



Beyond Congestion:

Sex, Neuroscience, and Walkable Urbanism

Jeffrey Tumlin





I like to ride
on the train

Are you the engineer?

Subaru is a registered trademark of Subaru Corporation. © 1994
Subaru Corporation. All rights reserved. Subaru is a registered trademark of Subaru Corporation.
Model Year 1994. Price as shown. Dealer price may vary.

See dealer for details.

Mother Nature doesn't go out of her way to pum-
per a car. And neither do most car owners.

That's why Subaru builds and tests its cars to meet
the demands of everyday driving situations.

In fact, Subaru undergoes extensive road testing
here in America. On roads you drive on. And in
weather conditions you drive in.

Maybe that's why, out of every Subaru regis-
tered since 1974, over 94% are still on the road.* And,
why Subaru was voted #2 in customer satisfaction.
Second only to Mercedes-Benz.

So, almost any conditions you have to get
your Subaru through, it's sure to know it's
probably been there before.



**A CAR BUILT TO
WITHSTAND
MOTHER NATURE.
AND HUMAN NATURE.**

© 1994 Subaru Corporation. All rights reserved.

SUBARU

Inexpensive. And built to stay that way.



Top Performance



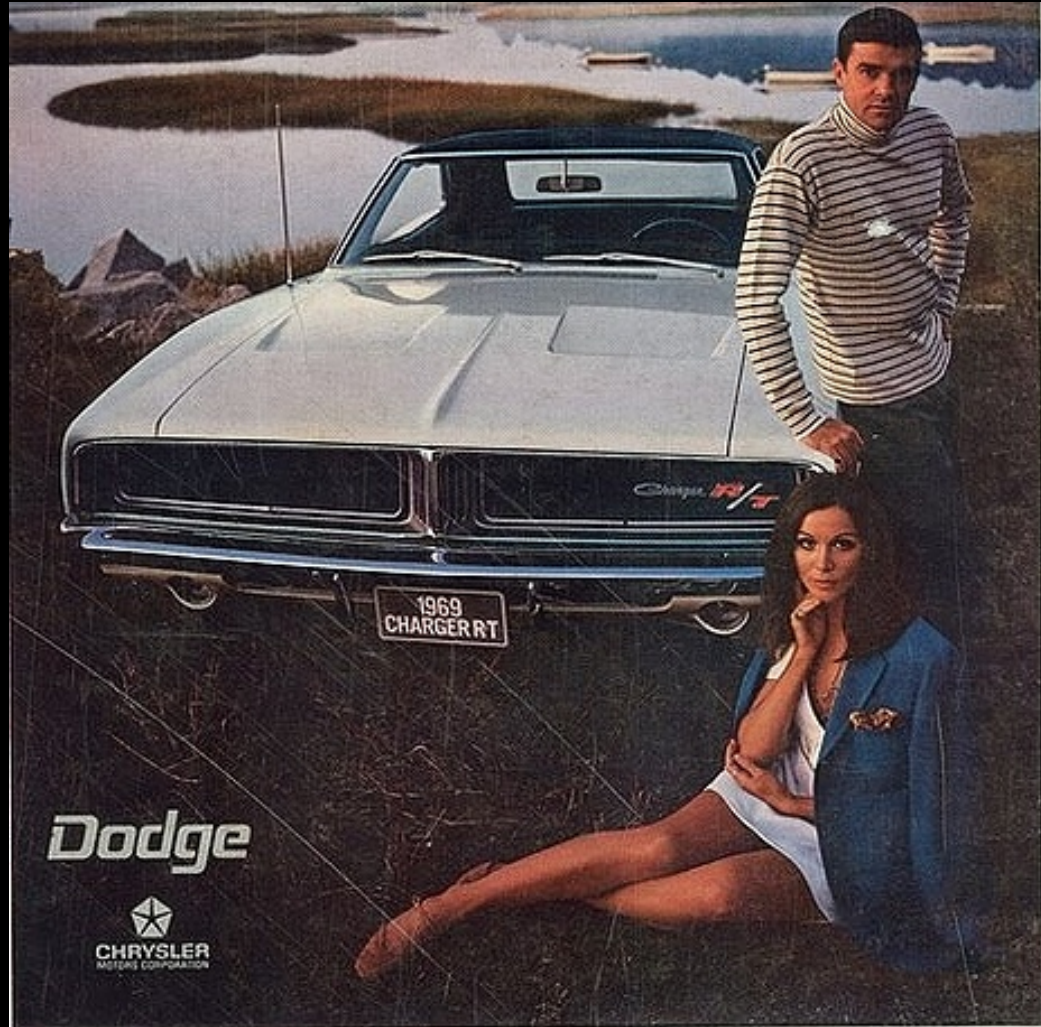
in your car
means **Texaco Fire-Chief**

You can always count on **FIRE-CHIEF** gasoline
to act like a champion . . . to respond in a
jiffy in traffic . . . to zip your car up hills . . . to
pack plenty of emergency power in a pinch.
FIRE-CHIEF is the famous regular-priced gasoline
sold by your Texaco Dealer, the
best friend your car ever had.



THE TEXAS COMPANY
TEXACO DEALERS IN ALL 48 STATES

Run by THE TEXAS COMPANY every Wednesday night featuring Gordon MacRae and Evelyn Knight. See newspaper for time and station.



The Eternal Triangle.

You'd think Ralph's new love would have been curtains for me. I mean, it was all he talked about. Well, I learned to live with it. As it turned out, I think his new Charger R/T really

brought us closer together. He's taught me how to shift the 4-speed synchromesh. He lets me pick out the stereo tapes. And clean the vinyl buckets. It's not all bad. He even mentioned marriage once.

DODGE fever
The Catch of The Year



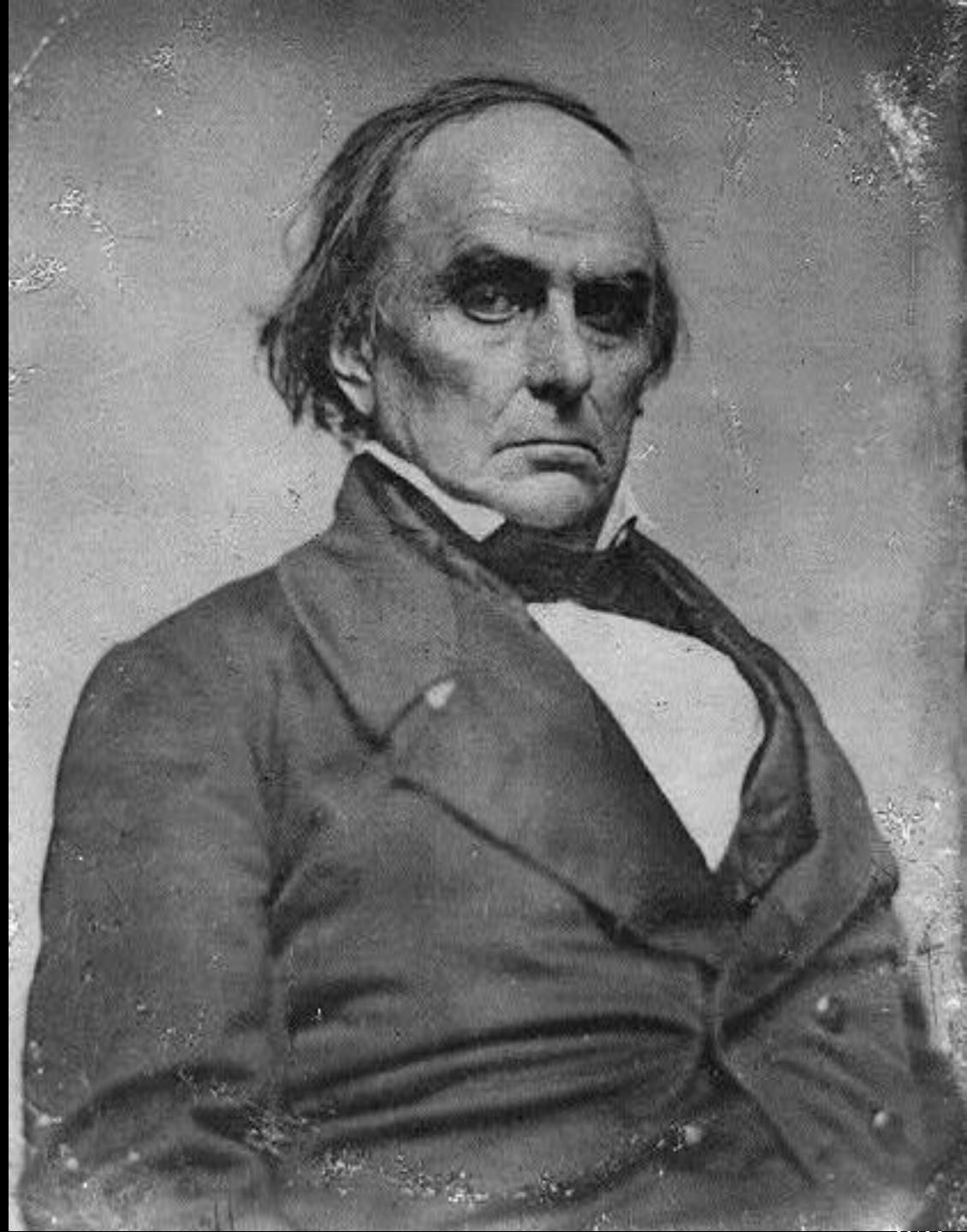


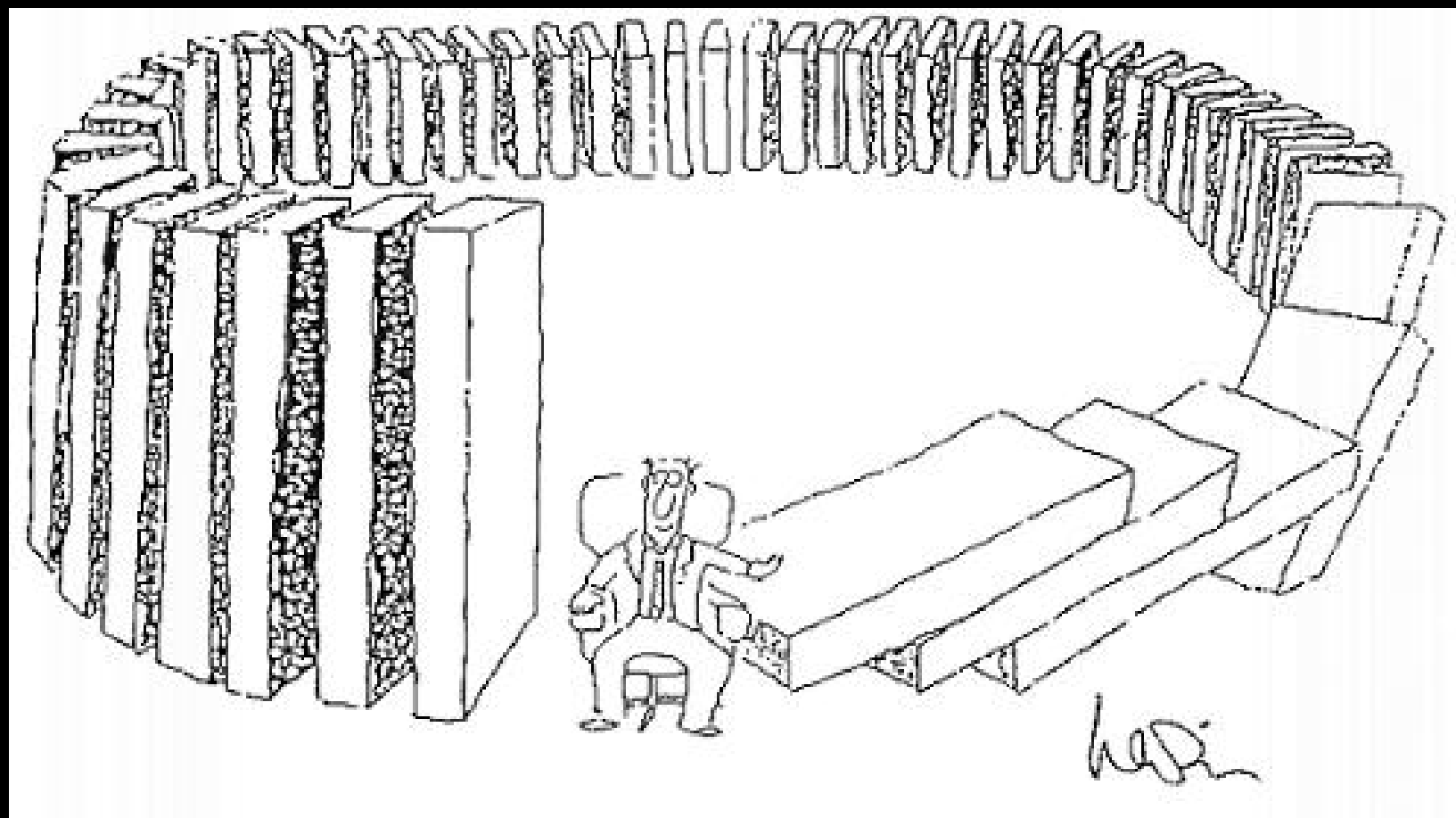




A strong
conviction that
**something
must be done**
is the parent of
many bad
measures

Daniel Webster



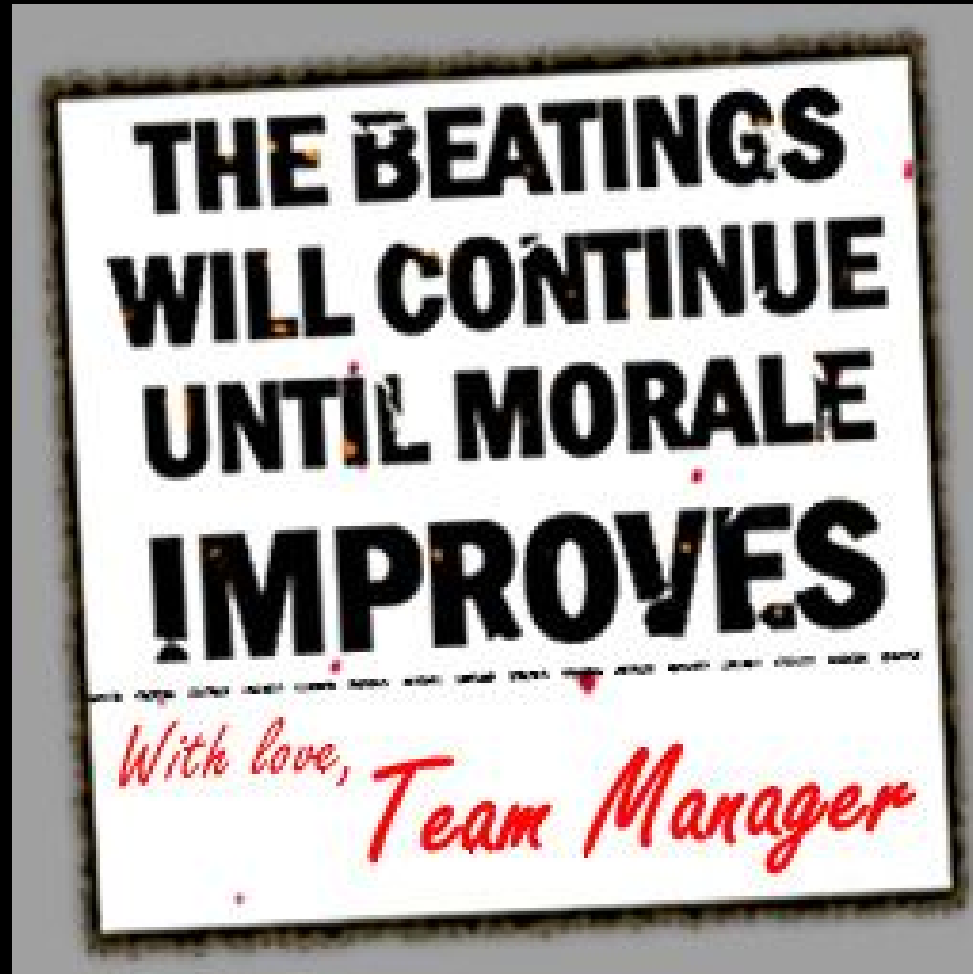




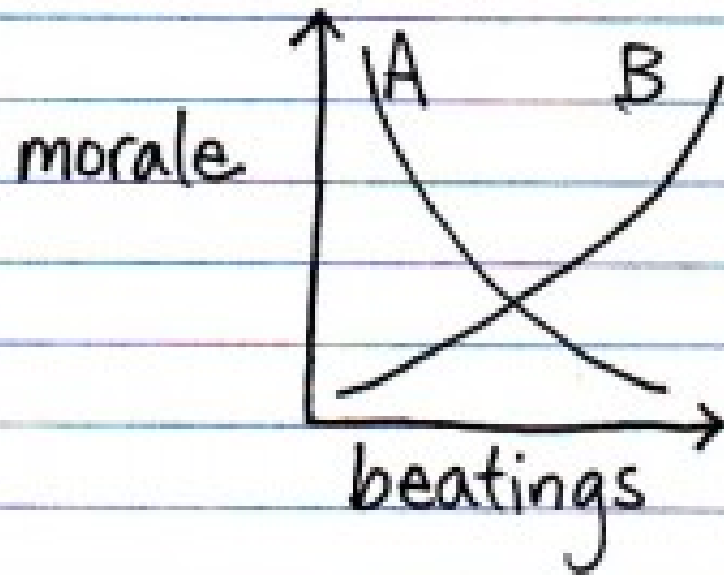
*Won't somebody
please think
of the children!*



Object Thinking



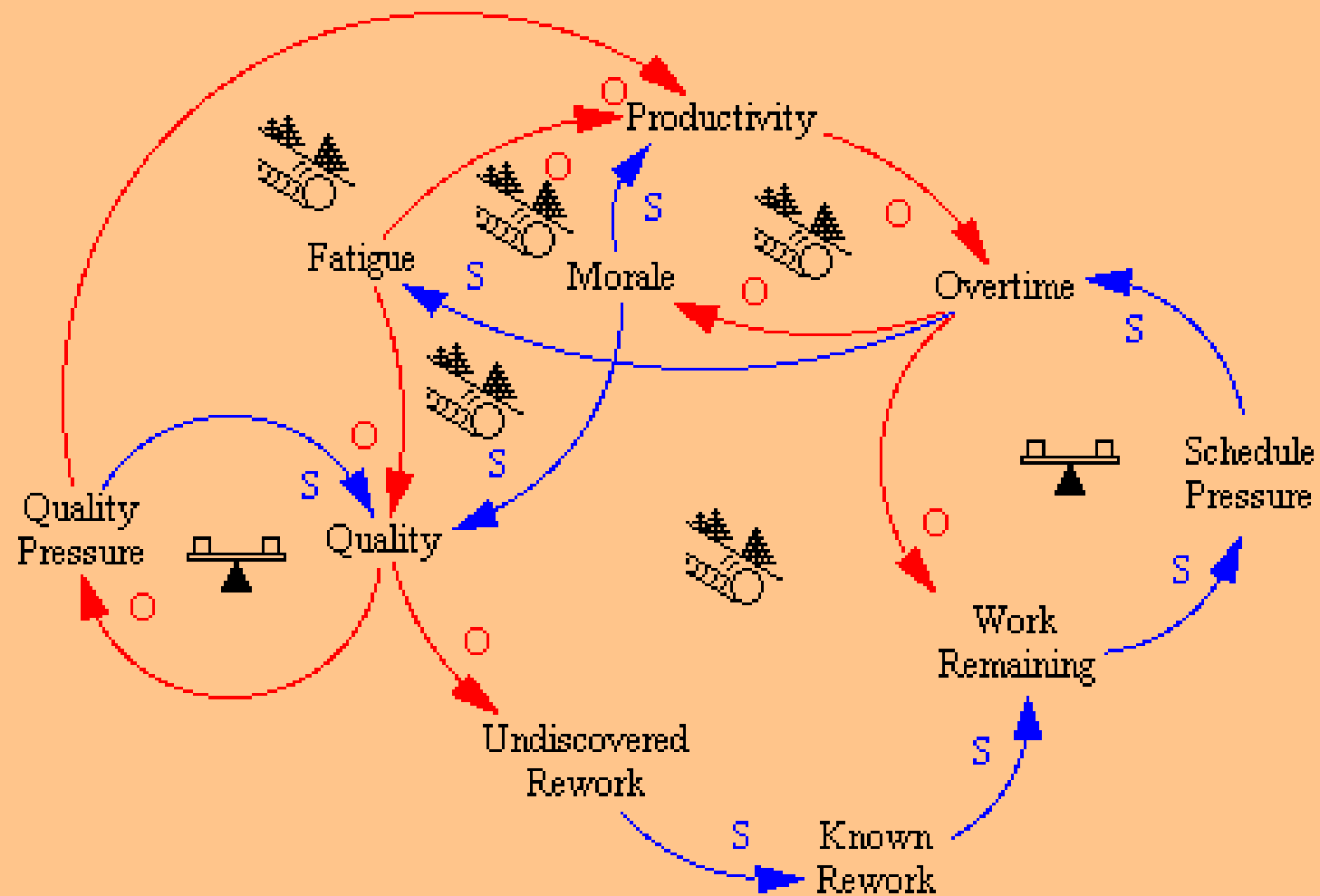
Systems Thinking



A = Actuality

B = Corporate
policy

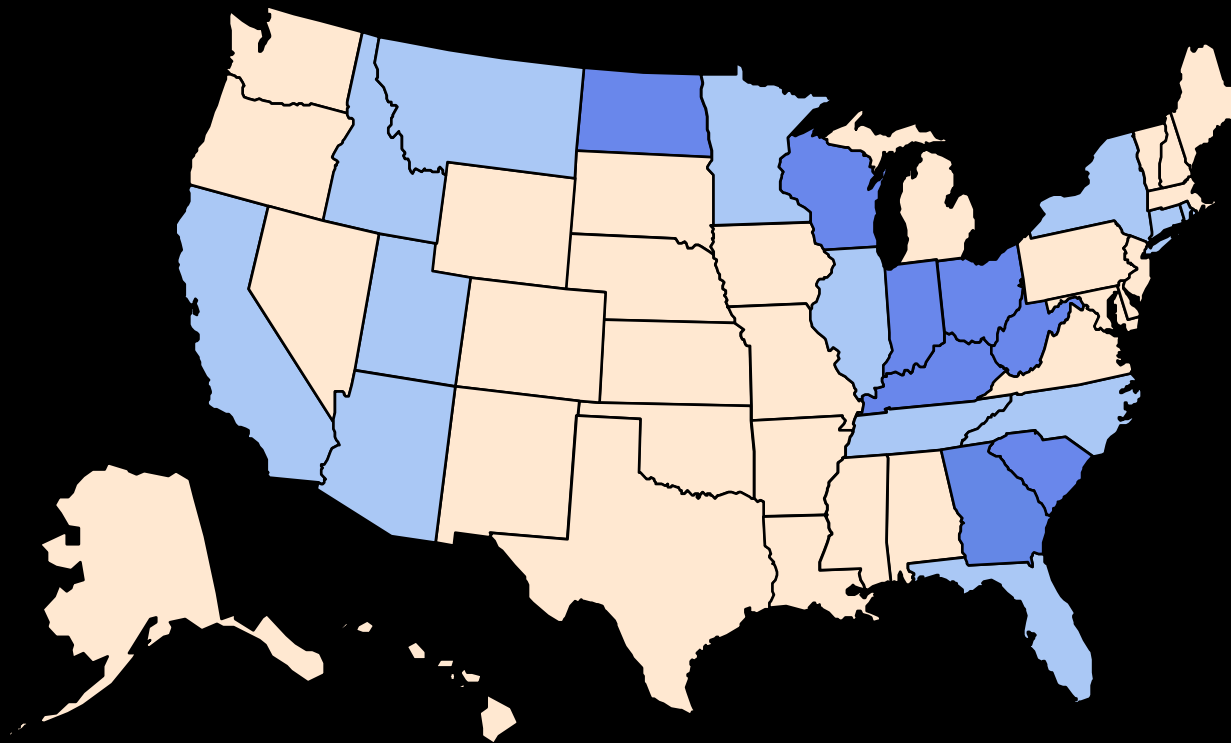
Systems Thinking



Obesity Trends* Among U.S. Adults

BRFSS, 1985

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

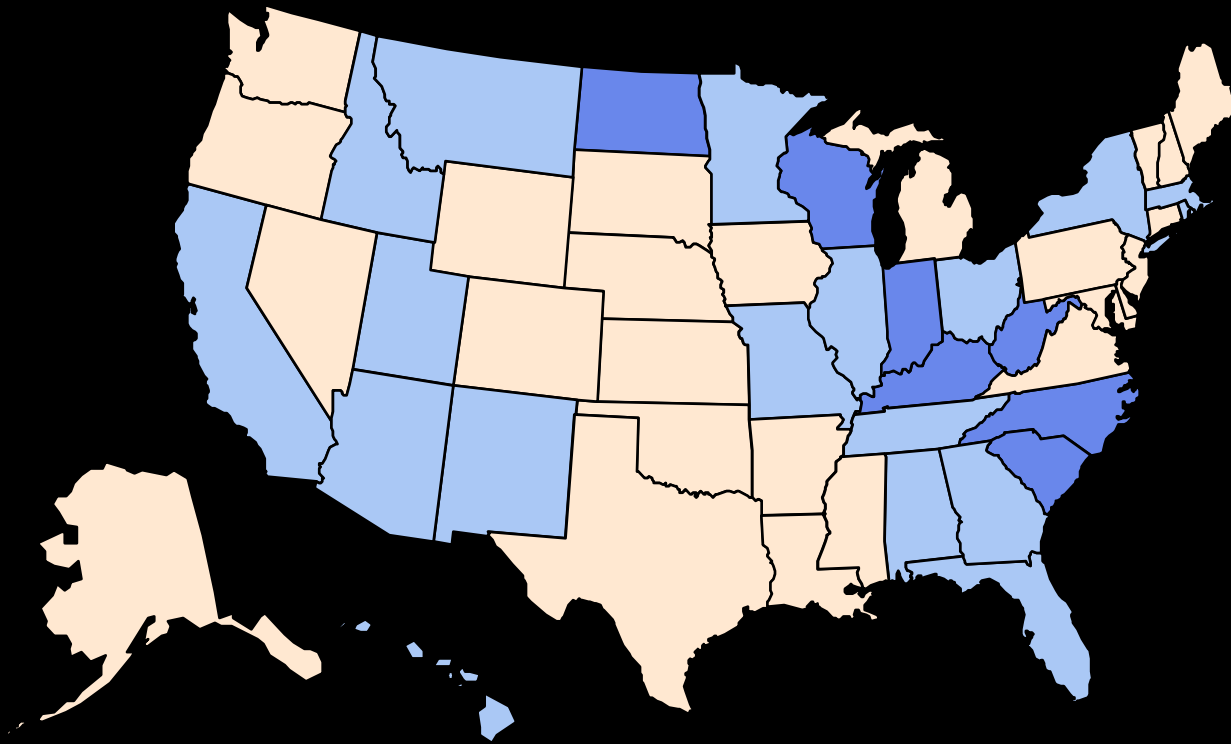


No Data
 <10%
 10-14%

All slides, Centers for Disease Control

Obesity Trends* Among U.S. Adults BRFSS, 1986

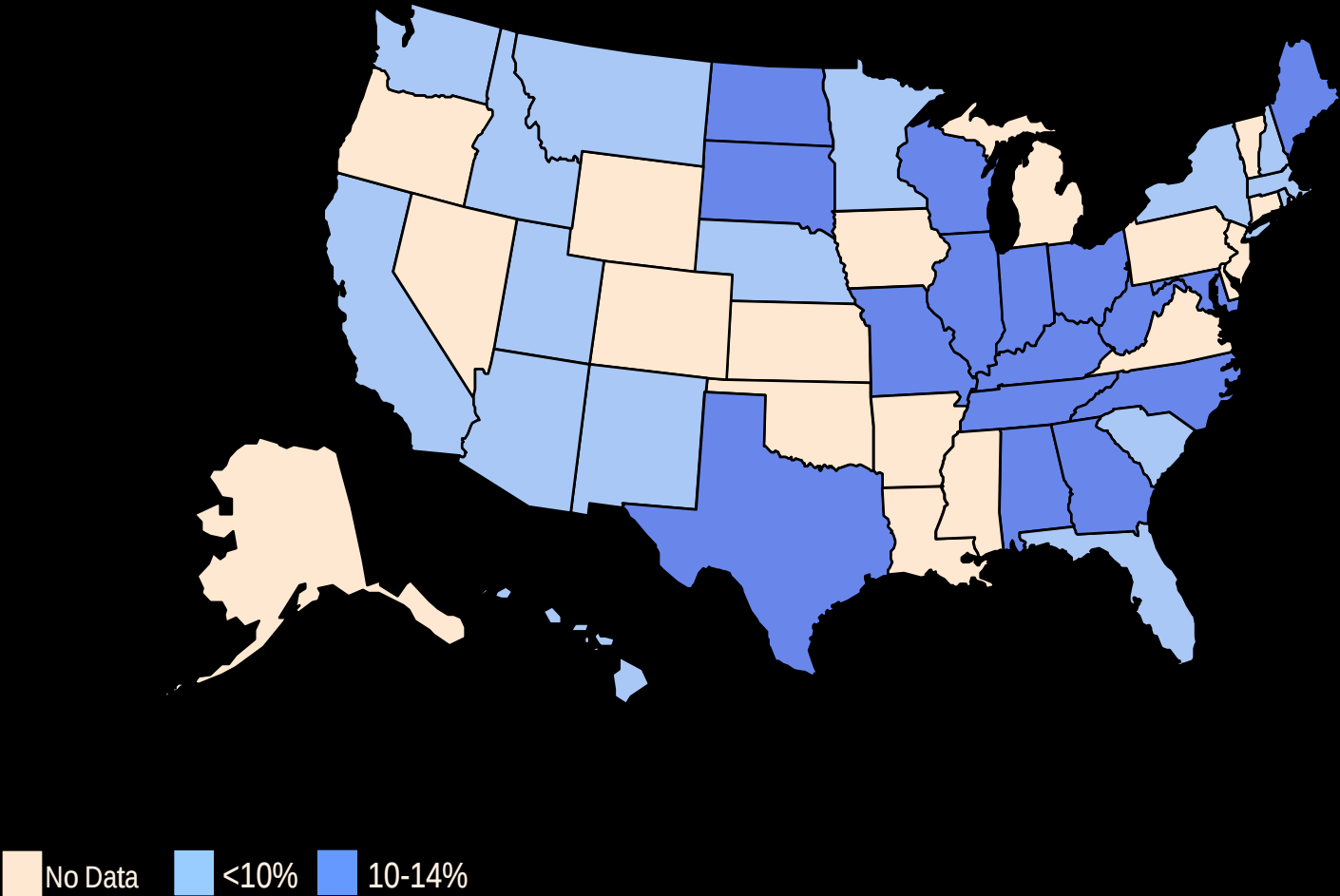
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 1987

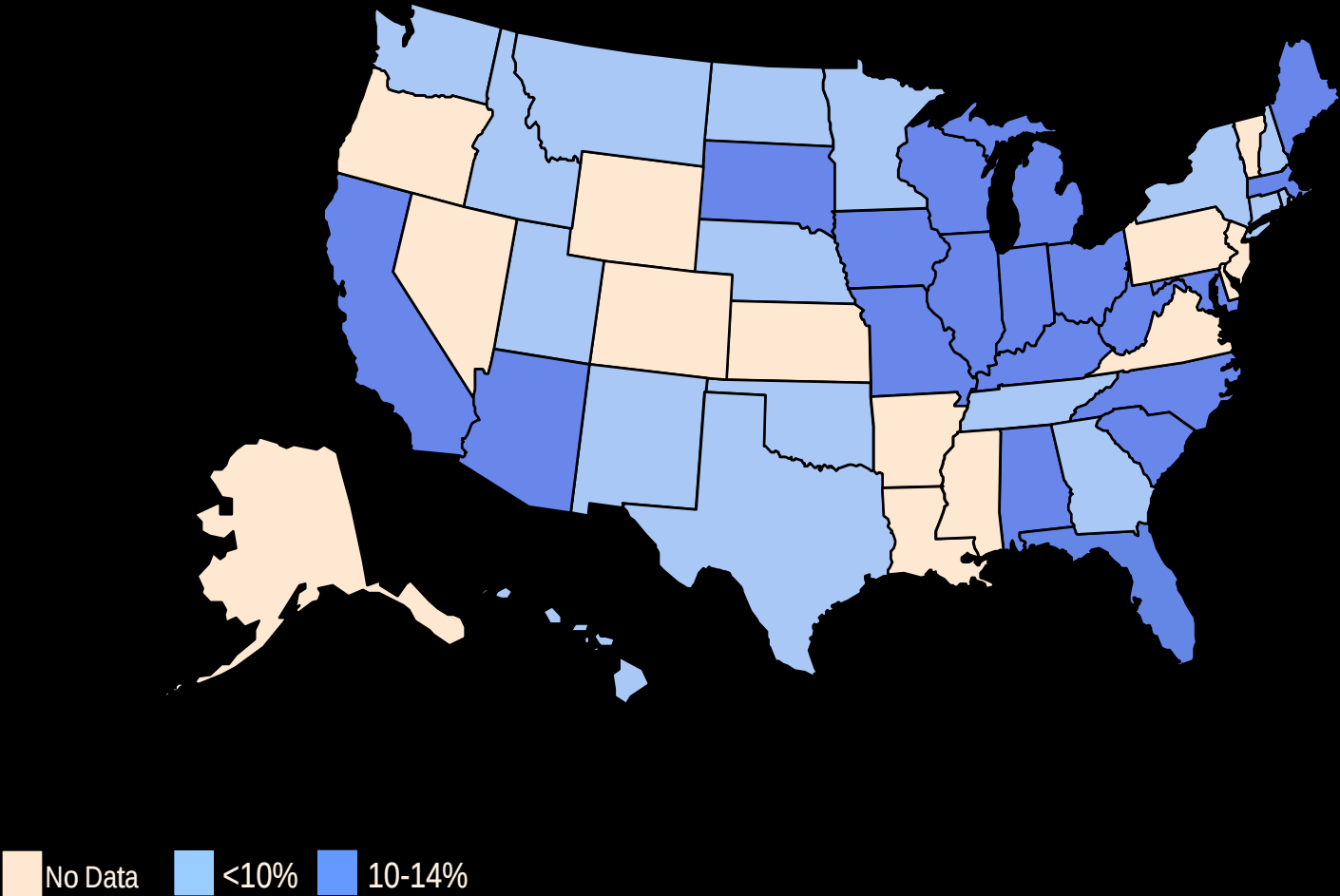
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 1988

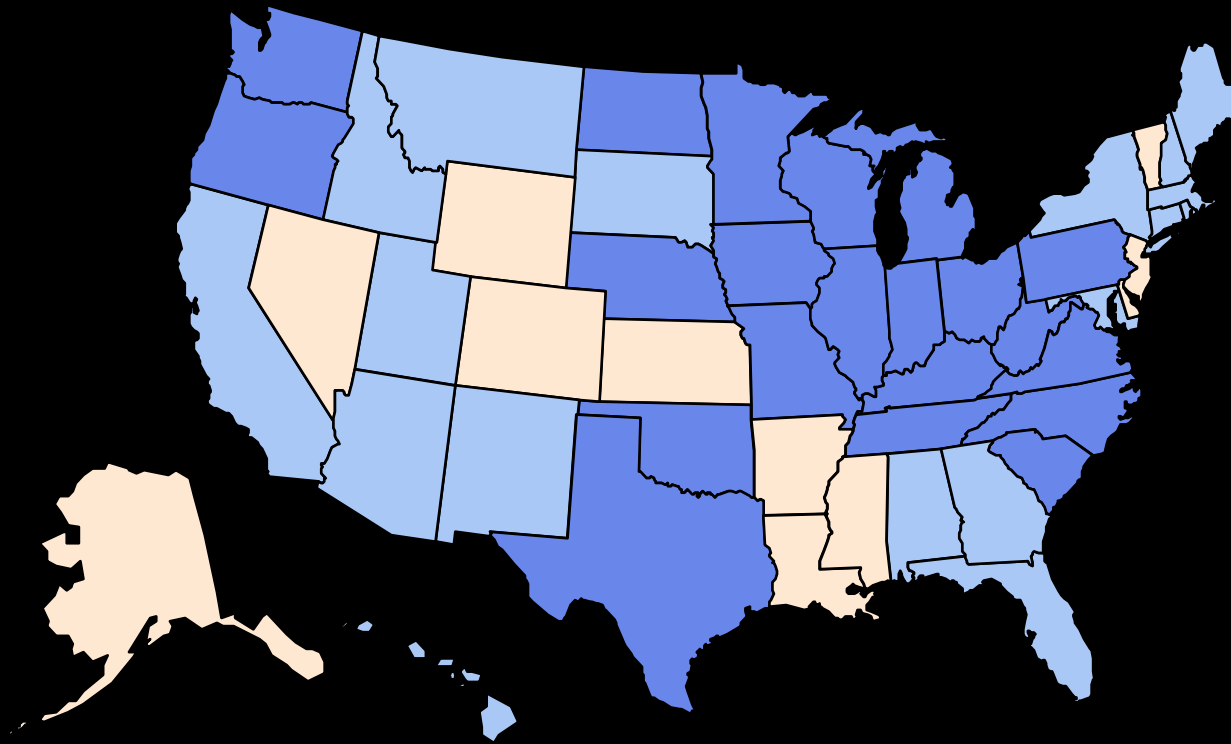
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 1989

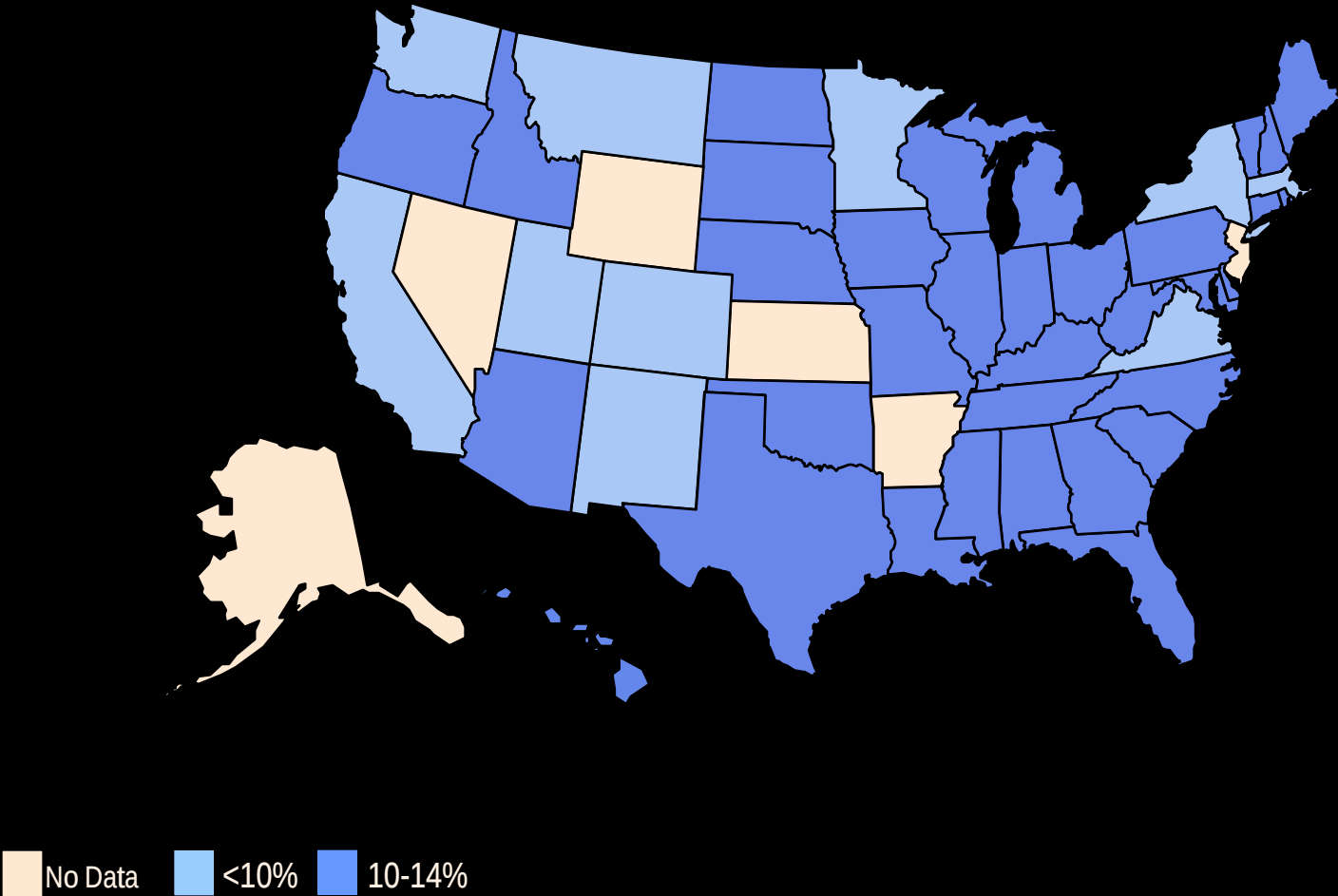
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 1990

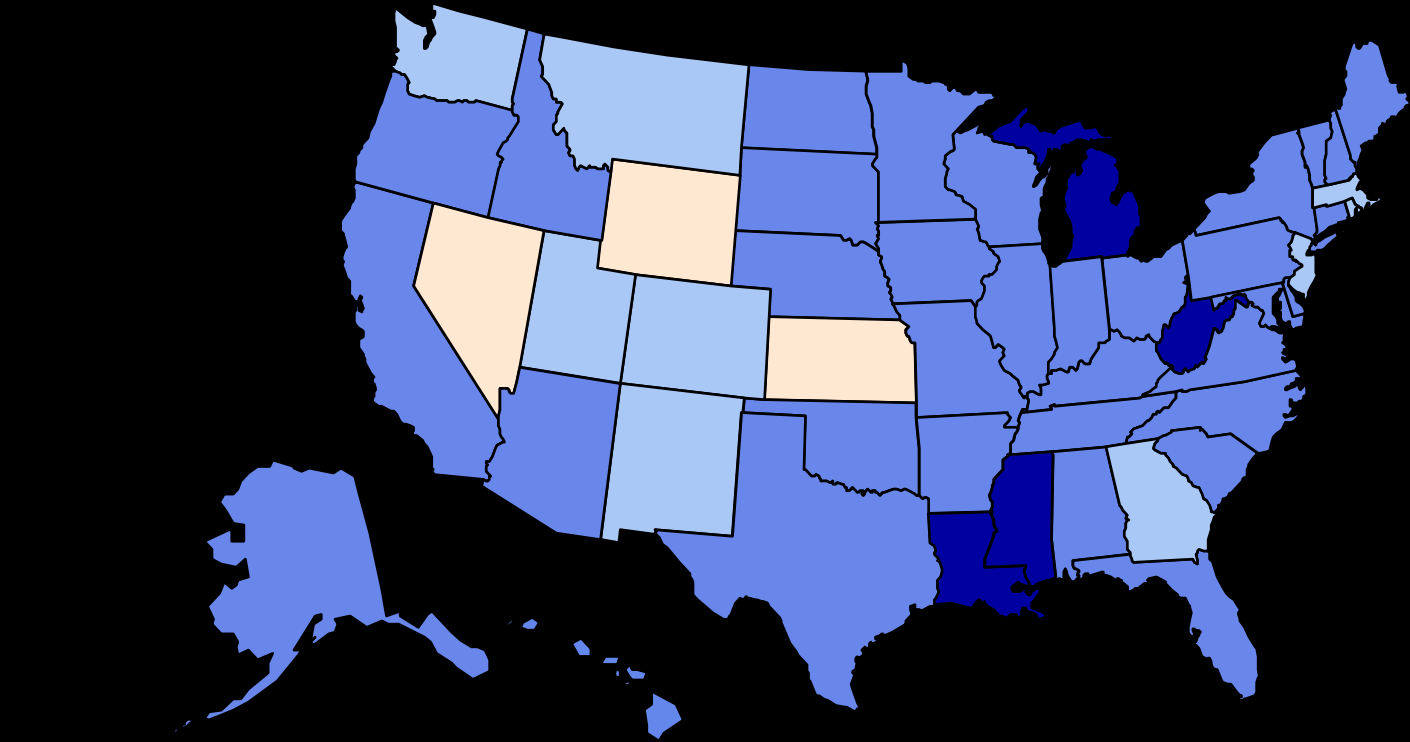
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 1991

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

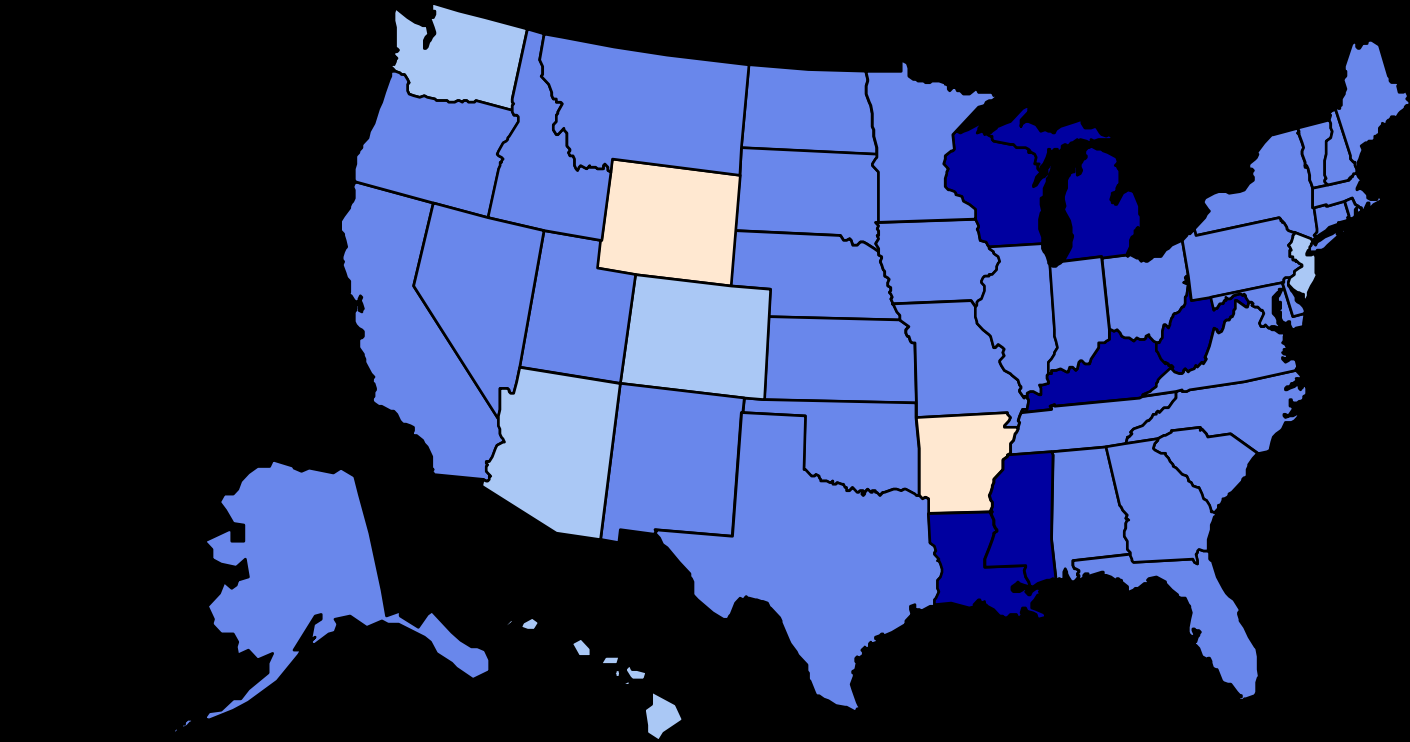


No Data <10% 10-14% 15-19%

Obesity Trends* Among U.S. Adults

BRFSS, 1992

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

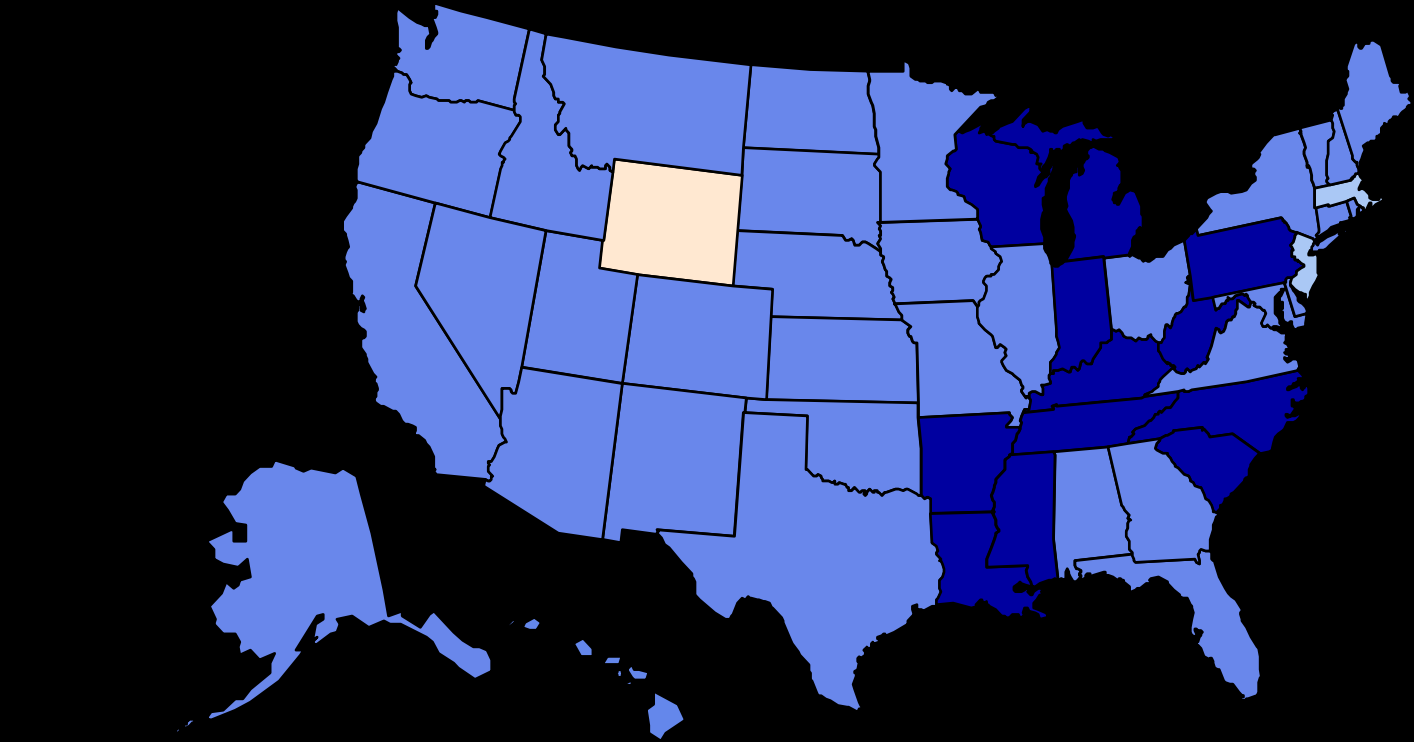


No Data <10% 10-14% 15-19%

Obesity Trends* Among U.S. Adults

BRFSS, 1993

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

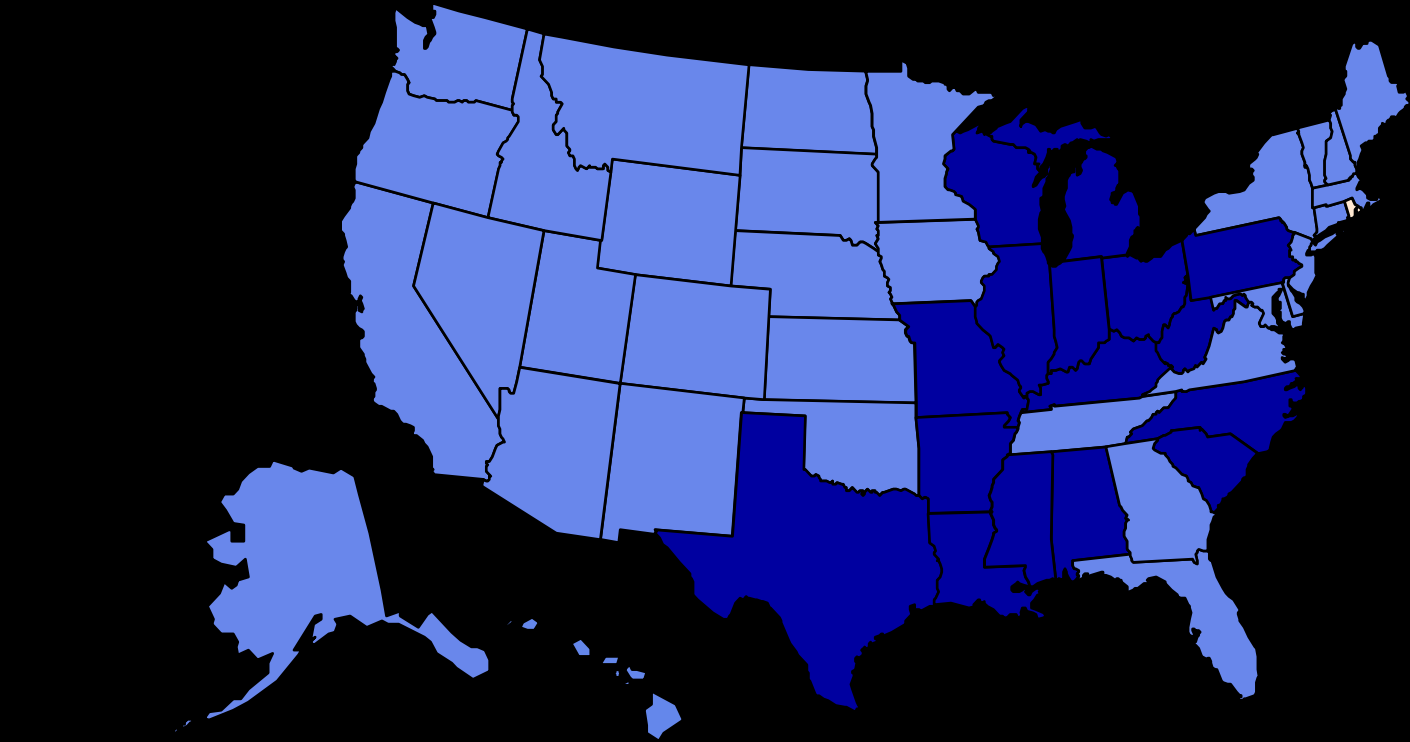


No Data <10% 10-14% 15-19%

Obesity Trends* Among U.S. Adults

BRFSS, 1994

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

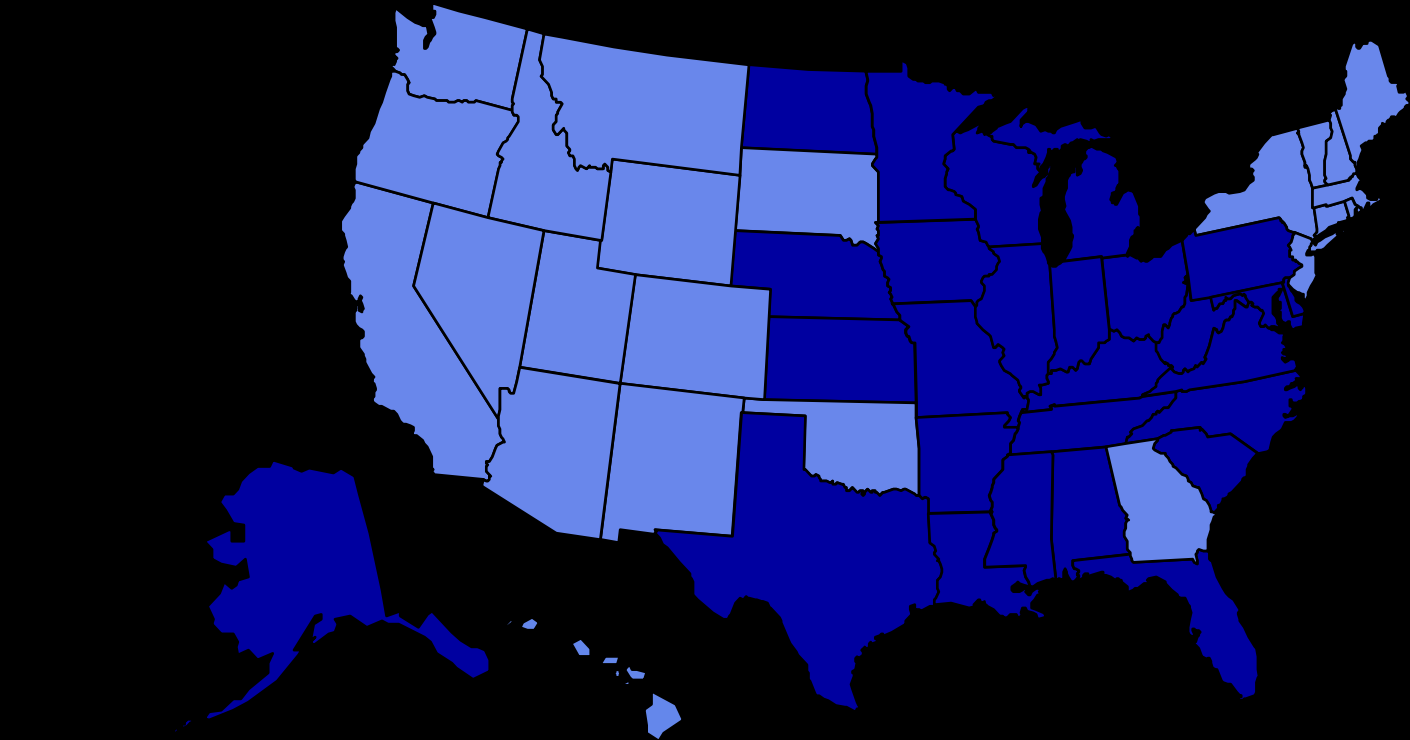


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Obesity Trends* Among U.S. Adults

BRFSS, 1995

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

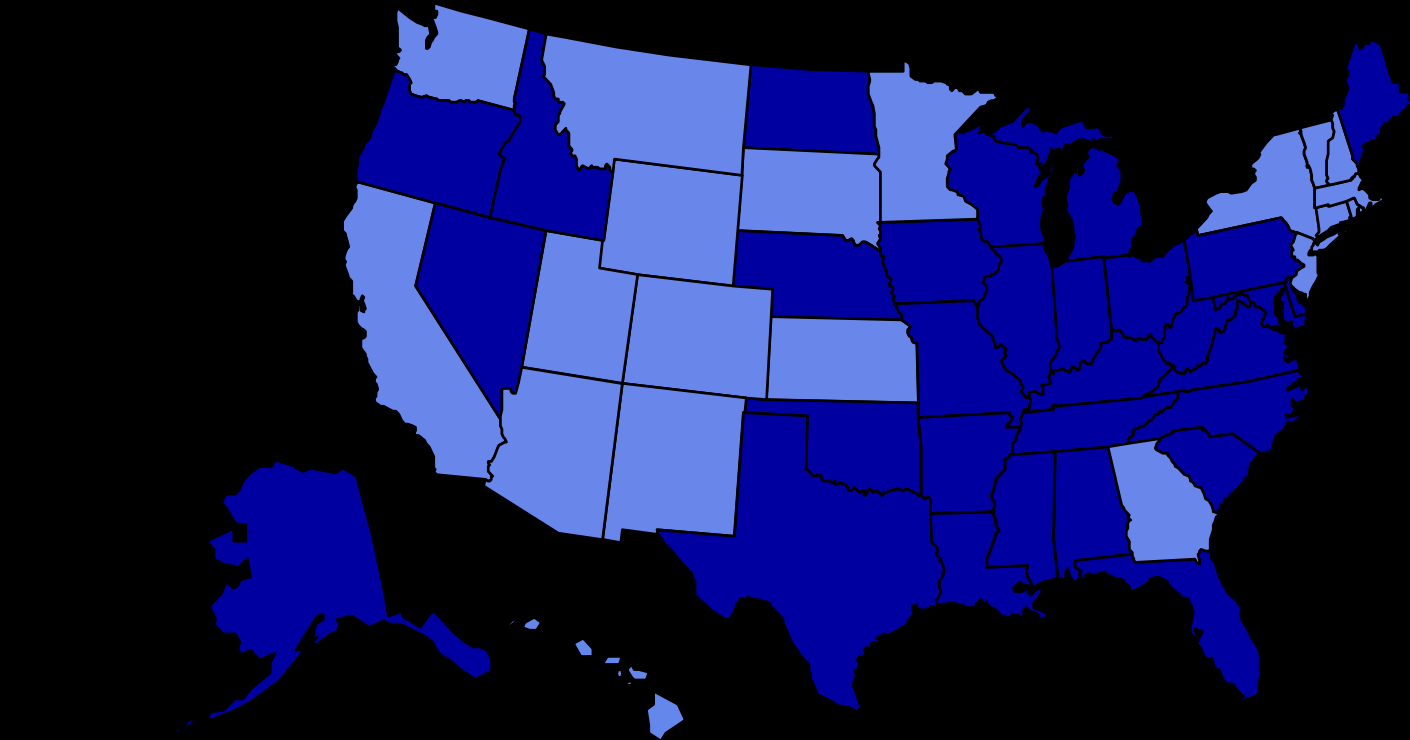


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Obesity Trends* Among U.S. Adults

BRFSS, 1996

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

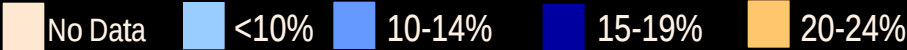
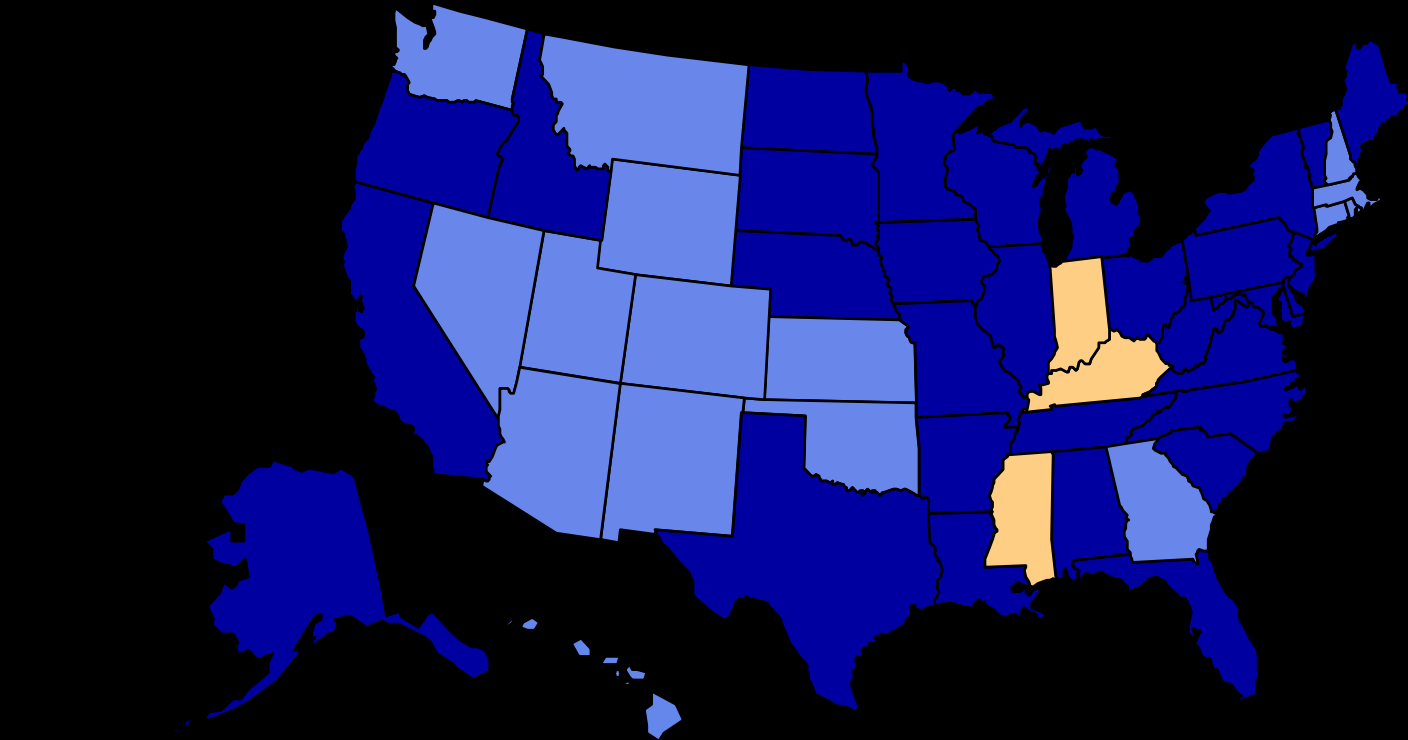


No Data <10% 10-14% 15-19%

Obesity Trends* Among U.S. Adults

BRFSS, 1997

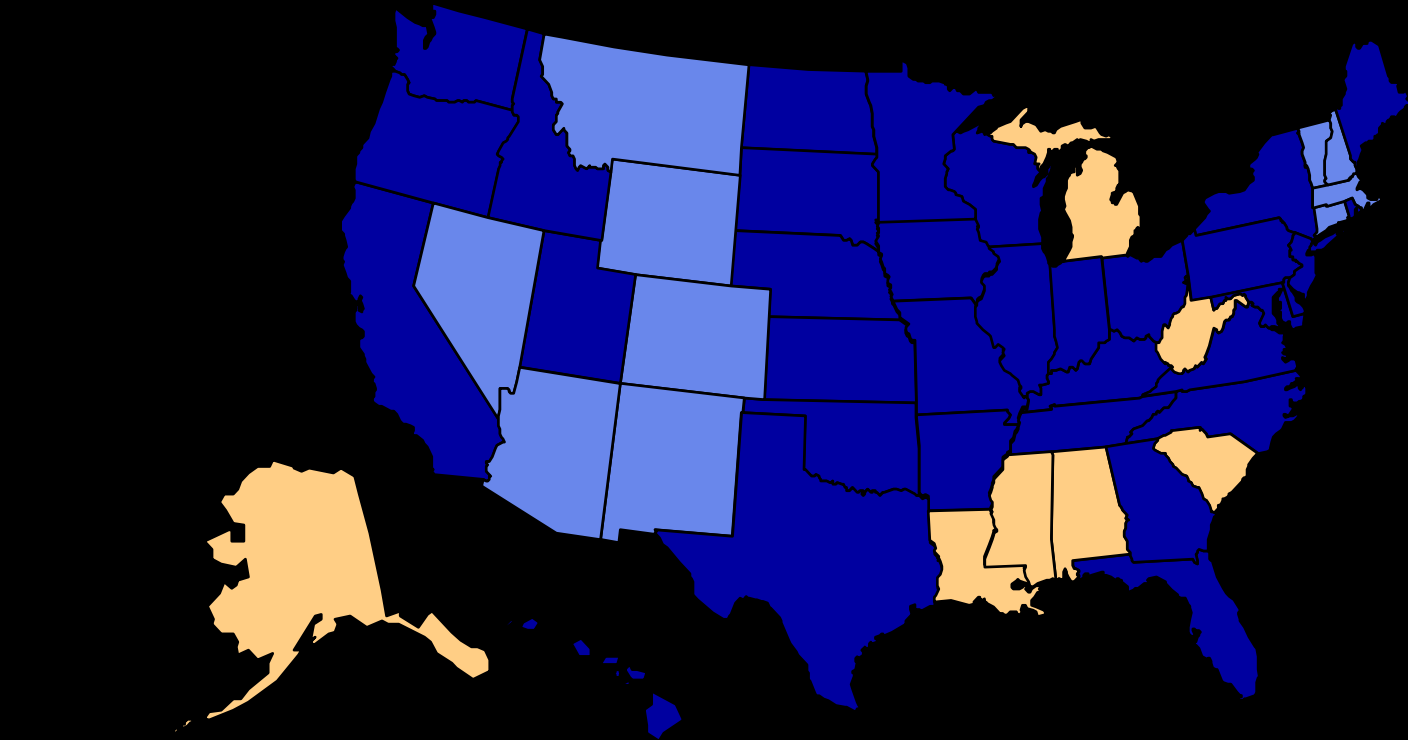
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 1998

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

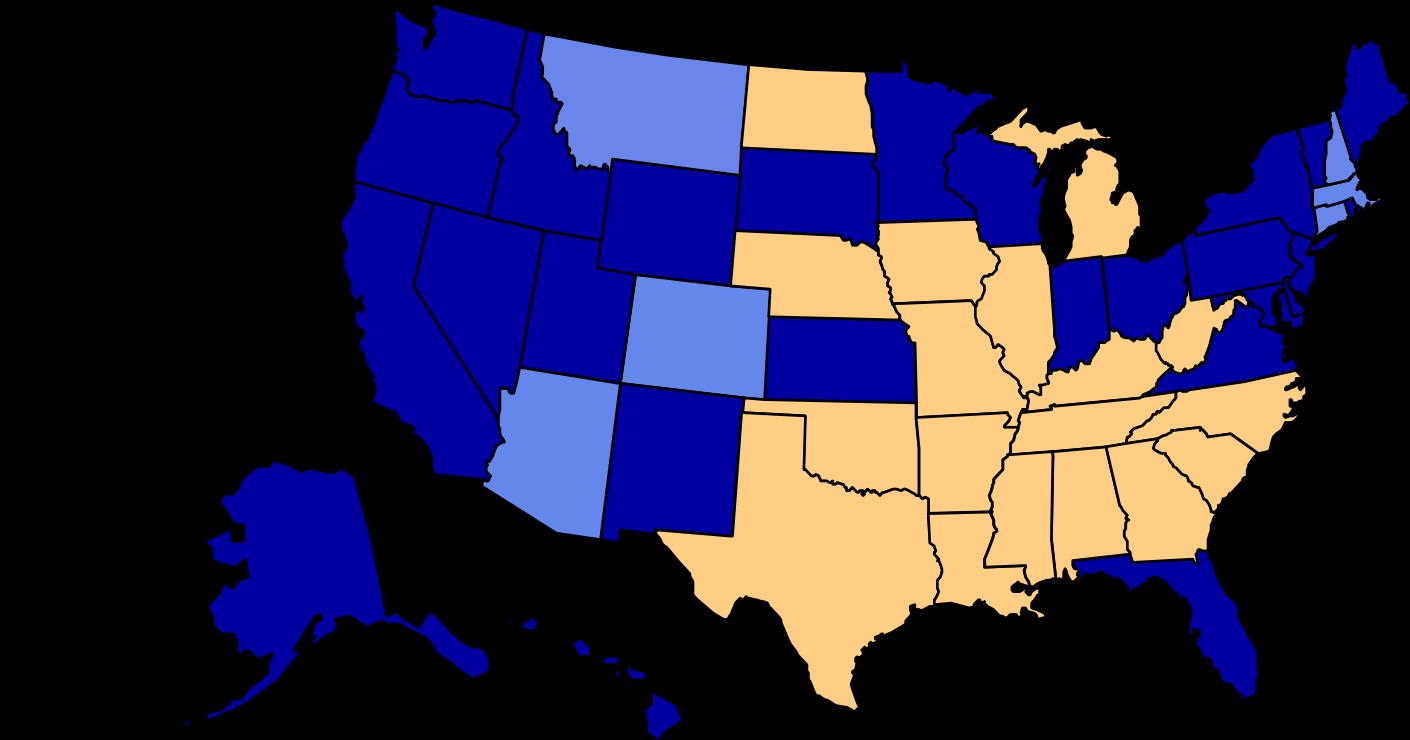


No Data <10% 10-14% 15-19% 20-24%

Obesity Trends* Among U.S. Adults

BRFSS, 1999

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

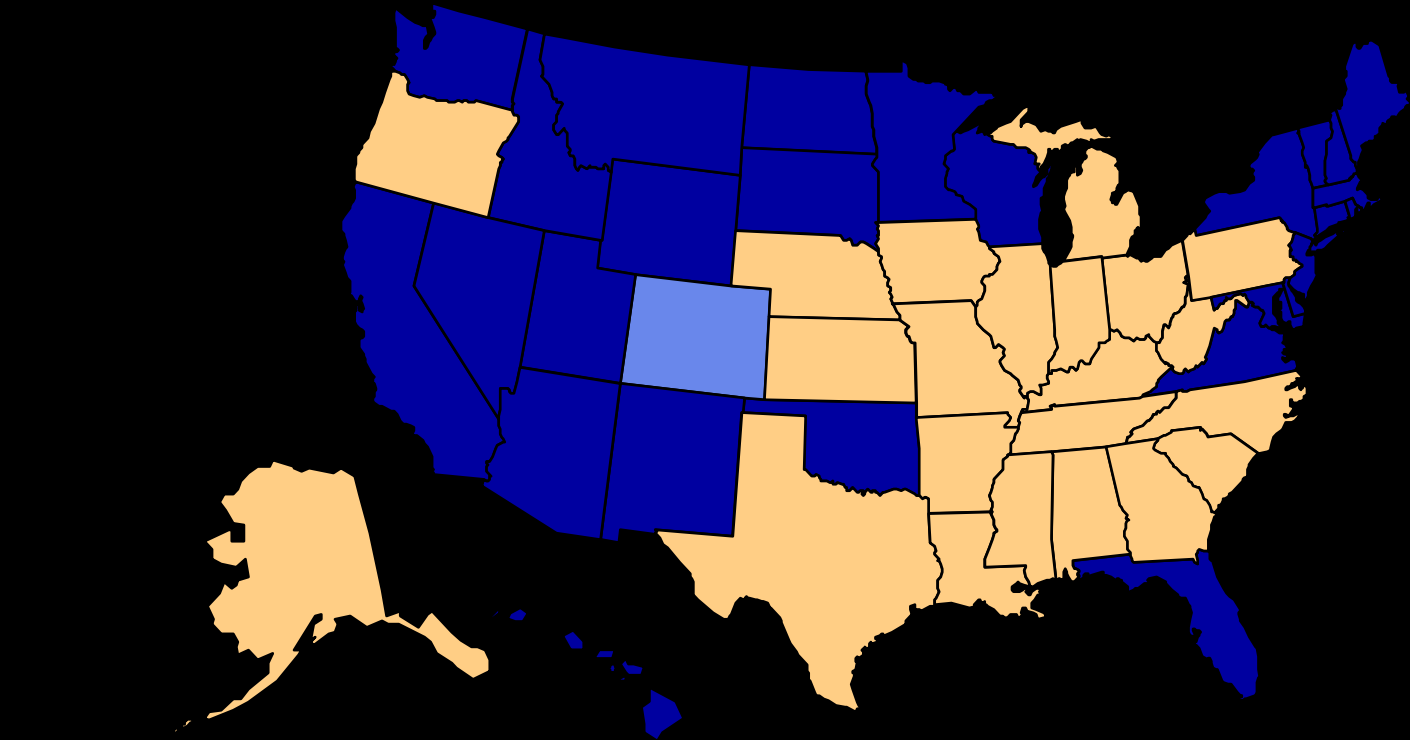


No Data <10% 10-14% 15-19% 20-24%

Obesity Trends* Among U.S. Adults

BRFSS, 2000

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

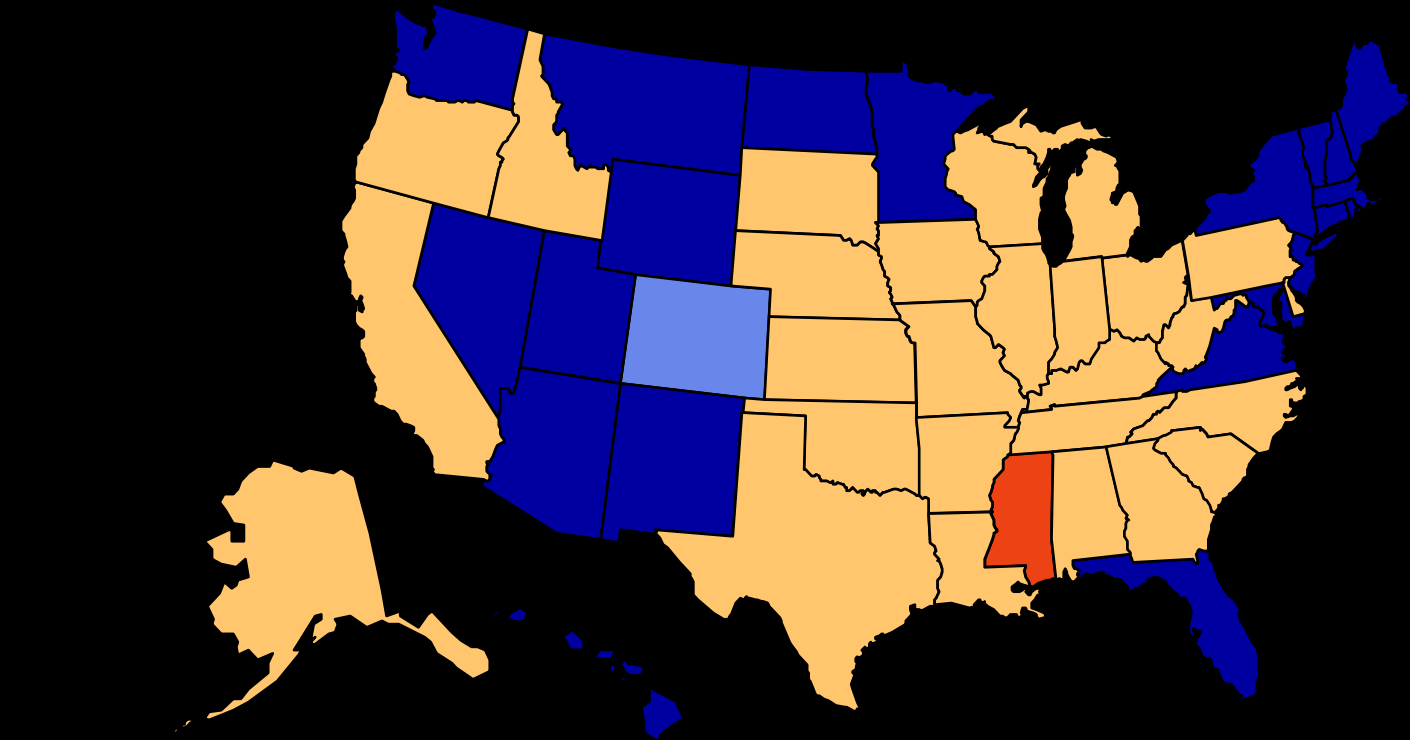


No Data <10% 10-14% 15-19% 20-24%

Obesity Trends* Among U.S. Adults

BRFSS, 2001

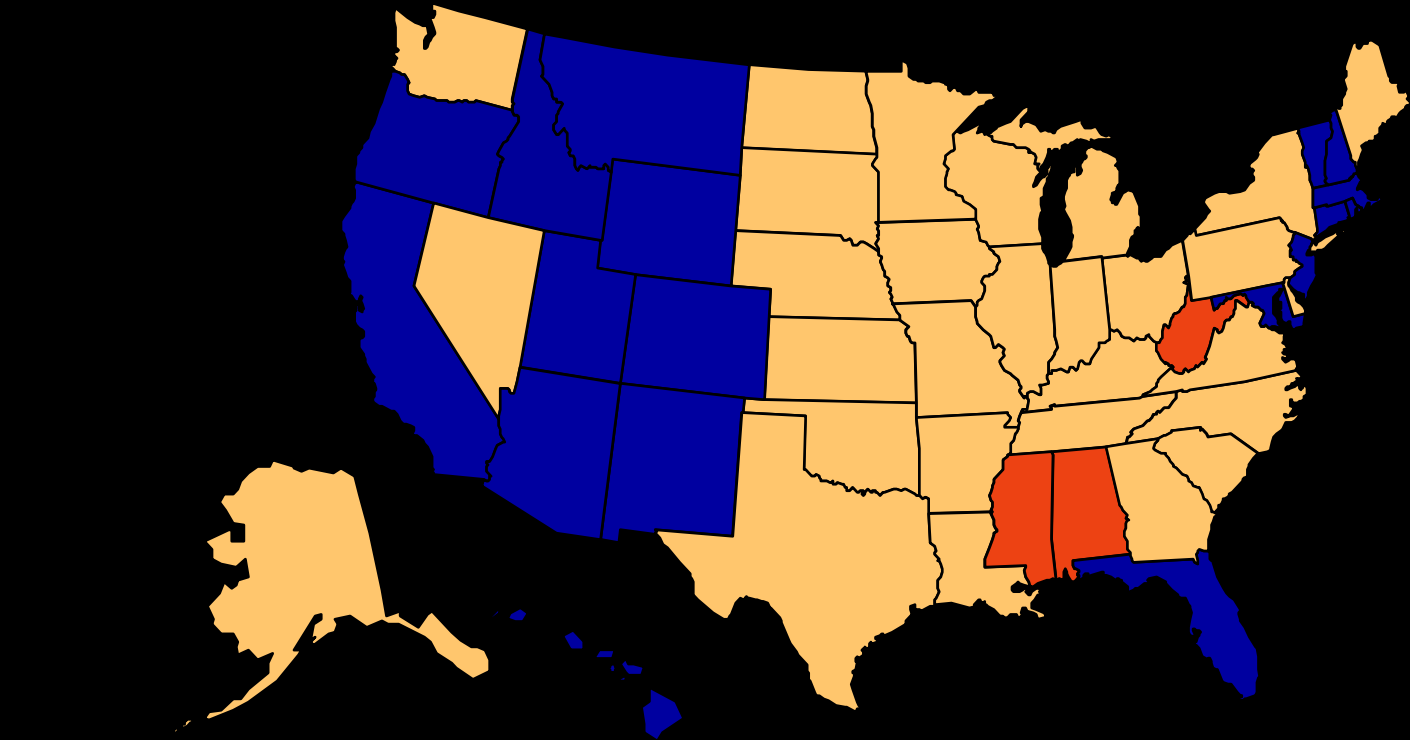
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 2002

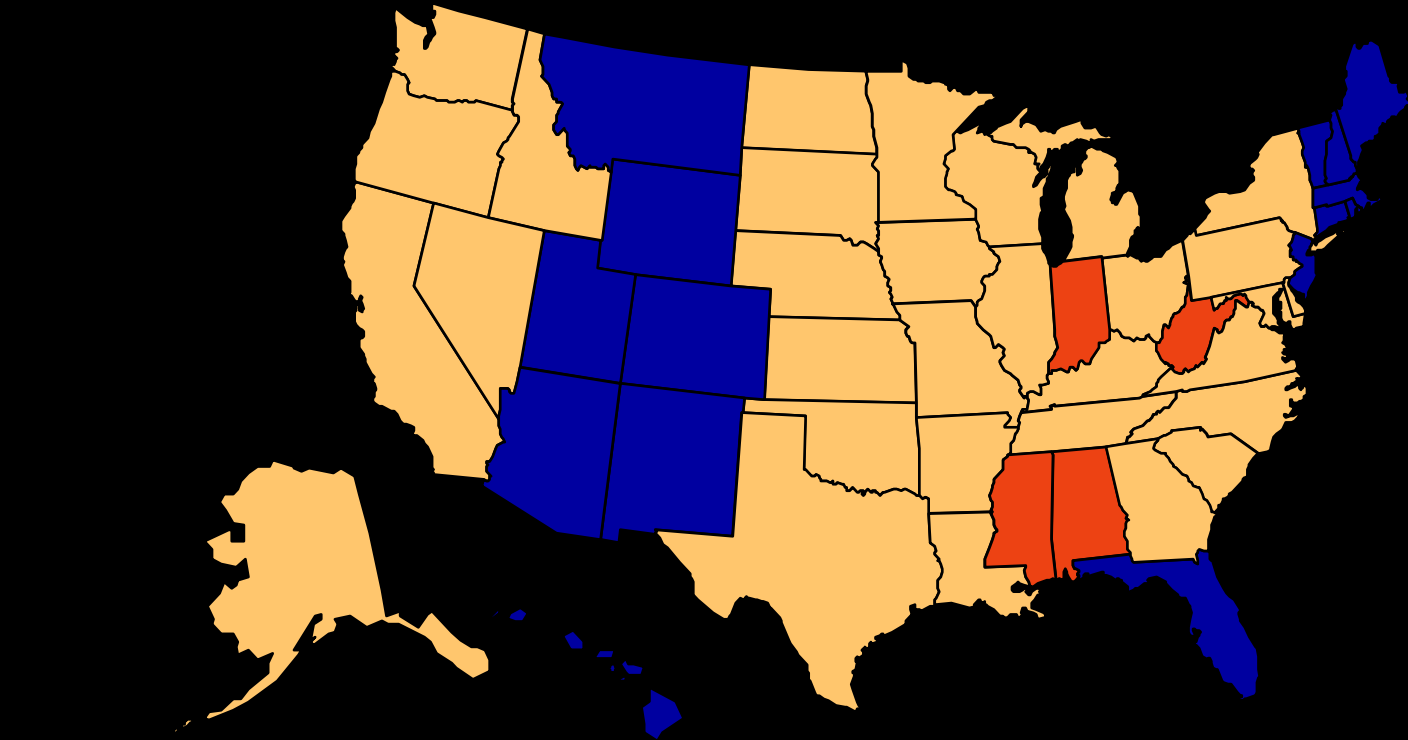
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 2003

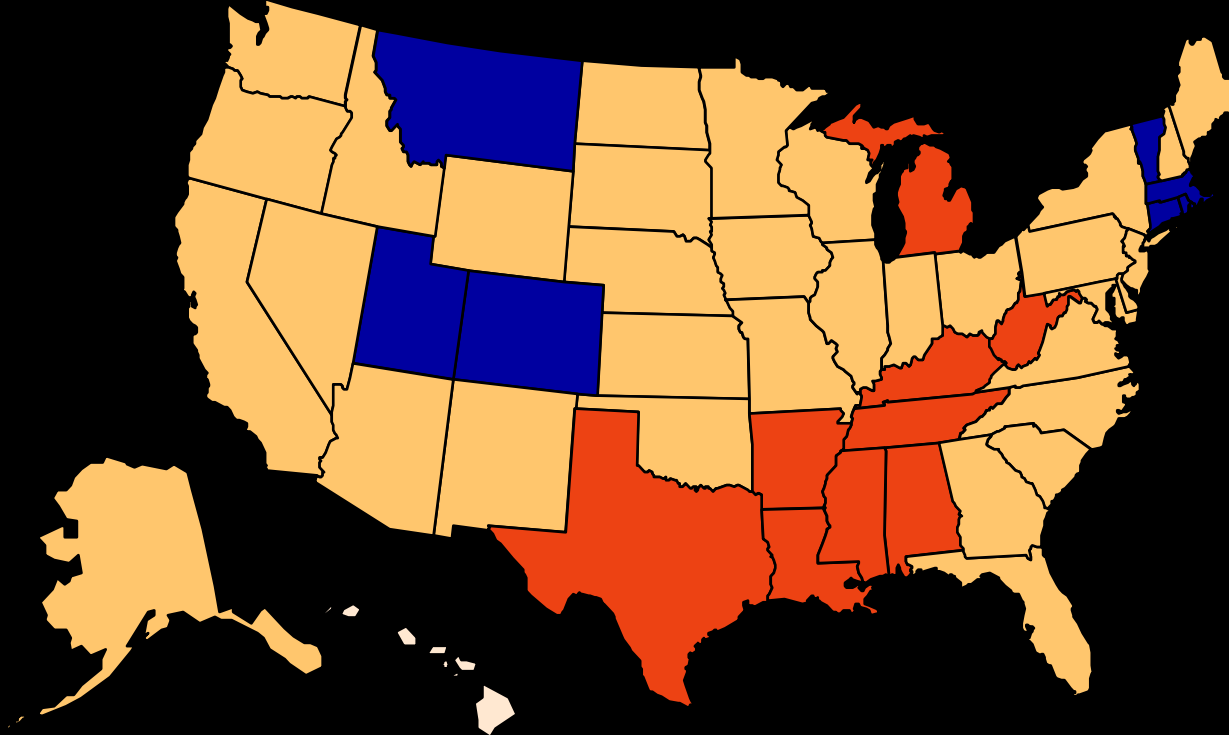
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



No Data <10% 10-14% 15-19% 20-24% 25-29%

Obesity Trends* Among U.S. Adults BRFSS, 2004

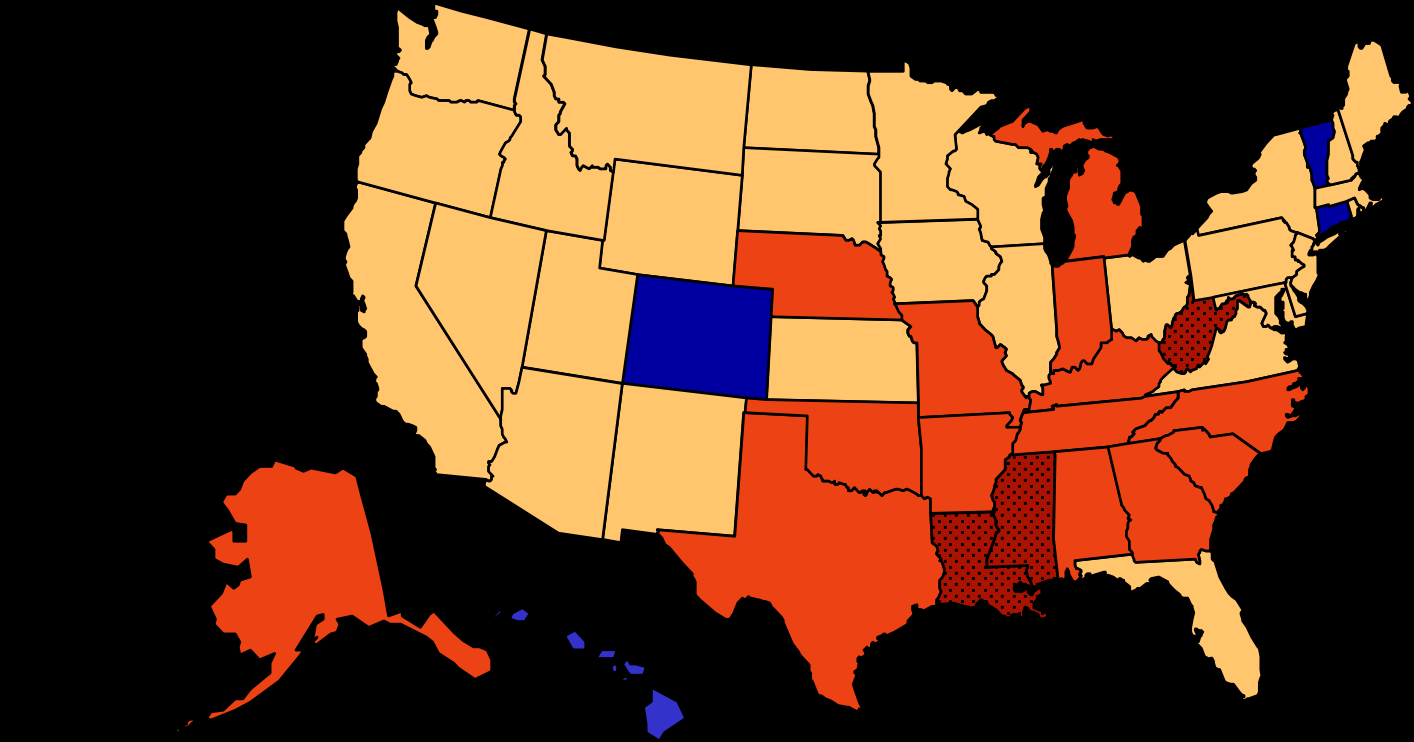
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 2005

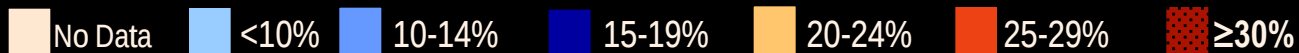
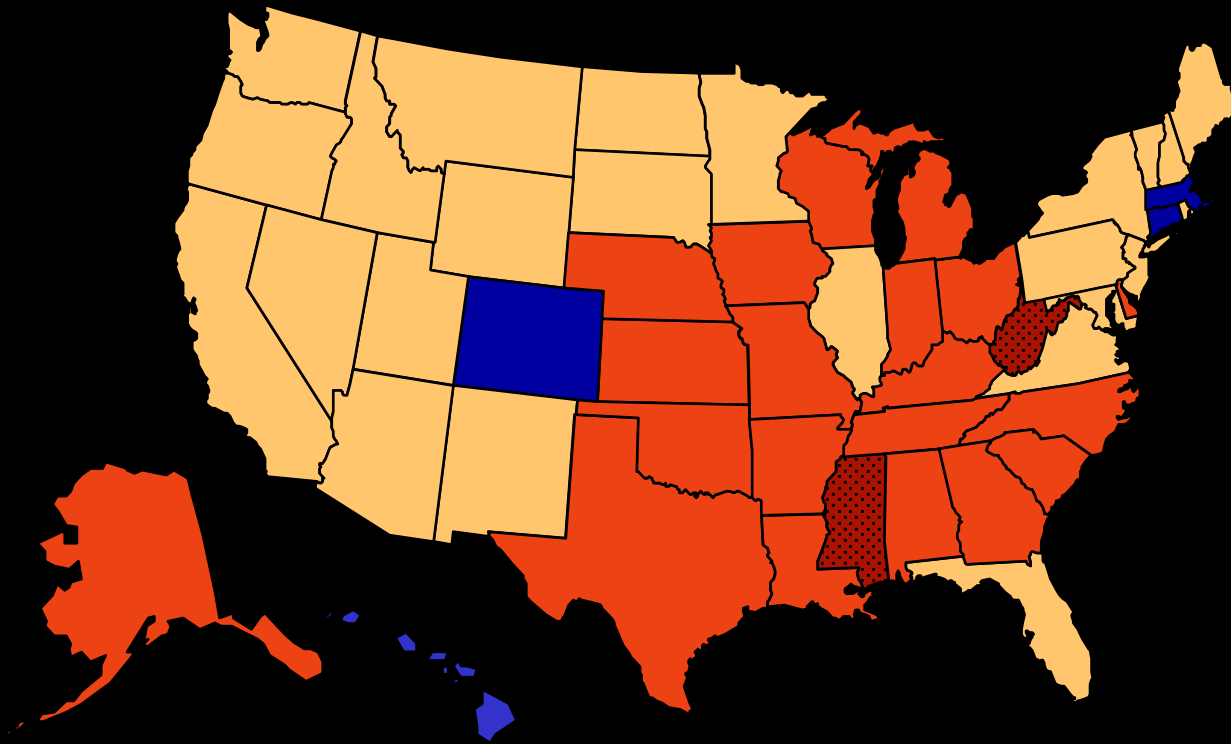
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



No Data <10% 10-14% 15-19% 20-24% 25-29% ≥30%

Obesity Trends* Among U.S. Adults BRFSS, 2006

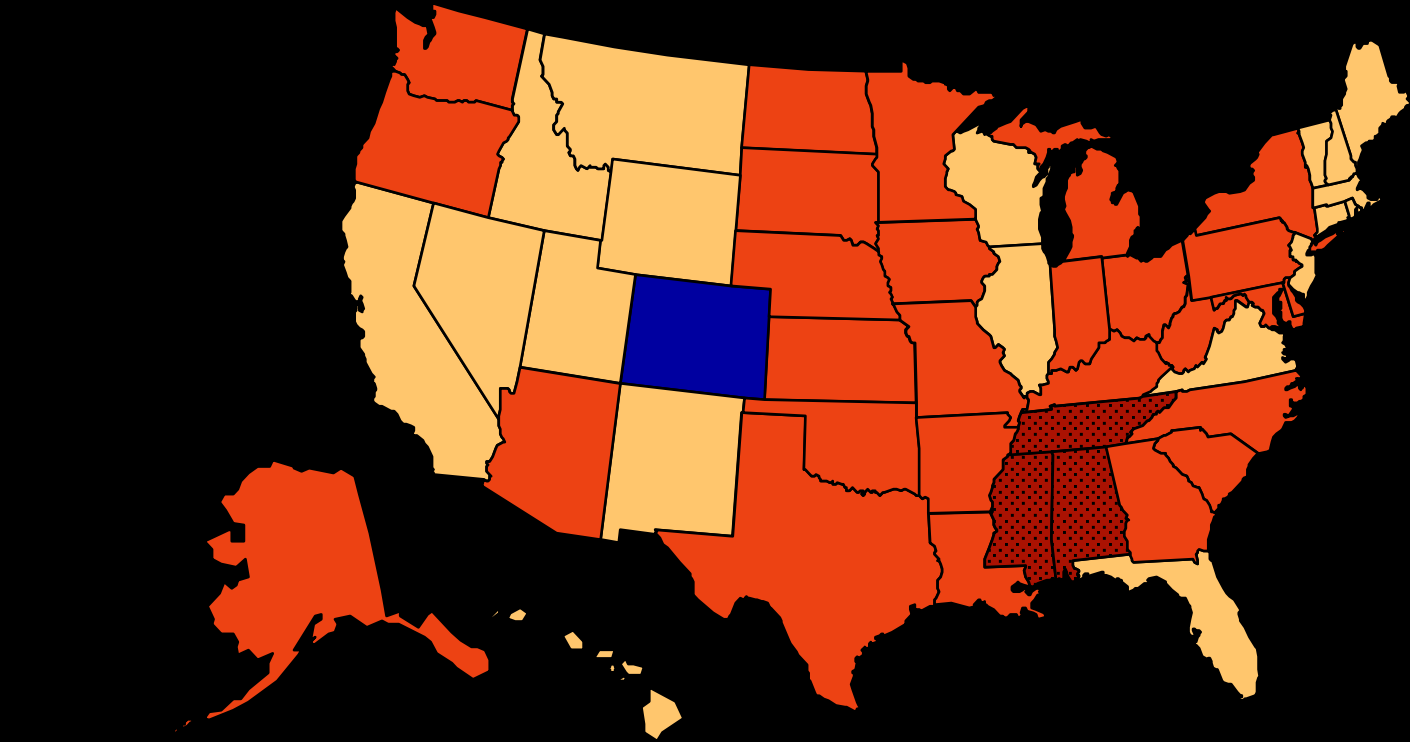
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 2007

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

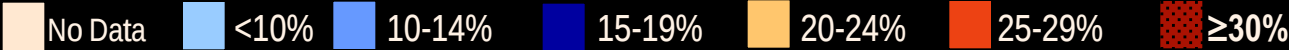
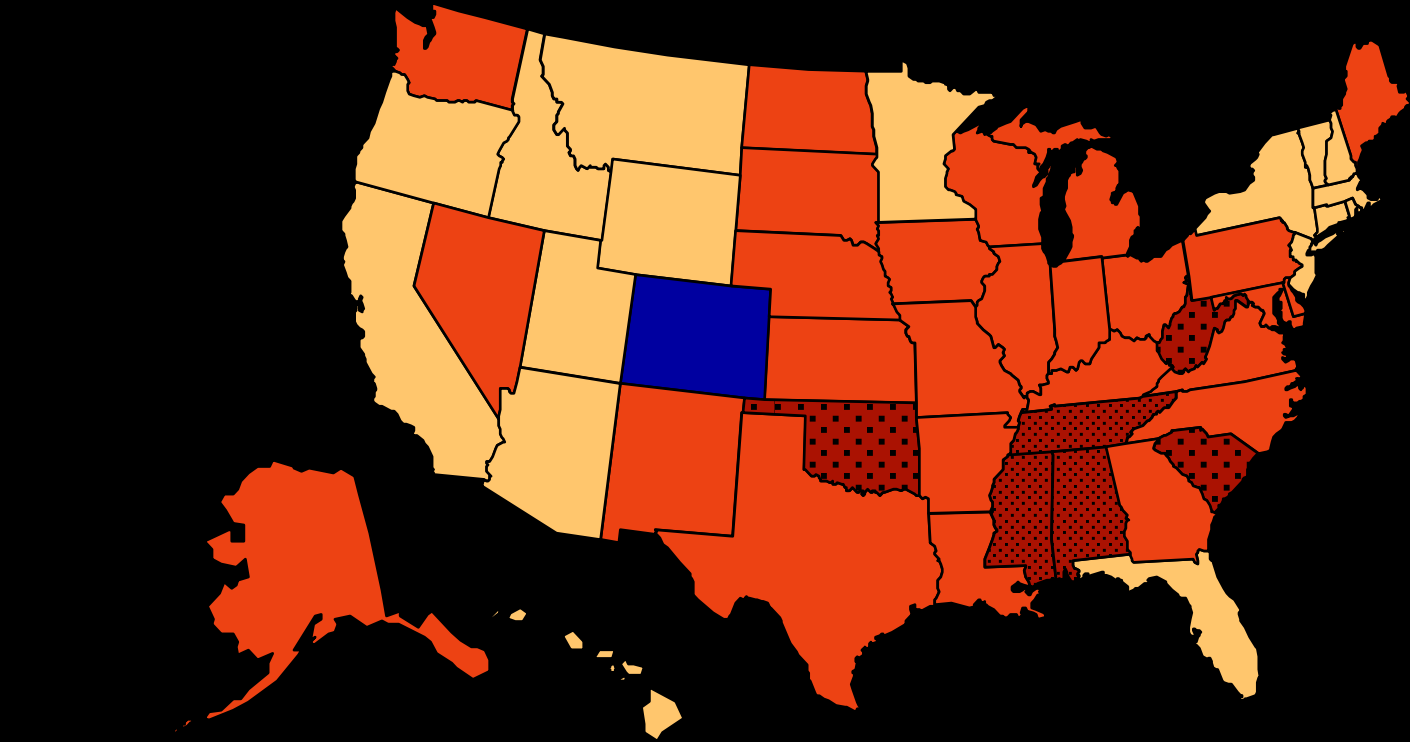


No Data <10% 10-14% 15-19% 20-24% 25-29% ≥30%

Obesity Trends* Among U.S. Adults

BRFSS, 2008

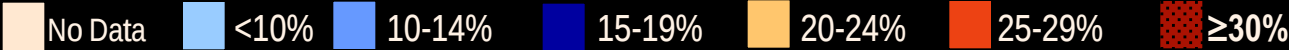
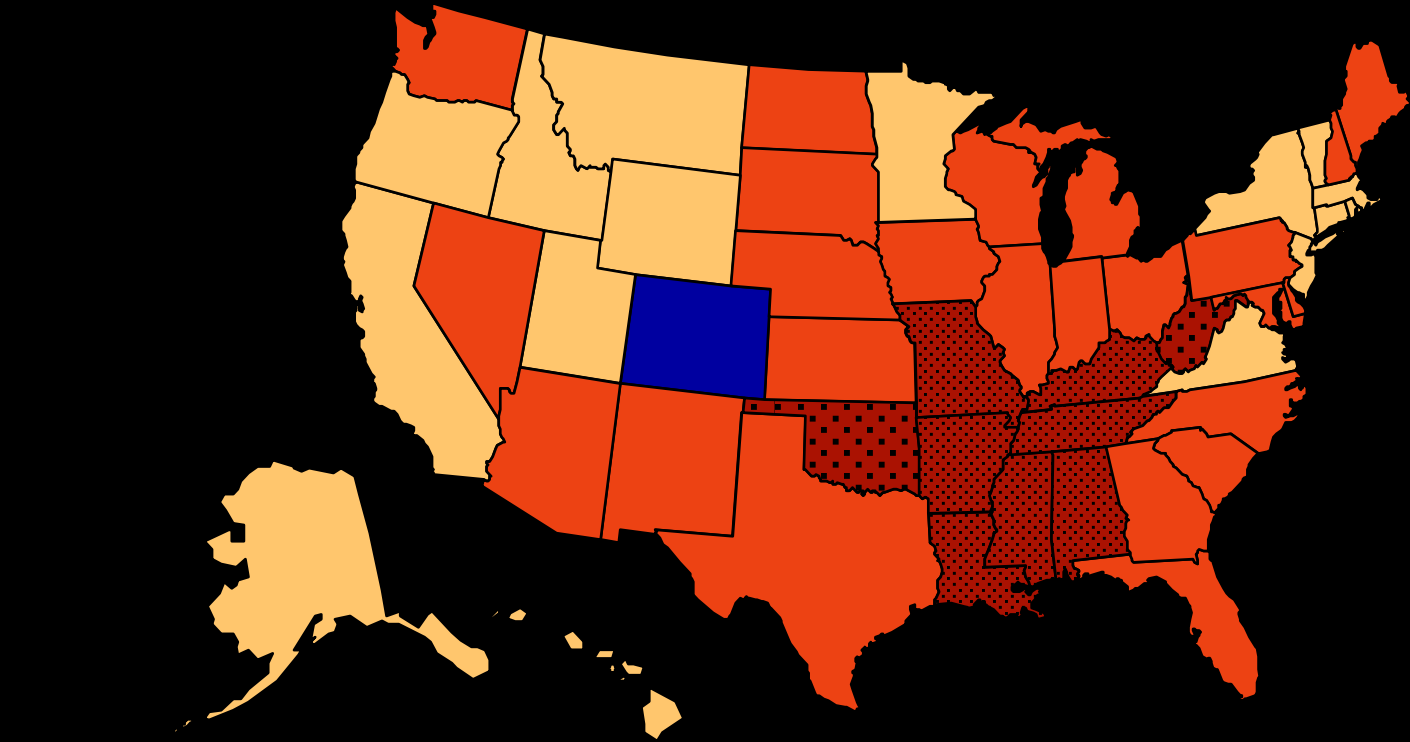
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)

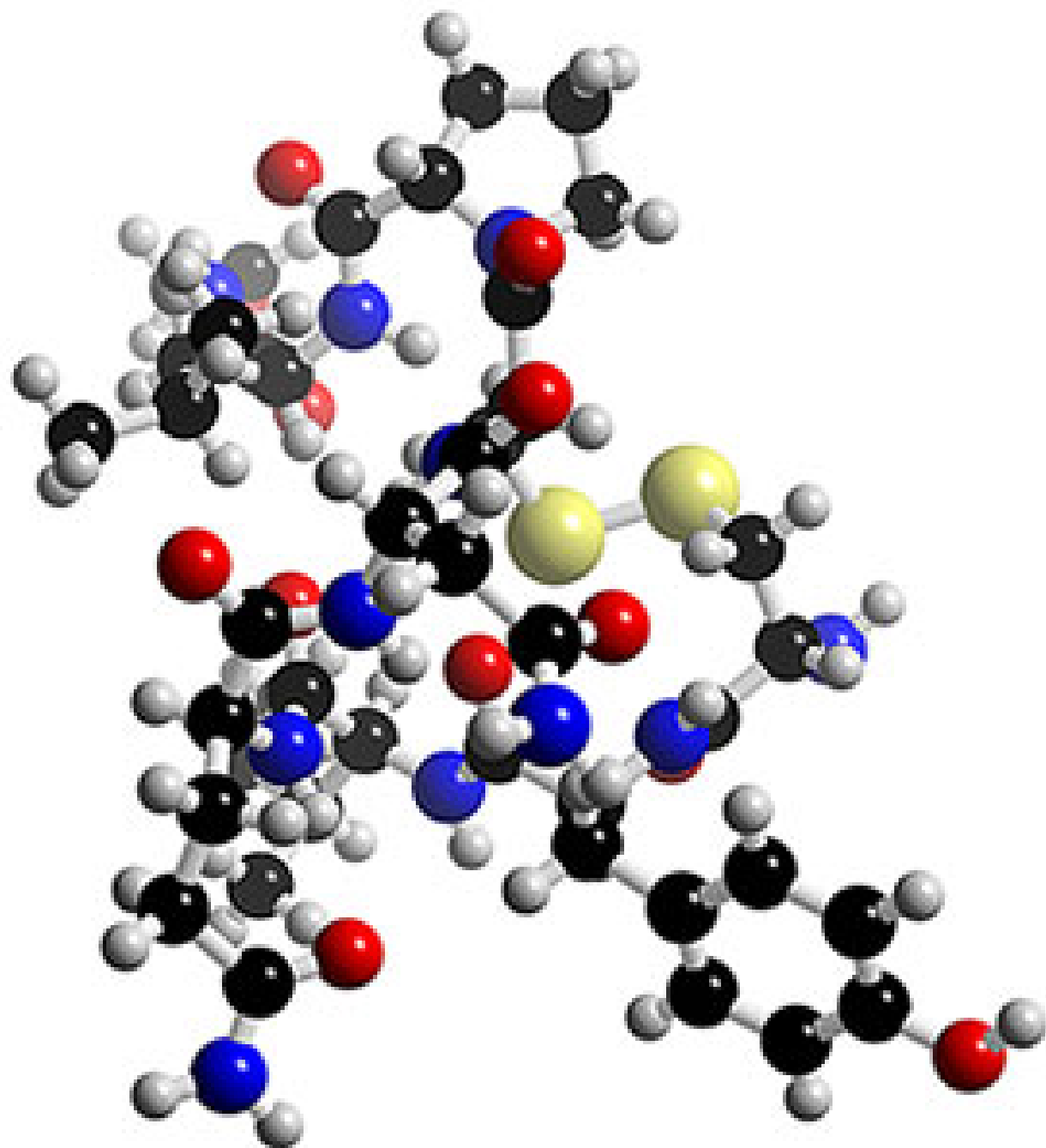


Obesity Trends* Among U.S. Adults

BRFSS, 2009

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









Wm RESTAURANT SUPPLIES, INC.

永發餐具

310











Image source: Dan Burden



Image source: Dan Burden



Image source: Diabetes Daily

Mixed message?



Image source: Diabetes Daily



Image source: Carbolic Smokeball

1. Measure What Matters

Old Speed Paradigm -> Roadway LOS

LOS	Average delay in seconds per vehicle	Description of motorist perception
A	< 10	Free-flow traffic: “Good” LOS
B	10.1 – 20	Reasonable free-flow
C	20.1 – 35	Stable but unreasonable delay begins to occur
D	35.1 – 55	Borderline “bad” LOS
E	55.1 – 80	“Bad” LOS: long queues
F	> 80	Unacceptable: very high delay, congestion

ia

IN:

BEER can

out dated

ALICIA'S ROOM - EVENING

A, a Mexican American teen, out of
room. She slams the door and throws
which is covered with worn purple s



Level of Service A



Level of Service F

Source: Neighborhoods.org



Level of Service F

What's important depends upon perspective



Traffic engineer:

F

A

Economist:

A

F

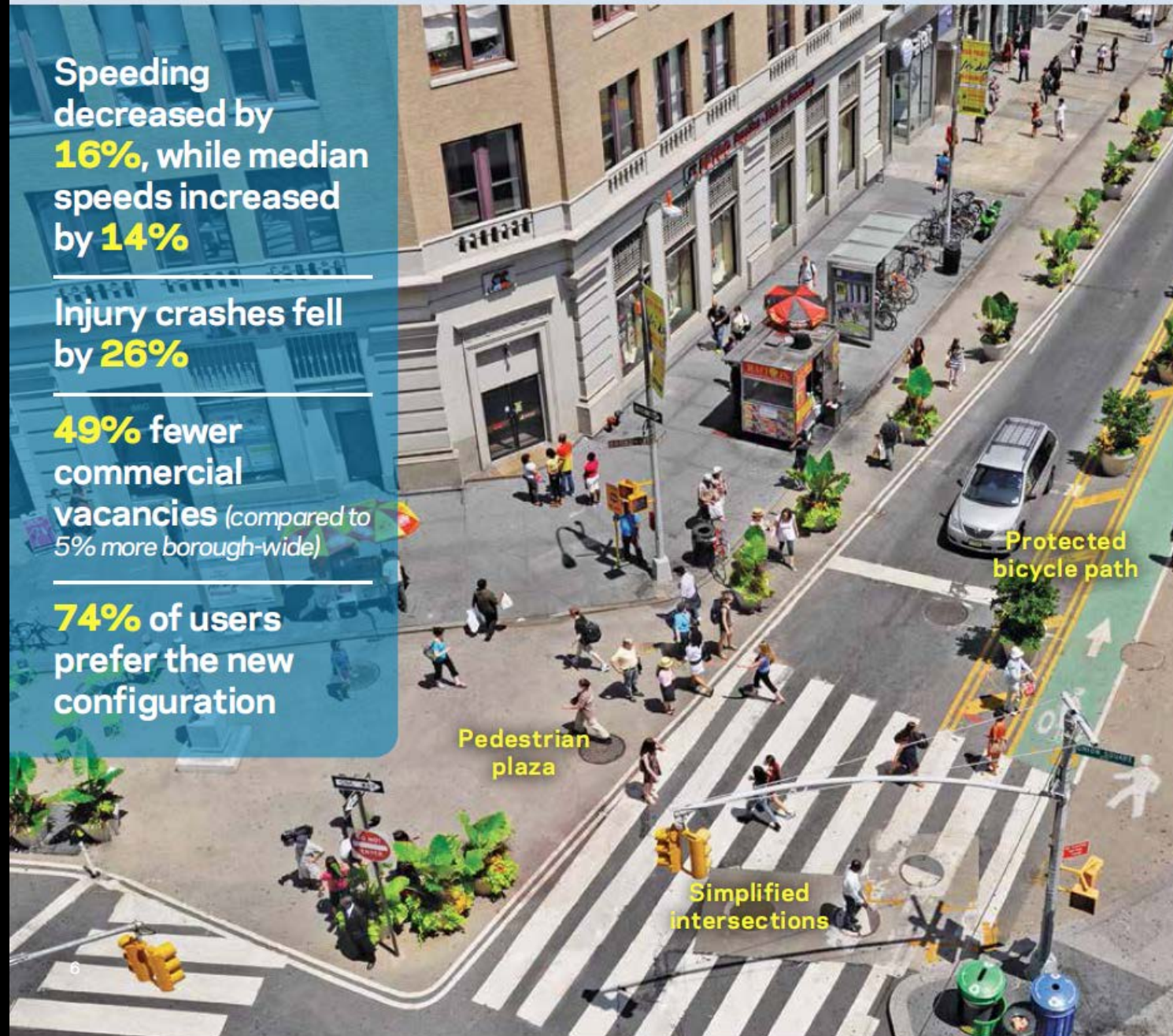
Expanding an iconic space: Union Square North (Manhattan)

Speeding
decreased by
16%, while median
speeds increased
by **14%**

Injury crashes fell
by **26%**

49% fewer
commercial
vacancies (compared to
5% more borough-wide)

74% of users
prefer the new
configuration



Protected
bicycle path

Pedestrian
plaza

Simplified
intersections

Transforming an underused parking area: Pearl Street (Brooklyn)

172% increase
in retail sales (at
locally-based businesses,
compared to 18%
borough-wide)

BID held **27** public
events in 2012

Maintenance
partner agreement

Pedestrian
plaza

Creating a seating area out of curb lane: Pearl Street (Manhattan)

77% increase in
seated pedestrians

14% increase in
sales at fronting
businesses

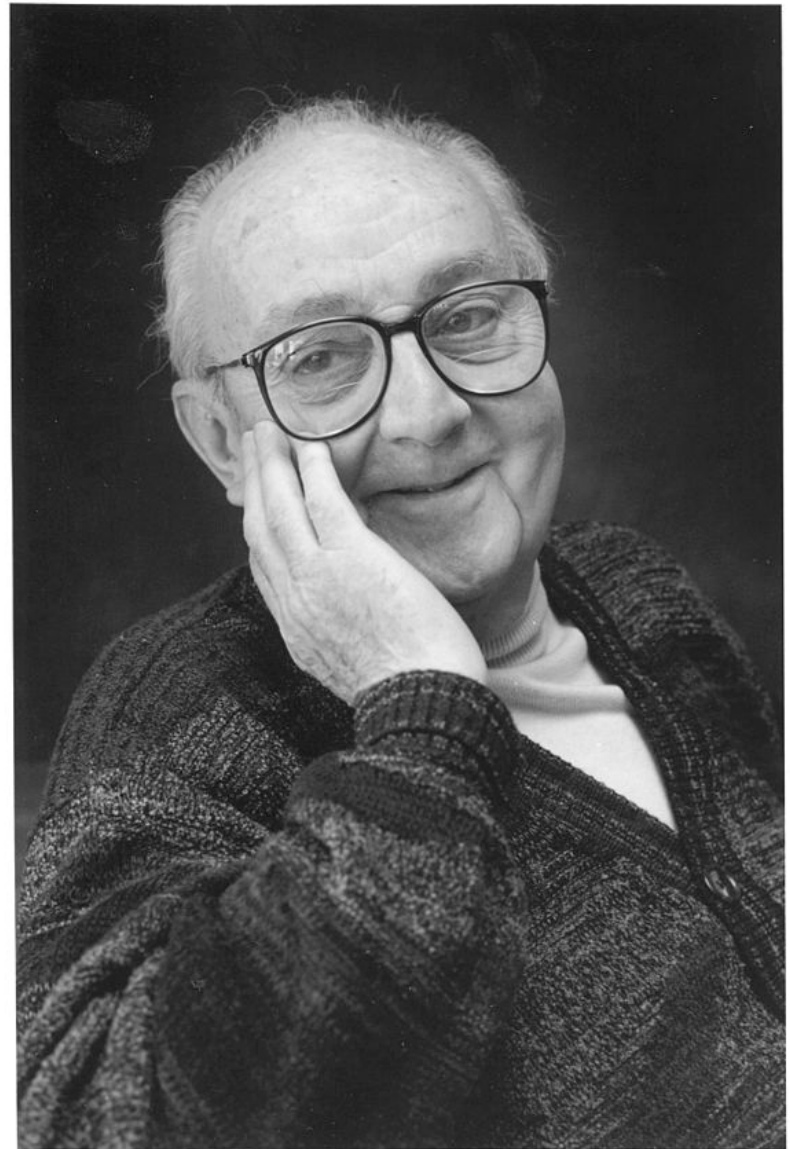
Striping and
planters

Seasonal seating
platform in
curbside lane

**2. Use the Right Tools,
and Use them Correctly**

**“All models are
wrong, but some
are useful.”**

George E. P. Box,
*Empirical Model-Building
and Response
Surfaces (1987)*





THE FOOL.

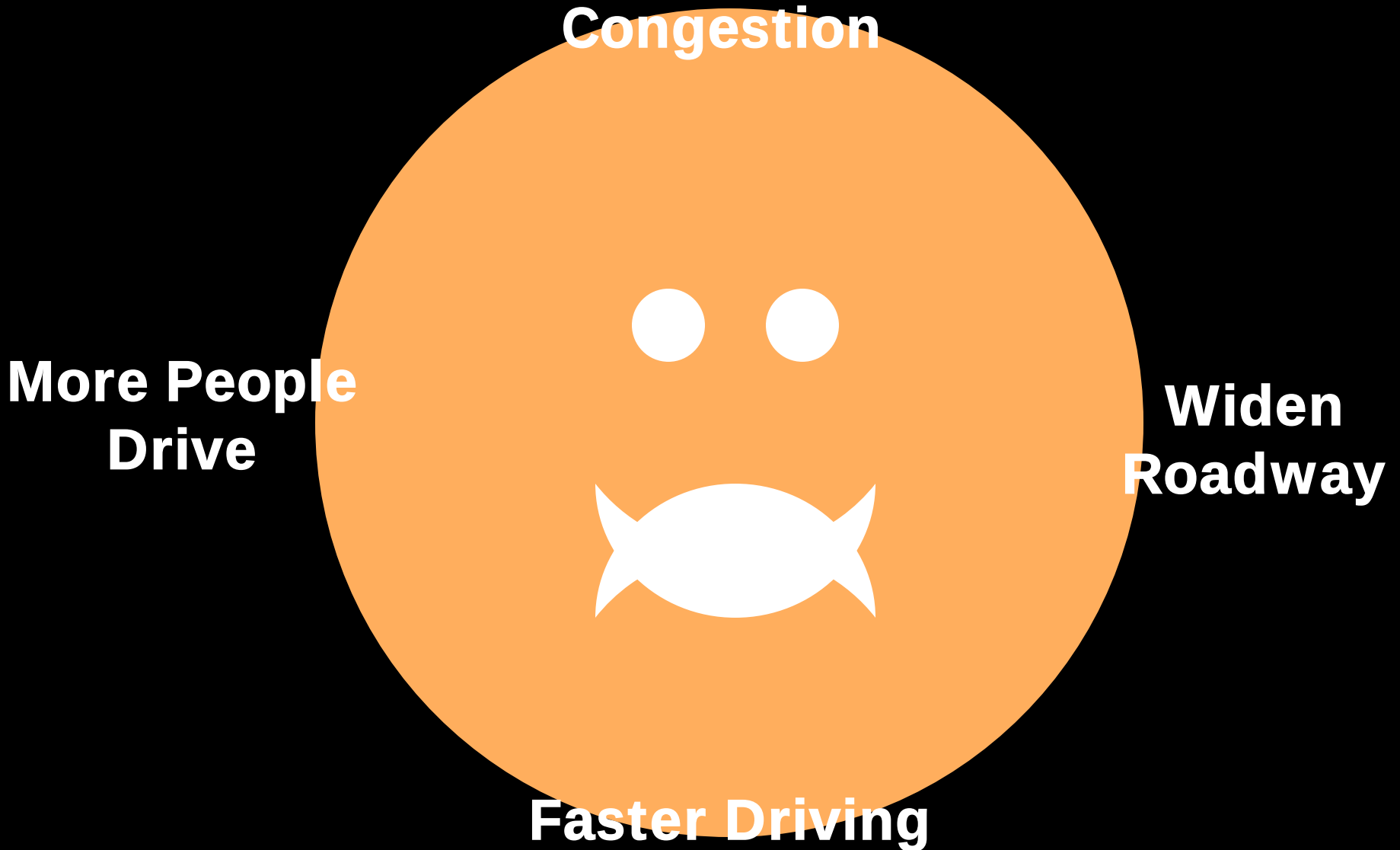
© 1971 U.S. Games

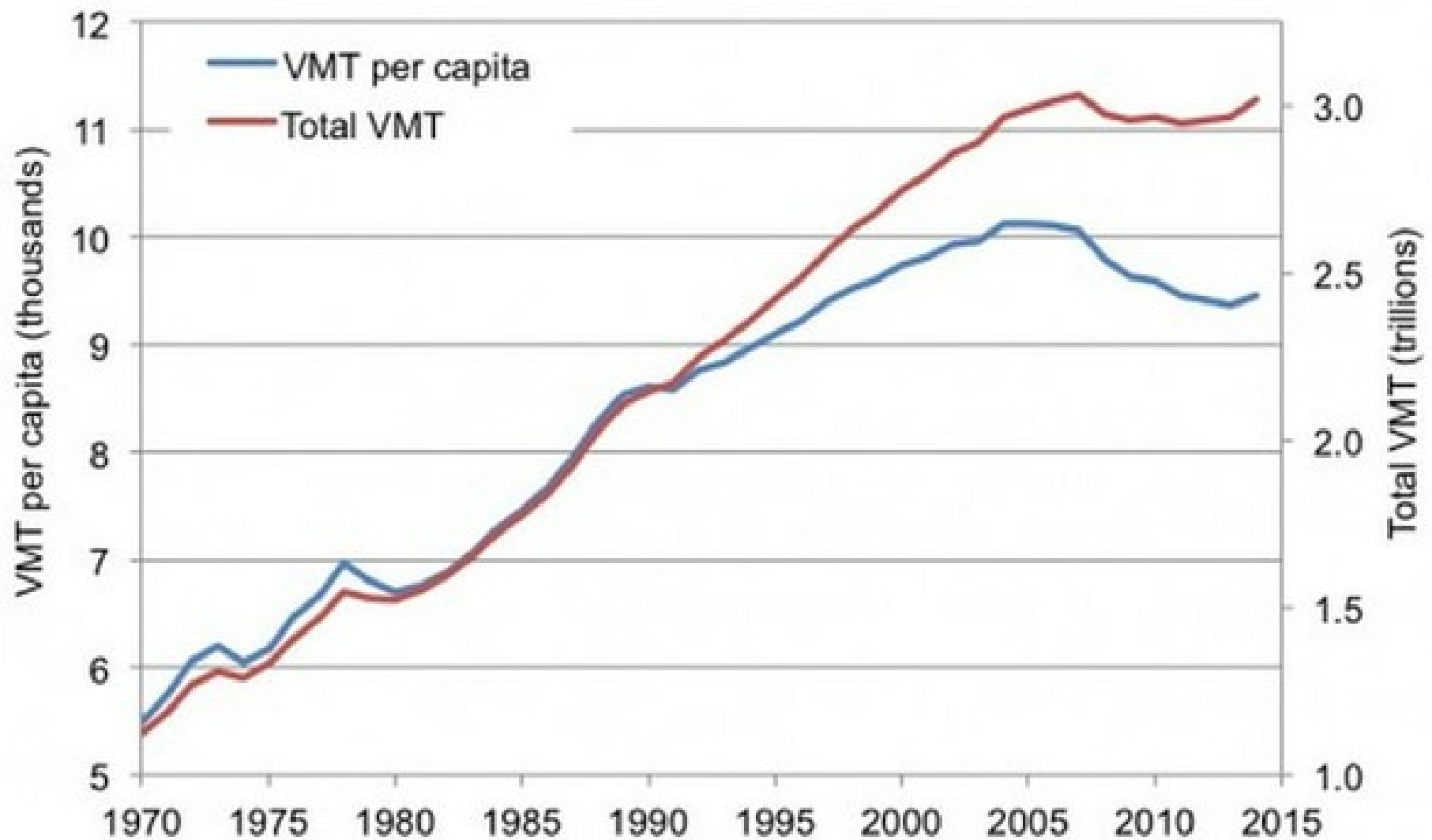


THE MAGICIAN.

© 1971 U.S. Games

Induced and Latent Demand





State Smart Transportation Initiative

Figure 1. Annual vehicle-miles traveled (VMT), total and per capita, in United States. Data source: FHWA and Census Bureau.

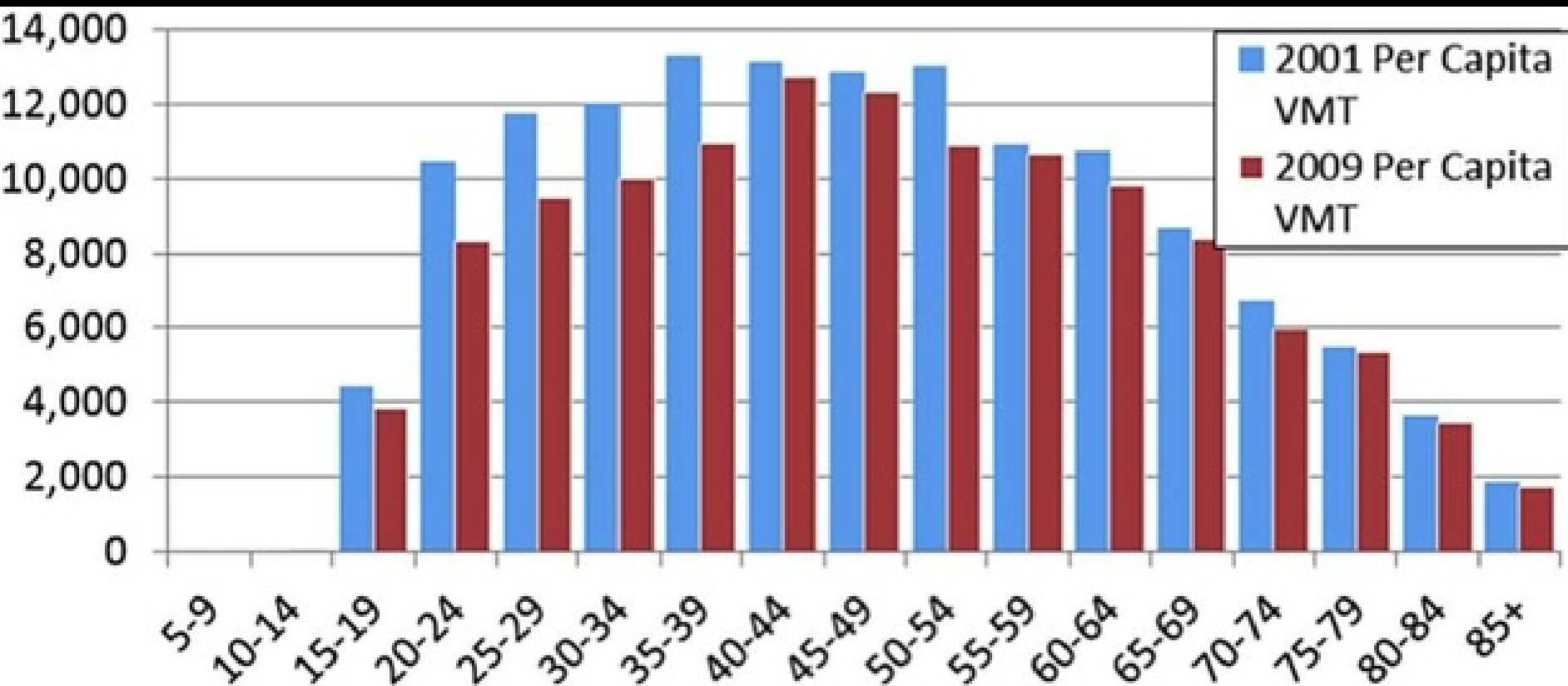
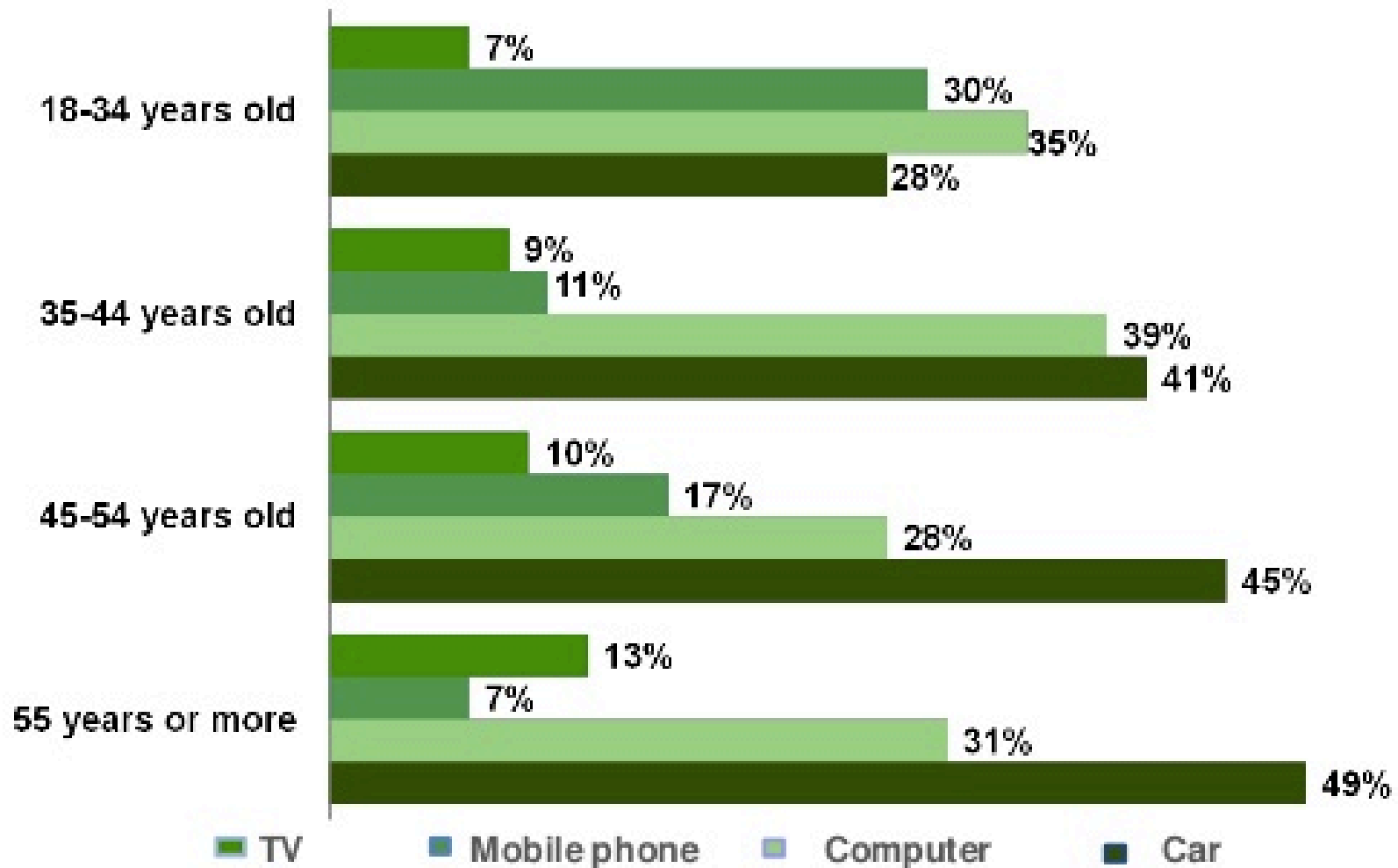


Fig. 4. NHTS person miles of travel change. Source: Author's analysis of NHTS.

Source: Eric Jaffe, CityLab, "The 10 Biggest Factors Changing Millennial Driving Habits" <http://www.citylab.com/commute/2014/11/the-10-biggest-factors-changing-millennial-driving-habits/382763/>

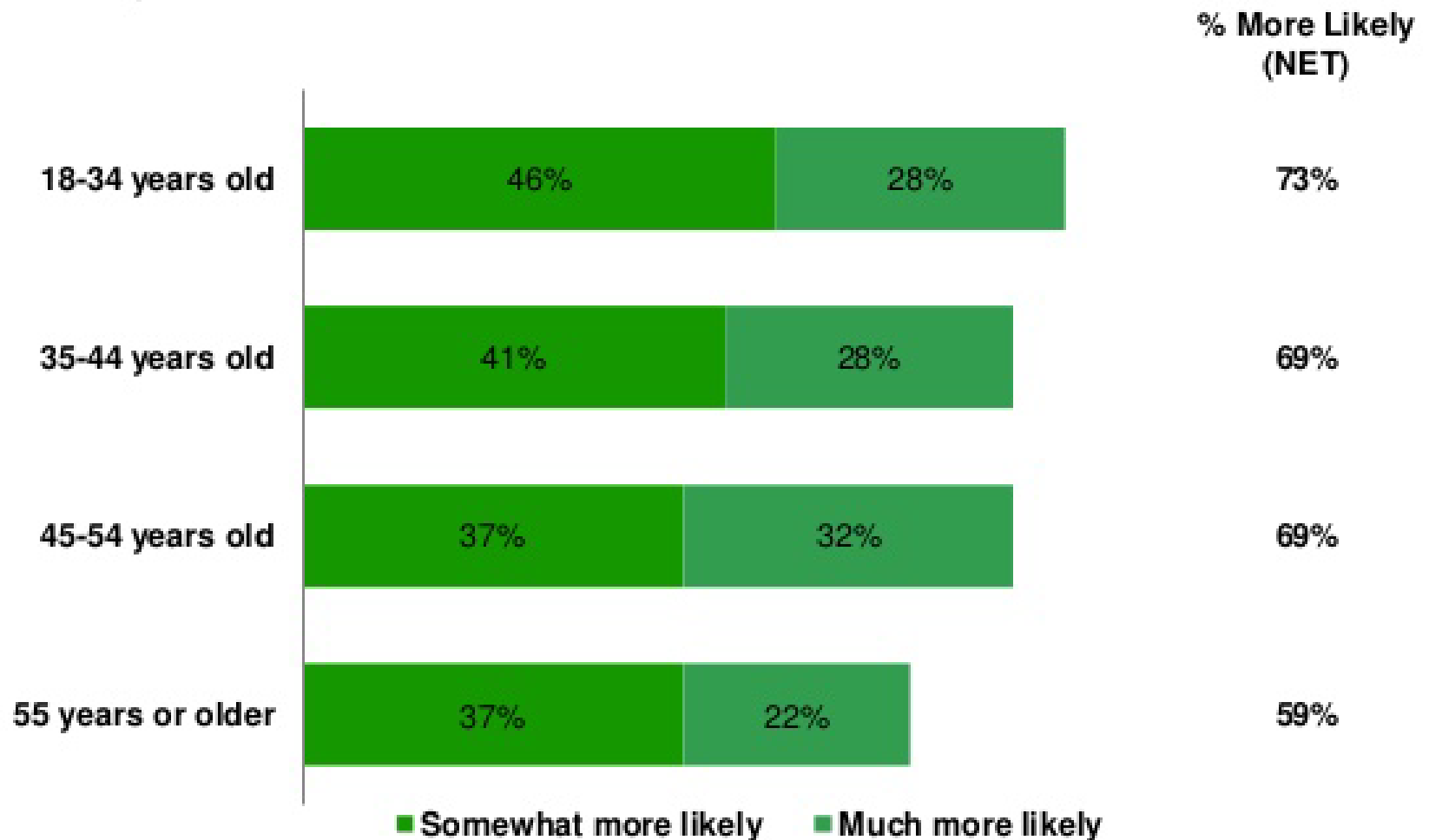
In your daily routine, losing which piece of technology would have the greatest negative impact on you?

% By age group



Source: Zipcar Annual Millennial Study, February 2013. http://www.slideshare.net/Zipcar_Inc/millennial-slide-share-final-16812323

How much more likely are you to purchase something online than to drive or take public transportation to a store?



3. Put the Needs of Daily Life within Walking Distance

**...and make the walk
*delightful***



OPENING
JUNE 26
MY SISTER'S
KEEPER

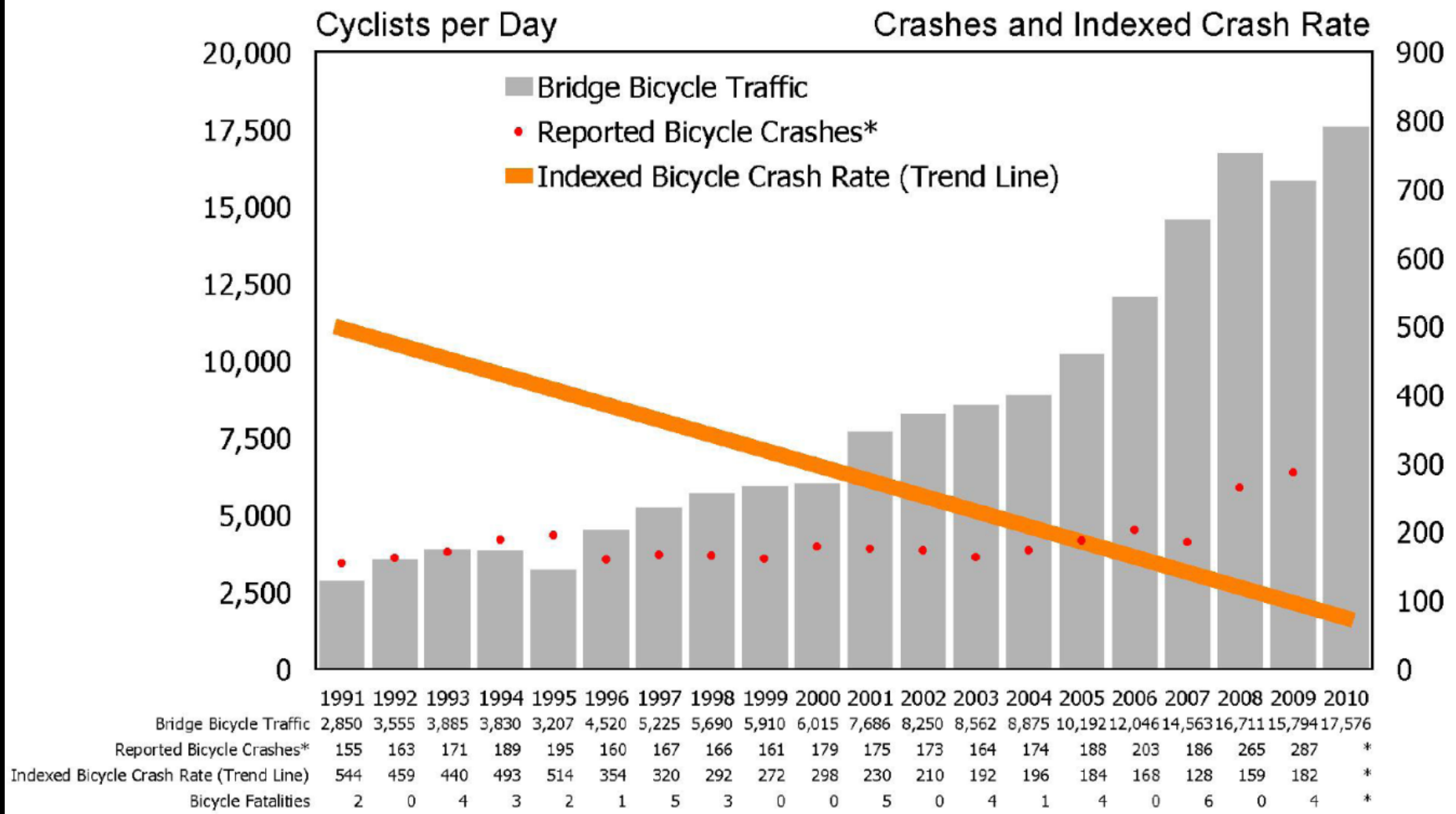
WAY WE GO
IMAGINE THAT
ANGELS AND DEMONS
FE IN RUINS TERMINATOR

OPENING
JUNE 19
YEAR
ONE

4. Make Cycling Safe and Pleasant for All Ages



Combined Bicycle Traffic over Four Main Portland Bicycle Bridges Juxtaposed with Bicycle Crashes



Source: Roger Geller

Strong & Fearless

Will ride regardless of facilities

Trip distance not an issue

Interested but Concerned

Not attracted by bike lanes

Not comfortable in traffic

Will ride in low-volume, low-speed conditions (boulevards, off-street)

No way No How

Enthusied & Confident

Comfortable in traffic with appropriate facilities

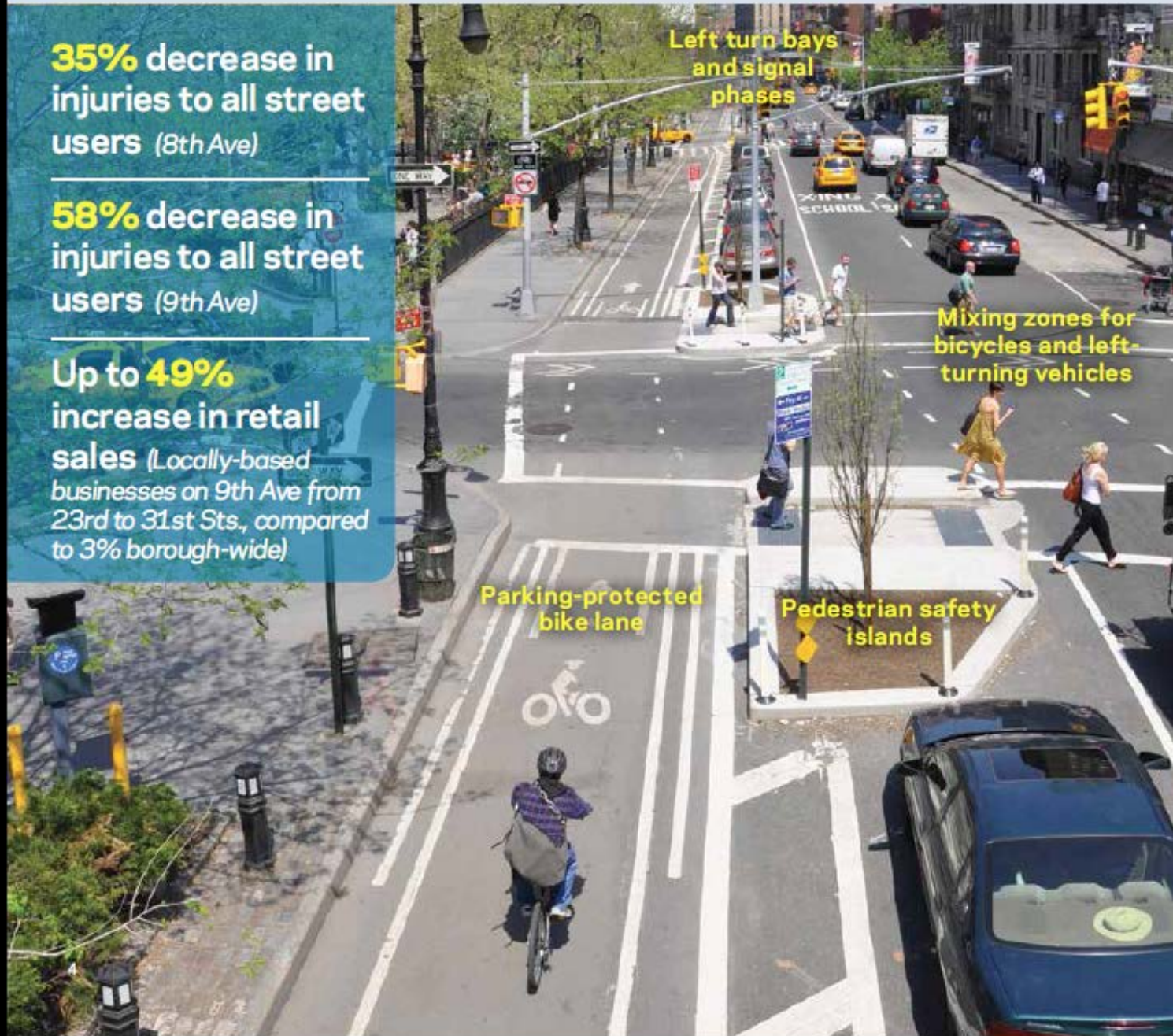
Prefer shorter trip distances

First protected bicycle lane in the US: 8th and 9th Avenues (Manhattan)

35% decrease in injuries to all street users (8th Ave)

58% decrease in injuries to all street users (9th Ave)

Up to 49% increase in retail sales (Locally-based businesses on 9th Ave from 23rd to 31st Sts., compared to 3% borough-wide)



**5. Make Transit
Fast, Frequent, Reliable
and Dignified**



Making bus routes work better: Fordham Road (Bronx)

20% increase in
bus speeds

10% increase in
bus ridership

71% increase in
retail sales
(at locally-based
businesses, compared to
23% borough-wide)

Transit signal
priority

Delivery windows
(curb dedicated to
trucks at key times)

Curbside red
bus lanes

6. Adopt the Right Street Design Manual

Urban



Street



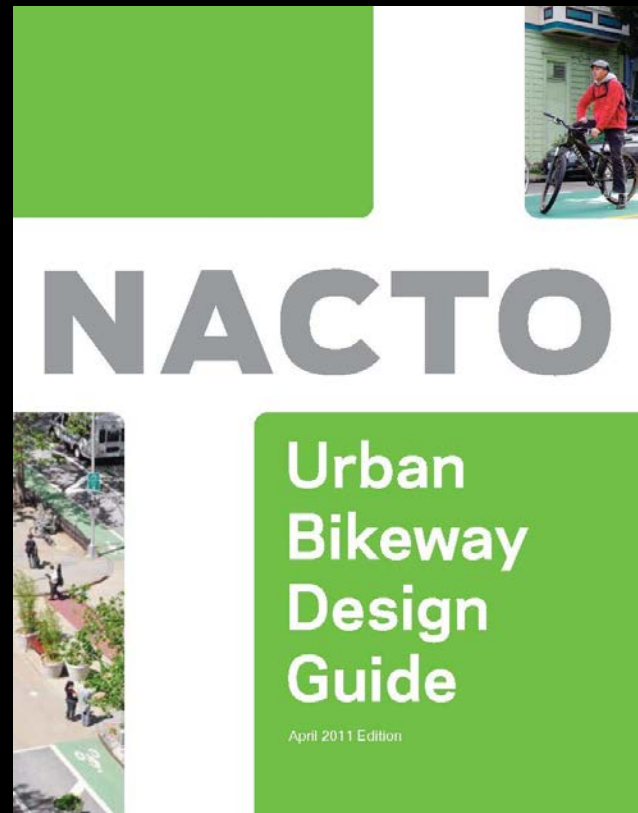
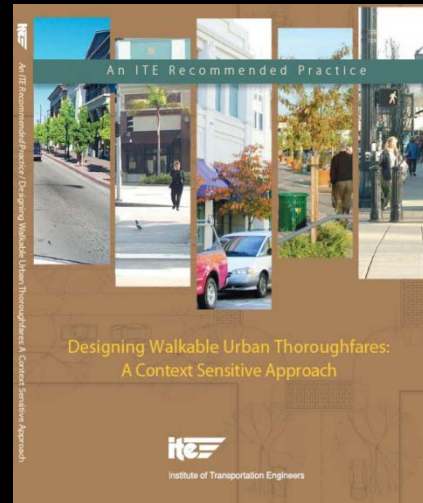
Design



Guide



National Association of City Transportation Officials

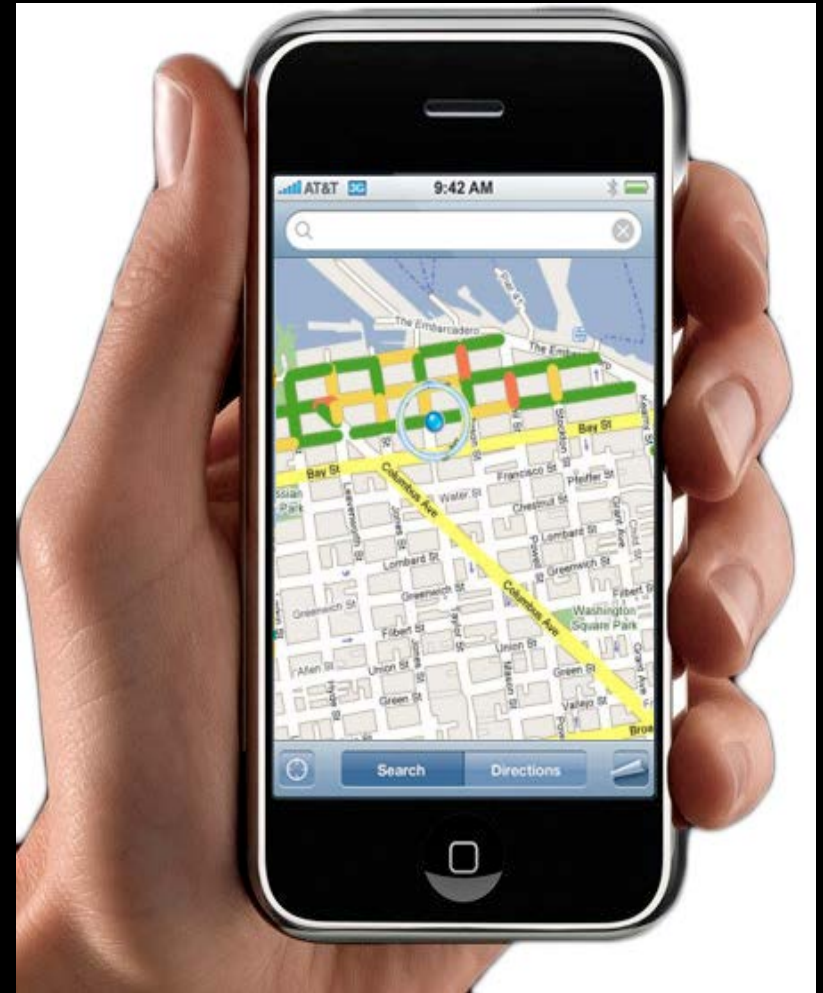


7. Be Smart About Parking

Smart Meters



Smart Technology



Downtown Parking Map

Right Price



Right Time

Hours of Operation

Sunday - Thursday

11 AM to 8 PM

Friday - Saturday

11 AM to 12 midnight

Except Holidays

Invest Revenue



Unbundle and Share



UPPER	\$15
MIDDLE	\$10
LOWER	\$5

city carshare

CITY CARSHARE
PARKING ONLY

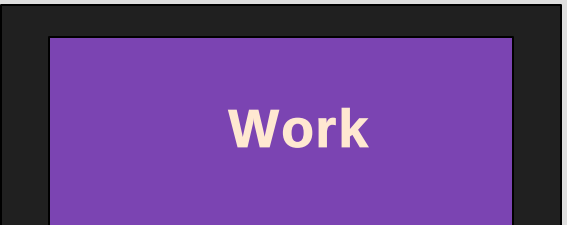
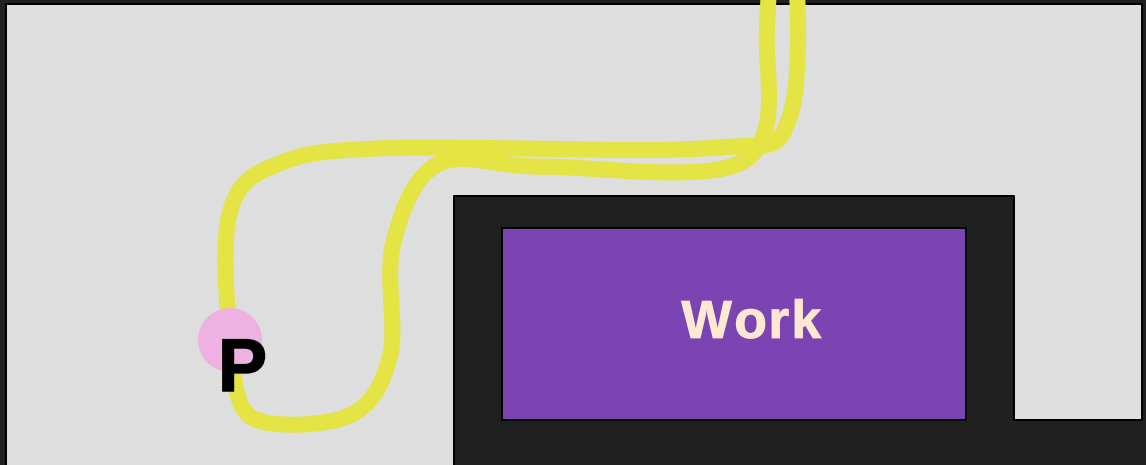
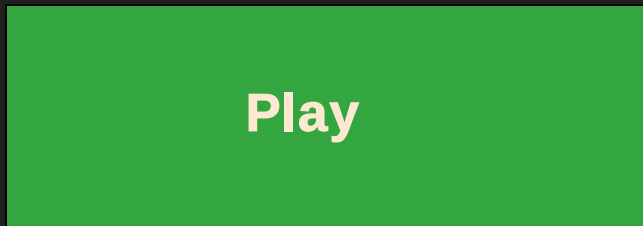
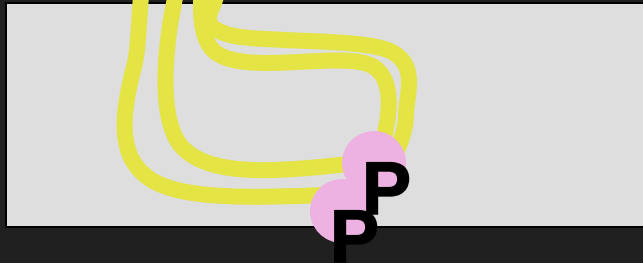
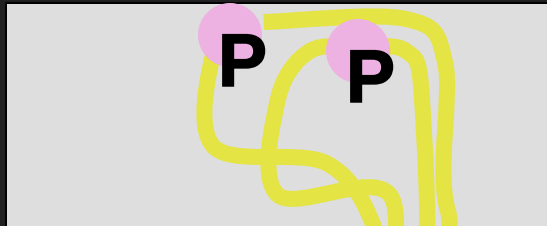
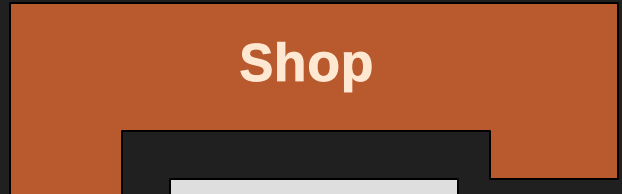
City CarShare
www.citycarshare.org

city carshare

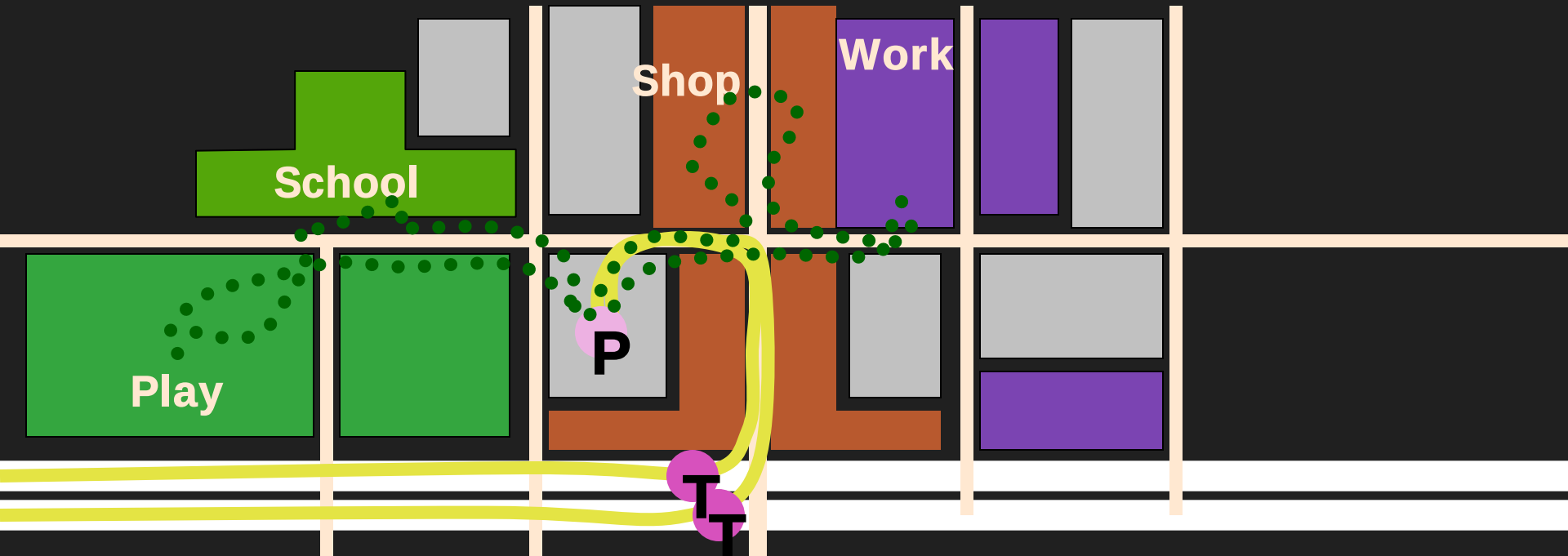
CITY CARSHARE
PARKING ONLY

City CarShare
www.citycarshare.org

UPPER	\$15
MIDDLE	\$10
LOWER	\$5



Mixed Use, Park Once District

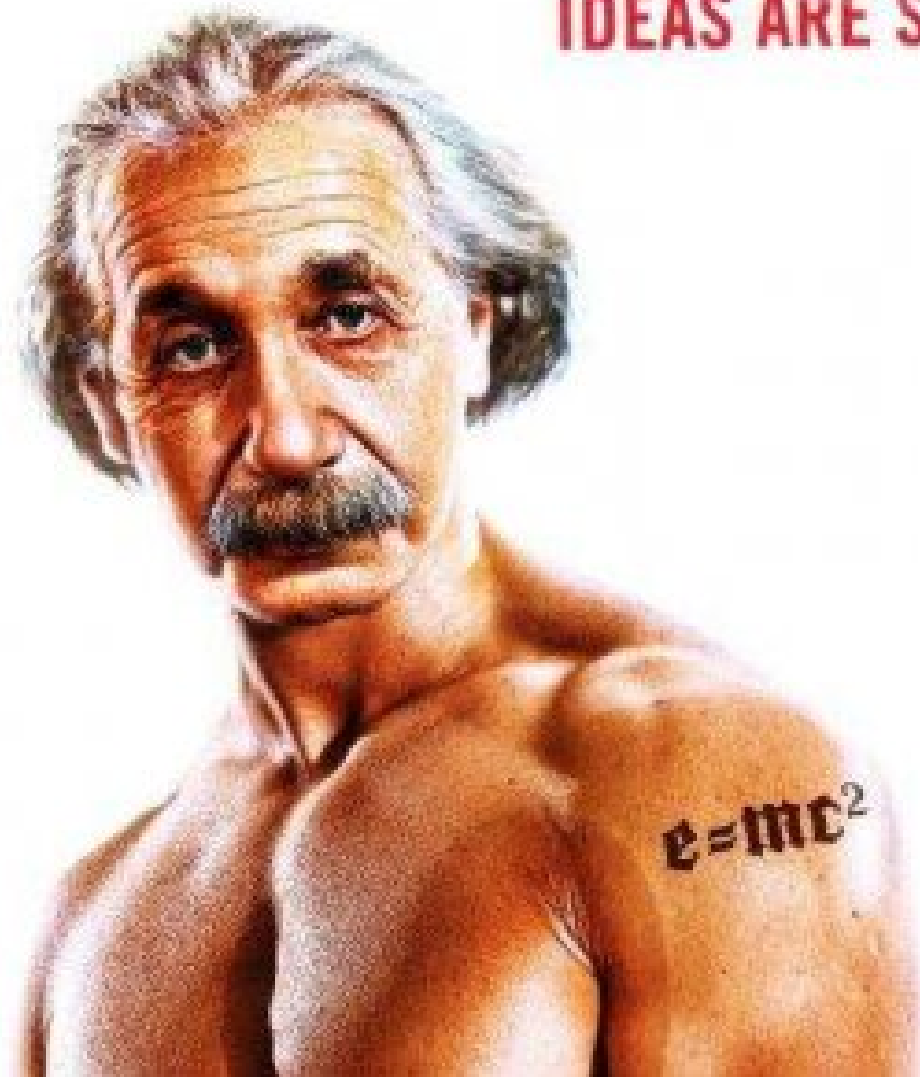


Results:

- $< \frac{1}{2}$ the parking
- $< \frac{1}{2}$ the land area
- $\frac{1}{4}$ the arterial trips
- $\frac{1}{6^{\text{th}}}$ the arterial turning movements
- $< \frac{1}{4}$ the vehicle miles traveled

8. Create a New Vision

IDEAS ARE SEXY TOO.





Source: <http://remove-your-crown.tumblr.com/>

It's not sustainable if it's not beautiful





Signspotting.com



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