

# The Key Roles of Community & Building Environments in Protecting and Promoting Health

Karen K. Lee, MD, MHSc



HEALTHY **CANADA**  
by design



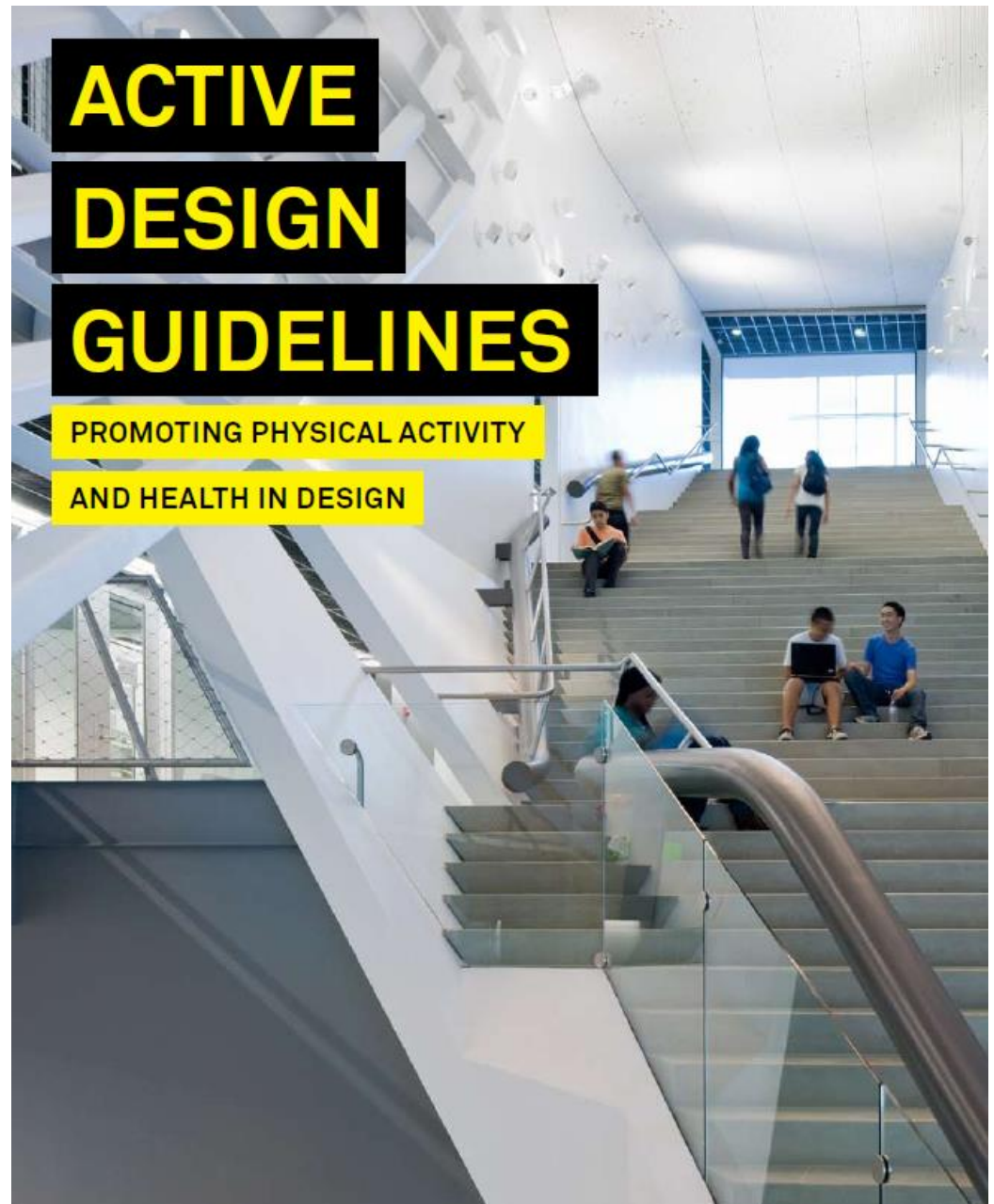
COALITIONS LINKING ACTION  
& SCIENCE FOR PREVENTION

An initiative of:

CANADIAN PARTNERSHIP  
AGAINST CANCER



PARTENARIAT CANADIEN  
CONTRE LE CANCER



## THE 19th CENTURY:

### Infectious Diseases

19th Century codes, planning and infrastructure as weapons in the battle against contagious disease

These strategies were built into the city fabric, and they were effective

## THE 21st CENTURY:

### Chronic Diseases, many of which are “Diseases of Energy”

The emerging design solutions for health parallel sustainable design solutions

Effective designs will have to be an invisible, pervasive, and inevitable part of life

# 100+ years ago, environmental conditions were a breeding ground for infectious disease epidemics



A TENEMENT FEVER-NIGHT  
[Reproduced from a Photograph by Anthony.]

## Over-crowding in Lower Manhattan

1910 density:  
114,000 people/ sq. mi.

2011 density:  
67,000 people/ sq. mi.



**Inadequate systems  
for garbage, water, and  
sewer, leading to  
pervasive filth and  
polluted water supplies**

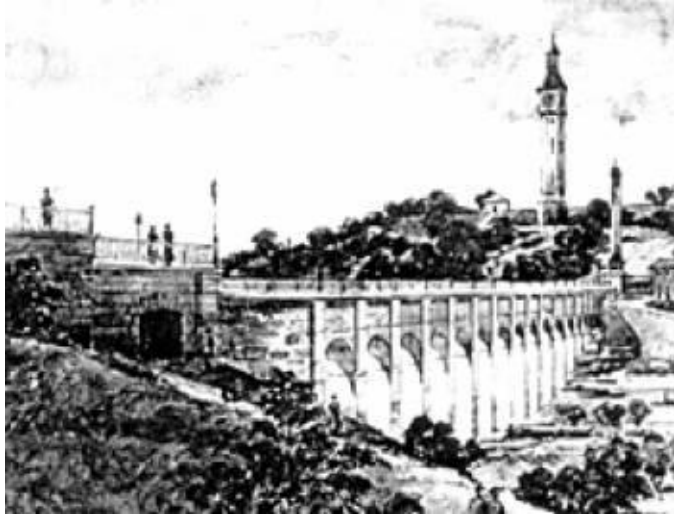
## Major epidemics:

Air/droplet-borne diseases:  
TB

Water-borne diseases:  
Cholera

Vector-borne diseases:  
Yellow-fever

# The response was through infrastructure interventions



1842

New York's water system established – an aqueduct brings fresh water from Westchester.

1857

NYC creates Central Park, hailed as “ventilation for the working man’s lungs”, continuing construction through the height of the Civil War

1881

Dept. of Street-sweeping created, which eventually becomes the Department of Sanitation

1901

New York State Tenement House Act banned the construction of dark, airless tenement buildings

1904

First section of Subway opens, allowing population to expand into Northern Manhattan and the Bronx

1916

Zoning Ordinance requires stepped building setbacks to allow light and air into the streets



# The Results: Infectious disease successes

57.1%

1880

BEFORE the wide use of antibiotics!

45.8%

11.3%

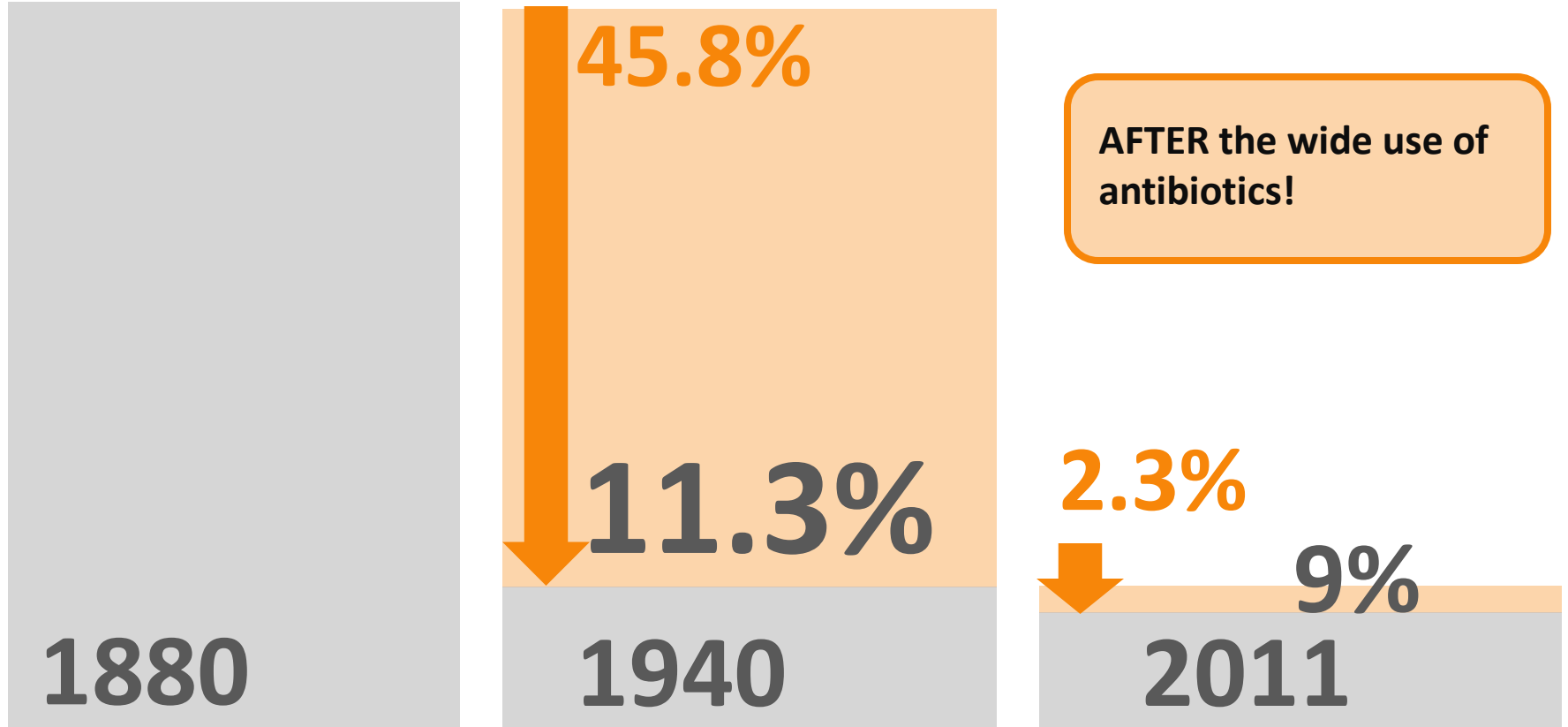
1940

AFTER the wide use of antibiotics!

2.3%

9%

2011



# The epidemics of today are:

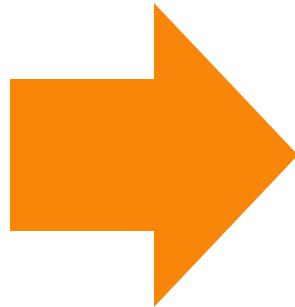
## **CHRONIC DISEASES** (obesity, diabetes, heart disease & strokes, cancers)

Chronic Diseases - #1 cause of death globally (36 million deaths/y).

Leading Risk Factors accounting for 80% of deaths\_ (WHO 2011):

- Tobacco
- **Physical Inactivity**
- **Unhealthy Diets**
- Harmful Use of Alcohol

**Energy in:**  
**Food**

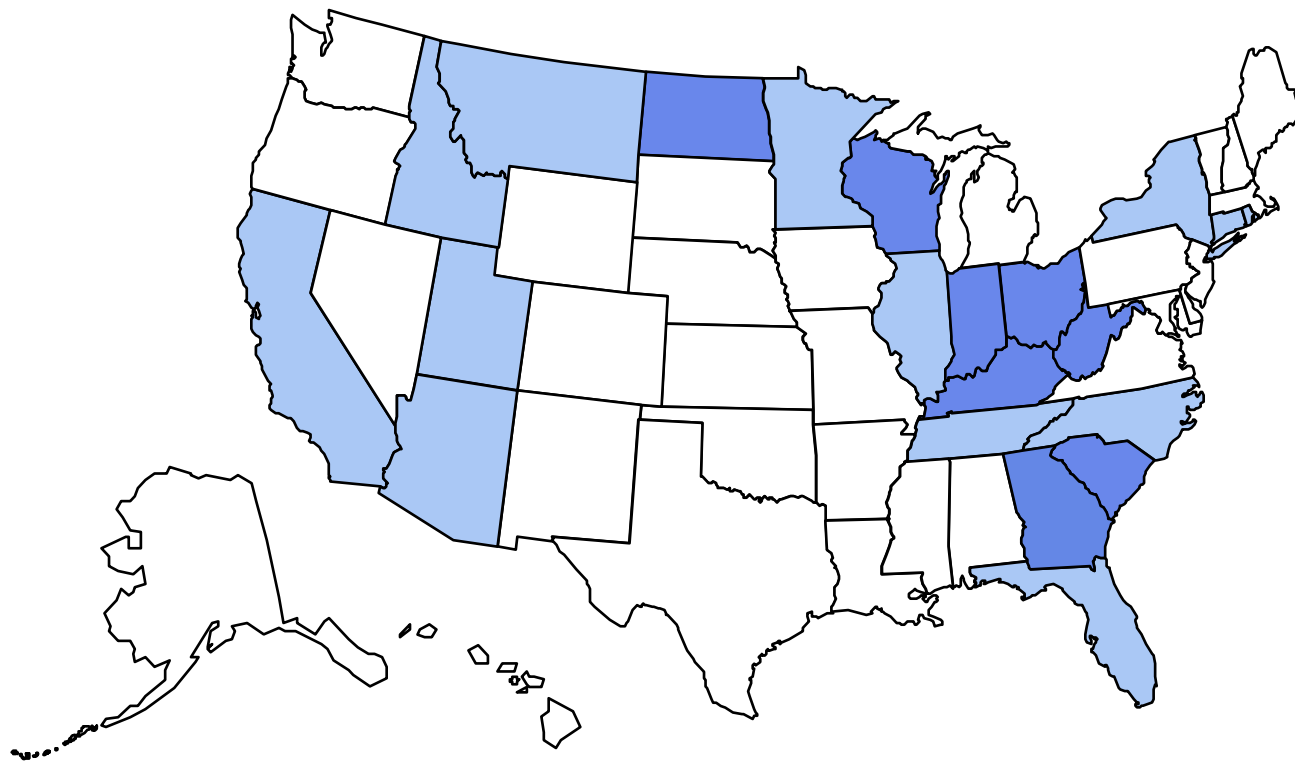


**Energy out:**  
**Exercise**

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1985

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)



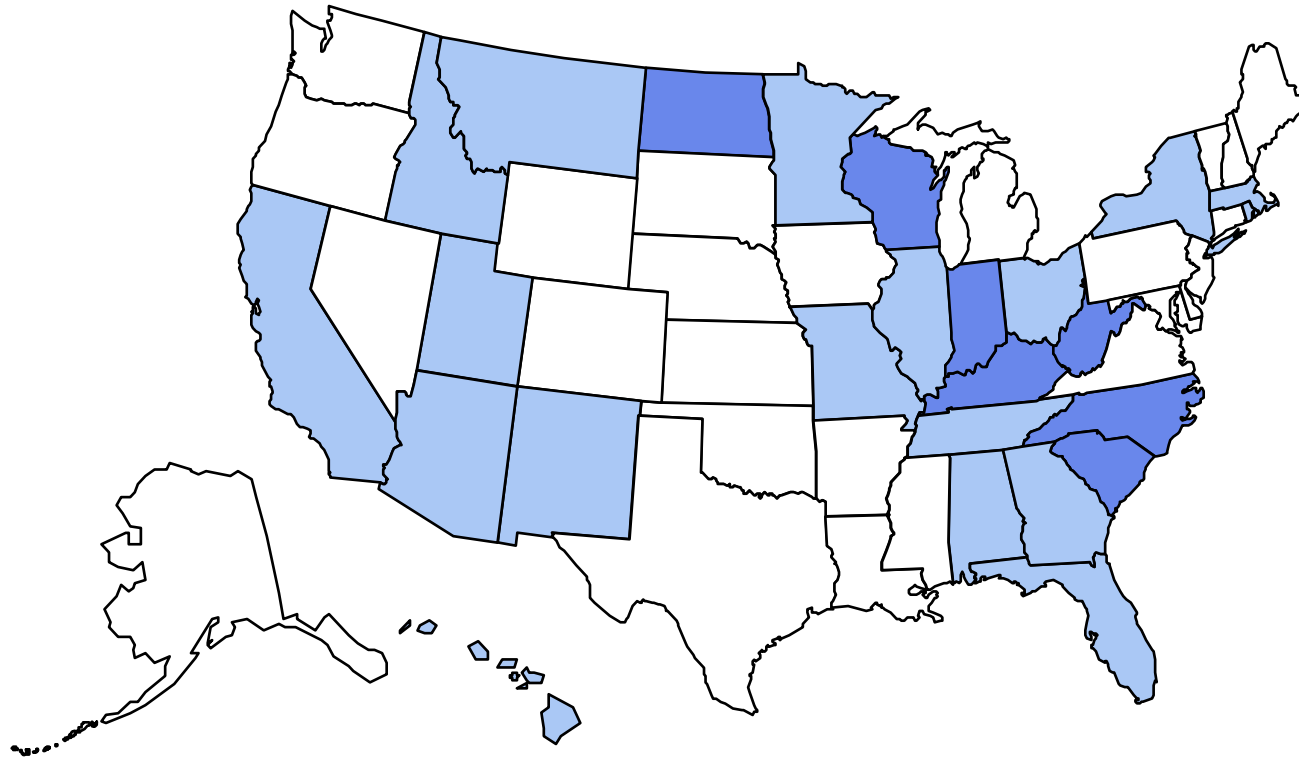
□ No Data    ■ <10%    ■ 10%-14%

Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1986

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□ No Data    □ <10%    □ 10%–14%

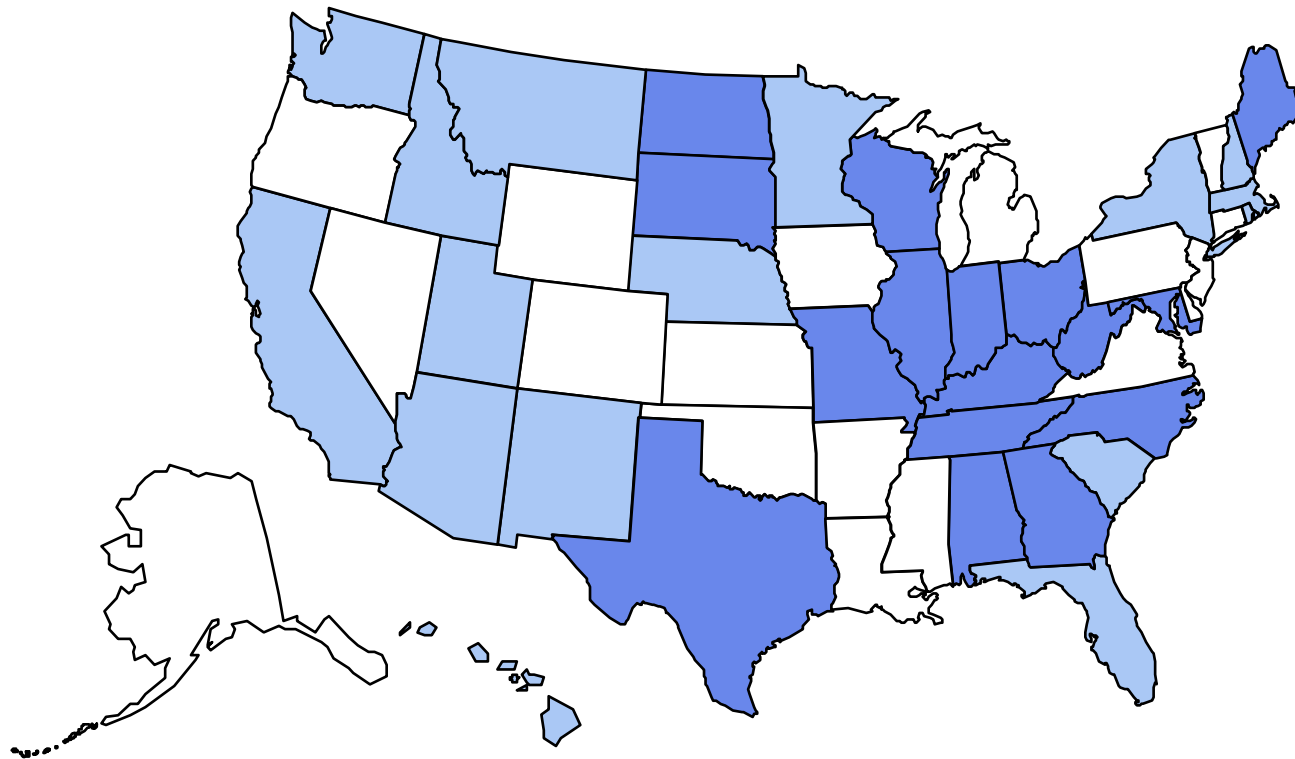
Source: U.S. Centers for Disease Control and Prevention (CDC)



# Obesity Trends\* Among U.S. Adults

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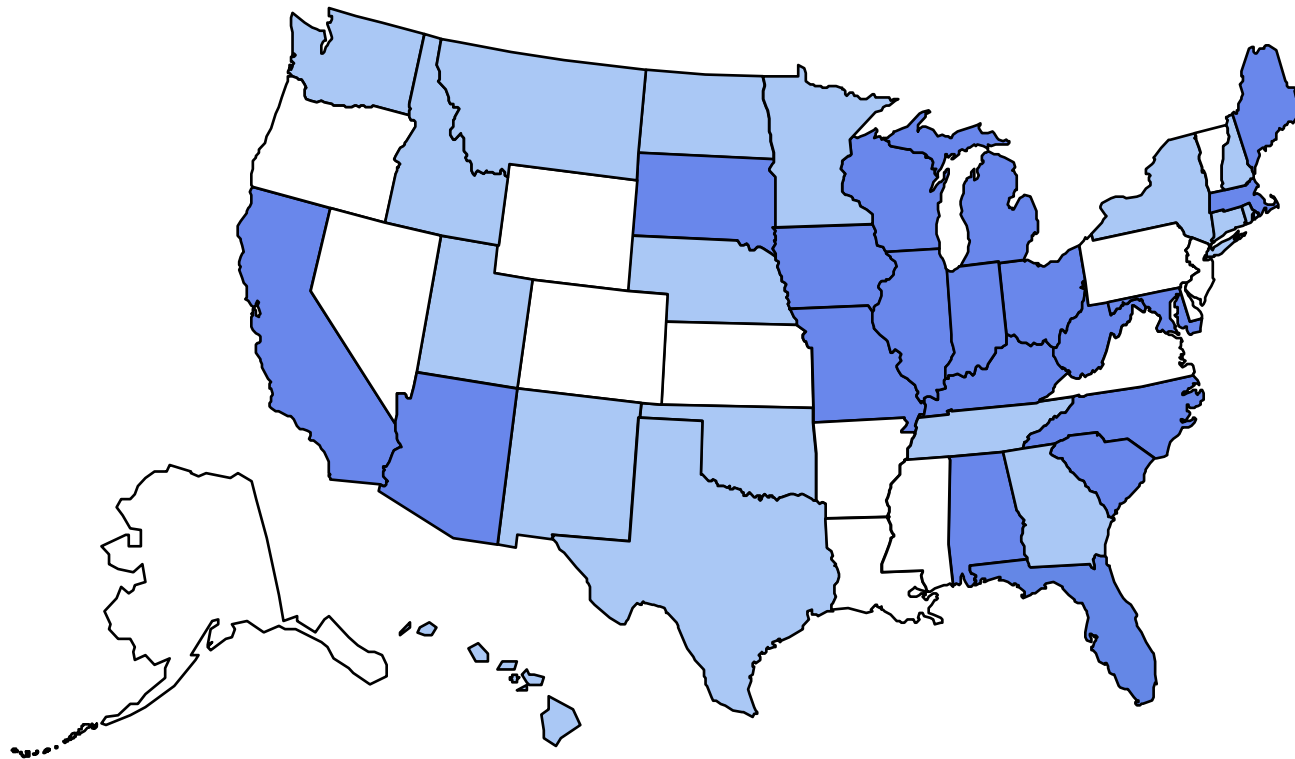
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Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1988

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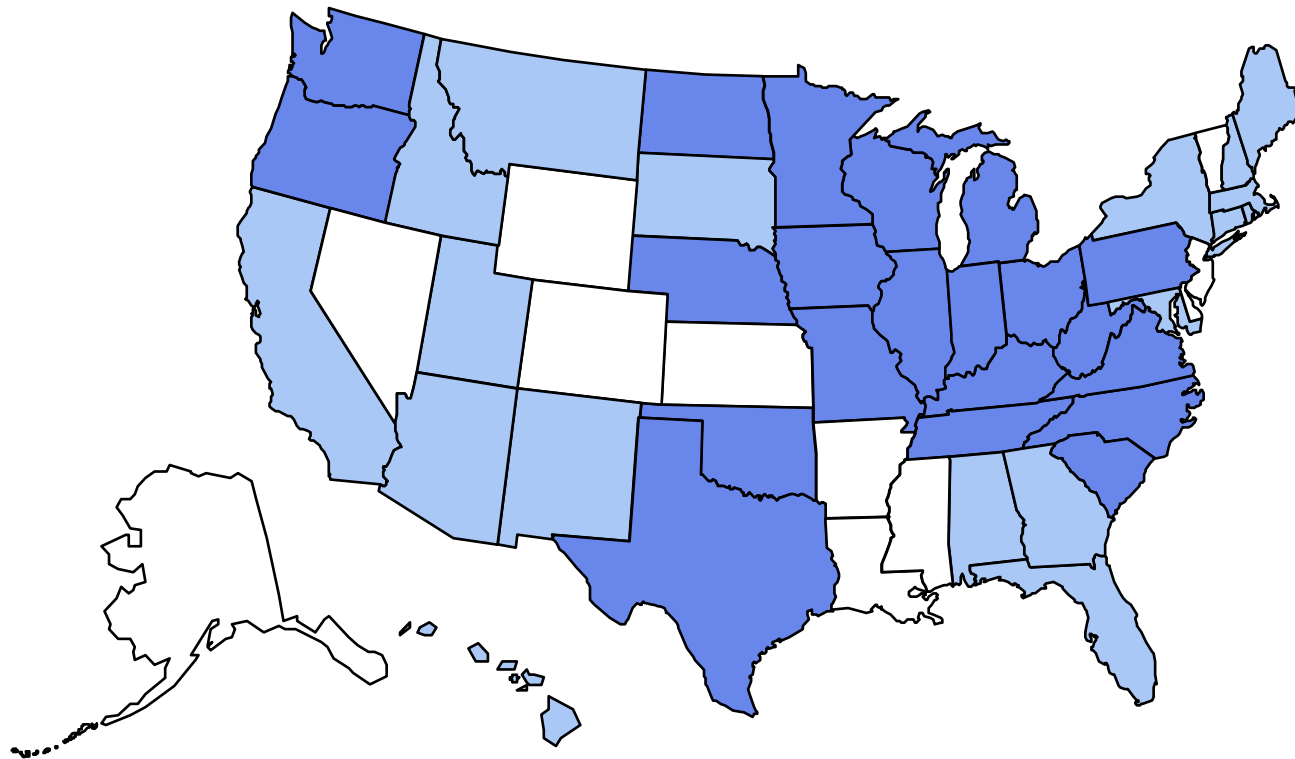
□ No Data    ■ <10%    ■ 10%-14%

Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1989

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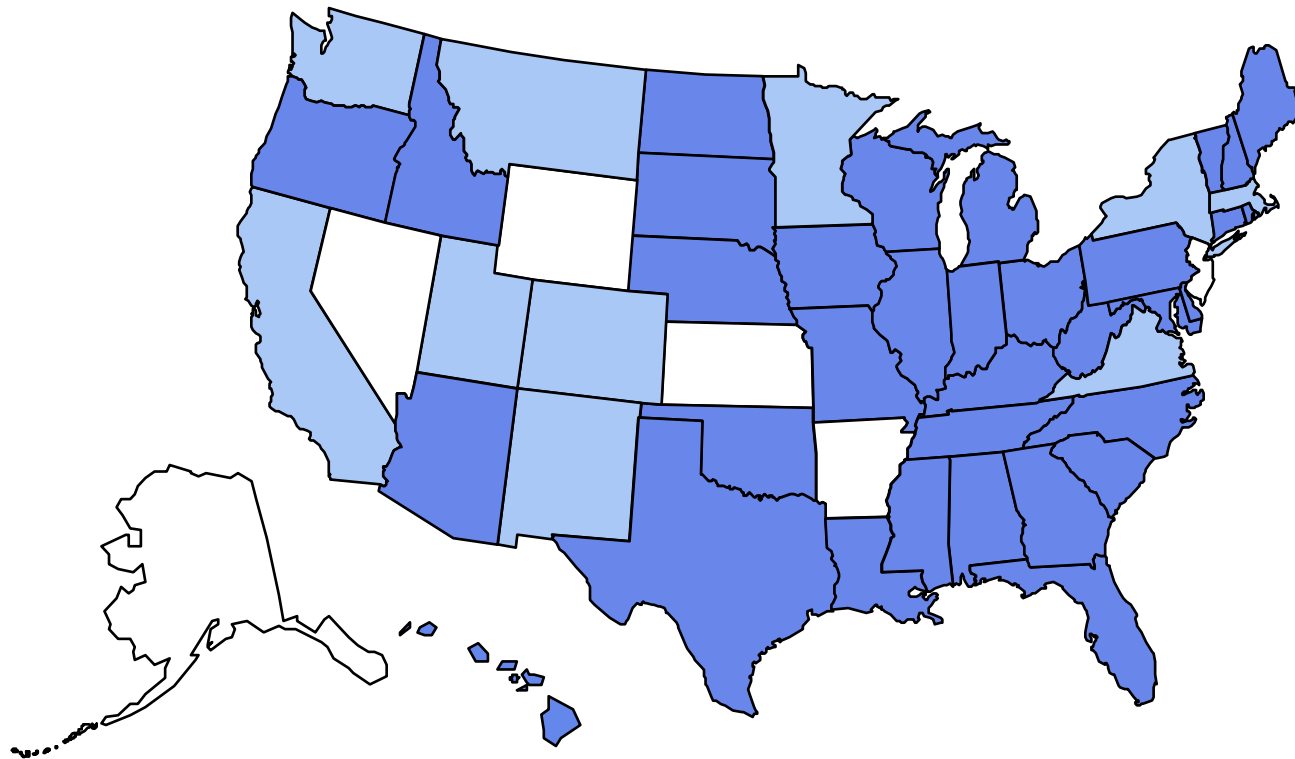
□ No Data    ■ <10%    ■ 10%-14%

Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

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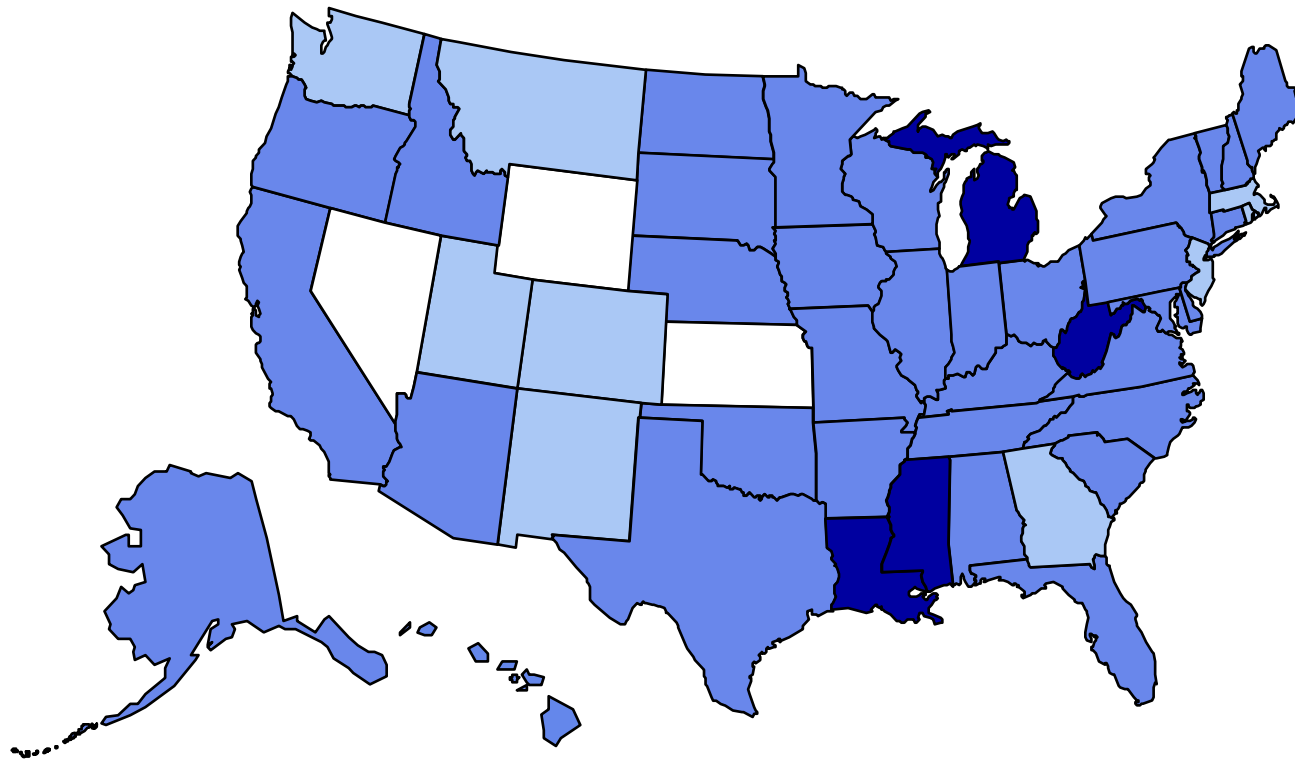
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Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1991

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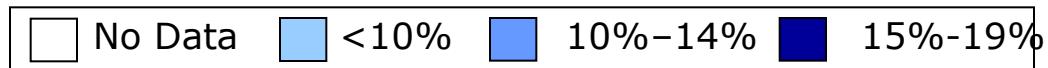
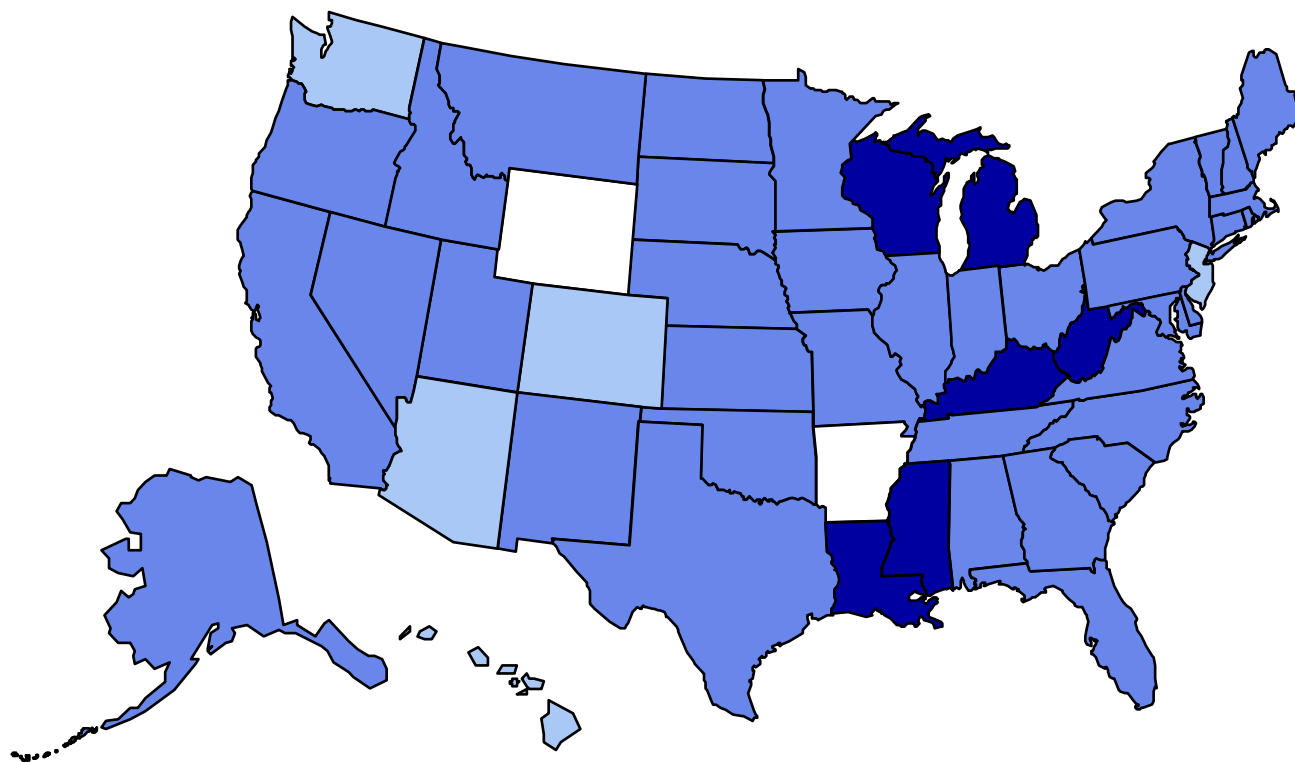
□ No Data    □ <10%    □ 10%-14%    □ 15%-19%

Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1992

(\*BMI  $\geq 30$ , or ~ 30 lbs overweight for 5' 4" woman)

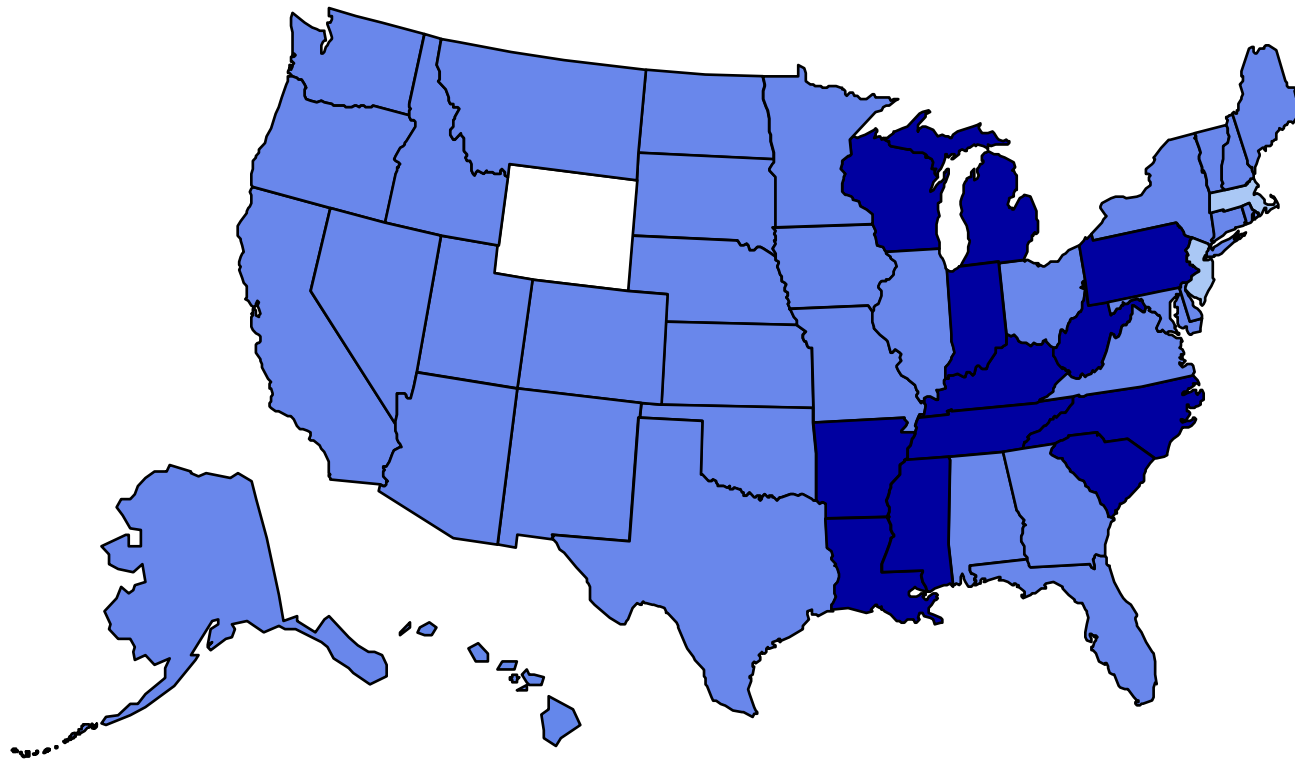


Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1993

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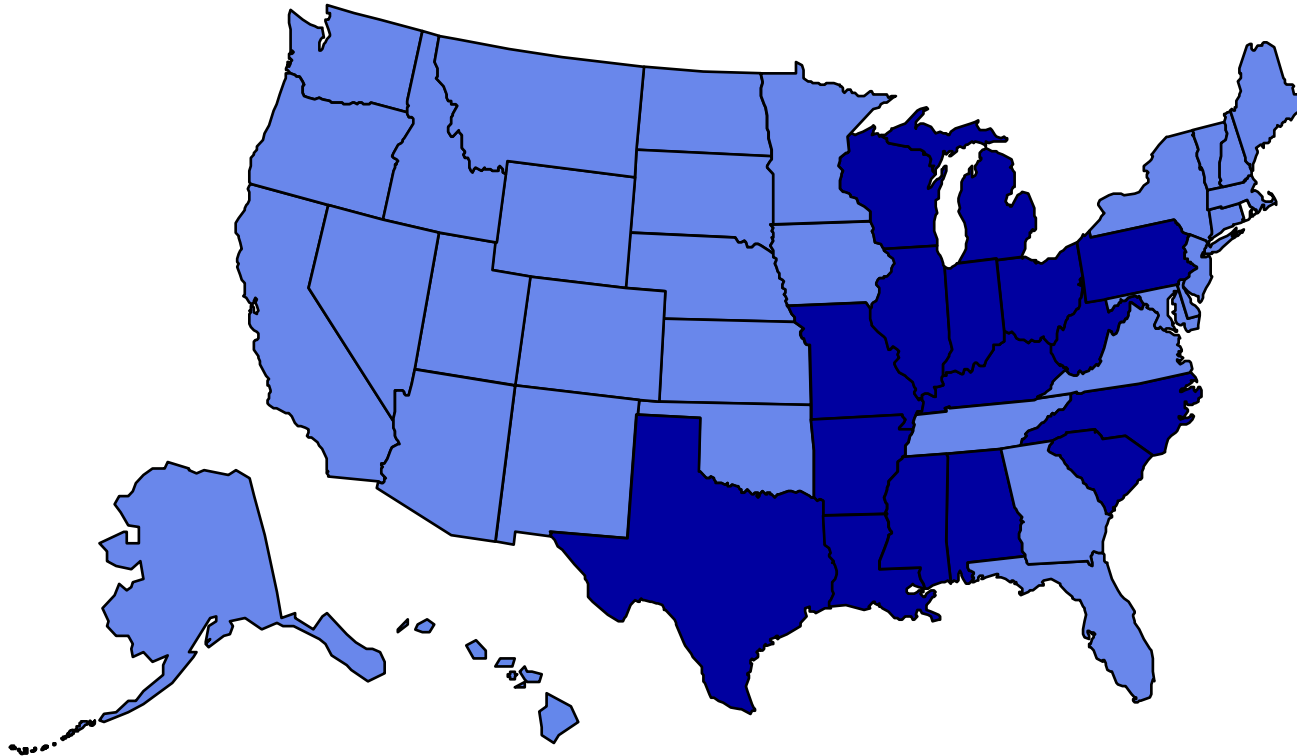
Legend: □ No Data ■ <10% ■ 10%-14% ■ 15%-19%

Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1994

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No Data   <10%   10%–14%   15%–19%

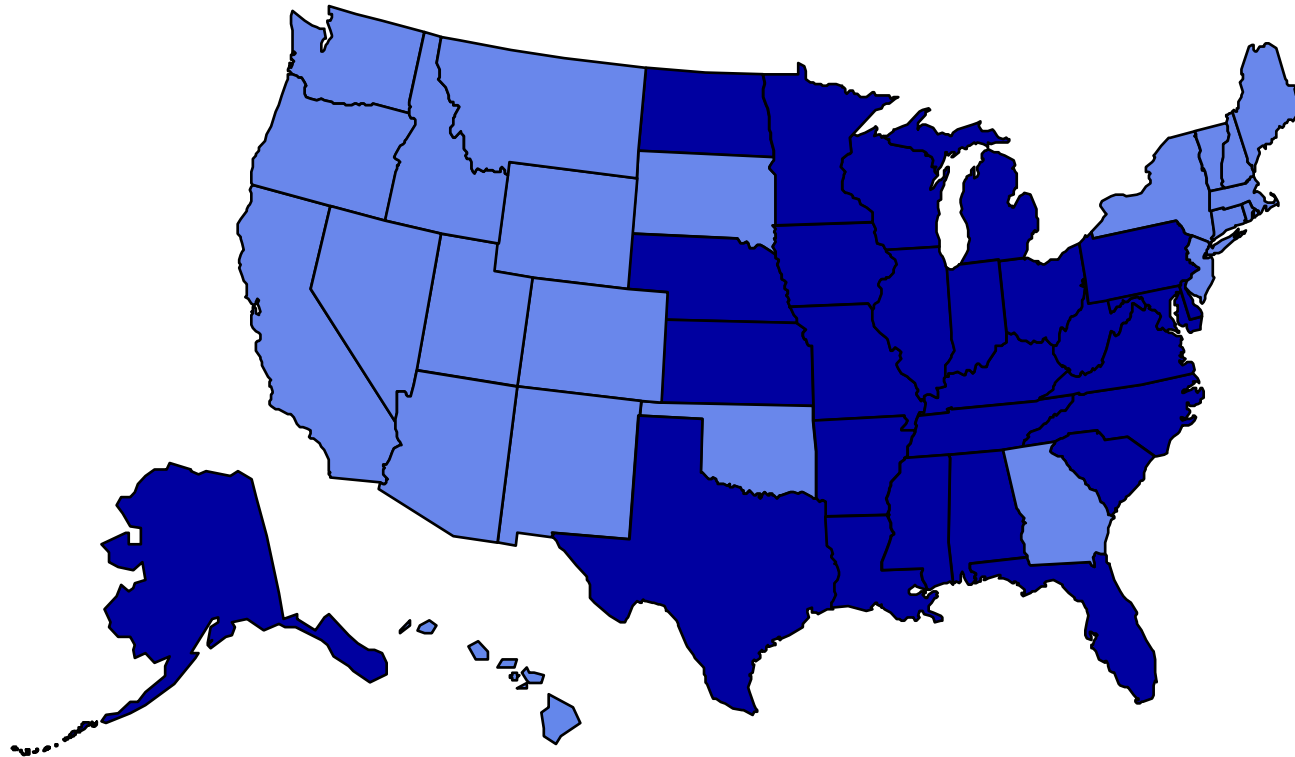
Source: U.S. Centers for Disease Control and Prevention (CDC)



# Obesity Trends\* Among U.S. Adults

## BRFSS, 1995

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)



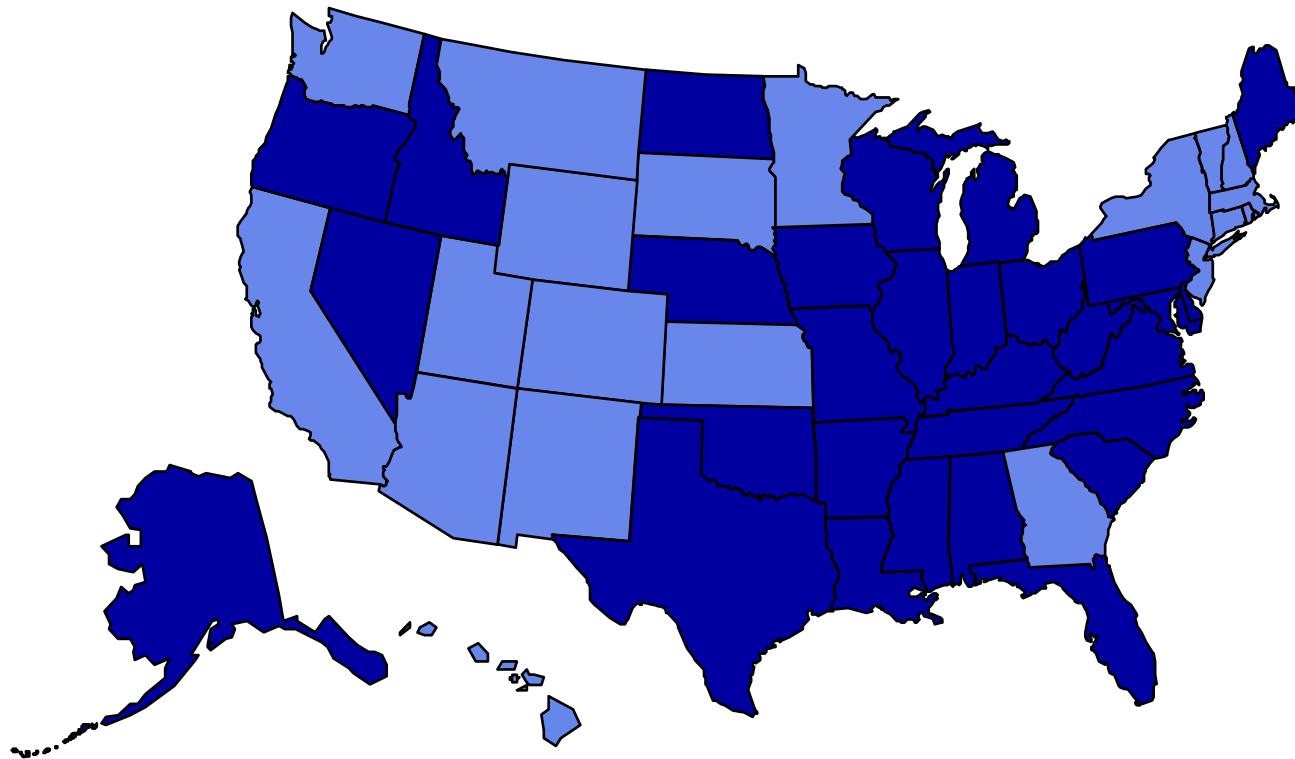
No Data    <10%    10%–14%    15%–19%

Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1996

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)



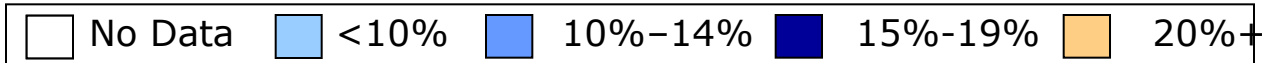
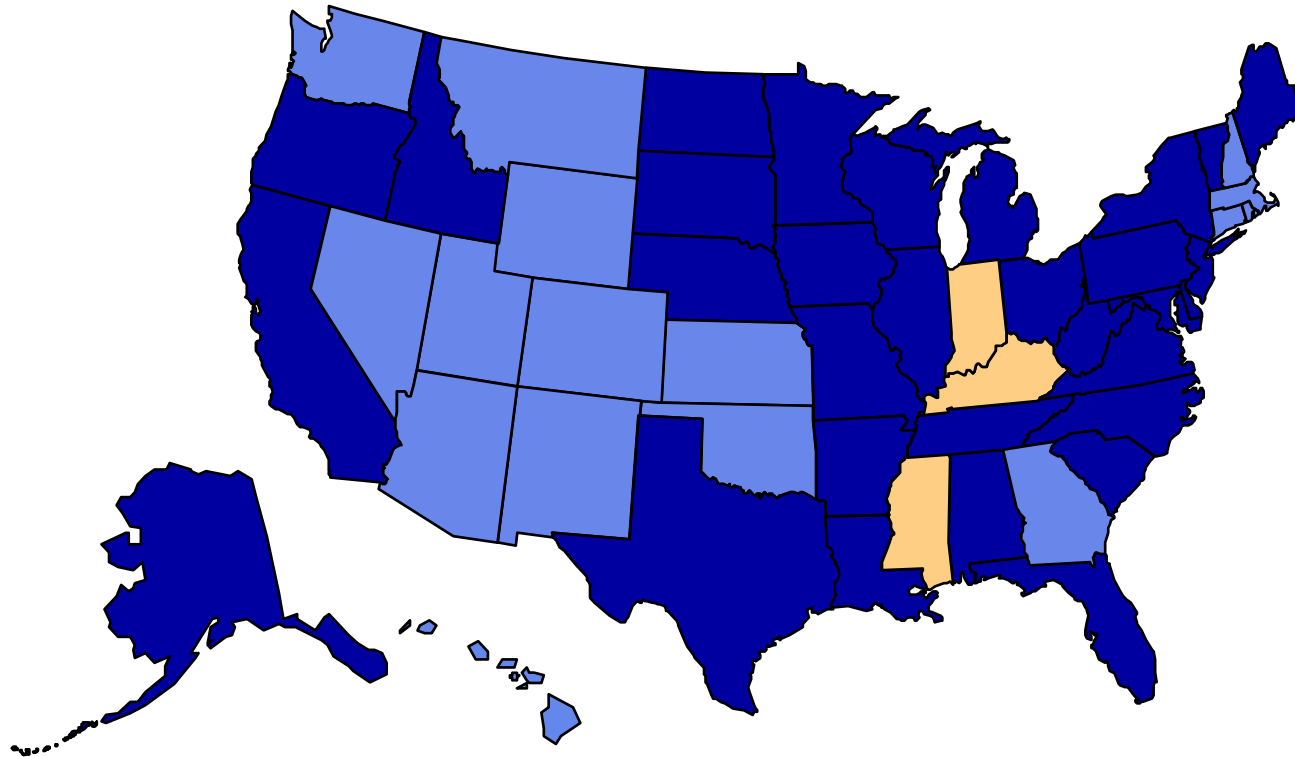
□ No Data    □ <10%    □ 10%-14%    □ 15%-19%

Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1997

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)

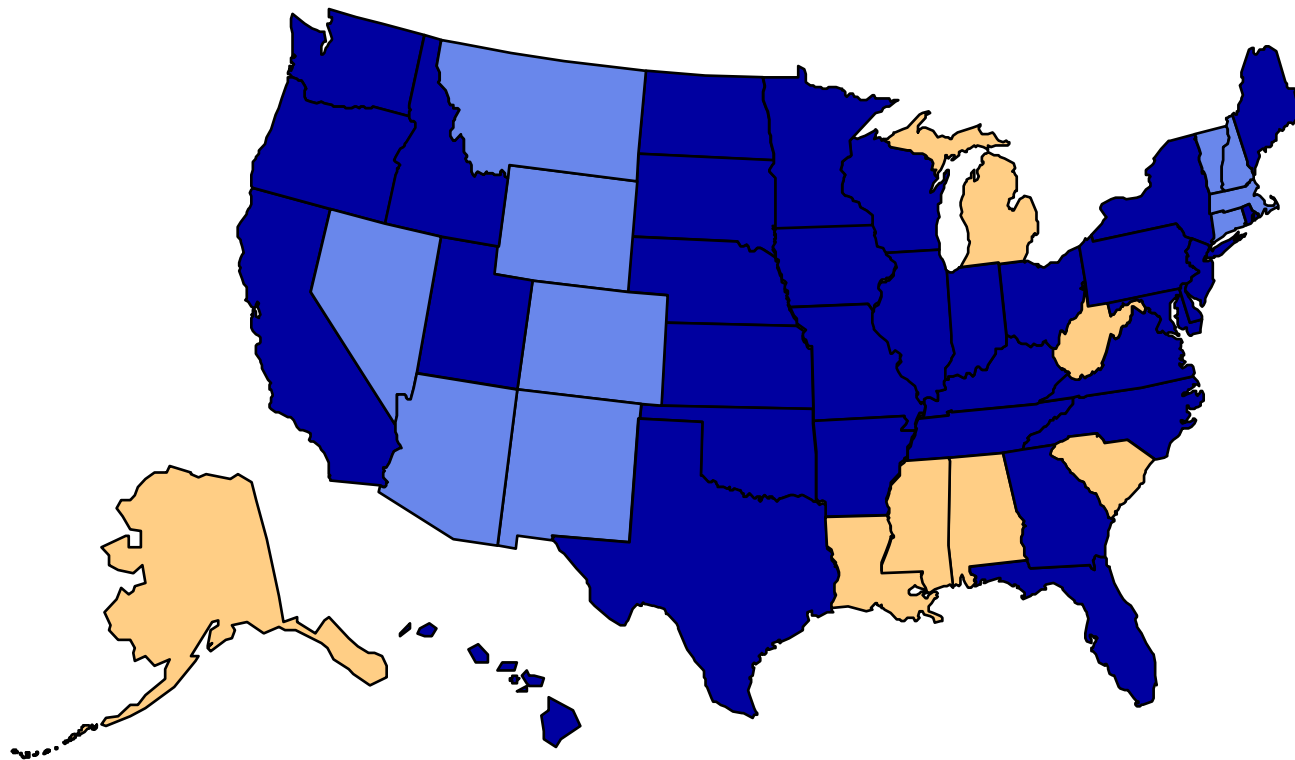


Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

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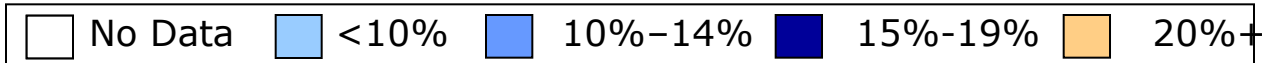
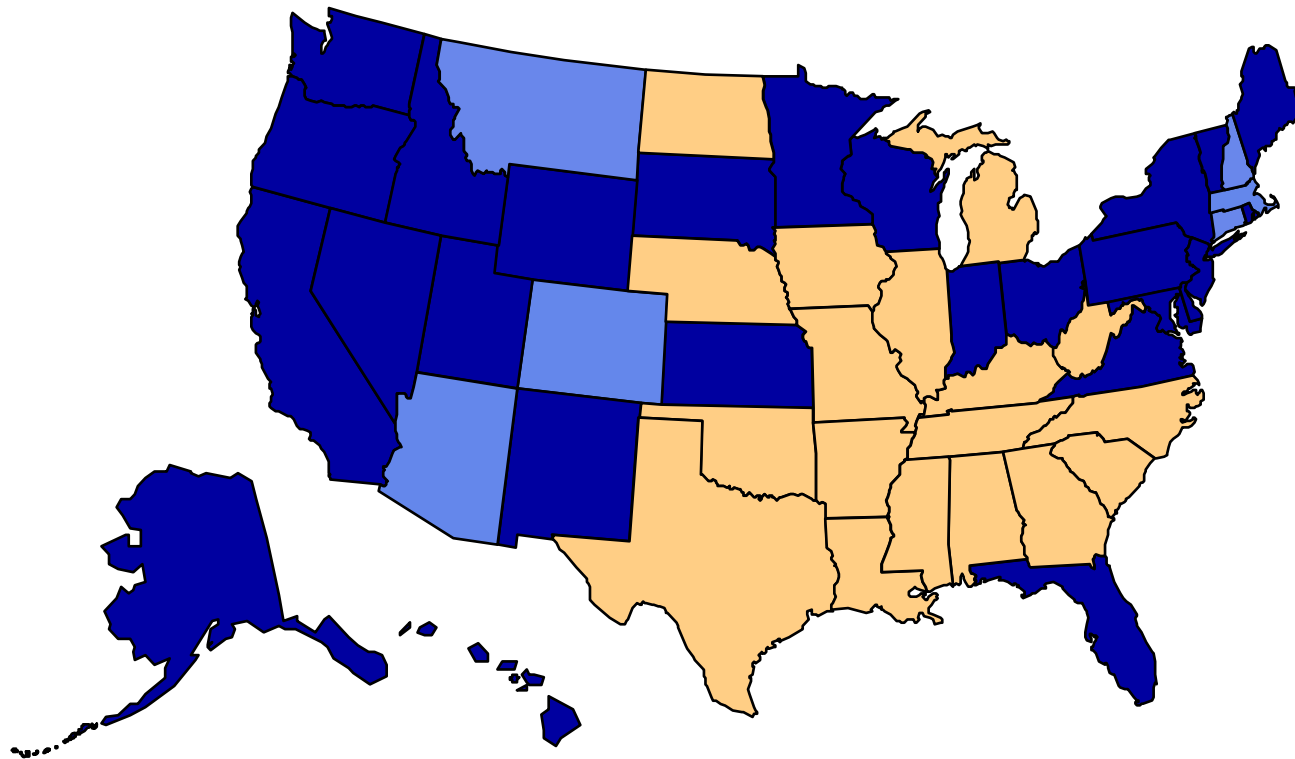
Legend: No Data, <10%, 10%-14%, 15%-19%, 20%+

Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 1999

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)

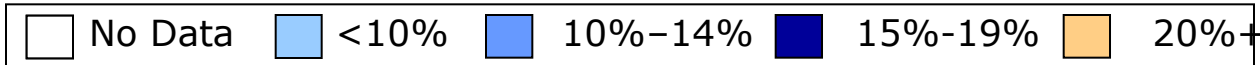
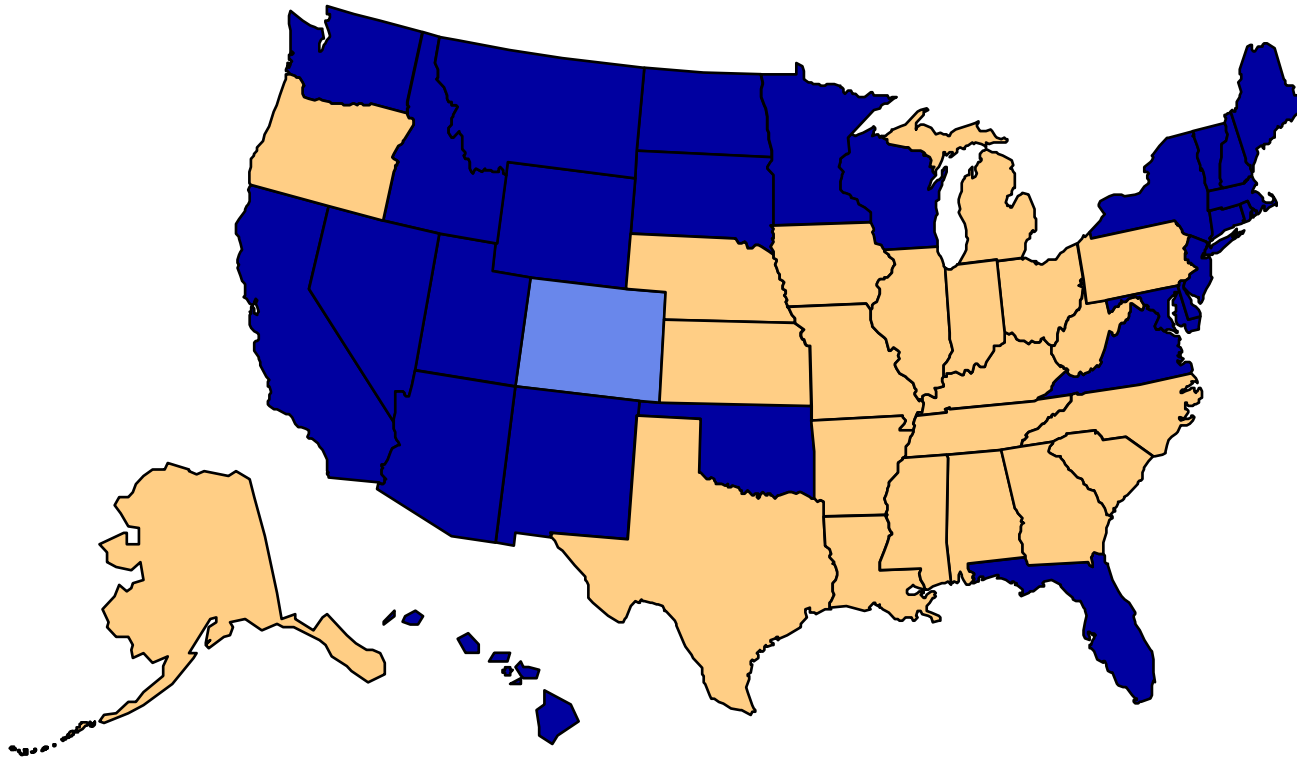


Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 2000

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)

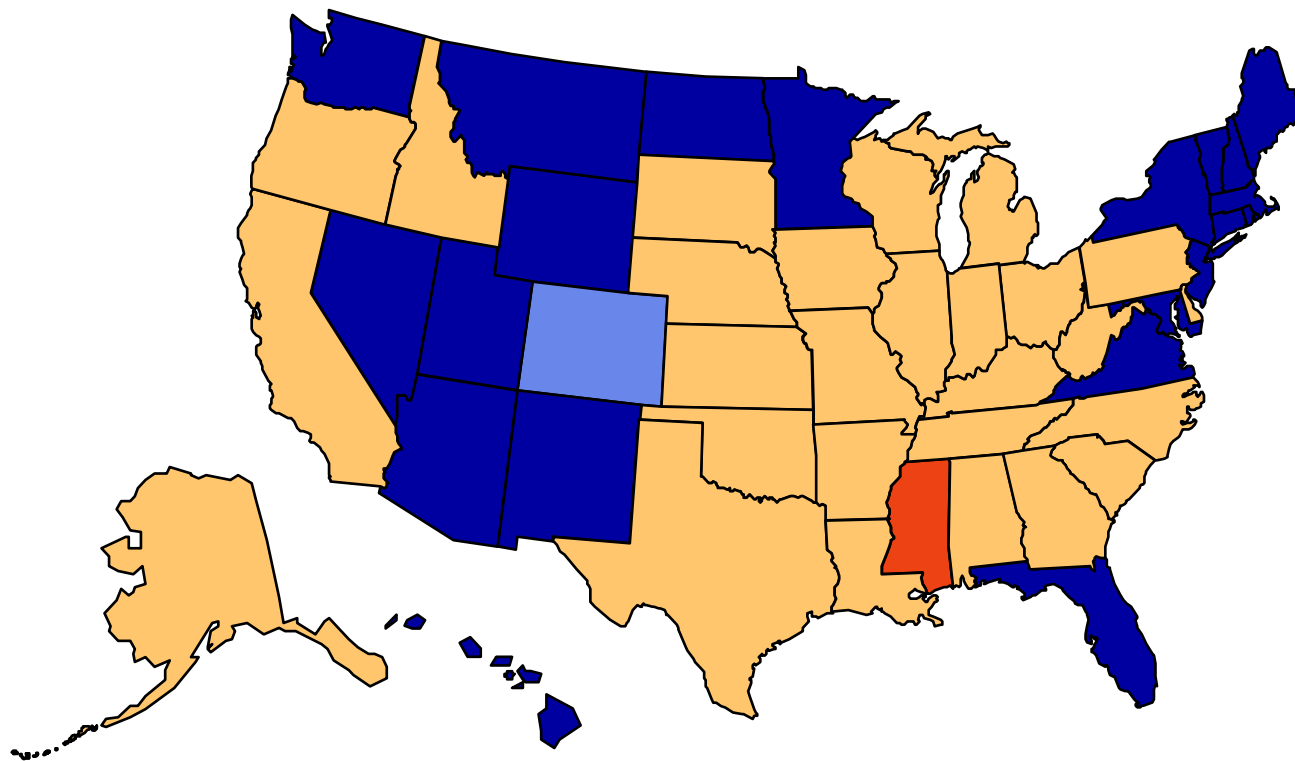


Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 2001

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)



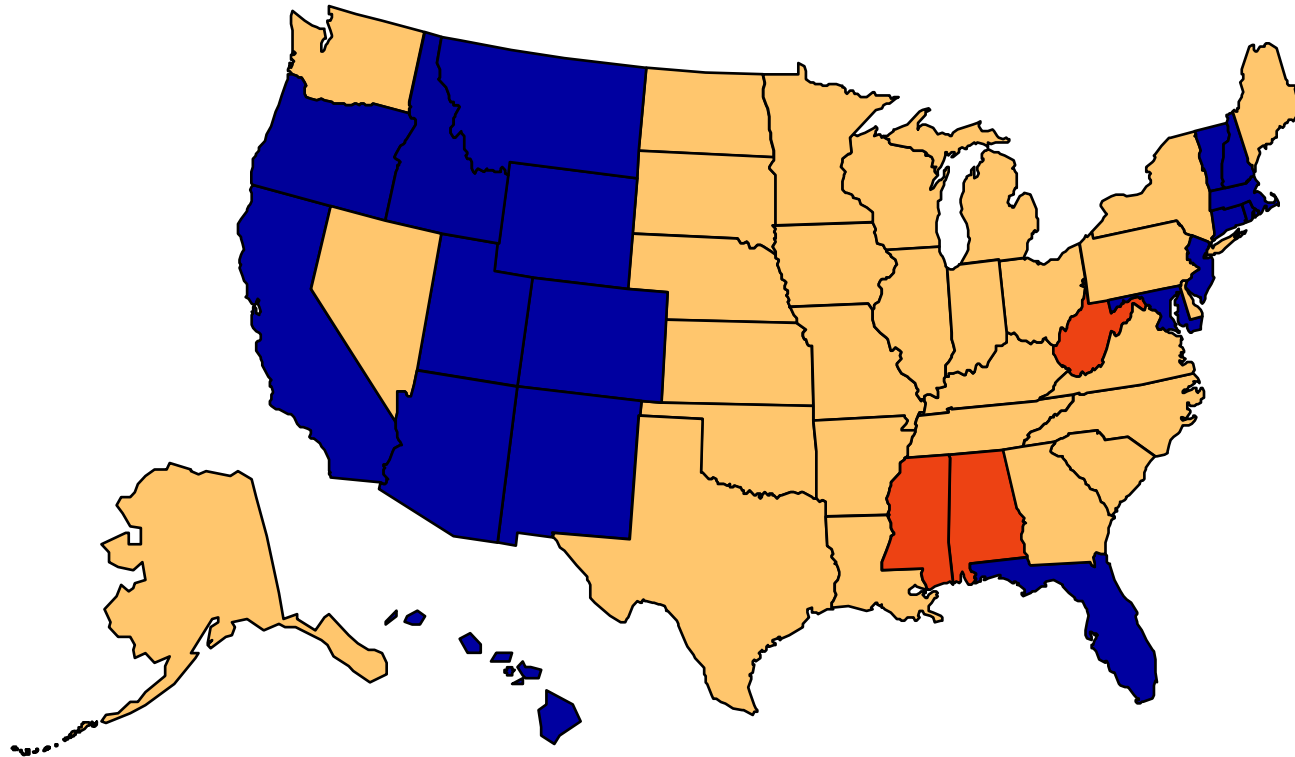
Legend: No Data, <10%, 10%-14%, 15%-19%, 20%-24%, 25%+

Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 2002

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)



Legend: No Data, <10%, 10%-14%, 15%-19%, 20%-24%, 25%+

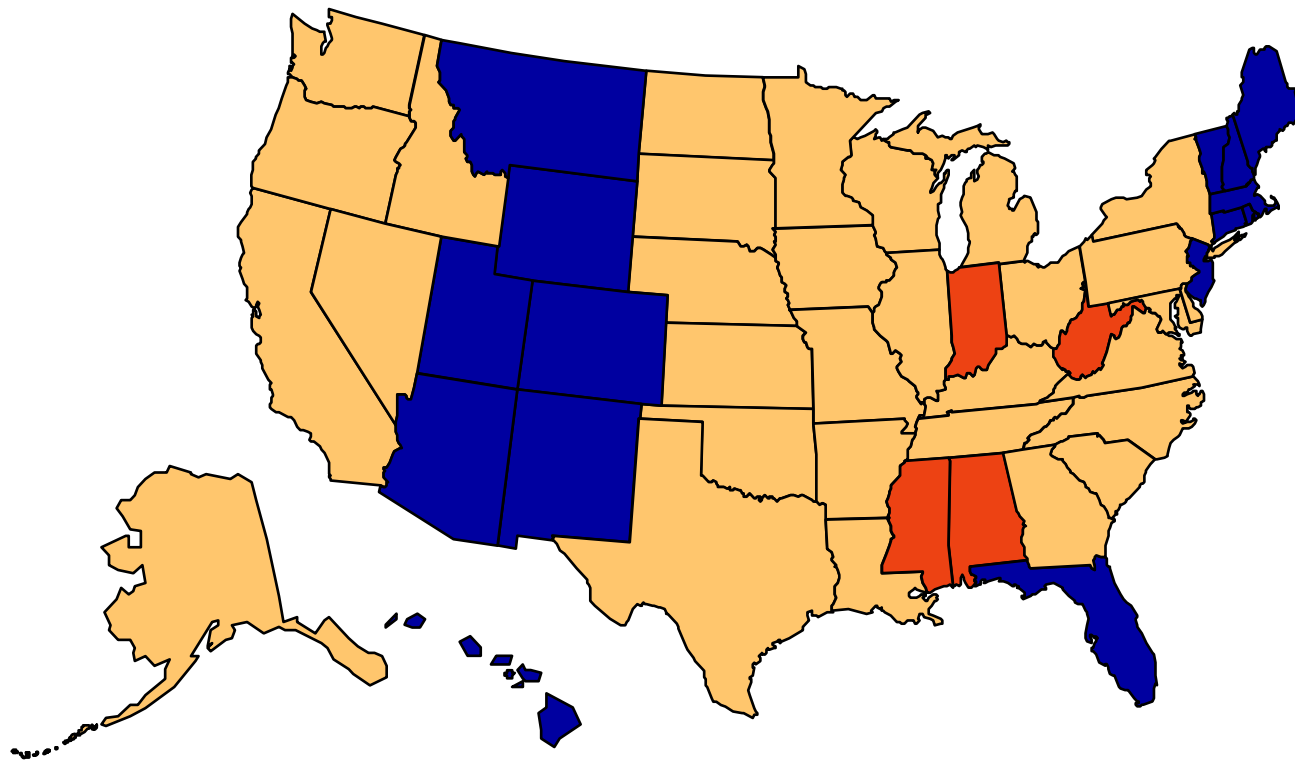
Source: U.S. Centers for Disease Control and Prevention (CDC)



# Obesity Trends\* Among U.S. Adults

## BRFSS, 2003

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)



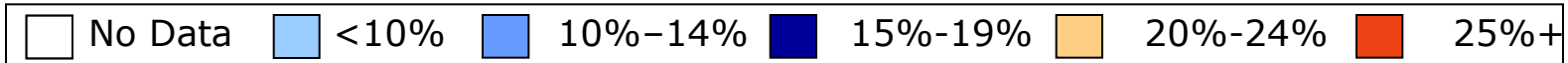
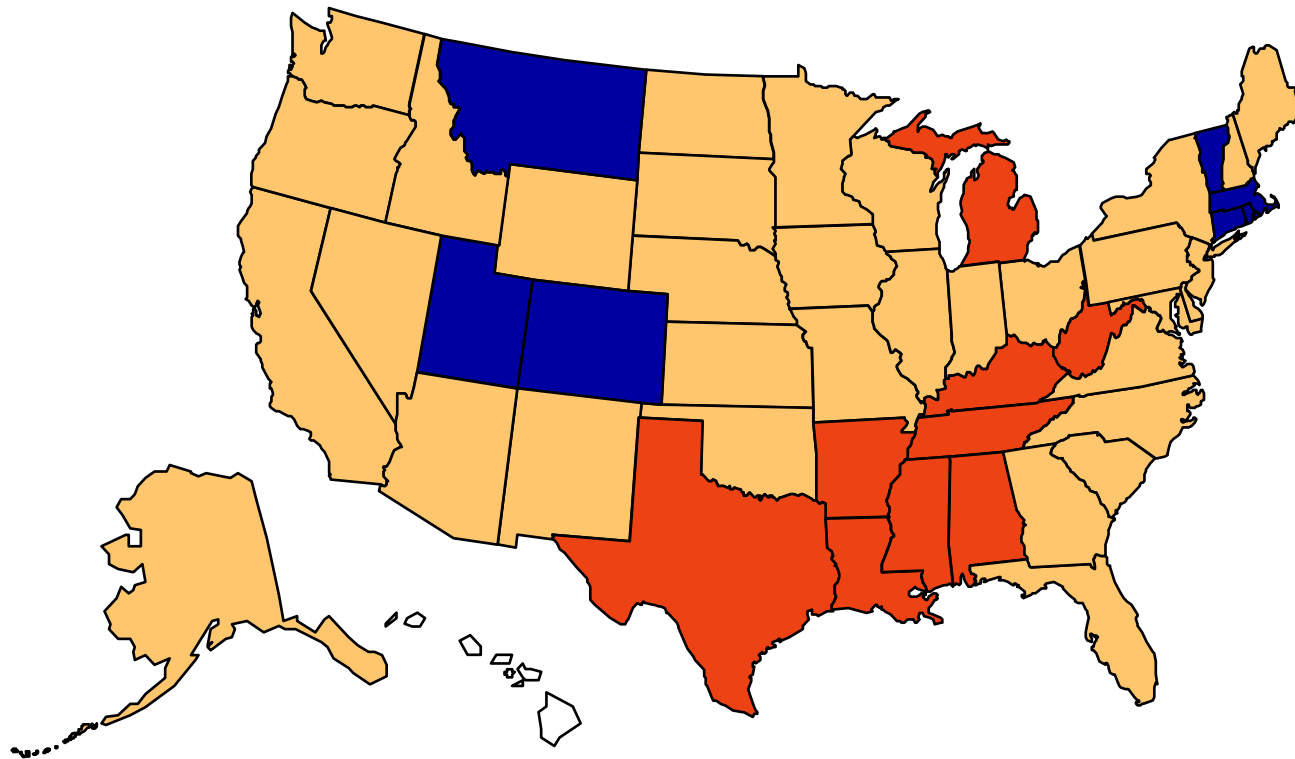
No Data    <10%    10%-14%    15%-19%    20%-24%    25%+

Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 2004

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)

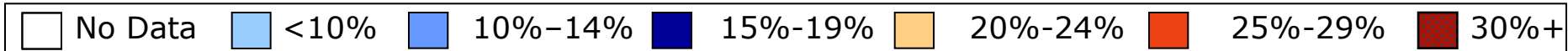
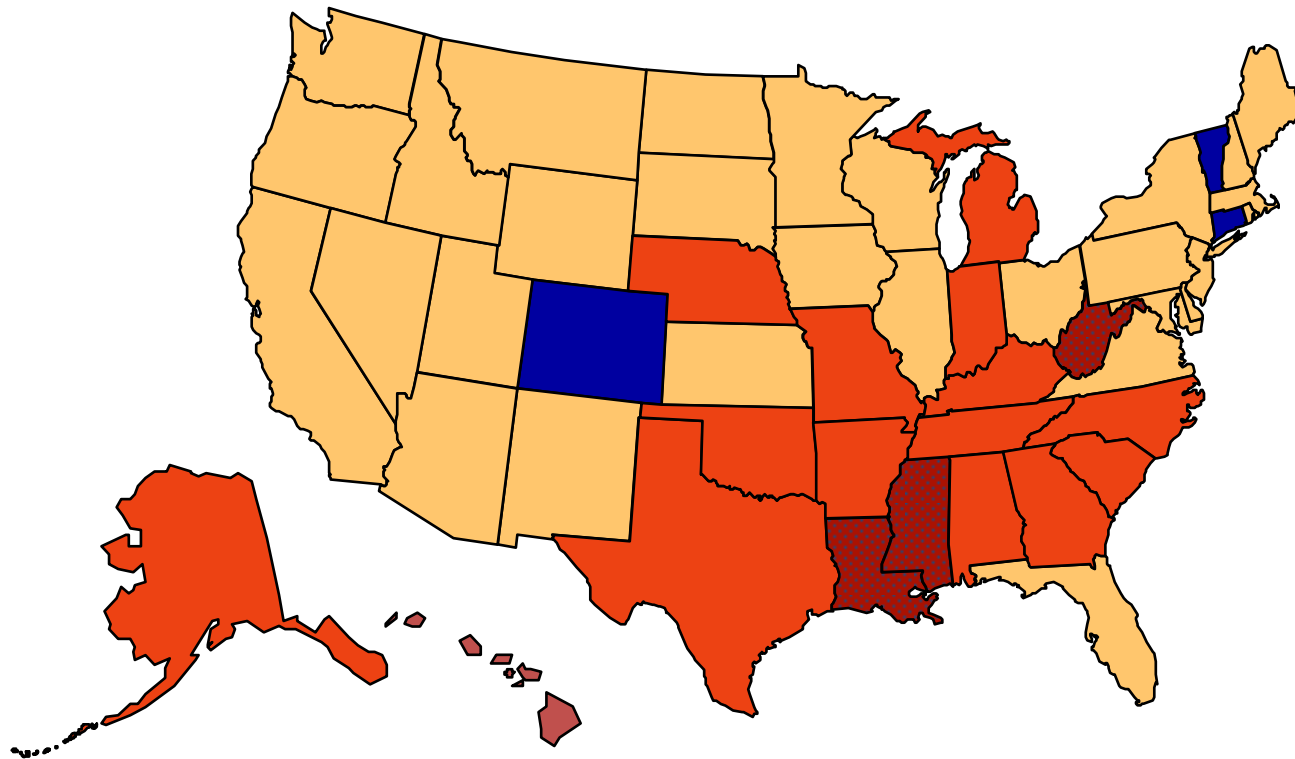


Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

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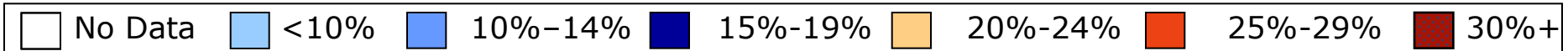
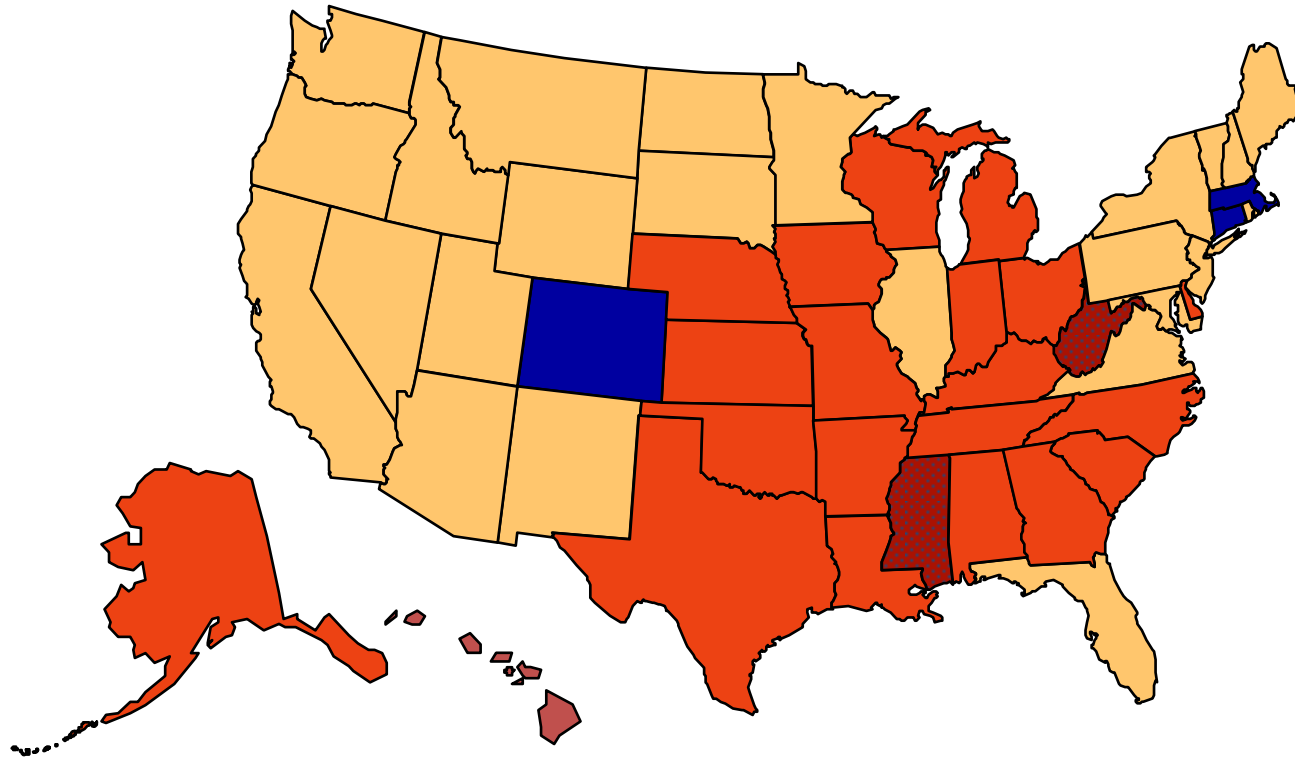


Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

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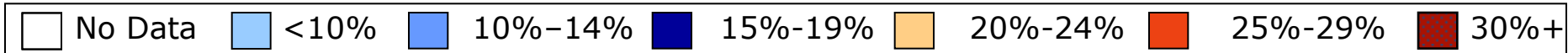
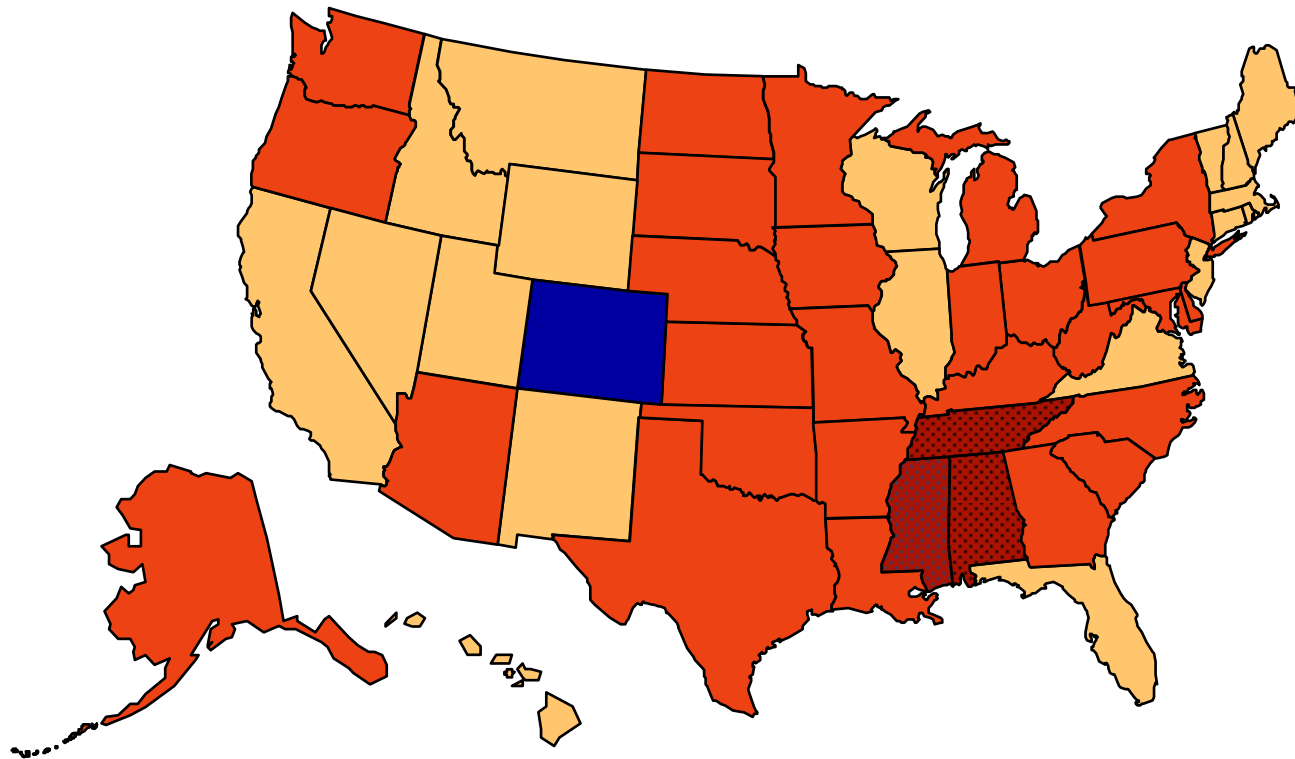


Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 2007

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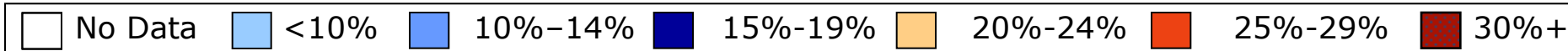
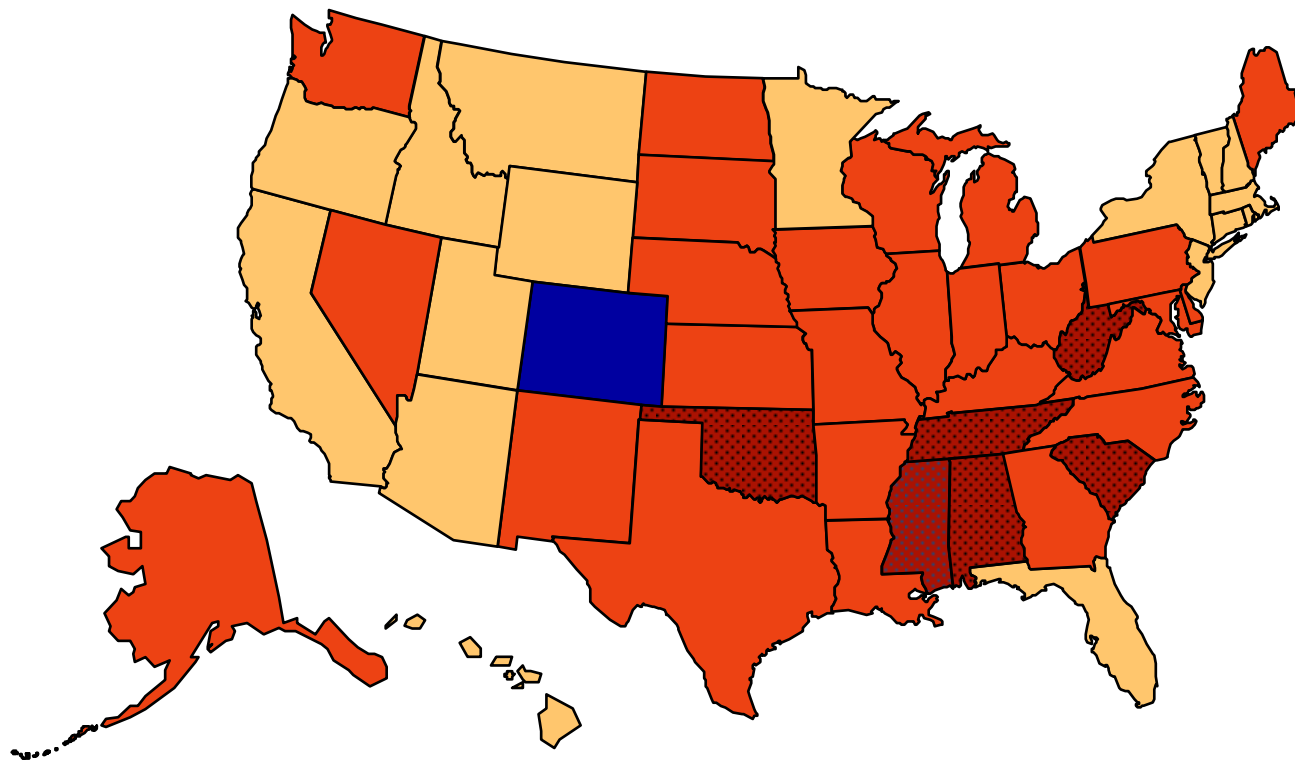


Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 2008

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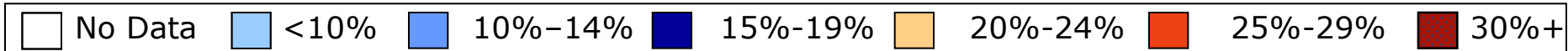
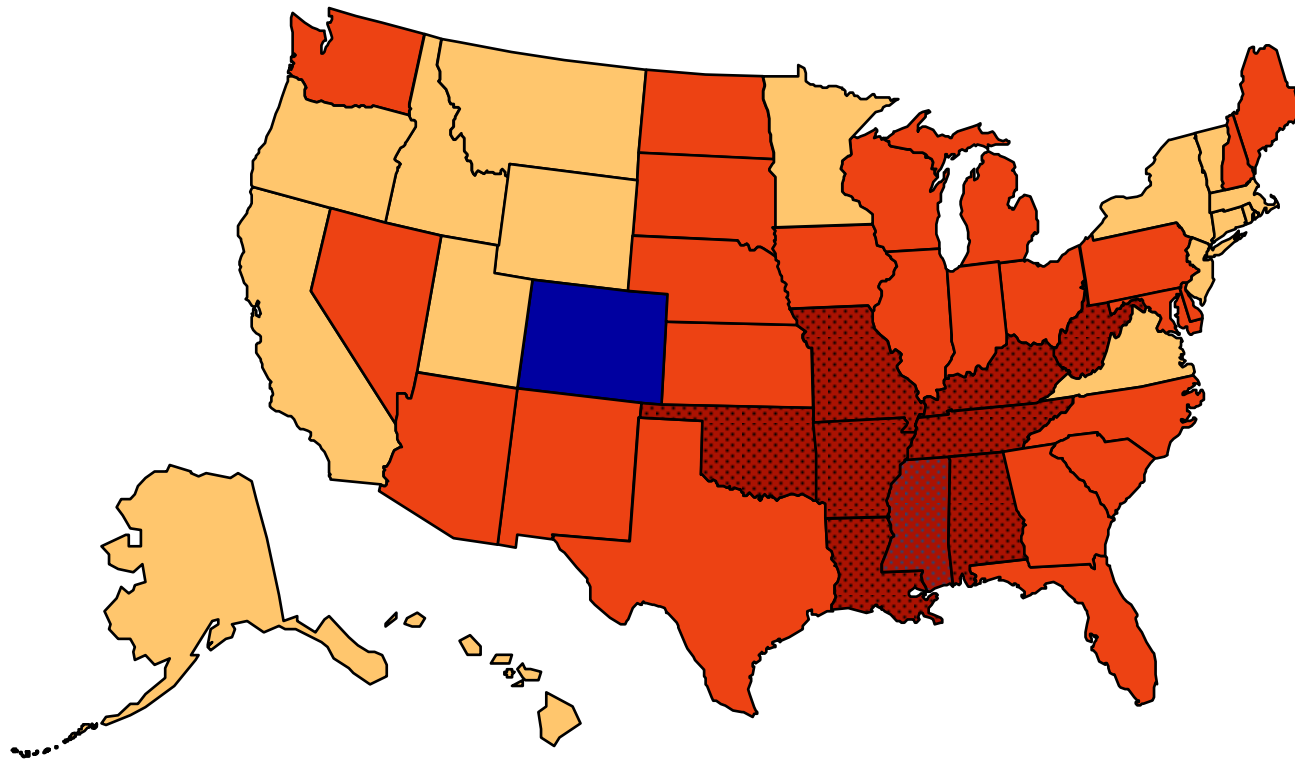


Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

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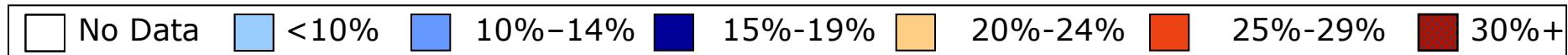
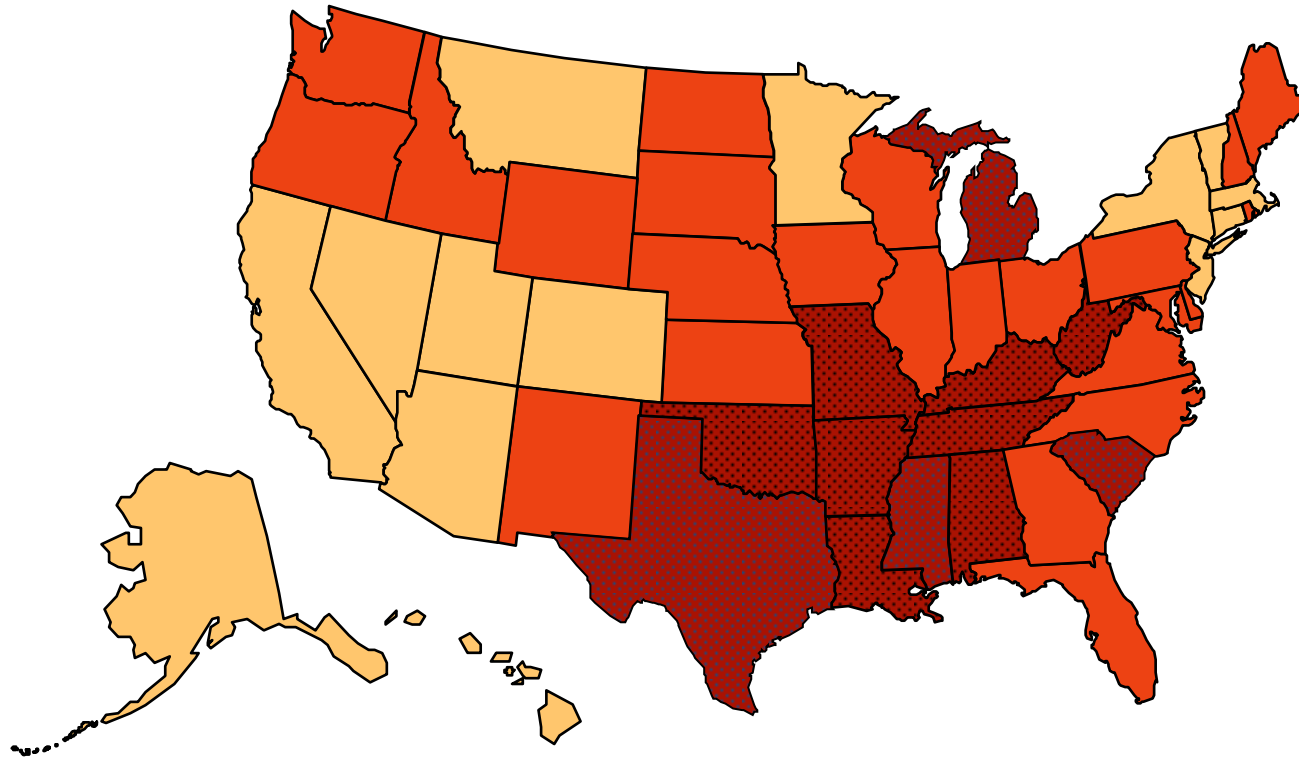


Source: U.S. Centers for Disease Control and Prevention (CDC)

# Obesity Trends\* Among U.S. Adults

## BRFSS, 2010

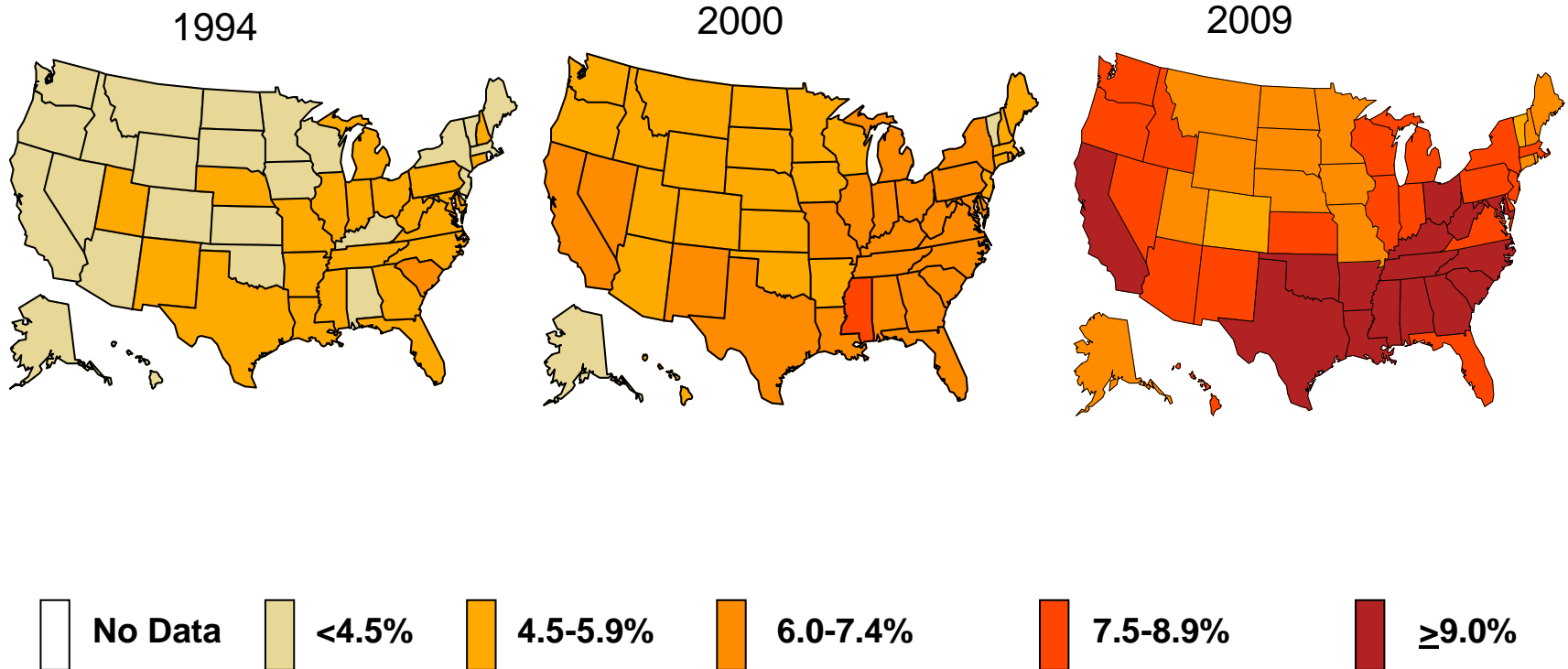
(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5' 4" woman)



Source: U.S. Centers for Disease Control and Prevention (CDC)



# Diabetes trends among U.S. adults



Source: CDC's Division of Diabetes Translation. National Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/statistics>

According to the CDC.....

the medical costs  
attributable to obesity  
today in the U.S. are  
estimated to be

**\$147**  
**billion**  
per year.

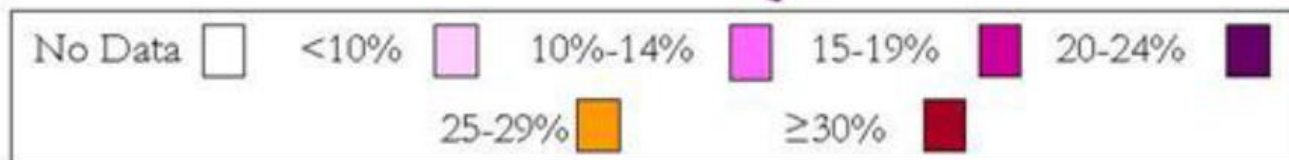
By 2030,

if obesity trends continue as shown,  
the total attributable health-  
care costs will be

**\$860-**  
**\$956**  
**billion**  
per year.

# Obesity Trends Among Canadian Adults

**CCHS, 2004** (MEASURED height & weight)



Source: M Tjepkema & M Shields, Statistics Canada. June 2005

# Physical Inactivity

- 85% of Canadian Adults do not get the minimum 150 minutes of moderate-vigorous physical activity per week
- 91% of Canadian boys and 96% of Canadian girls (ages 6-19 years) do not get the 60 min of moderate-vigorous physical activity per day
- Physical Inactivity contributes to:
  - 21,000 premature deaths (Canada, 1995)



**Obesity and Diabetes have increased rapidly.  
Our genetics have not changed in one generation, but  
our built environment has!**



## Designing to increase active transportation

### Walking, Bicycling and Transit-oriented development

Designs to improve street safety and aesthetics (less crime and traffic / more greening), having sidewalks and bike paths connected to destinations, mixed land use, high population density

Median **increase in physical activity 35% to 161%**

## Designing to increase active recreation

**Enhancing access to places for physical activity**, such as creating walking trails or having onsite or nearby parks, playgrounds and exercise facilities (homes & worksites)

**increases leisure-time activity and weight loss**

## Designing to increase stair use

### Point-of-Decision stair prompts

Signs placed at elevators & escalators encouraging stair use, w/ info on benefits of stair use

Median **50% increase** in stair use

### Design and aesthetic interventions

Music & art in stairwells

### Design stairs to be more convenient and visible

### Skip-stop elevators

**3300% increase** in stair use



# Addressing Healthy vs Unhealthy Food and Beverage Access

## Food Retail – Supermarkets vs Fast Food

- Supermarket availability is associated with lower rates of neighborhood obesity.
- High density of fast food restaurants is associated with increased weight and obesity in area residents.

## Community Gardens

- People with a household member who participated in a community garden ate more fruits and vegetables per day.
- Garden-based nutrition education improved adolescent fruit and vegetable intake.

## Access to Tap Water vs Caloric Beverages

- Big source of calories in the US diet (9% of calories) are from carbonated and non-carbonated soft drinks; Children & Adolescents are getting 10-15% of total calories from sugar-sweetened beverages and 100% fruit juice.
- Water fountain installation + education in elementary schools in deprived neighborhoods reduced risk of overweight in children.

Sources: Moreland K et al., Supermarkets, other food stores, and obesity. *AJPM* 2006; 30(4): pp. 333-339.

Mehta NK, Chang VW. Weight status and restaurant availability: a multi-level analysis. *AJPM* 2008; 34(2): pp. 127-133.

Alaimo K, Packnett E, Miles RA, Kruger DJ. Fruit and vegetable intake among urban community gardeners. *J Nutr Educ Behav.* 2008; 40(2): pp. 94-101. McAleese JD, Rankin

LL. Garden-based nutrition education affects fruit and vegetable consumption in sixth-grade adolescents. *J Am Diet Assoc.* 2007 Apr; 107(4):662-5.

Block G. Foods contributing to energy intake in the US: data from NHANES III and NHANES 1999–2000. *J Food Comp Anal.* 2004; 17: pp. 439–47.

Wang Y, Bleich S, Gortmaker S. Increasing caloric consumption from sugar-sweetened beverages and 100% fruit juices among US children and adolescents, 1988-2004.

*Pediatrics* 2008; 121(6): pp.1604-1614.

Muckelbauer R et al. Promotion and provision of drinking water in schools for overweight prevention: randomized, controlled cluster trial. *Pediatrics* 2009; 123(4): pp. e661-7.

# Co-benefits: Improve the Environment

	Fuel / Electricity Use	Air Quality	Obesity/Diabetes/ Heart Disease
Biking or walking rather than automotive transport	√	√	√
Stairs rather than elevators and escalators	√	√	√
Active recreation rather than television	√	√	√
Safe tap water rather than bottled and canned beverages	√	√	√
Fresh produce rather than unhealthy processed foods	√	√	√



## Co-benefits: Create more accessible places for all

- Creating safer places to walk, take transit, & for wheelchair travel
- Making elevators more available for those who need them



# Co-benefits: Reduce infrastructure costs

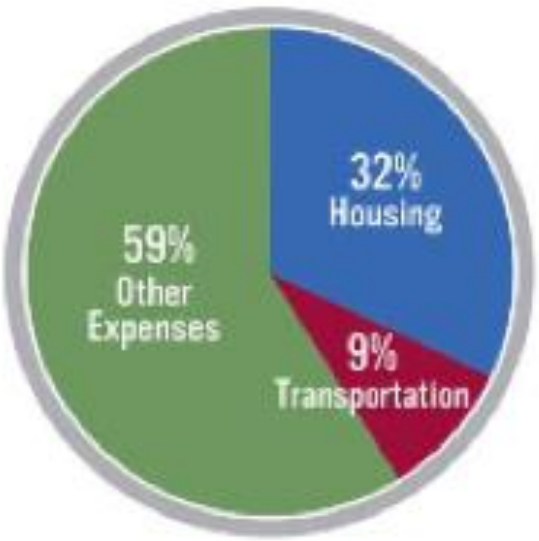
More compact, walkable development patterns save money on avoided infrastructure costs

	Water & Sewer Laterals Required	Water & Sewer Costs (billions)	Road Lane Miles Required	Road Land Miles Costs (billions)
Sprawl Growth Scenario	45,866,594	\$189.8	2,044,179	\$927.0
Compact Growth Scenario	41,245,294	\$177.2	1,855,874	\$817.3
<b>Savings</b>	<b>4,621,303</b>	<b>\$12.6 (10.1%)</b>	<b>188,305</b>	<b>\$109.7 (6.6%)</b>

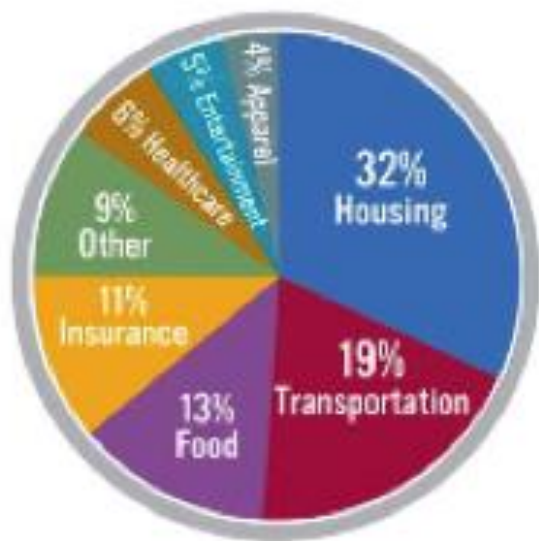
Sprawl Costs: Economic Impacts of Unchecked Development, Robert W. Burchell, Anthony Downs, Barbara McCann and Sahan Mukherji, Island Press, 2005

# Co-benefits: Save people money

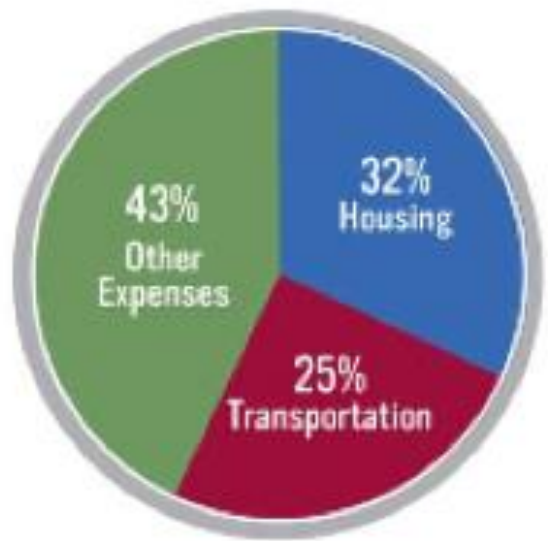
**TRANSIT RICH NEIGHBORHOOD**



**AVERAGE AMERICAN FAMILY**



**AUTO DEPENDENT EXURBS**



People in walkable, transit-rich neighborhoods spend only 9 percent of their monthly income on transportation costs; those in auto-dependent neighborhoods spend 25 percent.

Source: Center for Transit-Oriented Development

# Co-benefits: Create jobs

*Building bicycle and pedestrian infrastructure creates more jobs per dollar invested, compared to road infrastructure only*

Project type	Road	Bicycle	Pedestrian	Off-street trail	Number of projects	Direct jobs per \$1 million	Indirect jobs per \$1 million	Induced jobs per \$1 million	Total jobs per \$1 million
<b>Total, all projects</b>					58	4.69	2.12	2.15	8.96
Bicycle infrastructure only		•			4	6.00	2.40	3.01	11.41
Off-street multi-use trails				•	9	5.09	2.21	2.27	9.57
On-street bicycle and pedestrian facilities (without road construction)		•	•		2	4.20	2.20	2.02	8.42
Pedestrian infrastructure only			•		10	5.18	2.33	2.40	9.91
Road infrastructure with bicycle and pedestrian facilities	•	•	•		13	4.32	2.21	2.00	8.53
Road infrastructure with pedestrian facilities	•		•		9	4.58	1.82	2.01	8.42
Road infrastructure only (no bike or pedestrian components)	•				11	4.06	1.86	1.83	7.75



Source: Political Economy Research Institute: June 2011

# Co-benefits: Create desirable places to live, work & play

## Sprawl Community :

Preferred by **43%**

There are **only single-family houses** on large lots

There are **no sidewalks**

Places such as shopping, restaurants, a library, and a school are within **a few miles** of your home and **you have to drive** most places

There is enough parking when you drive to local stores, restaurants, and other places

**Public transportation**, such as bus, subway, light rail, or commuter rail, is **distant or unavailable**

## Smart Growth Community :

Preferred by **56%**

There is a **mix** of single-family detached houses, townhouses, apartments, and condominiums on various sized lots

Almost all of the streets have **sidewalks**

Places such as shopping, restaurants, a library, and a school are within **a few blocks** of your home and **you can either walk or drive**

**Parking is limited** when you decide to drive to local stores, restaurants, and other places

**Public transportation**, such as bus, subway, light rail, or commuter rail, is **nearby**



# U.S. - Built Environment & Health Initiatives



Boston MA ~ Cherokee Nation OK ~ Chicago IL ~ Cook County IL ~

Douglas County NE ~ Jefferson County AL ~ King County WA ~ Louisville KY ~

Miami-Dade County FL ~ Multnomah County OR ~ Nashville TN ~ Philadelphia PA ~

Pima County AZ ~ San Diego CA



COMMUNITIES  
PUTTING PREVENTION  
TO WORK

# Cross-Sector Partnerships in U.S. Cities

Key Intergovernmental Partners in Local Communities  
(n=15, incl. NYC):

- Public Health – 15
- Planning – 15
- Transportation – 14
- Education/School Construction – 12
- Parks and Recreation – 12
- Public Works – 8
- Housing Development or Management – 6
- Buildings – 3

# Cross-Sector Partnerships

Non-Governmental Partnerships (n=15 communities, incl. NYC):

- Community-Based/Non-Profit Groups – 13
- Environmental Organizations – 9
- American Planning Association local chapter – 7
- American Institute of Architects local chapter – 5
- American Society of Landscape Architects local chapter – 3
- Local Architecture, Planning and Design Institutions – 3
- Building Owners and Managers Association – 1



# The Canadian Context



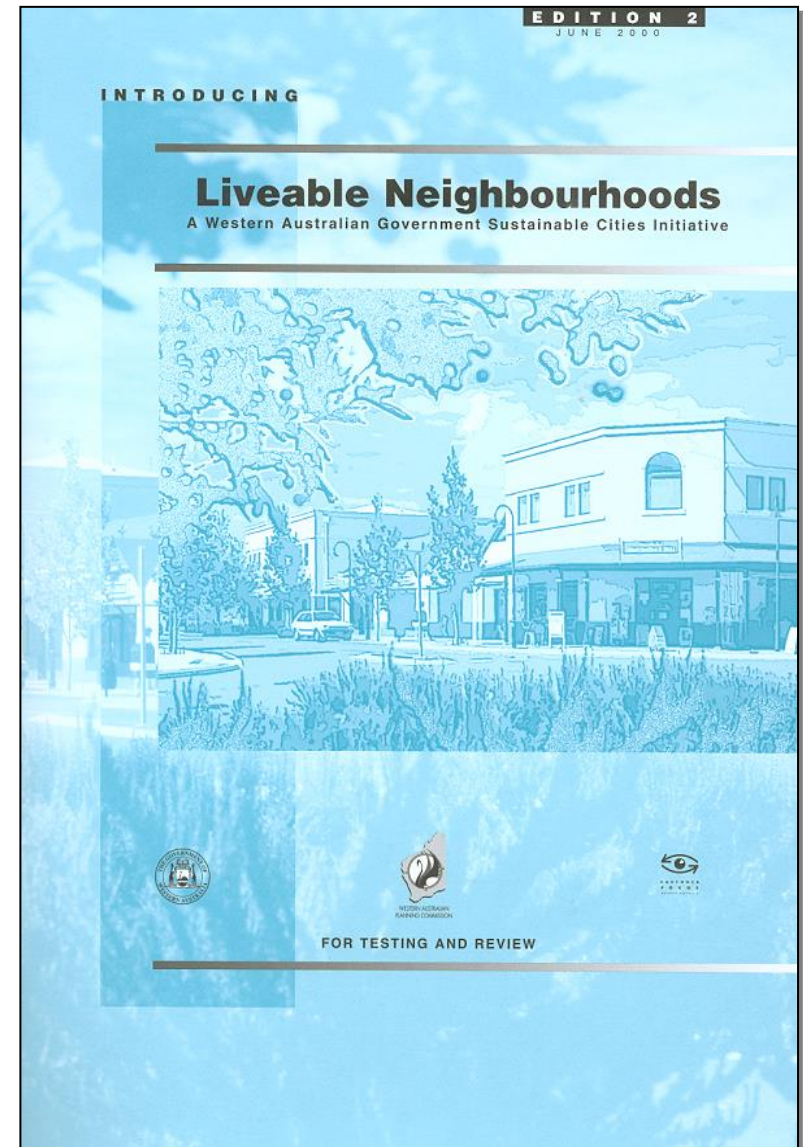
An initiative of:



- Goal: creating healthy communities that support active transportation and physical activity
- Partnership: national health, planning and transportation organizations
  - + non-governmental organizations + university researchers
  - + regional and local health authorities in 8 of the 10 provinces:
    - B.C., Saskatchewan, Manitoba, Ontario, Quebec, Nova Scotia, New Brunswick, Newfoundland

# Integration of Health and Sustainability in Western Australia

- Liveable Neighbourhood Guidelines – development control policy – to facilitate sustainable development
- Guidelines incorporate 6 design elements:
  - Community Design
  - Movement Network
  - Lot Layout
  - Public Parkland
  - Urban Water Management
  - Utilities
- RESIDE study evaluating impact on:
  - walking, cycling, public transport use, sense of community and mental health



Source : Billie Giles Corti

# THE CASE STUDY OF NEW YORK CITY

# Fit City Conferences



**Fit-City:**  
Promoting Physical Activity Through

**FitCity7** PROMOTING PHYSICAL ACTIVITY THROUGH DESIGN



**Fit-City 3:**  
Promoting Physical Activity Through Design

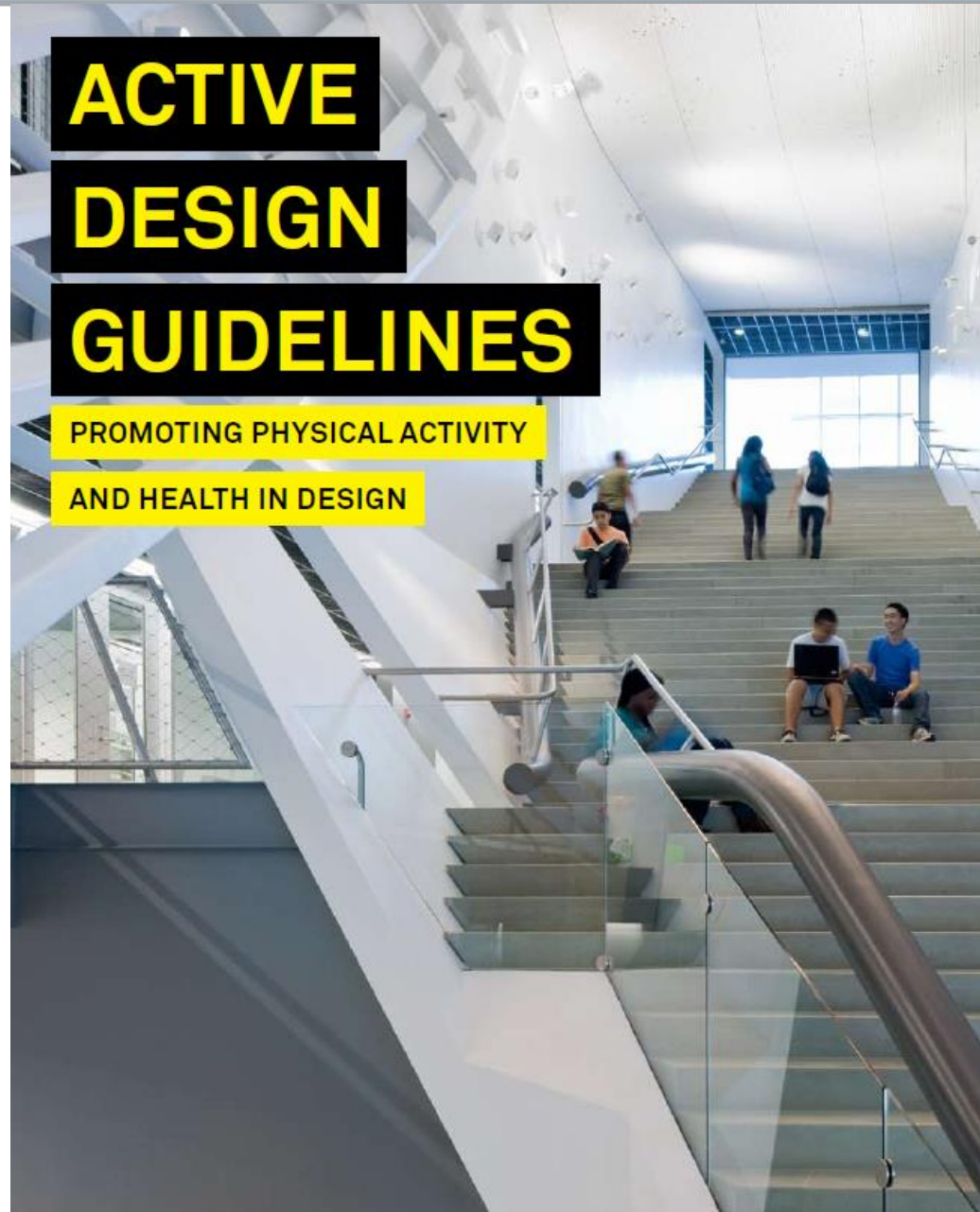




# The Active Design Guidelines

## Chapters

- 1) Environmental Design and Health: Past and Present
- 2) Urban Design: Creating an Active City
- 3) Building Design: Creating Opportunities for Daily Physical Activity
- 4) Synergies with Sustainable and Universal Design



# Active Design Guidelines Team



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MAYOR

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Thanks to all the design  
practitioners and organizations  
who participated in the 2009  
Design Charrette to help test the  
Guidelines prior to its publication.

\*We also thank the many city  
agencies that gave input including  
the Depts of Parks and  
Recreation, Buildings, Housing  
Preservation and Development,  
School Construction Authority,  
Aging, and Mayor's Offices of  
Long-Term Planning and  
Sustainability, and of People with  
Disabilities.





## Community Design Strategies

- Land Use Mix
- Access to Supermarkets, Farmers Markets, Drinking Water
- Parks / Play Areas / Plazas
- Transit Access
- Pedestrian Friendly Environment
- Bicycle Network and Infrastructure







## Building Design Strategies

- Bicycle Parking and Storage
- Active Recreation Spaces for Children + Adults
- Stairs: Accessibility, Visibility, Convenience
- Stairs: Aesthetics
- Stairs: Signage and Prompts
- Skip-Stop Elevators
- Improving Access to Drinking Water



Burn Calories,  
Not Electricity



Take the Stairs!

Walking up the stairs just 2 minutes a day helps prevent weight gain. It also helps the environment.

Learn more at [www.nyc.gov](http://www.nyc.gov) or call 311. Metropolitan Transportation Authority    



# General Approach



Added a Public Health Chapter:

*“New York City is one of the healthiest cities in the United States, with a life expectancy that exceeds the national average.*

*This achievement is the result of visionary planning and sustained investment.....*

*.....Despite these successes, health challenges remain—and new ones are emerging—that require creative, modern shifts in how the city operates.”*

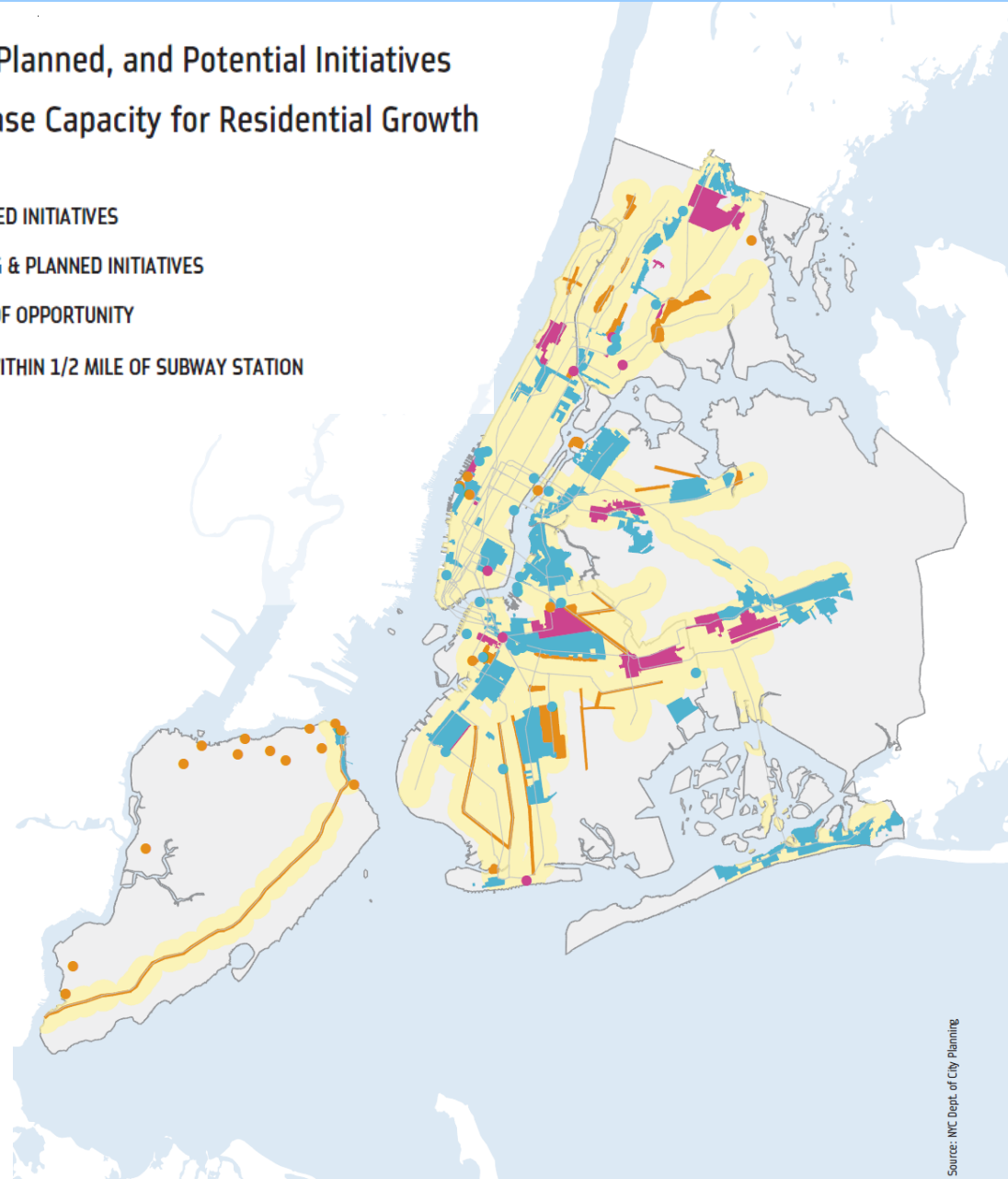
# General Approach

## Smart Growth

Focusing the development for 1 million new people by the year 2030 near public transit access.

### Recent, Planned, and Potential Initiatives to Increase Capacity for Residential Growth

- APPROVED INITIATIVES
- PENDING & PLANNED INITIATIVES
- AREAS OF OPPORTUNITY
- AREAS WITHIN 1/2 MILE OF SUBWAY STATION



# Changing the form of the Public Right of Way





City Policy + Implementation

# Public Plaza Program







89% OF THE ROAD SPACE FOR  
VEHICLES, 11% FOR PEOPLE





# City Policy + Implementation

## Public Plaza Program



Pedestrian volumes up:

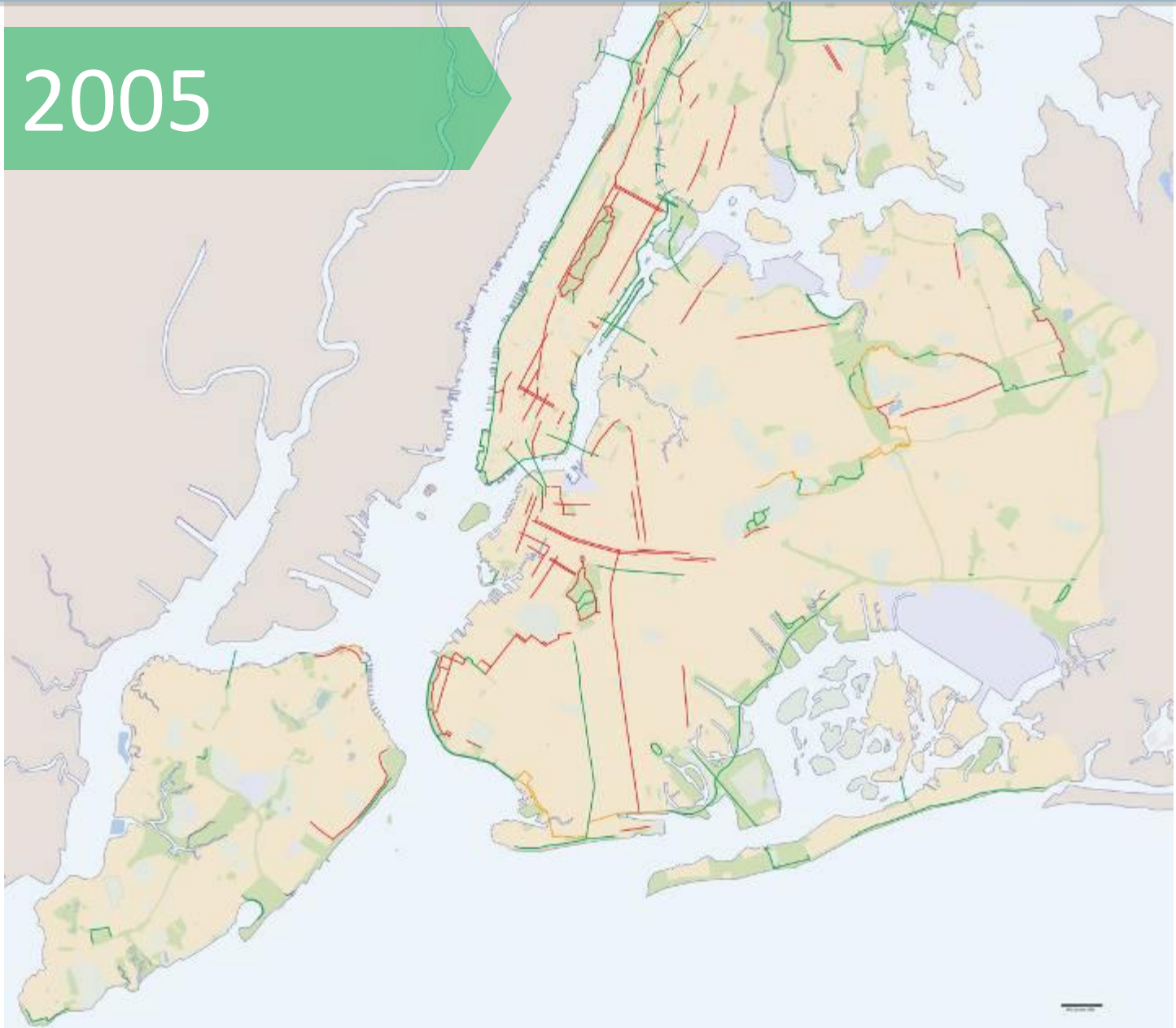
- 6% in Herald Square
- 11% in Times Square

Retail up:

- in Times Square
- 49% drop in vacant storefronts in Union Square

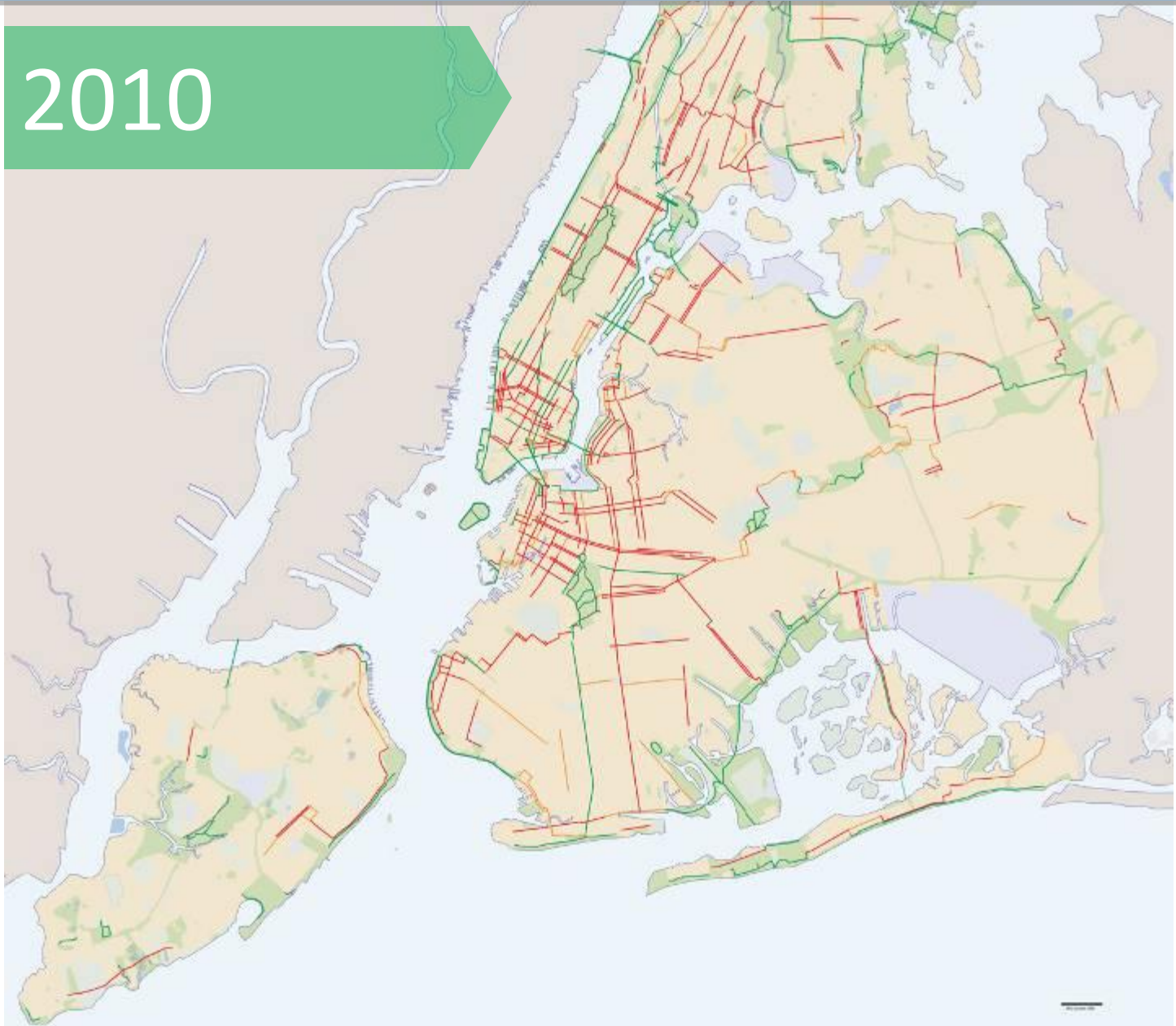
# Bicycle Network

2005

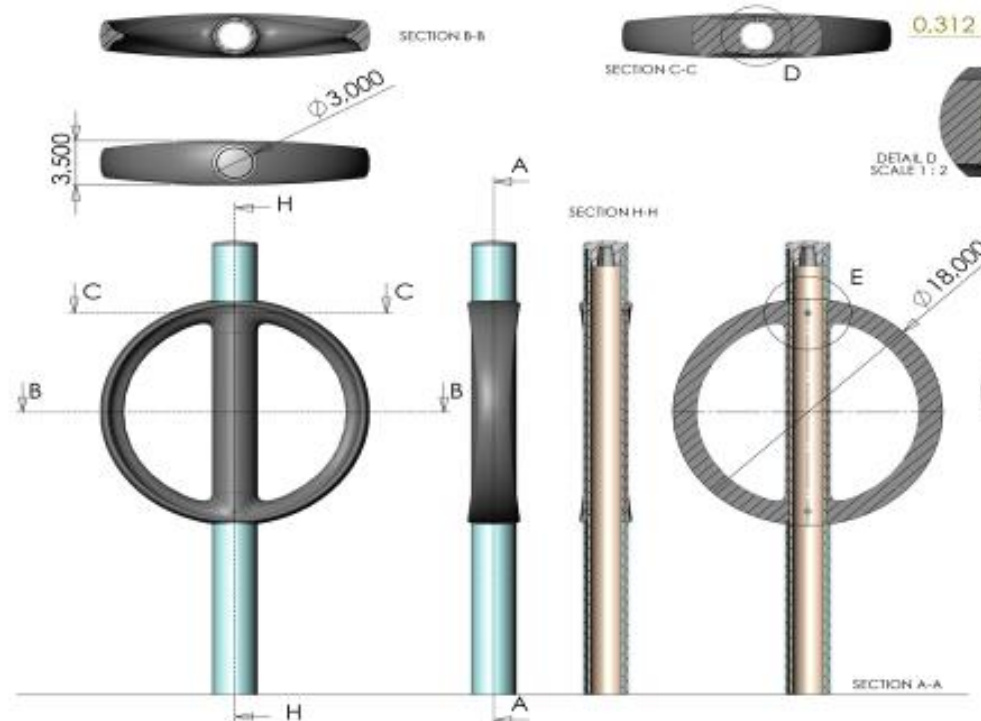




2010

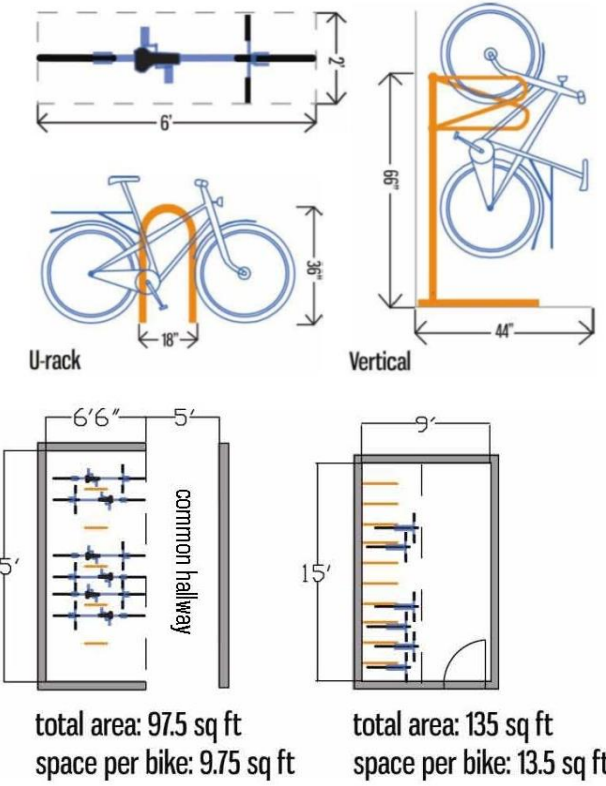


# Bicycle Infrastructure





# Zoning for Bicycle Parking

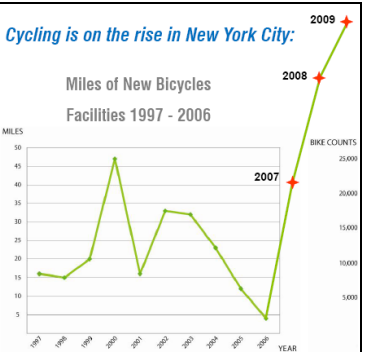
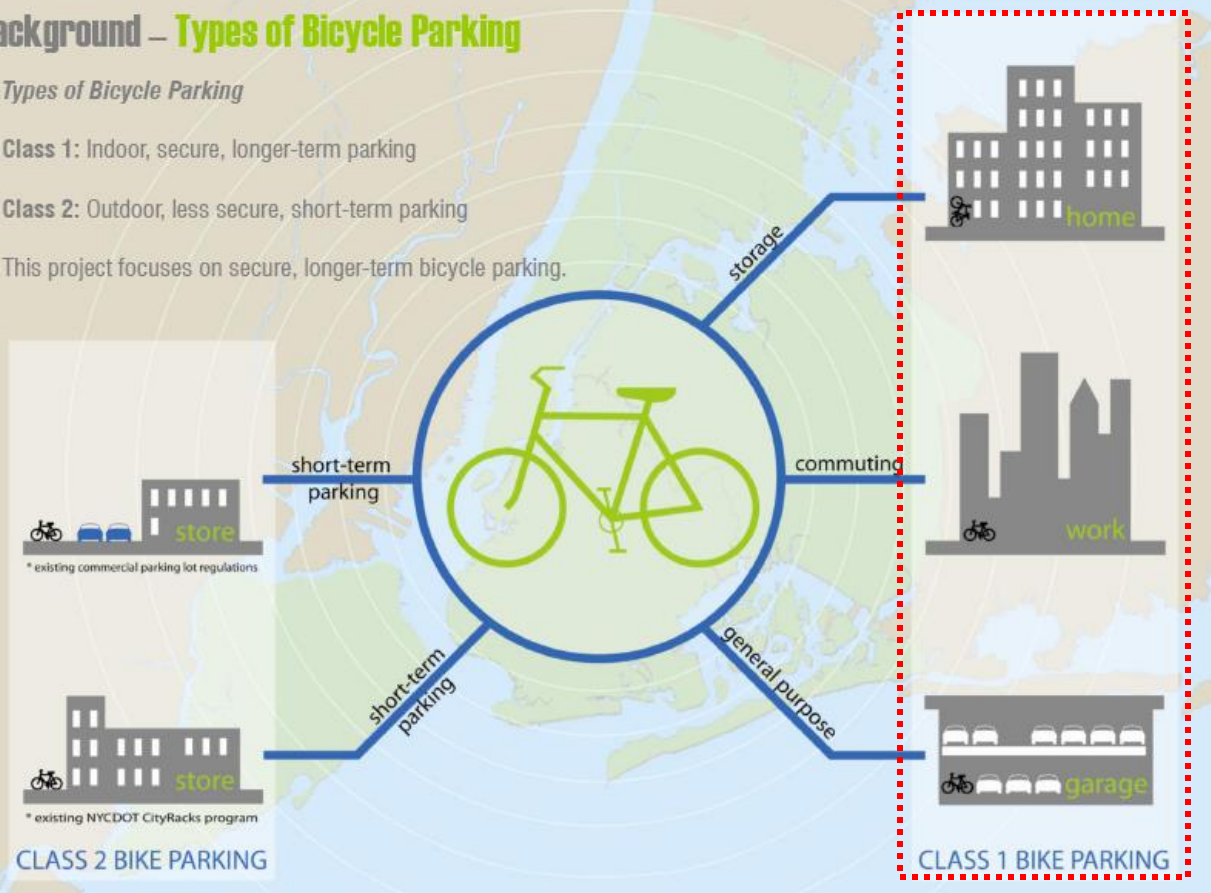


## Background – Types of Bicycle Parking

*Types of Bicycle Parking*

- Class 1:** Indoor, secure, longer-term parking
- Class 2:** Outdoor, less secure, short-term parking

This project focuses on secure, longer-term bicycle parking.



Bicycle parking now required for new buildings, enlargements, conversions and public parking garages



# NYC Bike Share



- Started 2013
- 10,000 bicycles, 600 stations – Manhattan, Queens, Brooklyn (including Brooklyn DPHO)
- Bike Share Health Evaluation – Chronic Disease, Injury, Environmental Health

# Food Retail Expansion to Support Health (FRESH)



-  FRESH Food Store  
Areas where zoning and financial incentives apply
-  Additional areas where FRESH financial incentives may be available



NYC FRESH Program:  
Zoning and tax incentives for providing fresh food options in  
the city's underserved areas

[www.nyc.gov/fresh](http://www.nyc.gov/fresh)



# Public Parks and Open Spaces



**FRIENDS OF THE HIGH LINE**

Hudson River

Chelsea Piers

10th Ave

11th Ave

12th Ave

13th Ave

14th Ave

15th Ave

16th Ave

17th Ave

18th Ave

19th Ave

20th Ave

21st Ave

22nd Ave

23rd Ave

24th Ave

25th Ave

26th Ave

27th Ave

28th Ave

29th Ave

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88th Ave

89th Ave

90th Ave

91st Ave

92nd Ave

93rd Ave

94th Ave

95th Ave

96th Ave

97th Ave

98th Ave

99th Ave

100th Ave

**yesterday...**

Quo usque tandem abutere, Catilina, patientia nostra quam diu etiam\* furor iste tuus nos eludet quem ad tuus nos eludet quem ad

Quo usque tandem abutere, Catilina, patientia nostra quam diu etiam\* furor iste tuus nos eludet quem ad

**tomorrow...**

Quo usque tandem abutere, Catilina, patientia nostra quam diu etiam\* furor iste tuus nos eludet quem ad finem\* sese effrenata iactabit\* audacia? nihiline te

**WHAT WILL GROW: HILC 2**

Estimated Start Dates

- Phase I '05
- Phase II '06
- Phase III '08
- Property of NYC TBA

Chelsea Market

Uttel W. 12th St.

Garwood St.

how to help

Quo usque tandem abutere, Catilina, patientia nostra quam diu etiam\* furor iste tuus nos eludet quem ad finem\* sese effrenata iactabit\* audacia? nihiline te nocturnum praesidium Palat, nihil urbis vigiliae, nihil

[www.thehighline.org](http://www.thehighline.org)

shown almost actual site

the new gym... simply look to your right (West), over 14th St.

Photo by James White, thehighline.com

the new gym... here is taken on 30th St, looking East



# Vision 2020: Comprehensive Waterfront Plan





# Programming Streets for Active Recreation and Non-Car Mode Uses: Summer Streets and Play Streets





# Improved Access to Tap Water - Public Realm & Buildings



# Stair Promotion



Burn Calories,  
Not Electricity



Take the Stairs!

Walking up the stairs just 2 minutes a day helps prevent weight gain. It also helps the environment.

Learn more at [www.nyc.gov](http://www.nyc.gov) or call 311.

Michael R. Bloomberg  
Mayor



- Better designed buildings
- >30,000 stair prompt signs distributed to owners and managers of >1,000 buildings





# Creating New Green Building Credits: LEED Pilot Credit “Design for Active Occupants”

- Adult and children’s active recreation spaces, gardening space, stair use promotion strategies – point added to existing points for site density, walkability, transit access and bike storage
- Being used in >30 NYC & U.S. buildings, incl. worksite buildings, public buildings, affordable housing developments



# Integrating Health Items into City Administrative Processes Across Sectors

- Public Sector Design & Construction Contracts
- Guidelines and Standards for Foods & Beverages served by City Agencies
- Design and Construction Guidelines and Standards for Public Buildings, Streets, Schools, Housing
- Training of City staff in all relevant agencies

# Impacts in NYC

- **Increased:**
  - Pedestrian volumes through pedestrian plazas
  - Stair use, where stair prompts are posted
  - Commuter cycling – up 289%
  - Bus and subway ridership – up 10%
  - Places for children’s play - >60 new Play Streets permitted; >180 schoolyards to playgrounds opened
- **Decreased:**
  - Traffic fatalities 37%
  - Traffic volumes 1.5%
  - Car registrations 5%
- **Started Reversing Childhood Obesity (also in Philadelphia & San Diego!)**
- **Positive Environmental and Economic Impacts**

# Canadian Case Study: Winnipeg/Manitoba

<http://hcbd-clasp.com/2013/04/22/connecting-the-dots-in-winnipeg-building-relationships-between-public-health-and-planning/>

“In February 2013, we at the Winnipeg Regional Health Authority were approached by the organizers of the **Manitoba Planner’s Conference** to deliver a post-conference Active Design Workshop... The invitation was initiated by the conference organizers who wanted to include the link between health and planning as a key theme in their conference...

**The Active Design Workshop** attracted a wide variety of participants; planners, members of the community, health authority staff, urban planners, and staff from local governments and NGOs across Manitoba. It provided an opportunity for sharing, learning and discussion between different sectors in Winnipeg and Manitoba about the built environment and its impact on health.

...projects that present opportunities to promote active transportation and active recreation... A dialogue has begun about how the health authority can be involved in this work; bringing health considerations into those discussions.

...We have now been formally invited to sit at the **OurWinnipeg** implementation table for the City’s Complete Community Strategy... Our involvement in the Manitoba Planner’s Conference has also opened a door at the **University of Manitoba**... The Department Head & Associate Professor in the Department of City Planning has invited us to attend multiple viewings of the downtown re-design projects and to bring our health and physical activity perspectives into those discussions... All of these developments have been unexpected outcomes that have grown out of our involvement in the Active Design workshop.”