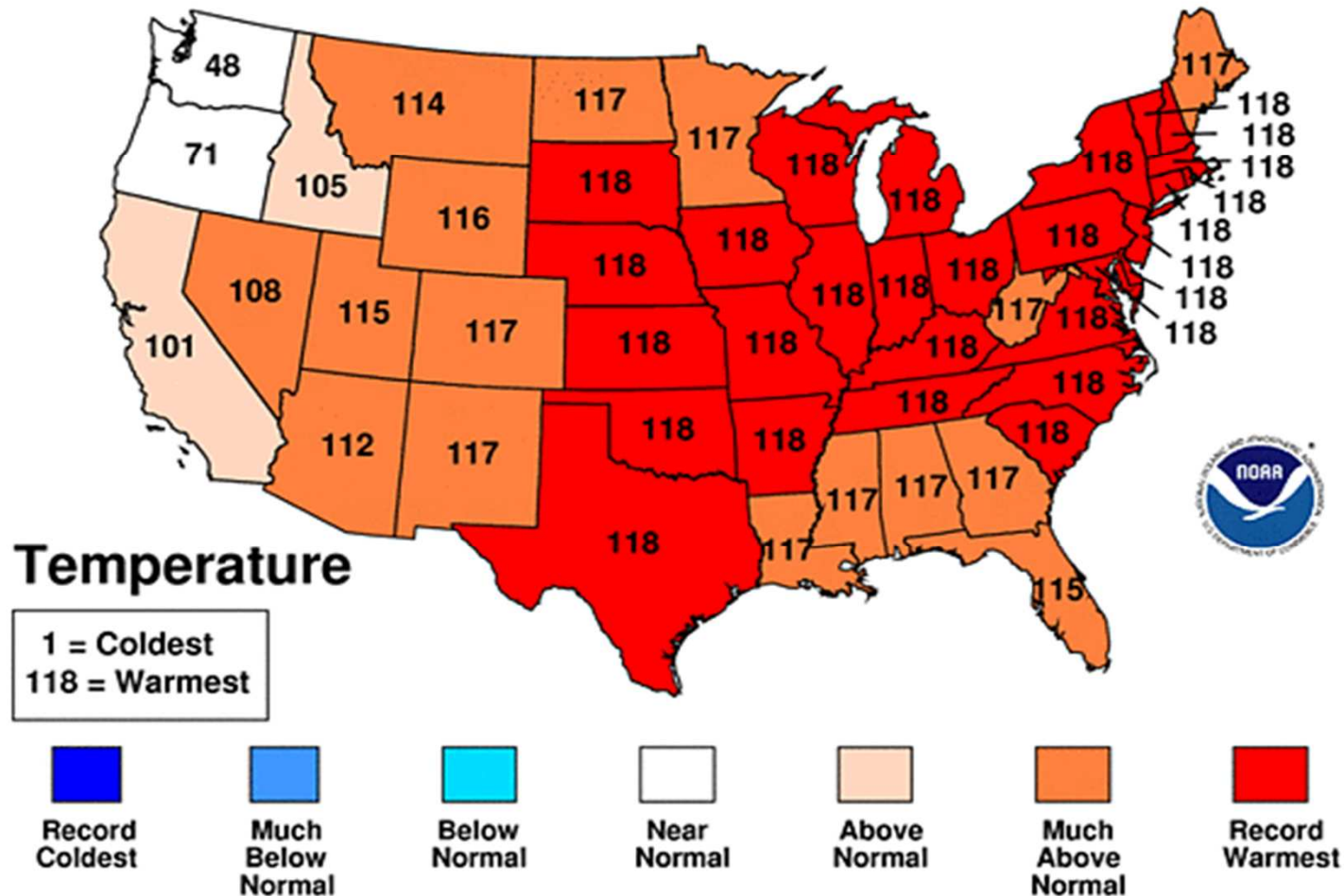
American Lung Association 2011 “Share the Air”

Asthma Study in 12 Southern California High Schools

- 3535 children with no history of asthma in 6 high and 6 low air pollution high schools
- **5 years later: 265 developed asthma.**
 - High ozone high schools:
 - asthma rate was 3.3x higher in children playing three or more sports.
 - Low ozone high schools:
 - sports had no effect on asthma rates

January-June 2012 Statewide Ranks

National Climatic Data Center/NESDIS/NOAA

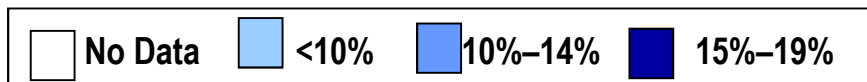
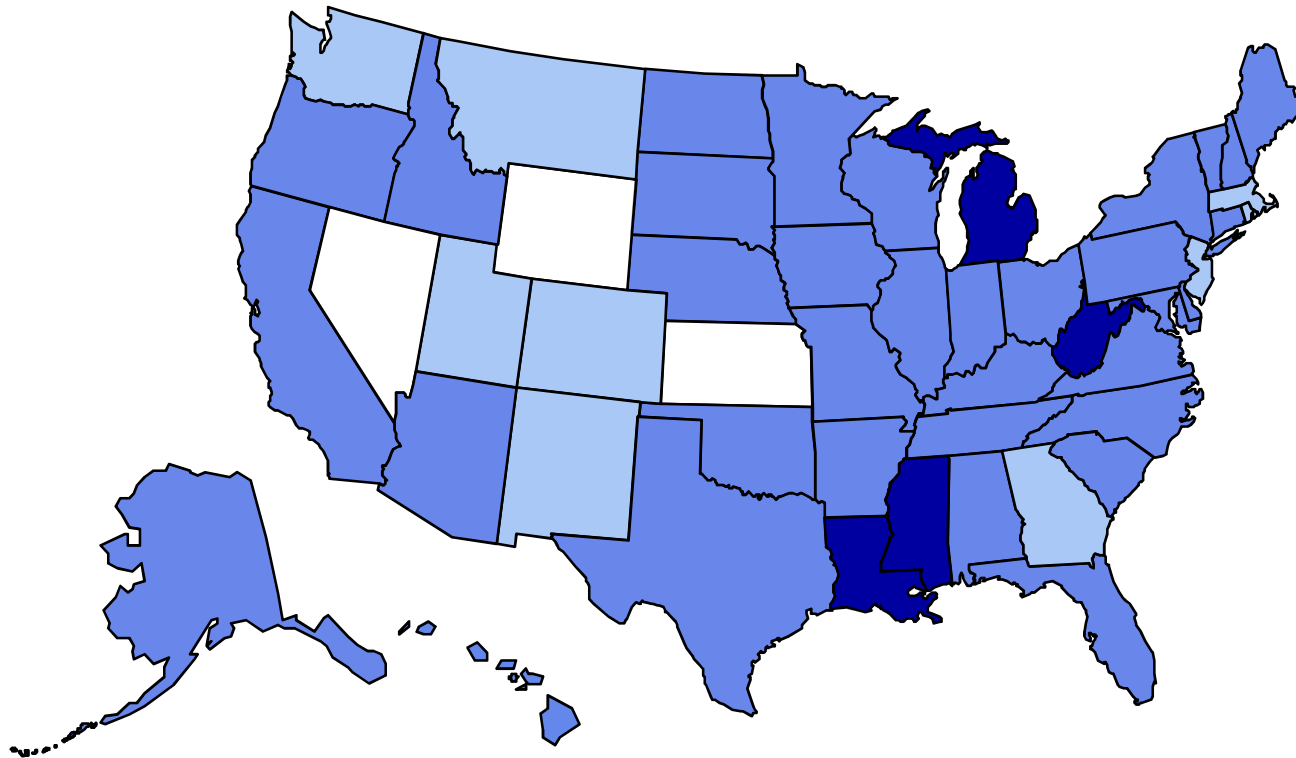


Preventing Chronic Diseases Will
Be Very Challenging--
The Overweight and Obesity
Epidemics

Obesity Trends* Among U.S. Adults

BRFSS, 1991

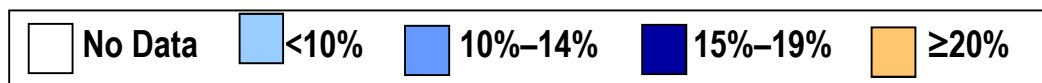
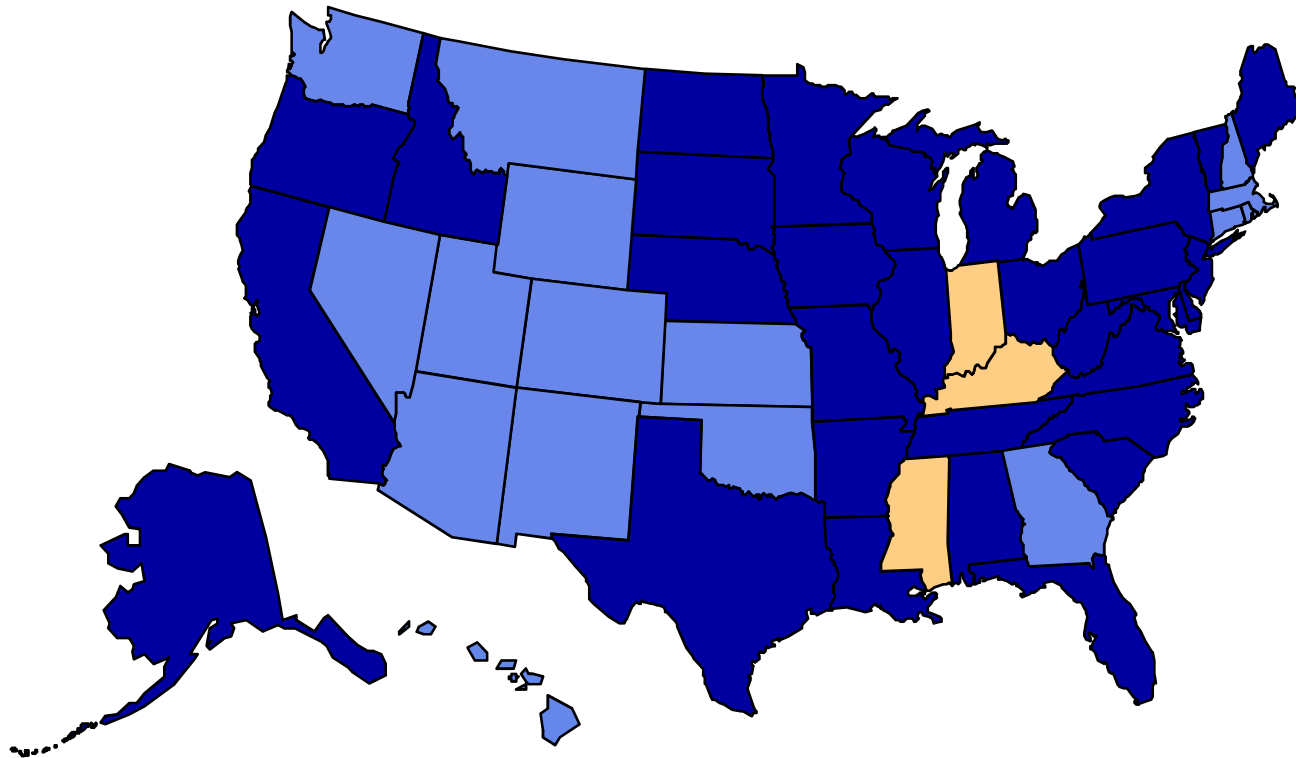
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 1997

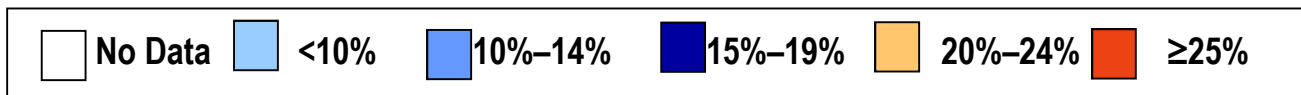
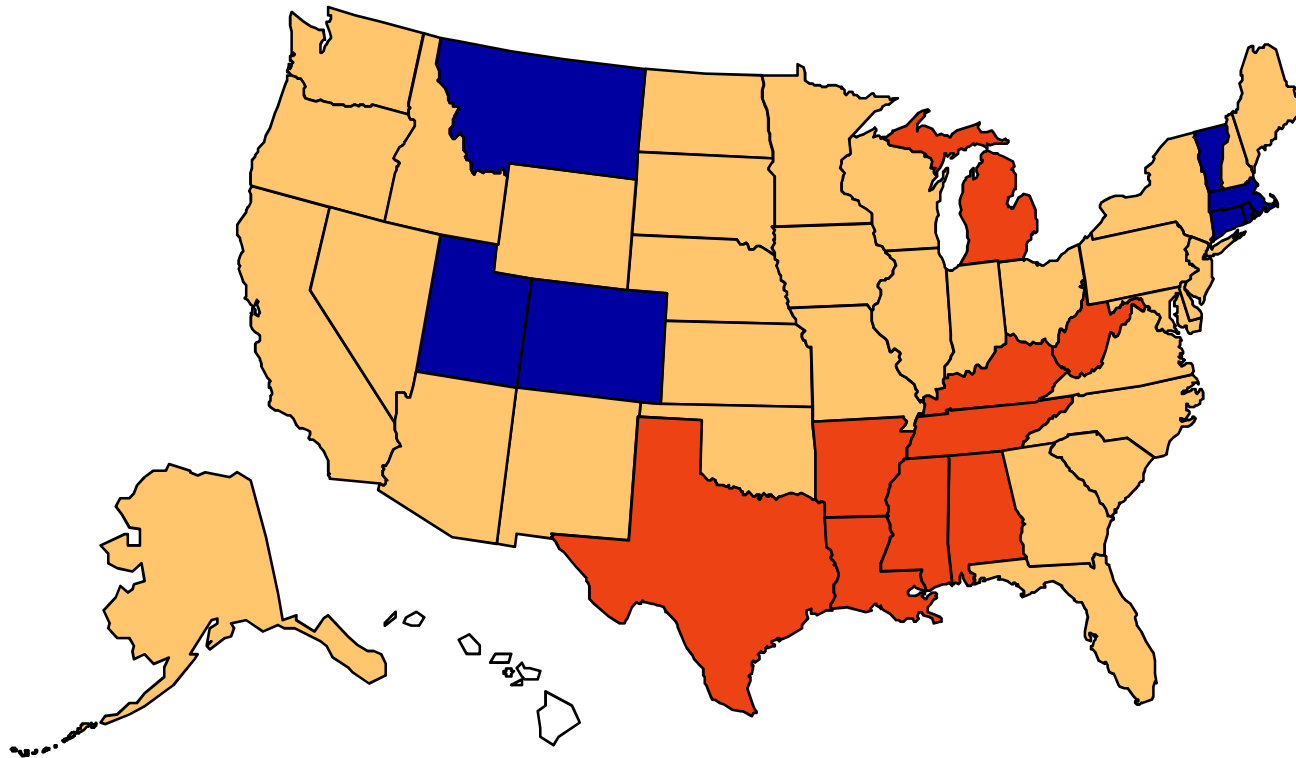
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 2004

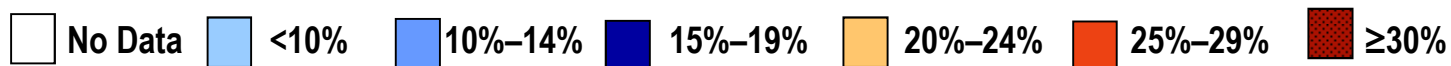
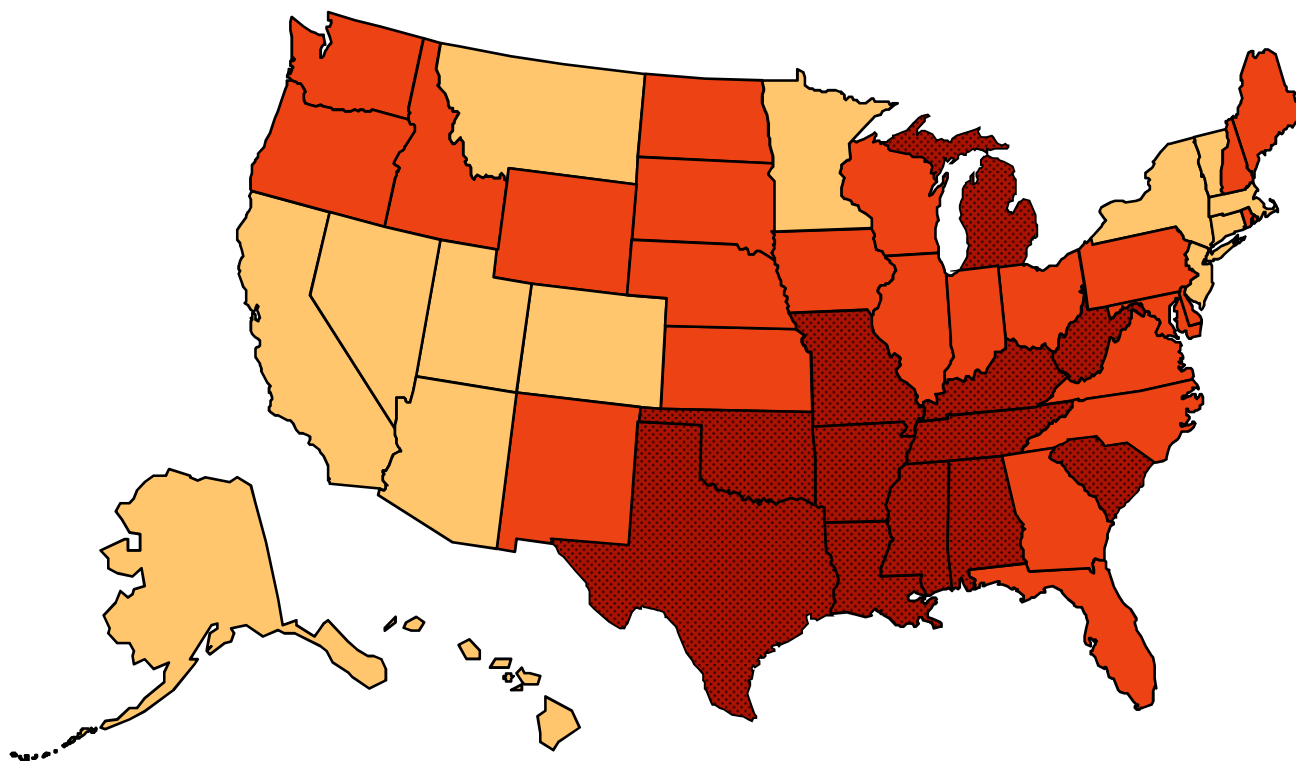
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 2010

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



- ...by 2030 obesity rates will rise to 42%
- The US will need to care for ... 32 million more obese people than in 2010.

Forecast:

by 2030 the prevalence of the US population with a BMI over 40 (~100 pounds overweight) will be 11%



The screenshot shows the RTI International website with a news release titled "Stopping Increase in Obesity Rates Could Save Nearly \$550 Billion in Two Decades". The page includes a navigation menu, a search bar, and social media icons. The main content area contains the following text:

RTI International - News Release - 5.7.2012

Stopping Increase in Obesity Rates Could Save Nearly \$550 Billion in Two Decades

Preventing obesity rates from increasing could save nearly \$550 billion in medical expenditures over the next two decades, according to a new study from researchers at the Centers for Disease Control and Prevention, Duke University and RTI International.

The study, "Obesity and Severe Obesity Forecasts through 2030," appears online today in the *American Journal of Preventive Medicine* and was released at CDC's Weight of the Nation conference in Washington, D.C.

Although the study finds that annual increases in rates of obesity are slowing, it still predicts that obesity rates will rise to 42 percent by 2030. Combined with population increases, this suggests the U.S. health care system will be burdened with 32 million more obese people within two decades.

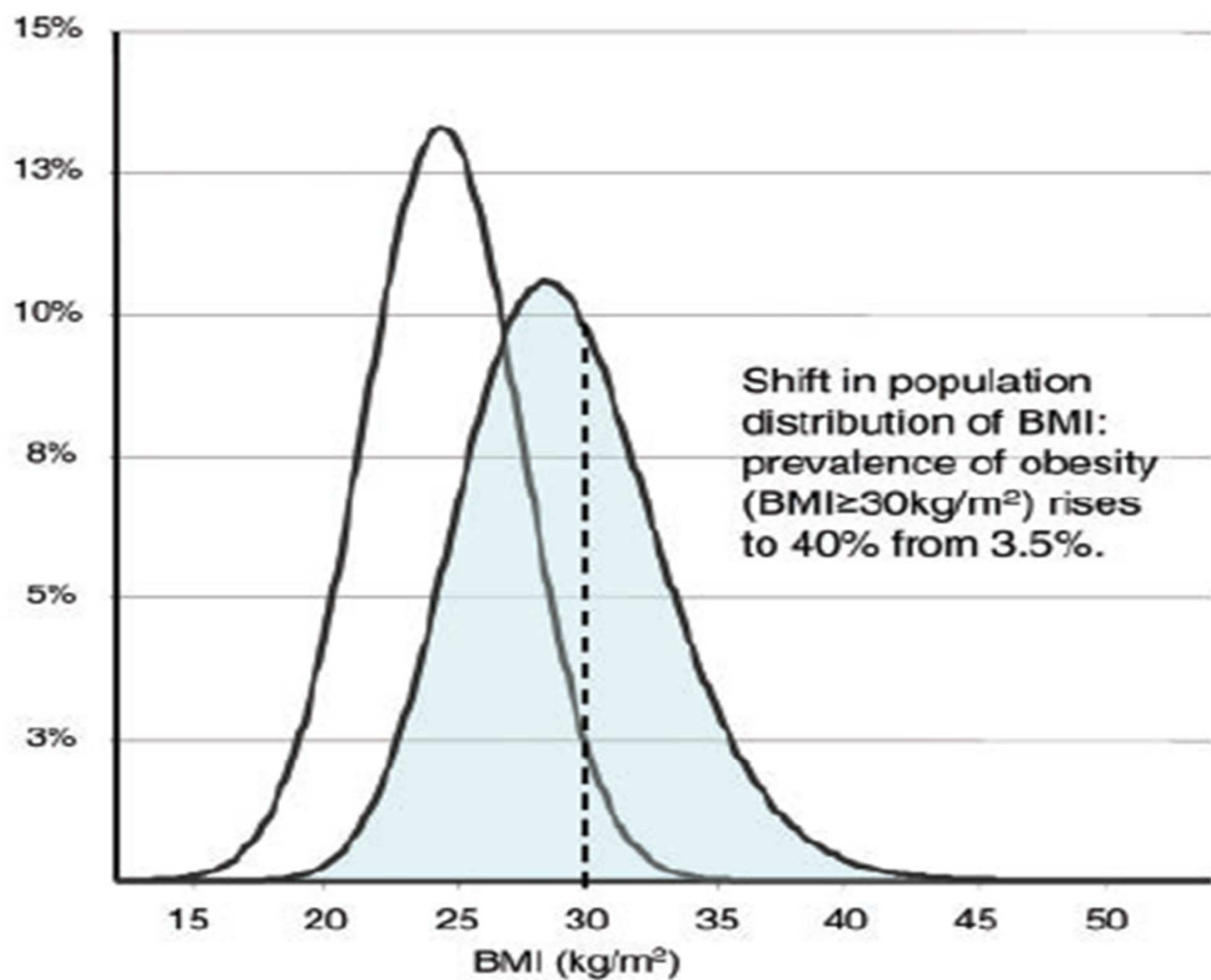
The study also forecasts a more than doubling of the prevalence of individuals with severe obesity, defined as a body mass index over 40 or roughly 100 pounds overweight, to 11 percent by 2030.

Severely obese individuals are most at risk for the health conditions caused by excess weight and thus have substantially greater medical expenditures and rates of absenteeism.

"Keeping obesity rates level could yield a savings of nearly \$550 billion in medical expenditures over the next two decades," said study author Eric Finkelstein, Ph.D., M.H.A., of Duke University.

"Should these forecasts prove accurate, the adverse health and cost consequences of obesity are likely to continue to escalate without a significant intervention," said study co-author Justin Trogdon of RTI.

"People need to make healthy choices, but the healthy choices must first be available and accessible in order to make them," said William H. Dietz, M.D., Ph.D., director of CDC's Division of Nutrition, Physical Activity and Obesity. "In the coming days at our Weight of the Nation conference, CDC and its partners will emphasize the proven, effective strategies and solutions that must continue to be applied to help make the healthy choice the easy choice."



Supersizing Jet Fuel Use

Ave weight gain of Americans in 1990s:

10 pounds

Airline distance flown in 2000 in US:

515 billion passenger-miles

Weight transported 1 mile by 1 gallon of fuel:

7.3 tons (passengers or cargo)

Jet fuel to transport added weight in 2000:

350 million gallons

Cost of extra fuel: \$1.4 billion (Sept 2000)

CO₂ emissions from extra fuel:

3.8 million tons

Data sources: NCHS; US Dept. of Transportation

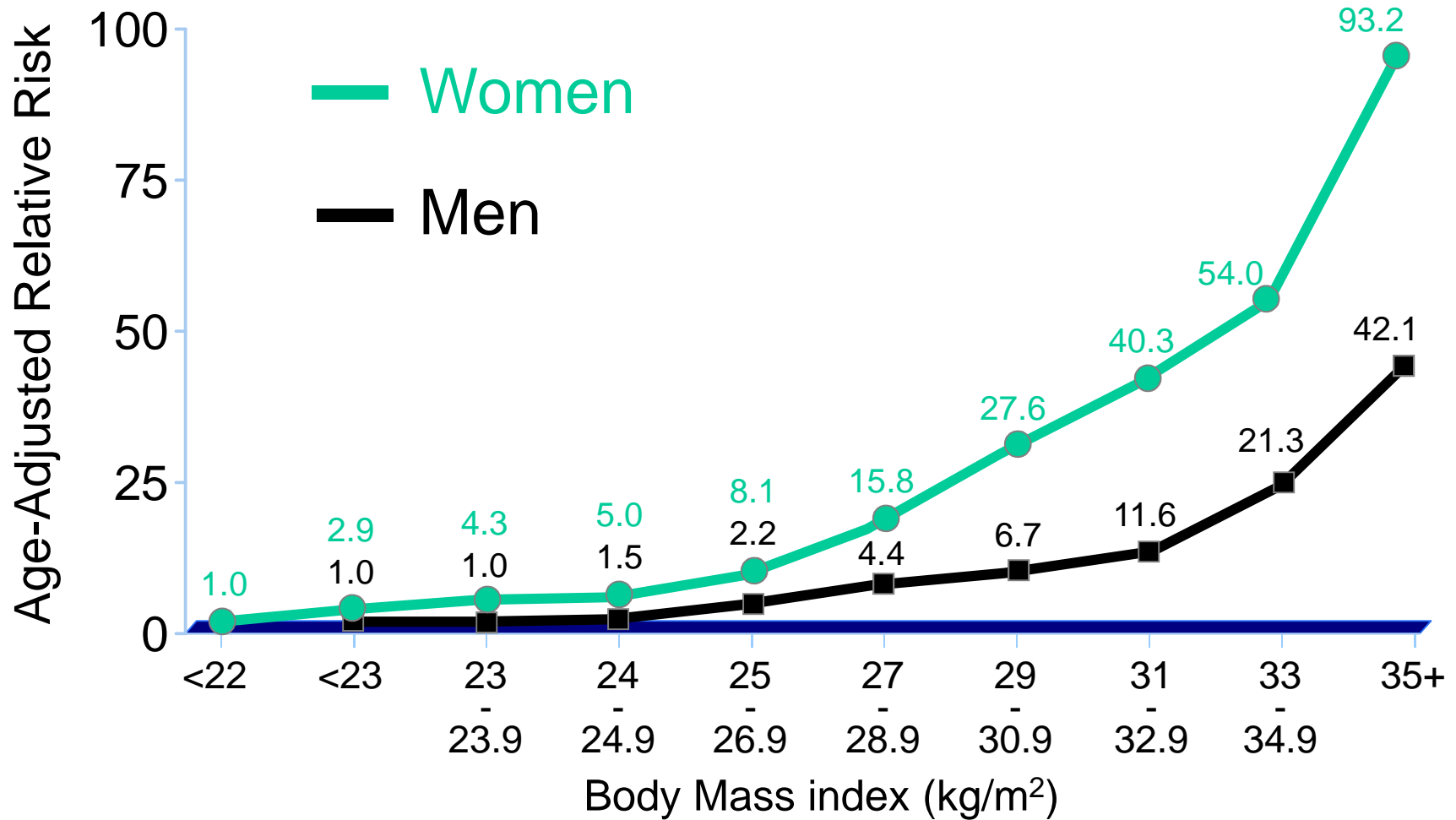


High Fructose Corn Sugar

- US annual per capita consumption of HFCS
- 63 pounds



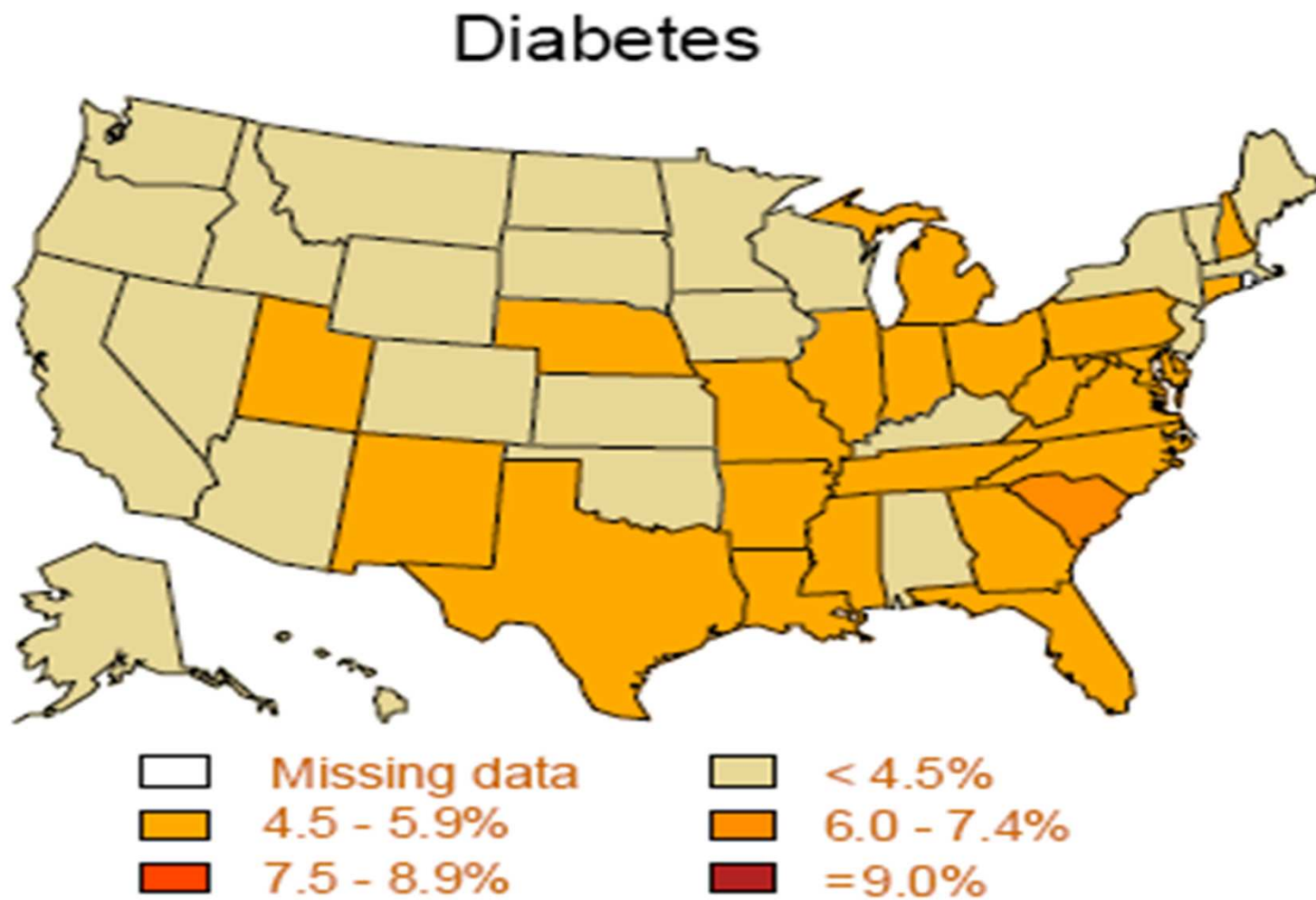
Relationship Between BMI and Risk of Type 2 Diabetes



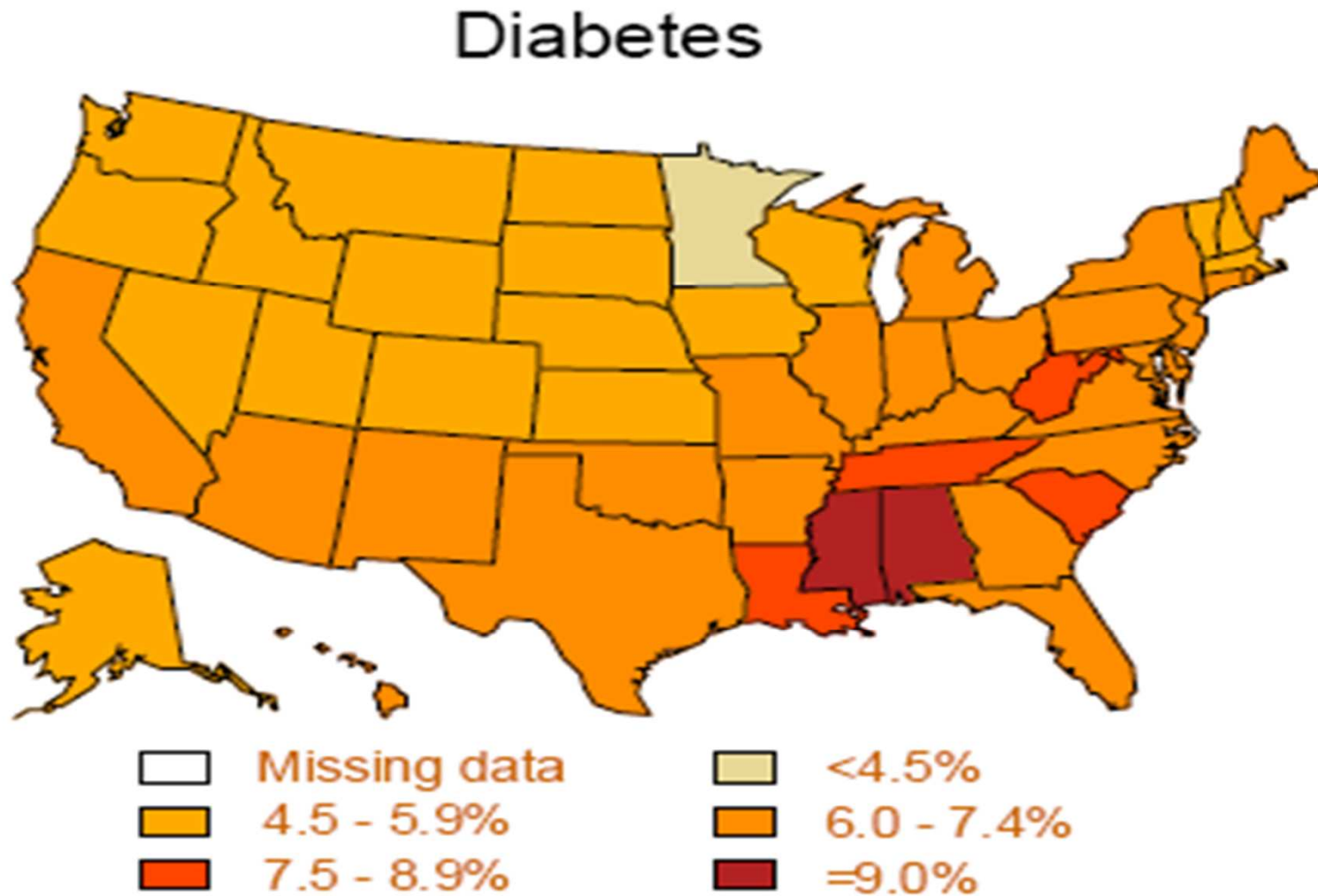
Chan J et al. *Diabetes Care* 1994;17:961.

Colditz G et al. *Ann Intern Med* 1995;122:481.

Percentage of US Adults with Diagnosed Diabetes - 1994

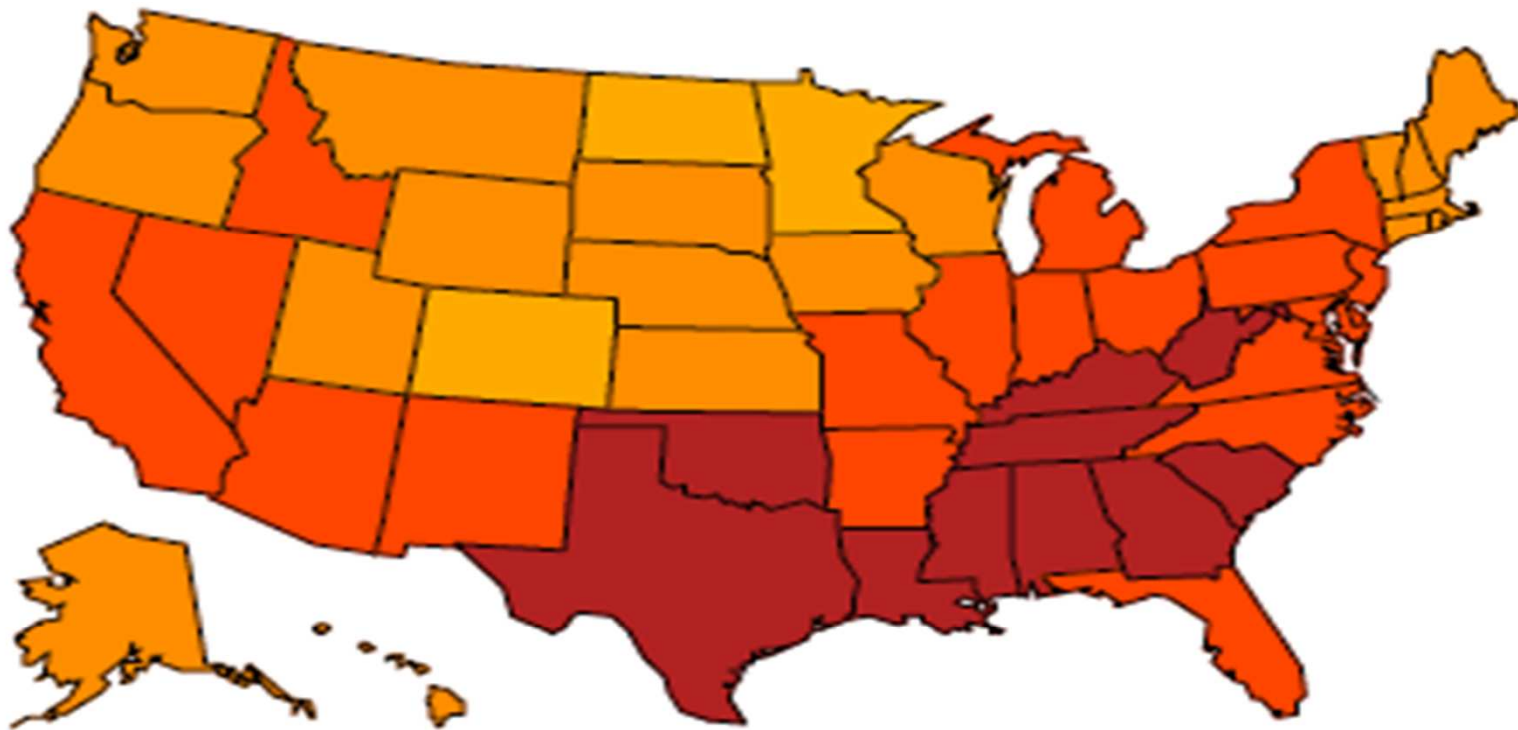


Percentage of US Adults with Diagnosed Diabetes - 2001



Percentage of US Adults with Diagnosed Diabetes - 2007

Diabetes





RESEARCH

Open Access

Projection of the year 2050 burden of diabetes in the US adult population: dynamic modeling of incidence, mortality, and prediabetes prevalence

James P Boyle¹, Theodore J Thompson^{1*}, Edward W Gregg¹, Lawrence E Barker¹, David F Williamson²

By the year 2050—21% of the US population will have diabetes

--33% if everyone receives good treatment

ORIGINAL ARTICLE

A Clinical Trial to Maintain Glycemic Control in Youth with Type 2 Diabetes

TODAY Study Group*

ABSTRACT

BACKGROUND

Despite the increasing prevalence of type 2 diabetes in youth, there are few effective treatment options. We compared the efficacy of three treatment regimens to maintain glycemic control in children and adolescents with recent-onset type 2 diabetes.

METHODS

Eligible patients 10 to 17 years of age were treated with metformin (1000 mg twice daily) to attain a glycated hemoglobin level of less than 7.5%. They were randomly assigned to continued treatment with metformin alone or combined with rosiglitazone (4 mg twice a day) or a lifestyle-intervention focusing on weight loss through eating and activity behaviors. The primary outcome was loss of glycemic control, defined as a glycated hemoglobin level of 7.5% or higher for 6 months or sustained metabolic decompensation requiring insulin.

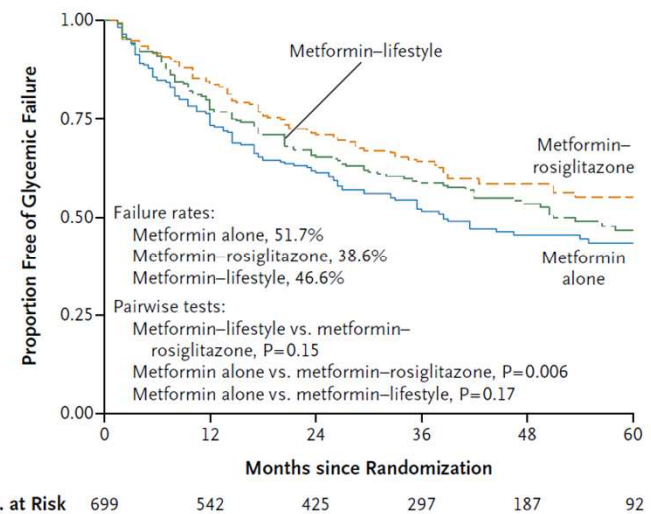


Figure 2. Overall Primary Outcome Results.

Survival curves for freedom from glycemic failure are shown. Data are shown for up to 60 months of follow-up (accounting for 98.4% of cases of glycemic failure), although the rates and analysis are based on the complete data set.

“[over 30 years] the percentage of new-onset type 2 diabetes in adolescence has increased from 3% to ~50% today”.

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

A Clinical Trial to Maintain Glycemic Control in Youth with Type 2 Diabetes

TODAY Study Group*

ABSTRACT

BACKGROUND

Despite the increasing prevalence of type 2 diabetes in youth, there are few data to guide treatment. We compared the efficacy of three treatment regimens to achieve durable glycemic control in children and adolescents with recent-onset type 2 diabetes.

METHODS

Eligible patients 10 to 17 years of age were treated with metformin (at a dose of 1000 mg twice daily) to attain a glycated hemoglobin level of less than 8% and were randomly assigned to continued treatment with metformin alone or to metformin combined with rosiglitazone (4 mg twice a day) or a lifestyle-intervention program focusing on weight loss through eating and activity behaviors. The primary outcome was loss of glycemic control, defined as a glycated hemoglobin level of at least 8% for 6 months or sustained metabolic decompensation requiring insulin.

The members of the writing group — Phil Zeitler, M.D., Ph.D., University of Colorado Denver, Aurora; Kathryn Hirst, Ph.D., and Laura Pyle, M.S., George Washington University, Washington, DC; Barbara Linder, M.D., Ph.D., National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD; Kenneth Copeland, M.D., University of Oklahoma Health Sciences Center, Oklahoma City; Silva Arslanian, M.D., Children's Hospital of Pittsburgh, Pittsburgh; Leona Cuttler, M.D., Case Western Reserve University, Cleveland; David M. Nathan, M.D., Massachusetts General Hospital, Boston; Philip T. Poff, M.D., Children's Hospital of Pittsburgh, Pittsburgh.

David B Allen MD
New England Journal of
Medicine

April 29, 2012

EDITORIAL



TODAY — A Stark Glimpse of Tomorrow

David B. Allen, M.D.

Caloric intake that exceeds energy expended and its consequences, particularly development of type 2 diabetes mellitus, is emblematic of a climate change for modern medicine — a phenomenon 31% (and this weight loss was apparently transitory in many participants), and the addition of rosiglitazone to metformin improved durable glycemic control, but 39% still had treatment fail-

...These data imply that most youth with type 2 diabetes will require multiple oral agents or insulin therapy within a few years after diagnosis.

- “Fifty years ago, children did not avoid obesity by making healthy choices; they simply lived in an environment that provided fewer calories and included more physical activity for all.”

David B Allen MD

New England Journal of Medicine

April 29, 2012

- [We need]... economic incentives to produce and purchase healthy foods and to build safe environments that require physical movement—and not simply the prescription of more and better pills....”

Dr Allen

The New York Times
The Opinion Pages

WORLD U.S. N.Y./REGION BUSINESS TECHNOLOGY SCIENCE HEALTH SPORTS OPINION A

EDITORIAL
No Longer Just ‘Adult-Onset’
Published: May 6, 2012

A study of [diabetes in overweight and obese youngsters](#) bears an ominous warning about future health care trends in this country. It found that Type 2 diabetes, a new scourge among young people, progresses faster and is harder to treat in youngsters than in adults. The toll on their health as they grow older could be devastating.

Related

Obesity-Linked Diabetes in Children Resists Treatment (April 30, 2012)

House Passes Student Loan Bill Despite Veto Threat (April 28, 2012)

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These findings provide more evidence of why the country must get the obesity epidemic under control — to improve health and to curb soaring health care costs.

Only two decades ago Type 2 diabetes was called “adult-onset diabetes” because it was seldom found in young people, who suffered primarily from Type 1, in which the patient’s immune system destroys cells that make insulin, a hormone needed to control blood sugar levels. Type 2 — thought to be brought on by obesity and inactivity in many people — has increased alarmingly and accounts for almost a fifth of newly diagnosed cases in young people.

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Solutions

Survivalist Thinking?

◀ home | grocery & floral | emergency kits & supplies

Grocery & Floral - Emergency Kits & Supplies

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Shop All Emergency Food



Bulk Food



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Institute of Medicine

The purpose of public health is to fulfill society's interest in assuring the conditions in which people can be healthy



**FARM BUREAU
SAN DIEGO COUNTY**

Weather

Home : Buy Local : Certified Farmers' Markets

Certified Farmers' Markets

Buy Local San Diego Produce

Visiting one of the Farmers' Markets in San Diego County allows you to experience agriculture. These Farmers' Markets are certified by the State, ensuring that the produce is being sold by the grower, is grown in California and meets all California quality standards. These criteria ensure that you receive the freshest produce for the right price.

For information about how to become Certified by the State to sell your produce at a Farmer's Market call the County of San Diego **Department of Agriculture Weights & Measures**

San Marcos Office: 760-752-4700
San Diego Office: 858-694-2778

New Market Coming Soon

Thursday, **September 4th** will be the inaugural sponsored **Valley Center Farmers' Market** at 3:00 p.m. and run until sunset. The location is between the Upper and Lower Elementary. If you want to be a part of this market, call 760-745-3023.

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San Diego County Ag
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Farmers' Markets and Urban Agriculture

SAGE SUSTAINABLE AGRICULTURE EDUCATION

David Brower Center, Berkeley, California Tel 510-526-1793 info@sagecenter.org

HOME ABOUT SAGE PROJECTS SUNOL AG PARK MEDIA / EVENTS GET INVOLVED RESOURCES DONATE

See what's new at the Sunol AgPark in our [Fall Newsletter](#).

Students harvest organic strawberries at the AgPark

Linking Our Food, Farms & Future

SAGE (Sustainable Agriculture Education)

SAGE is a pioneer in connecting rural and urban interests for their mutual benefit.

To preserve regional agriculture, while meeting the equally urgent need for equitable, sustainable urban development, SAGE has developed an holistic approach to establishing multifunctional agriculture at the metropolitan edge, and fostering linkages between rural farmers and urban city dwellers.

Services & Projects

SAGE develops projects and participates in collaborations to support sustainable regional food and agriculture.

Urban Edge Agriculture Parks - part working agriculture and part parkland, our successful [Sunol Water Temple Agricultural Park](#) is a model of this approach

New Ruralism Framework: Metro Region Ag Planning & Foodshed Assessments - developing frameworks and projects for bridging smart growth and local food systems

Public & Farmers' Markets - bringing farmers and the community together

Public Education - engaging the public in sustainable agriculture

NEWS

Baia Nicchia's Produce Highlighted by Local Chefs

Baia Nicchia's delicious [squash](#) and [peppers](#), grown at the Sunol AgPark, have been featured recently in the Edible East Bay and San Francisco Chronicle.

[Read More](#)

Foodsheds - A New Ruralism Bridging Smart Growth and Sustainable Agriculture

The urban-rural dichotomy doesn't work anymore. There's a connotation in the words 'urban' and 'rural' that suggests a neat line between the geographies of city and countryside.

[Read More](#)

Children First

- These Climate, Air Quality, Inactivity, Nutritional Challenges Most Affect Children
- Protect them first

Likely Results of a Sugar Sweetened Beverage (SSB) Tax

- “A national tax of 1 cent per ounce on sugar-sweetened beverages (SSBs) would decrease consumption by 23% and raise \$14.9 billion in the first year alone.”



- Always good, but especially as we age, what is the best exercise?

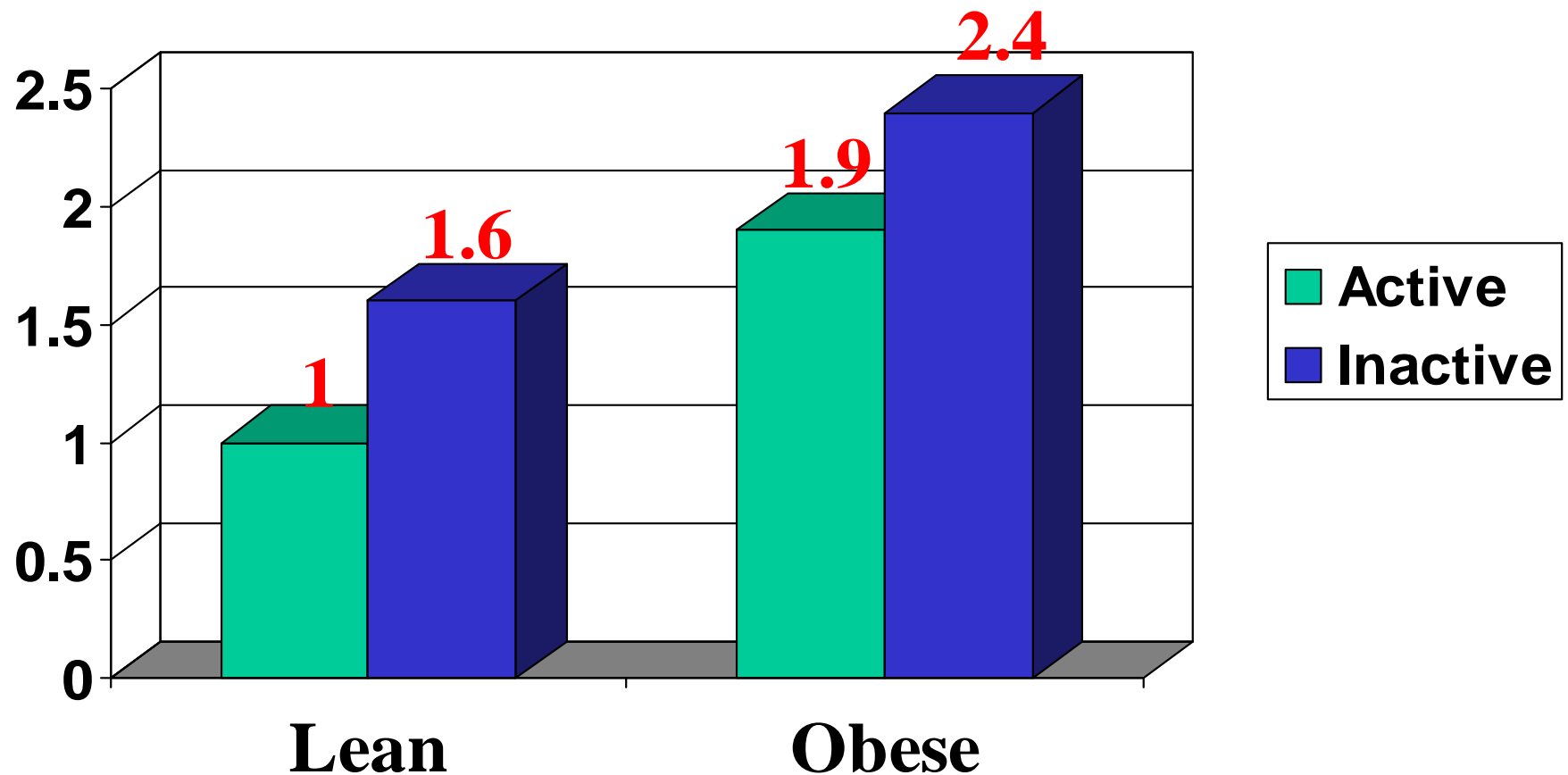
Walking 10,000 steps



- 3234 people with “Pre-Diabetes”
- Walked or exercised five times a week for 30 minutes for 6 months
- lost 5% to 7% of their body weight
- reduced their risk of diabetes by 58%

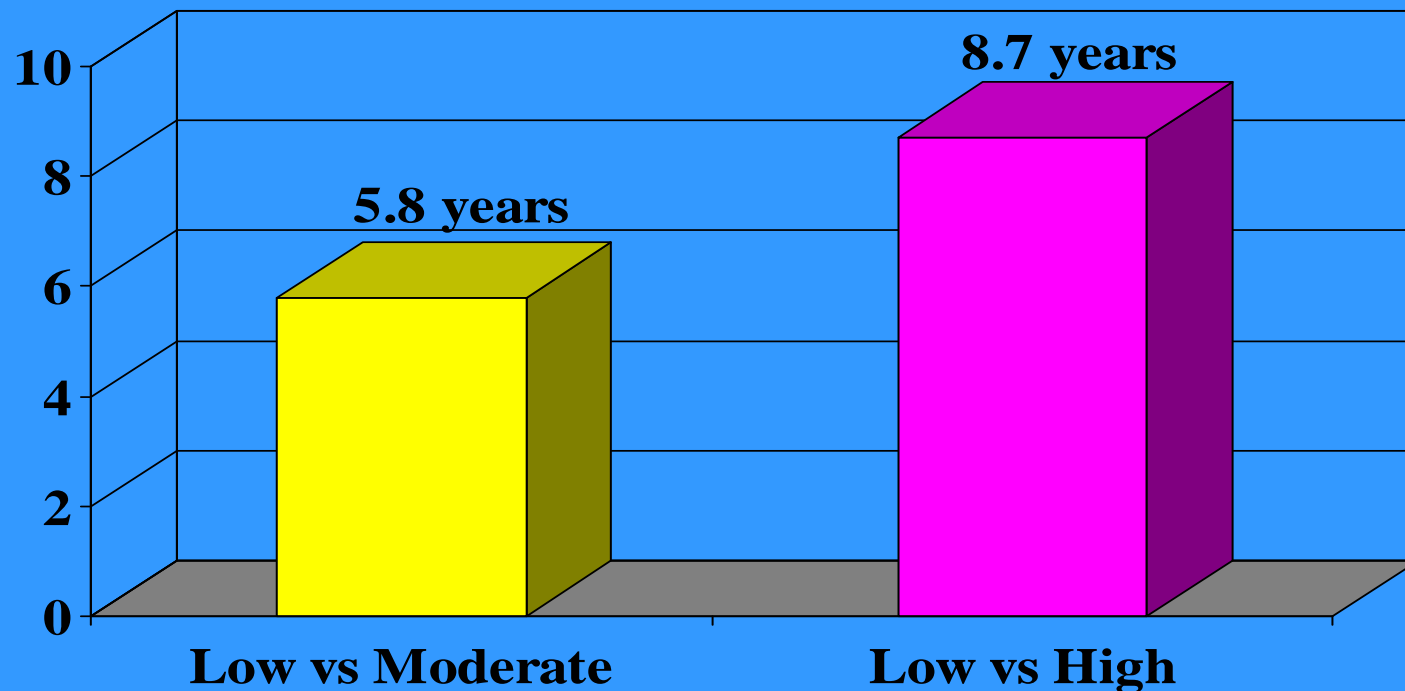
Nurse Study 1976-2000

Risk of Death



Gain in Longevity for a 45-Year Old Male

Years of added life



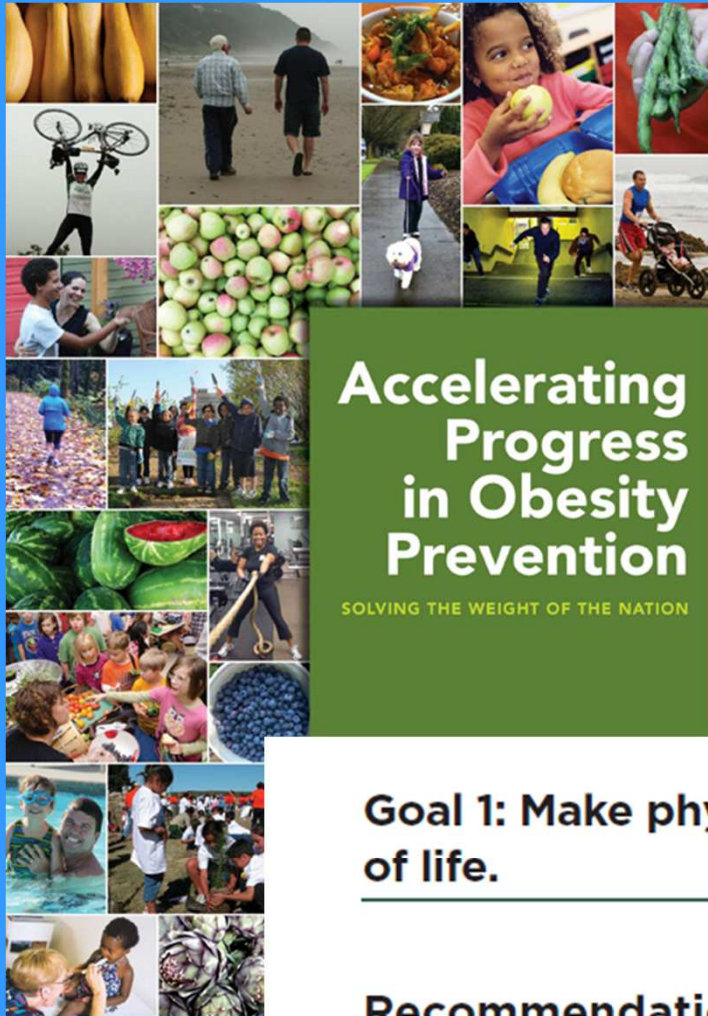
Additional years of Life:

Moving from Low to Moderate Fitness -- 5.8 years

From Low to High -- 8.7 years.

Reducing Depression

A meta-analysis of randomized controlled studies published in *American Journal of Psychiatry* concluded that **light treatment for depression is “efficacious, with effect sizes equivalent to those in most antidepressant pharmacotherapy trials”** (Golden et al. 2005)



Institute of Medicine Report *Accelerating Progress in Obesity Prevention* May 8, 2012

Goal 1: Make physical activity an integral and routine part of life.

Recommendation 1: Communities, transportation officials, community planners, health professionals, and governments should make promotion of physical activity a priority by substantially increasing access to places and opportunities for such activity.

Strategy 1-1: Enhance the physical and built environment.

Communities, organizations, community planners, and public health professionals should encourage physical activity by enhancing the physical and built environment, rethinking community design, and ensuring access to places for such activity.

Potential actions include:

- communities, urban planners, architects, developers, and public health professionals developing and implementing sustainable strategies for improving the physical environment of communities that are as large as several square miles or more or as small as a few blocks in size in ways that encourage and support physical activity; and
- communities and organizations developing and maintaining sustainable strategies to create and/or enhance access to places and programs where people can be physically active in a safe and enjoyable way.

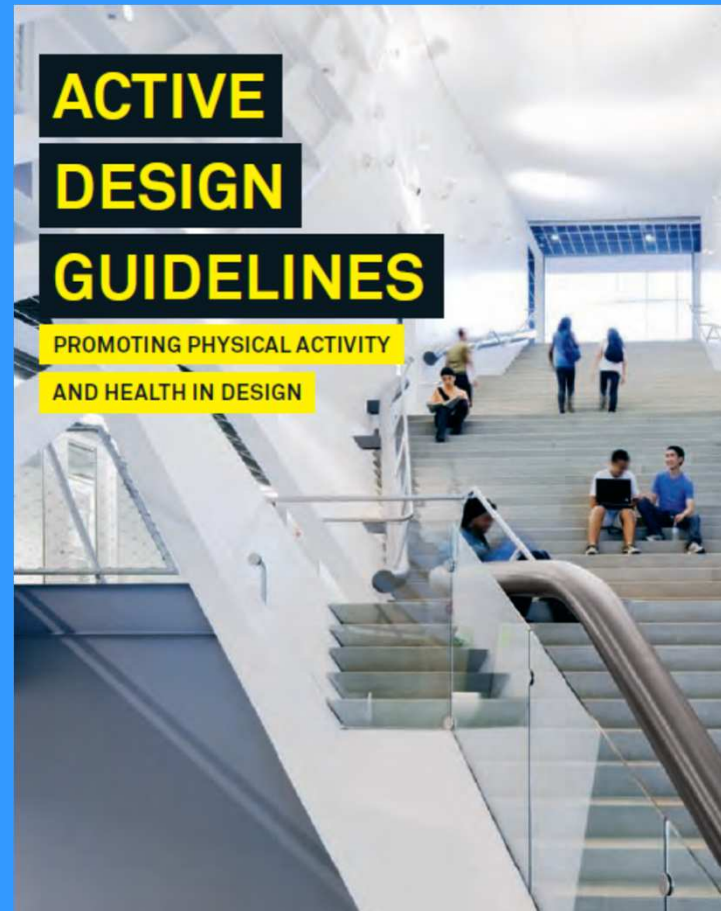
Complete Streets Bring Equity to Community and Transportation

- Complete Streets
 - social equity, aesthetics, walking, improved local sales, community building



NYC Active Design Guidelines

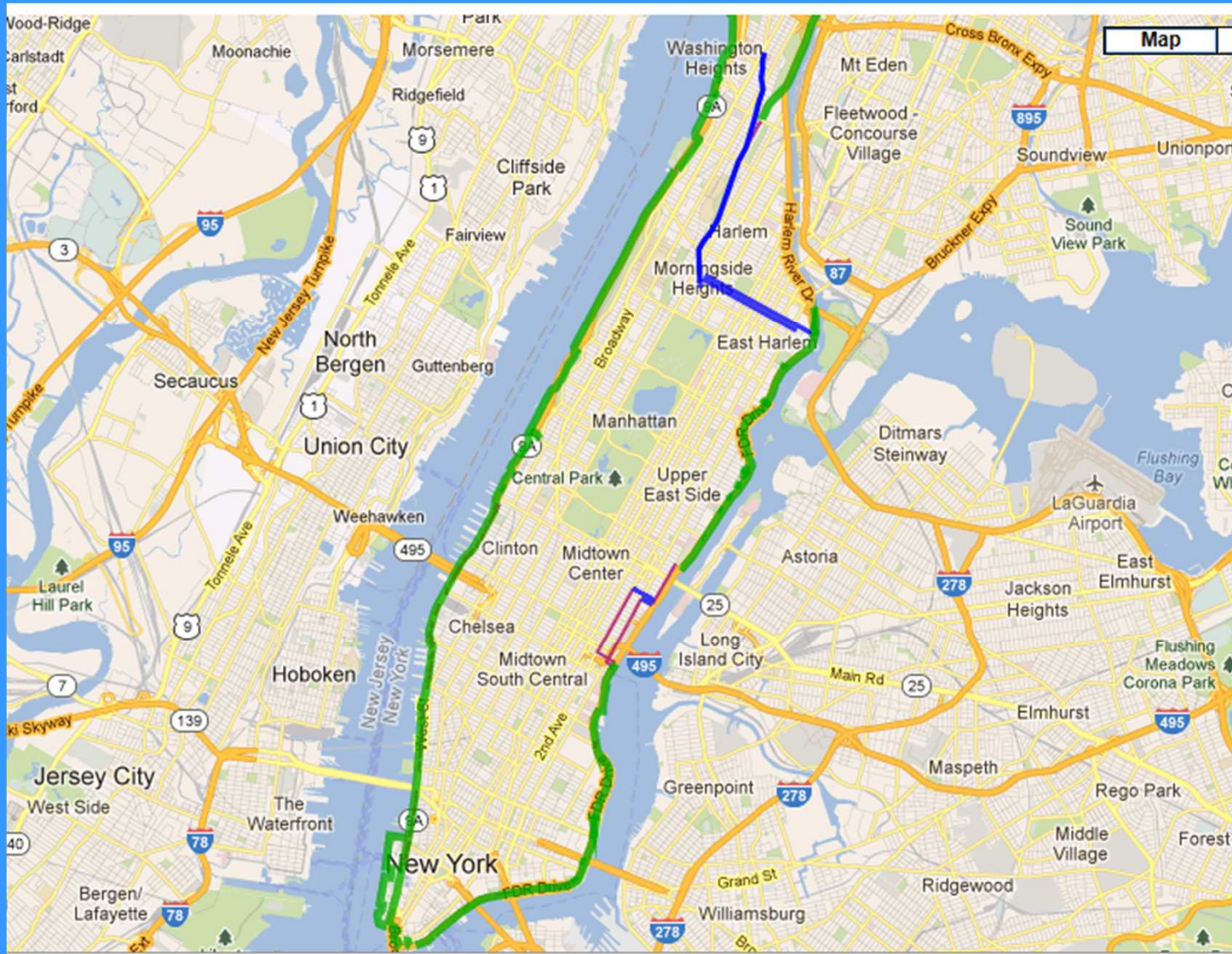
- Resilient Bldgs
- Energy Efficient Buildings
- Healthy Bldgs
- Smart zoning and locations



http://www.nyc.gov/html/ddc/html/design/active_design.shtml

The Manhattan Waterfront Greenway

32-mile long walking and bicycling path around the island of Manhattan.
The majority of the Manhattan Waterfront Greenway is physically separated from auto traffic





Bicycle Rental Area Outside Union Station Washington, DC



Two Police “vehicle” parked during lunch



- Segway Personal Transporter
 - \$5000 and up
 - “burn” about ~200 kcal/hr

- Cost of Police Mountain Bike
 - \$700-1000
 - ~ 650/kcal/hr

The Need for Health Impact Assessment (HIA)

- Big decisions are made without examining potential health impacts (both positive and negative) over the life cycle.



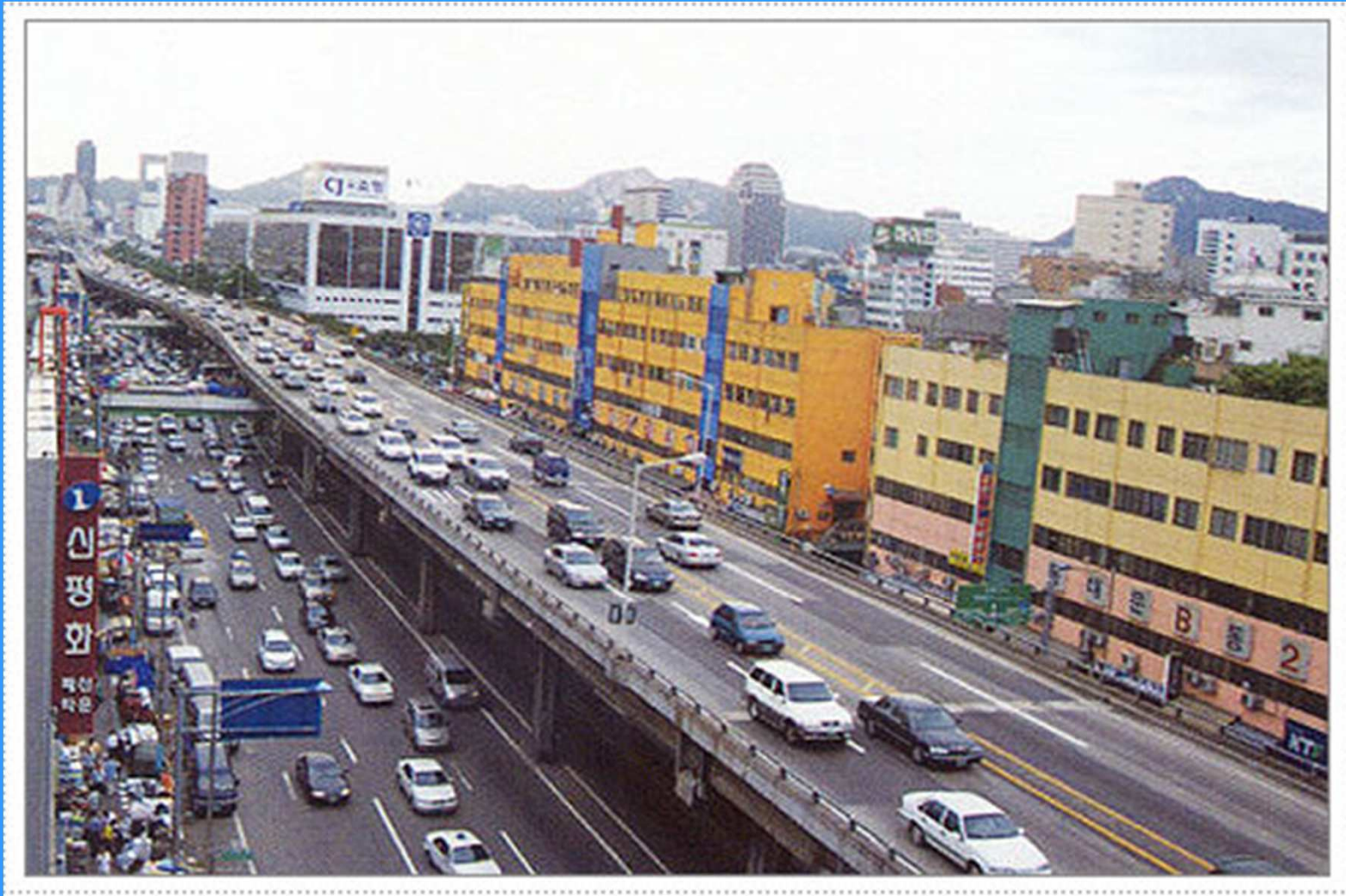
Cooper River Bridge Charleston SC

- If you build a walkway on a major bridge, how many pedestrians and bicyclists will use it?



Walkway on Cooper River Bridge, Charleston SC





- The Cheonggyecheon freeway ran through the center of Seoul ~1970-2005



- Cheonggyecheon -- 8.4 km long downtown Seoul, South Korea.
 - The \$900 million project initially attracted much public criticism.



- **AIG Bailout**
 - \$188 billion
- **Peak Loans to Major Banks:**
 - Morgan Stanley --\$107 billion
 - Citigroup --\$99.5 billion
 - B of A -- \$91.4 billion.
 - Goldman Sachs -- \$69 billion



City of Los Angeles Los Angeles River Revitalization

AD HOC RIVER
COMMITTEE

LA RIVER
REVITALIZATION MASTER
PLAN

IMPLEMENTATION

OUTREACH &
MEDIA

MAYOR'S WELCOME



LACITY.ORG
LOS ANGELES CITY COUNCIL



LA River Headlines

How to Secure Future Water Sources, Townhall LA, March 22, 2012

Help a Local Student Study the LA River!

Welcome

The City has created a "one-stop shop" web portal that encourages users of all ages to learn about the latest events related to its landmark resource: The Los Angeles River.

Our revamped website is comprehensive, with many resources about the River and its watershed. From catching up with Committee activities, to researching the Los Angeles River Revitalization Master Plan (LARRMP) efforts, or to simply finding things to do along the River, our new website provides wide-ranging information. One of our new features, the "Outreach and Media" navigation link, gathers recent brochures, videos, powerpoint presentations, maps, and useful resources pertaining to activities along the



LA River Quotes

Army Corps of Engineers Estimate --

- Reshaping the Los Angeles River ~
 - \$25- 100 million/mile

51 miles

\$1.275 - \$5.1 billion



What is the
most resilient
and efficient
housing?



The New York Times

Sunday Review

| The Opinion Pages

WORLD U.S. N.Y./REGION BUSINESS TECHNOLOGY SCIENCE HEALTH

OPINION

Now Coveted: A Walkable, Convenient Place

By CHRISTOPHER B. LEINBERGER

Published: May 25, 2012

WALKING isn't just good for you. It has become an indicator of your socioeconomic status.

[Enlarge This Image](#)



Until the 1990s, exclusive suburban homes that were accessible only by car cost more, per square foot, than other kinds of American housing. Now, however, these suburbs have become overbuilt, and housing values have fallen. Today, the most valuable real estate lies in walkable urban locations. Many of these now pricey places were slums just 30 years ago.

NY Times May 25, 2012

Every Roof should be fully covered with
Photovoltaic Panels– With “Net Metering”



A 743 kilo-watt Solar System in City of Industry.

- What is the best way to change a culture?
Public Health has critical experience.
 - Community participation
 - Engagement
 - Cost benefits
 - Incentives/disincentives

- The shelf life of human beings is short.
- Educate future leaders!

APHA National Meeting 2002-2003 Abstracts with “land use” - 0

2002

2003

Search Results

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Search Results

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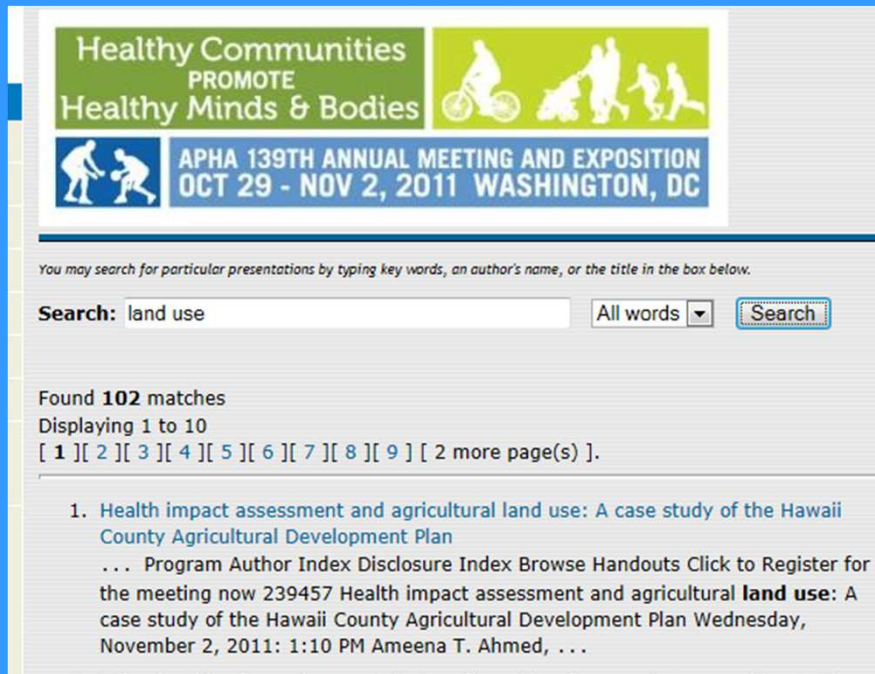
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Restrict to:

A Big Shift in Public Health’s Awareness of Built Environment as a Core Determinant of Health

2011 APHA Annual Meeting

“land use” 102 matches



Healthy Communities
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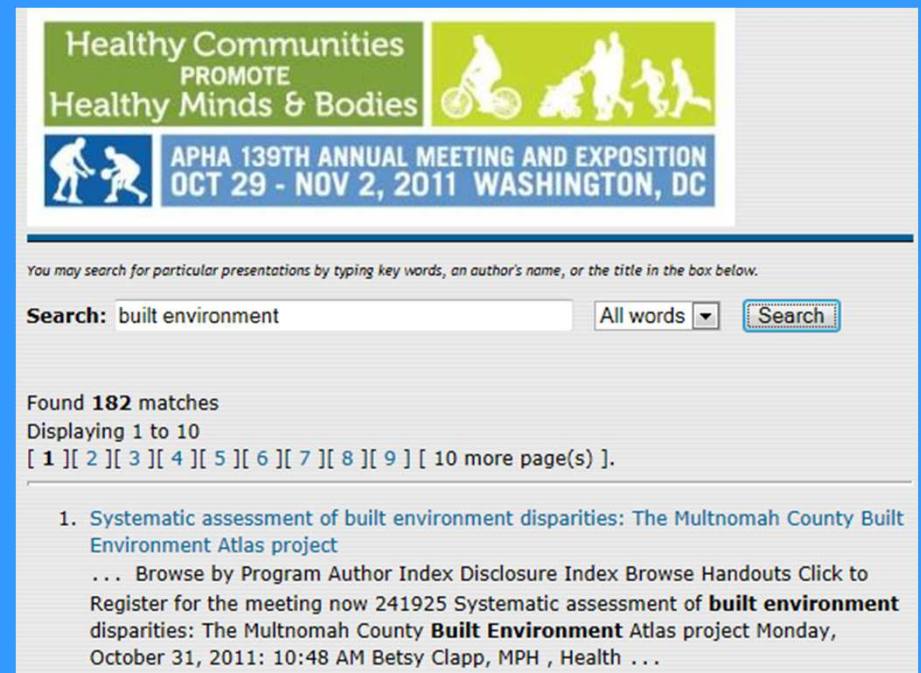
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“built environment”
182 matches



Healthy Communities
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Public Health
Must Support
More Energy-
efficient, Lower-
polluting
Transportation.

Fleet mpg under new CAFE standards









| | 2016 base | 2020 | 2025 |
|---------------------------|----------------------|-------------|-------------|
| Passenger Cars | 37.8 | 44.7 | 56.0 |
| Light Trucks | 28.8 | 31.2 | 40.3 |
| Combined Cars & Trucks | 34.1 | 38.8 | 49.6 |

What is the most cost effective and safest way of moving large numbers of people long distances?

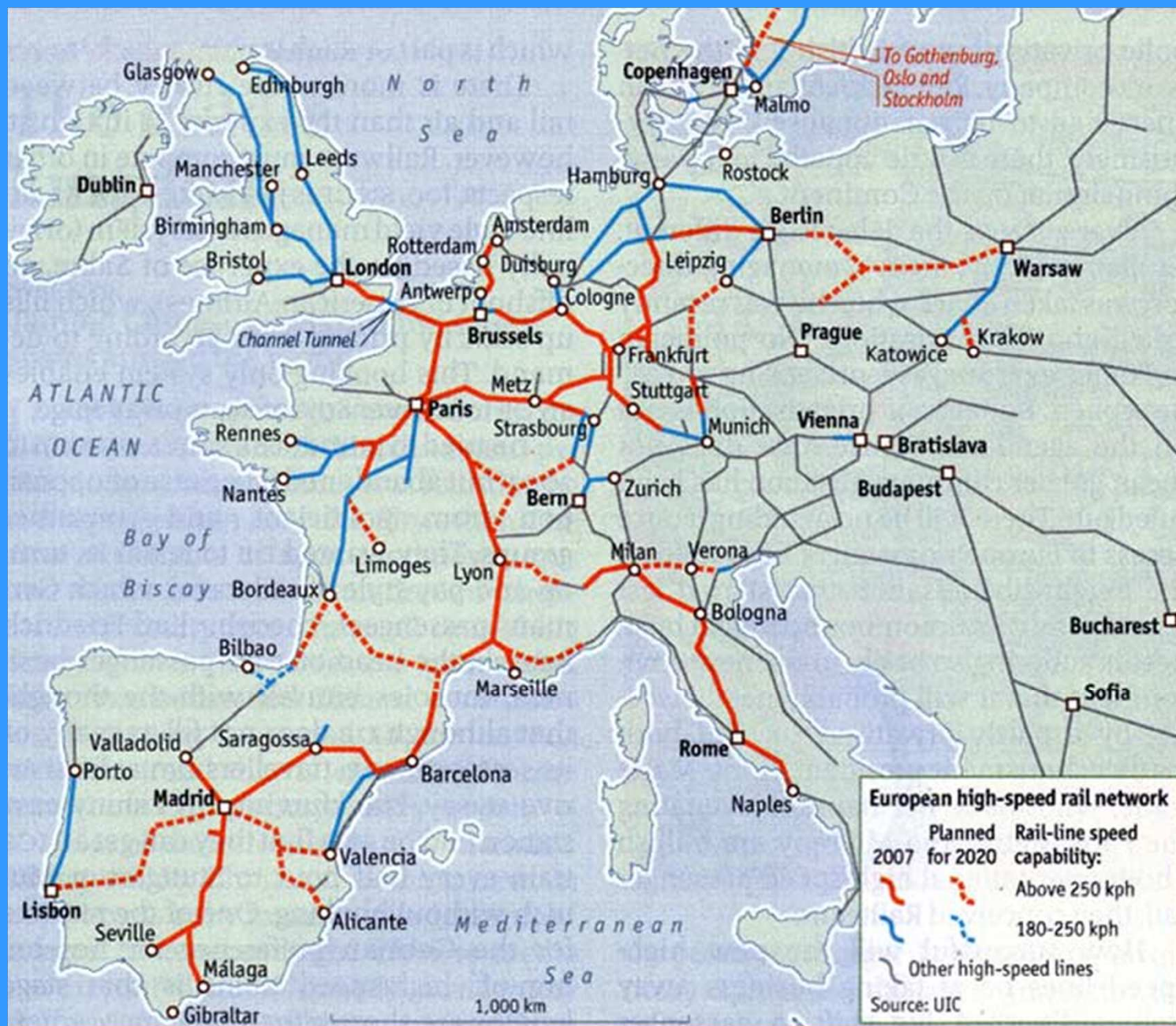




Tokaido Shinkansen -- Nearly 5 billion cumulative passenger trips

-  Tokaido Shinkansen
-  Sanyo Shinkansen
-  Tohoku Shinkansen
-  Yamagata Shinkansen
-  Akita Shinkansen
-  Joetsu Shinkansen
-  Nagano Shinkansen
-  Kyushu Shinkansen



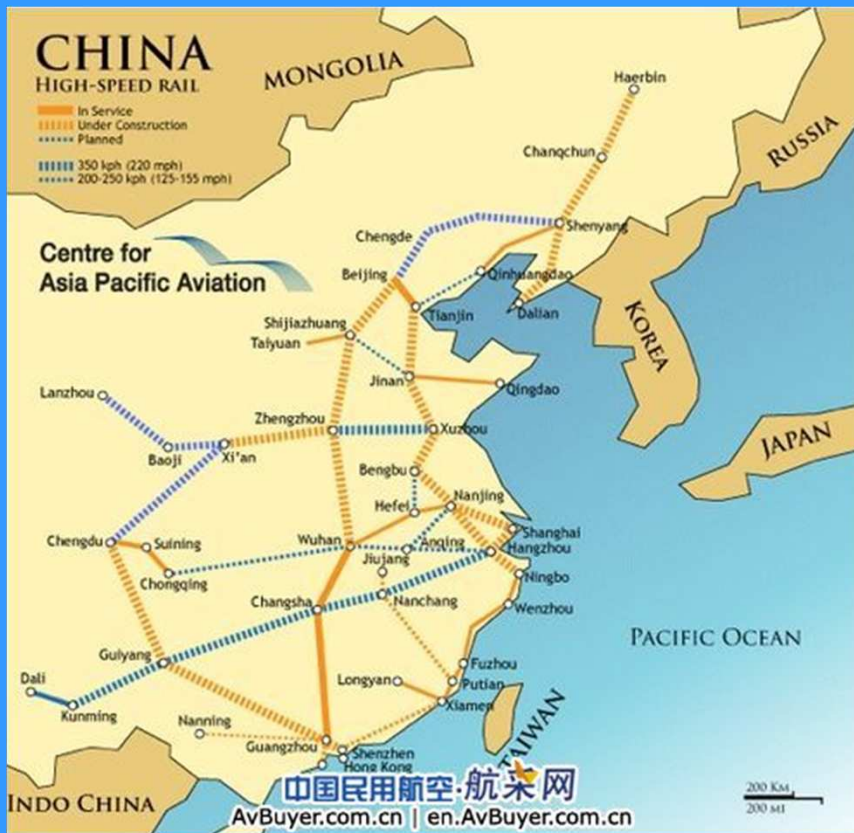


- Ten European countries have high-speed track
 - 4,700 miles in 2010
 - 9,300 miles by 2020
 - A tripling from 2007
 - Projected additional cost -- \$200 billion

- London to Paris 2.25 hours
- Madrid to Barcelona < 3 hours

High Speed Rail: CHINA

China has become the global leader in HSR and is looking to extend the network to Europe, the UK and Southeast Asia.



http://en.ce.cn/Industries/Transport/200909/28/t20090928_20114932.shtml

<http://www.avbuyer.com.cn/en/pictures/slideshow.asp?newsid=38715> <http://www.impactlab.net/2009/12/27/china-unveils-worlds-fastest-high-speed-t>

Los Angeles to San Francisco

Time (from city center to city center)



3 hours, 50 minutes.



3 hours, 2 minutes.

Fuel (in the equivalent of gallons of gasoline)



10.56 gallons per passenger



0.74 gallons per passenger

The Velaro is the world's fastest series produced train.

[> learn more](#)



Siemens Corp Advertisement

Officials Reach California Deal to Cut Emissions



Rich Pedroncelli/Associated Press

Assembly Speaker Fabian Nunez, a Los Angeles Democrat, left, and the president pro tem of the state Senate, Don Perata of Oakland, during the announcement of the deal to limit greenhouse gas emissions.

By **FELICITY BARRINGER**

Published: August 31, 2006

SACRAMENTO, Aug. 30 — [California's](#) political leaders announced an agreement on Wednesday that imposes the most sweeping controls on carbon dioxide emissions in the nation, putting the state at the forefront

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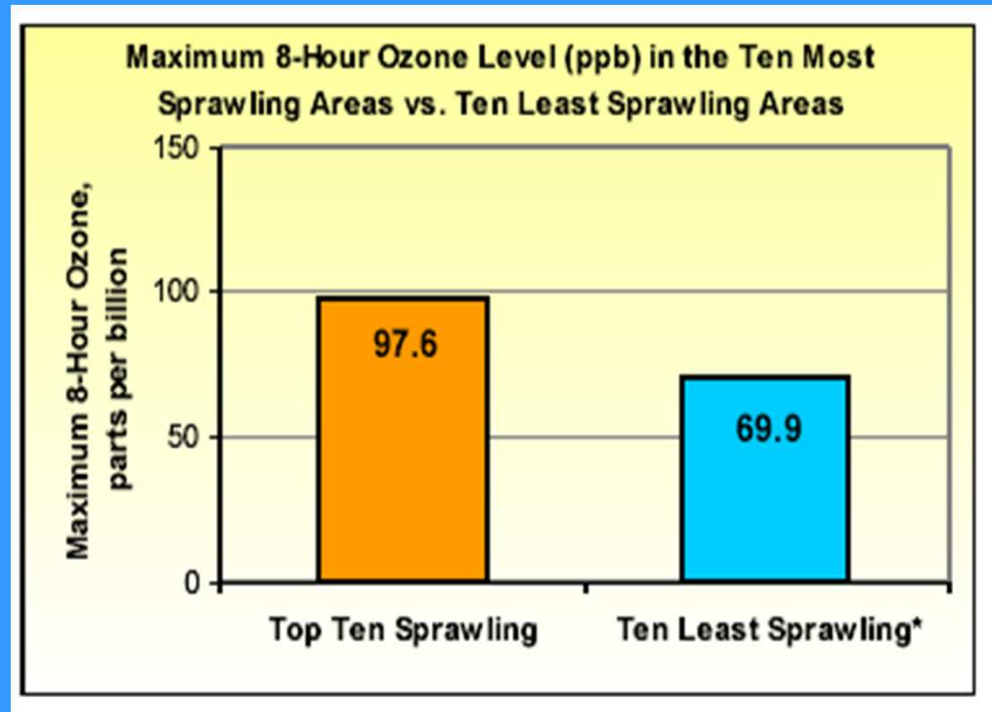
Greenhouse Gas Reduction Act AB32

– California Legislature 2006

New York Times Aug 31, 2006

Compact Development

- More energy efficient
- Preserve farmland
- Supports transit
- Lower overall air pollution



California SB 375

Reduce green house gas emissions from cars and light trucks through land use and housing actions.



Slide credit: Bill Craven

AB 32 Provoked Backlash Proposition 23 in 2010

Sponsored by 2 Texas Oil Companies

- Prop 23 asserted that AB 32 makes life more expensive and costs jobs.
- Lessons from Public Health Response to Proposition 23

June 2010

Co-benefits of climate action— Thoughts for Public Health Practice

- County HOs and pediatricians brought out the medical and nursing associations, as well as many hospital systems

blue of california

Blue Shield of California
An Independent Member of the Blue Shield Association

KASER PERMANENTE. thrive

AMERICAN LUNG ASSOCIATION
IN CALIFORNIA

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

California District IX

Catholic Healthcare West

CALIFORNIA THORACIC SOCIETY

NATIONAL PHYSICIANS ALLIANCE

Ventura County Medical Association
Over a Century of Service & Commitment

OCMA
Orange County Medical Association

SSYMS
SANTA SACRAMENTO COUNTY MEDICAL SOCIETY



phlp
public health law & policy



Prevention Institute
Putting prevention at the center of community well-being



COMMUNITY ACTION TO FIGHT ASTHMA



SONOMA COUNTY
Asthma Coalition



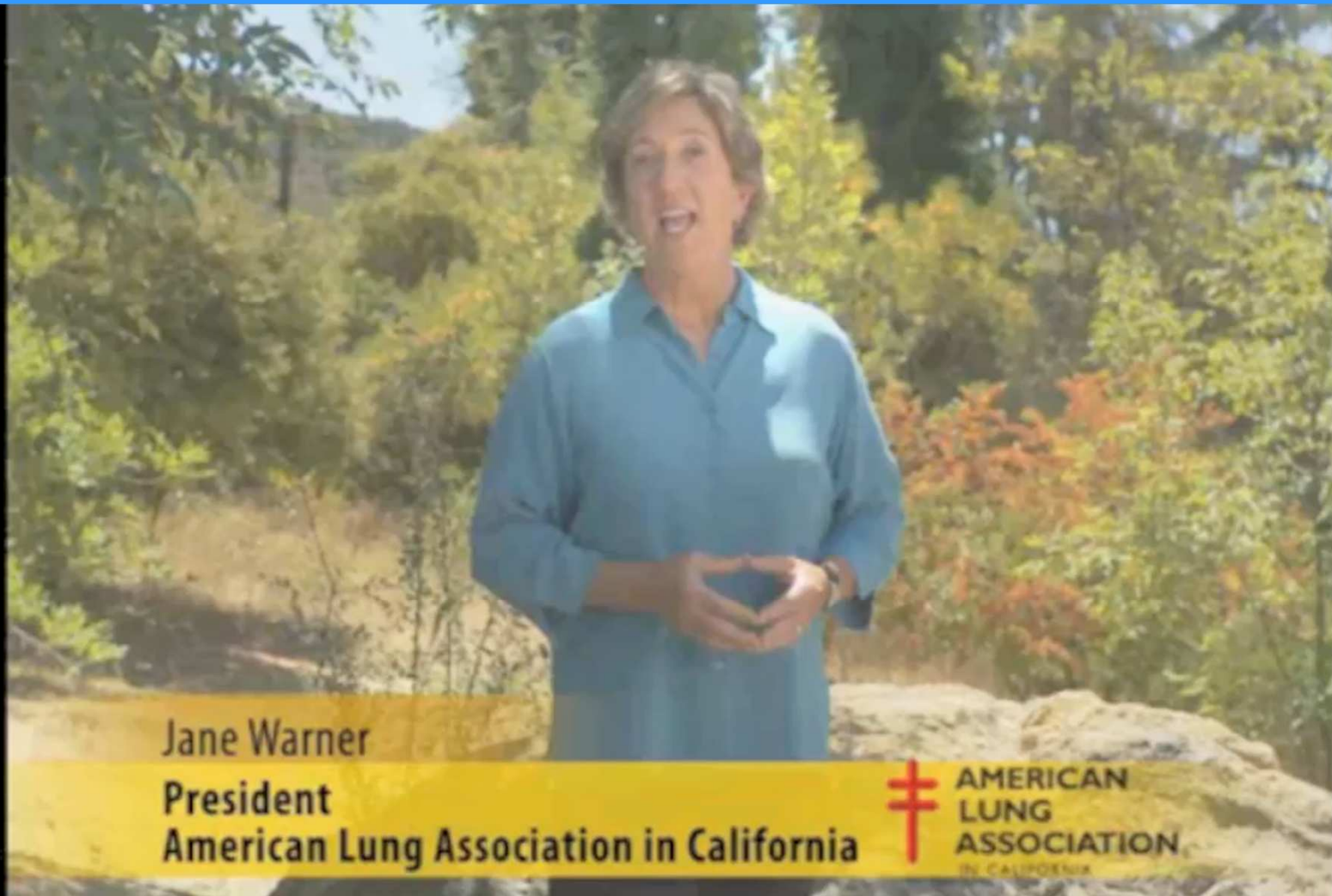
Asthma Coalition of Alameda County



SAN FRANCISCO
Asthma Task Force

BREATHE CALIFORNIA

No on 23 Ad



Jane Warner

President

American Lung Association in California



AMERICAN
LUNG
ASSOCIATION
IN CALIFORNIA

No on 23 Ad



So the Election Was Held: November, 2010

November 2010 Election Results

“What contest received more votes than any other in the nation?”

Brown for Governor (CA, D)

Boxer for Senate (CA, D)

Texas Governor (Perry, R)

Florida U.S. Senate (Rubio, R)

New York Governor (Cuomo, D)

California Propositions

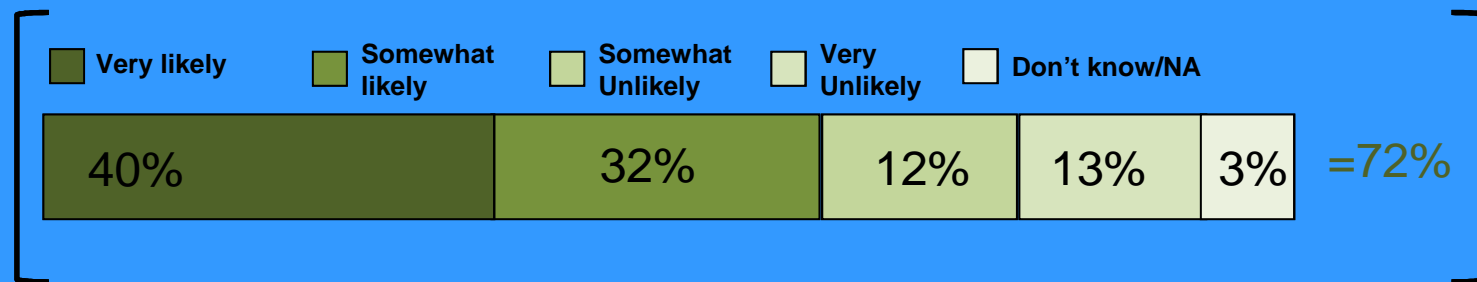
November 2010 Election Results

“No on 23” got more votes than any other contest in the nation:

| | |
|--------------------------------|------------------|
| No on 23 | 4,827,348 |
| Yes on 22 | 4,700,151 |
| No on 19 | 4,382,140 |
| Brown for Governor | 4,368,921 |
| Boxer for Senate | 4,196,864 |
| Texas Governor (Perry, R) | 2,733,784 |
| Florida U.S. Senate (Rubio, R) | 2,615,262 |
| New York Governor (Cuomo, D) | 2,602,443 |

Voters believe AB 32 will have healthy results:

72% of voters polled believe AB 32 will likely result in healthier communities



EXECUTIVE SUMMARY



Southern California Association of Governments
ADOPTED APRIL 2012

Associations of Governments Are Adopting Regional Transportation Plans To Reduce Emissions and Improve Health2 – e.g. Southern California 4/201



NO DUMPING



DRAINS TO OCEAN

NO DUMPING



DRAINS TO BAY

**THIS ONE
RUNS ON FAT
AND SAVES YOU MONEY**



**THIS ONE
RUNS ON MONEY
AND MAKES YOU FAT**



Photo: Carlton Reid via Flickr, Art: Peter Drew

<http://www.grist.org/article/2010-08-26-when-streets-tell-the-truth-about-people-riding-in-cars-bikes/>

Our patient starts to walk or
bicycle to school 1 mile 4 days
per week

- The family car ran 1280 less miles
- 64 gallons of gasoline
- Saved \$704
- And made new friends and was learning better

The New “Active” Commuter

- 30 minute walk or bicycle trip burns 125 calories each way (for a 130 pound child)
- 4 days per week = 1000 calories per week, 40,000 calories for school year.
- Converts to 11.5 pounds of body fat.

The New walk/bike Student

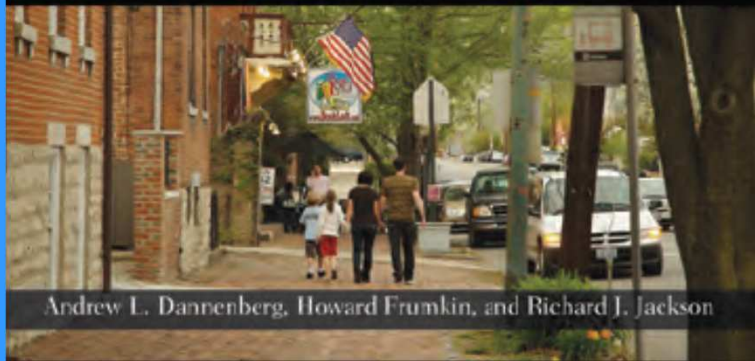
Two year follow up (age 12)

- Height – 59” (50%ile)
- Weight – 110# (65%ile)
- BP - 130/78
- Blood sugar – Normal
- Cholesterol – 175
- Energy level and Mood - Good

We Are What We Eat, and...
We Are What We Build!



MAKING HEALTHY PLACES Designing and Building for Health, Well-being, and Sustainability



Andrew L. Dannenberg, Howard Frumkin, and Richard J. Jackson

DESIGNING HEALTHY COMMUNITIES



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Let's Think About Policy Solutions

Let's Think About Solutions

- Public Health and Environment Must Better Support Each Other.
- Focus on Children.
- Use Permitting Power; Regulate Land Uses
- “Health in all policies”
- Tax unhealthy things.

Let's Think About Policy Solutions

- Local is Good
- Make places that are as good as the places people want to visit
- Make the healthy option the default option.
- Engage the “Practice” community

Let's Think About Policy Solutions

- Active Design Guidelines
- Create Solutions that Solve Multiple Problems
- Corporations are NOT people
- Health Impact Assessment

Public Health Must Support Resource Conservation— Not only an environmental issue

- Consumption control
 - Recycling
 - e.g. State where redemption deposits are in place, 90% of cans and bottles are recycled
 - Where no law (often strongly opposed by bottling companies) ~50%
- Don't waste water or electricity
 - (in California and many states they are nearly the same)