

A woman in a black tank top and light-colored shorts is jogging away from the camera on a white cable-stayed bridge. The bridge has a white metal railing and is supported by thick white cables. In the background, a city skyline is visible across a body of water, featuring several tall buildings and a prominent tower with a spire. A large white yacht is docked in the water. The sky is blue with some light clouds.

From Roads for Vehicles to Streets for People

Transport's Role in Making Auckland
the World's Most Liveable City

Jeffrey Tumlin





I like to ride
on the train

Are you the engineer?



*MSRP. Excludes tax, title, license, dealer fees, and options. ©2001 Subaru of America, Inc. All rights reserved.

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 registered
 in the U.S. since 1974, over 90% are still on the road.* And
 why Subaru was voted #1 in customer satisfaction
 3000+ times by MotorWeek.TM
 So almost any conditions you face to get
 your Subaru through, it's built to know it's
 probably been there before.

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

SUBARU.

Inexpensive. And built to stay that way.

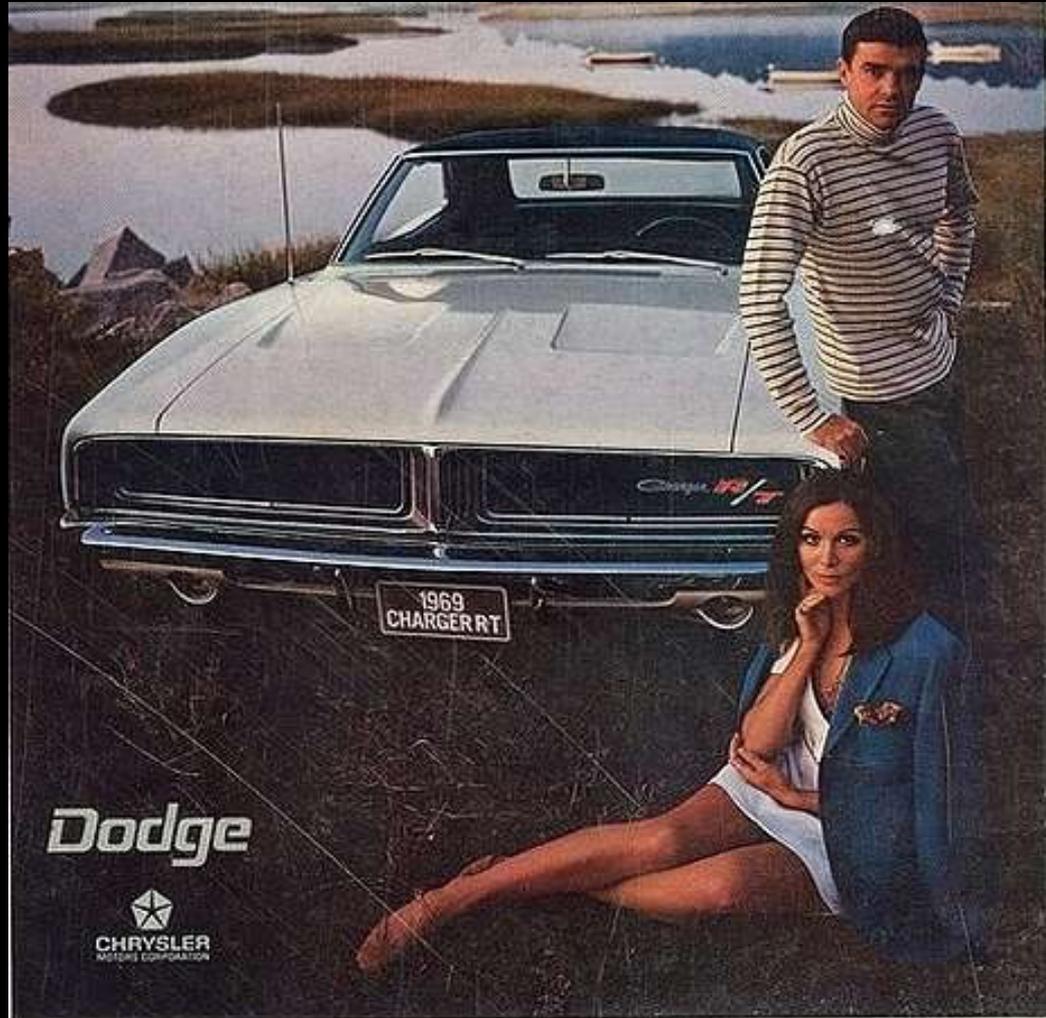
Top Performance

 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 tip 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



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







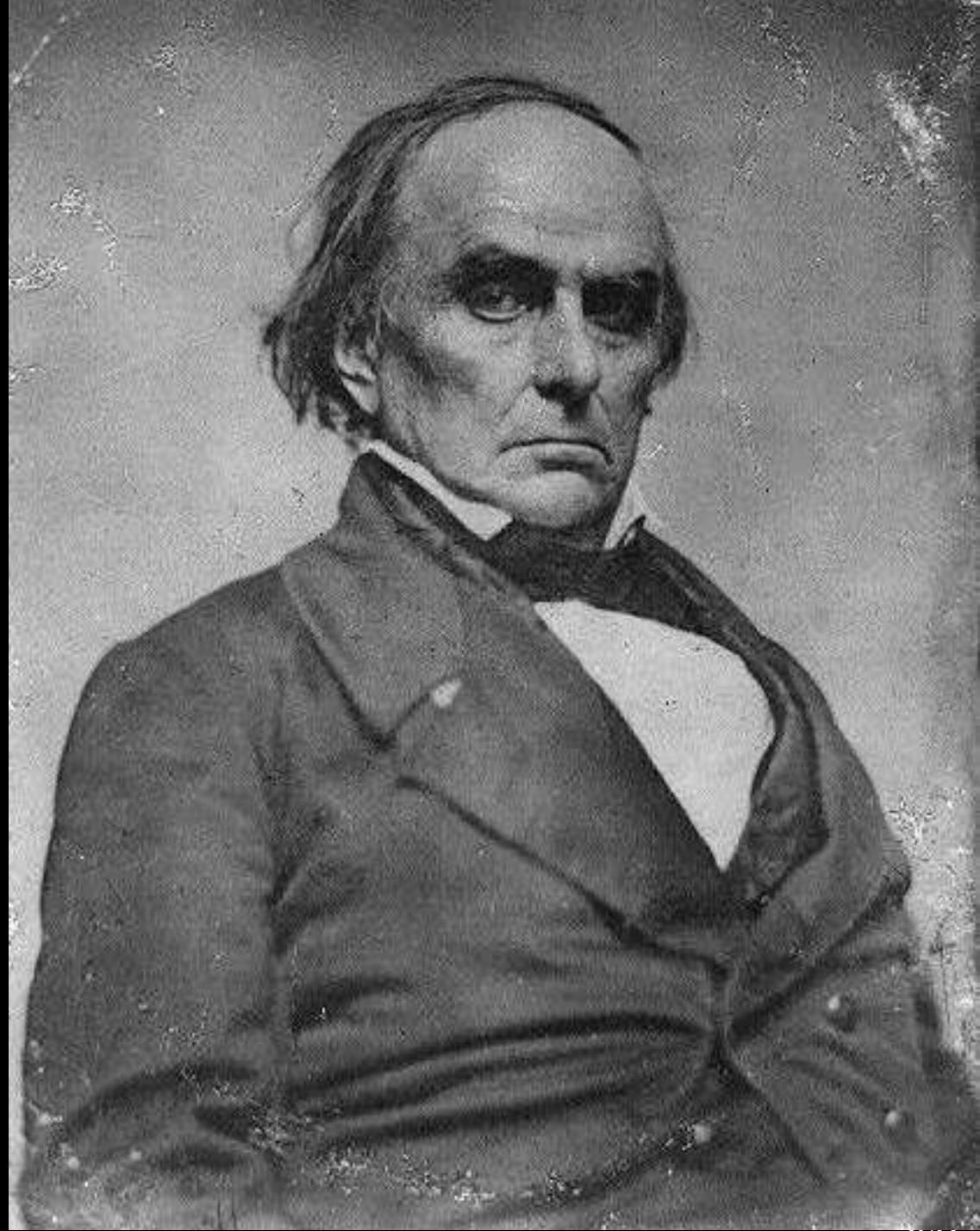
Dallas Morning News http://www.dallasnews.com/incoming/20111016-highfive_main.jpg.ece/BINARY/w620x413/HighFive_MAIN.jpg

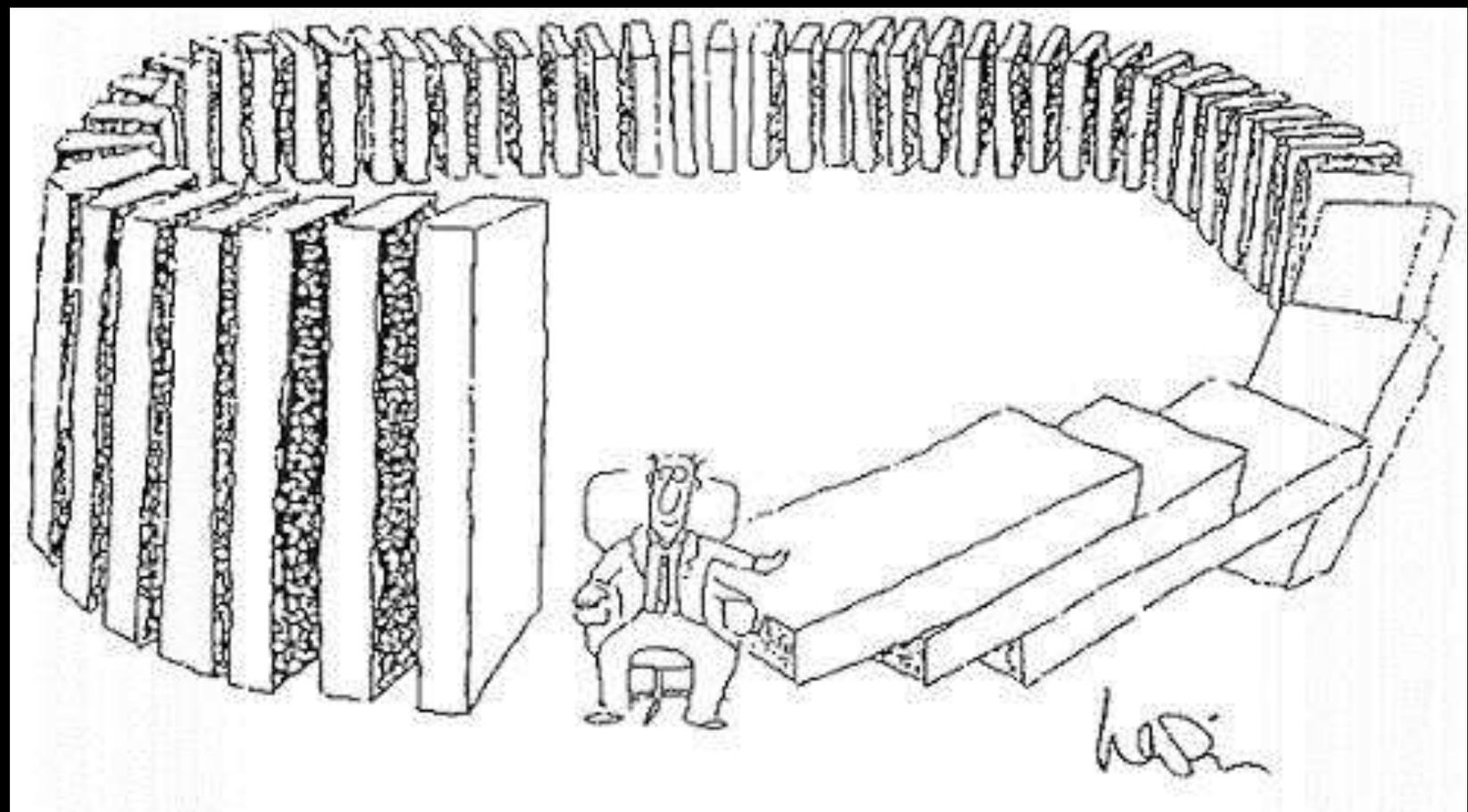


Dallas Morning News <http://www.dallasnews.com/news/transportation/20121125-plan-ahead-then-navigate-lbj-freeway-construction.ece>

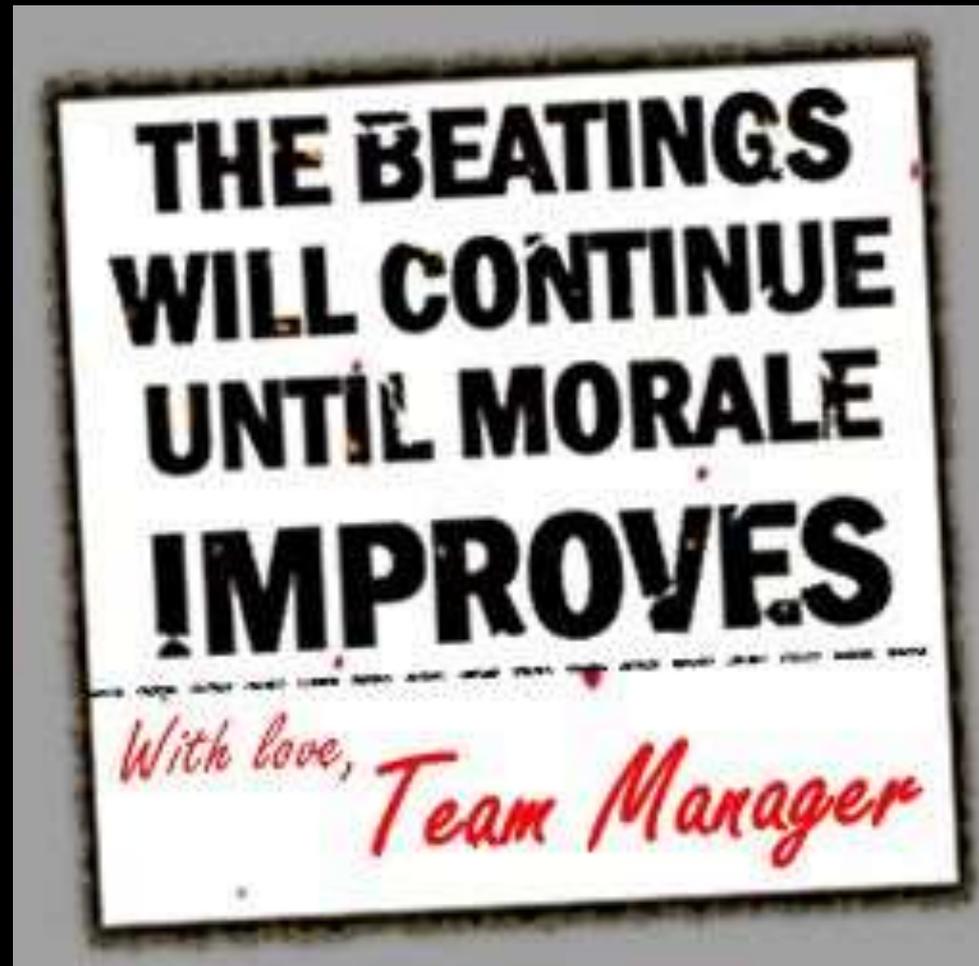
A strong conviction that **something must be done** is the parent of many bad measures

Daniel Webster

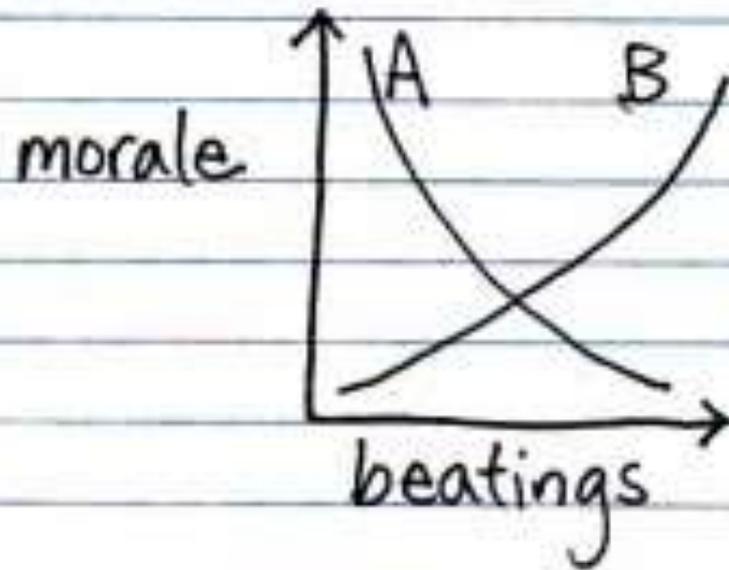




Object Thinking



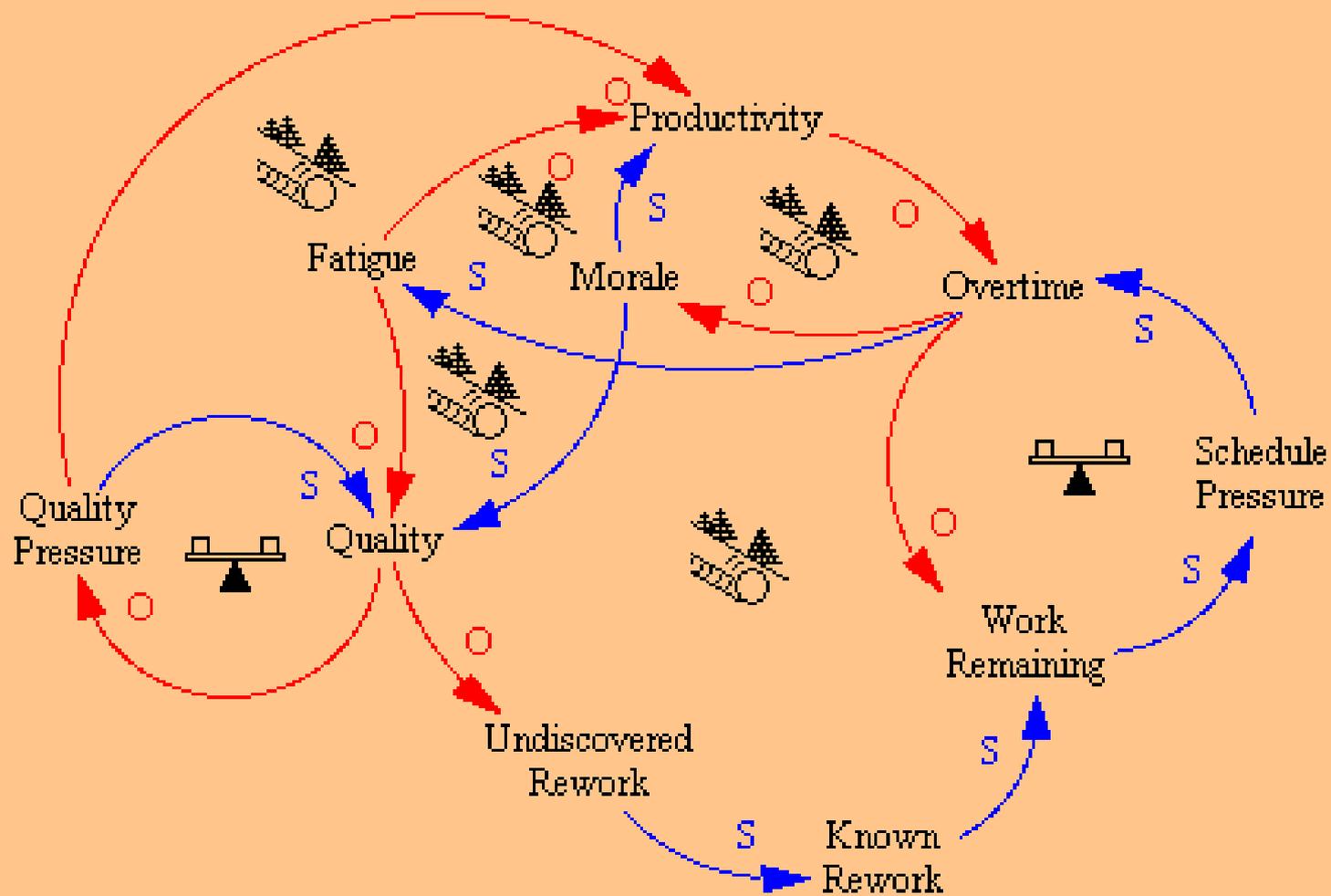
Systems Thinking



A = Actuality

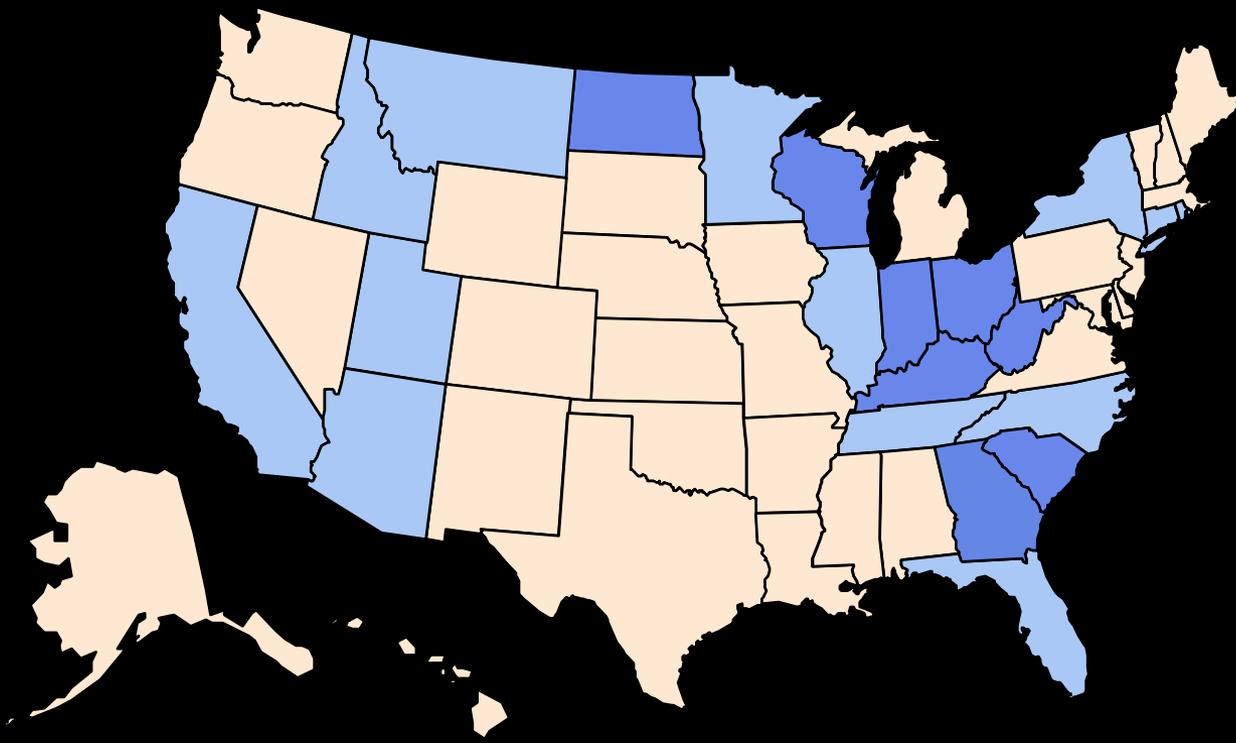
B = Corporate
policy

Systems Thinking



Obesity Trends* Among U.S. Adults BRFSS, 1985

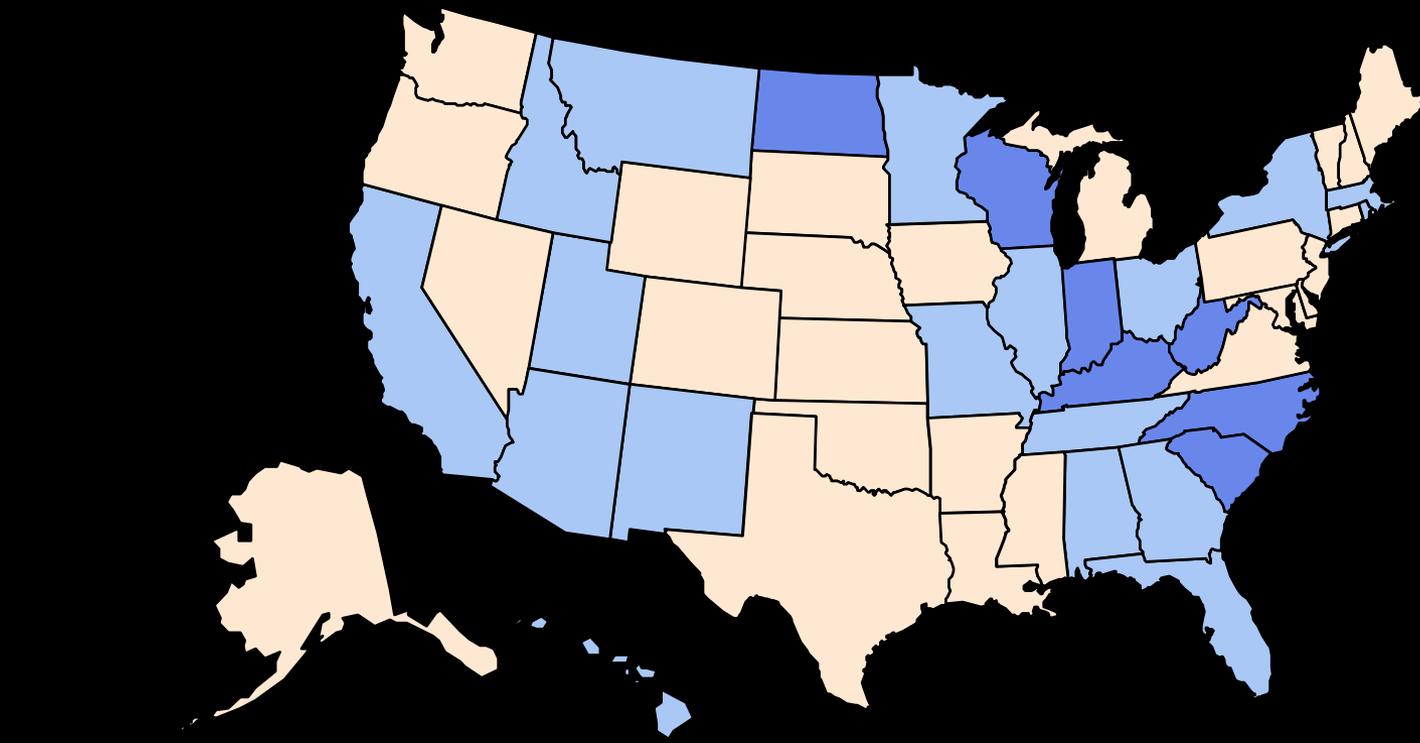
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



No Data <10% 10-14%

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

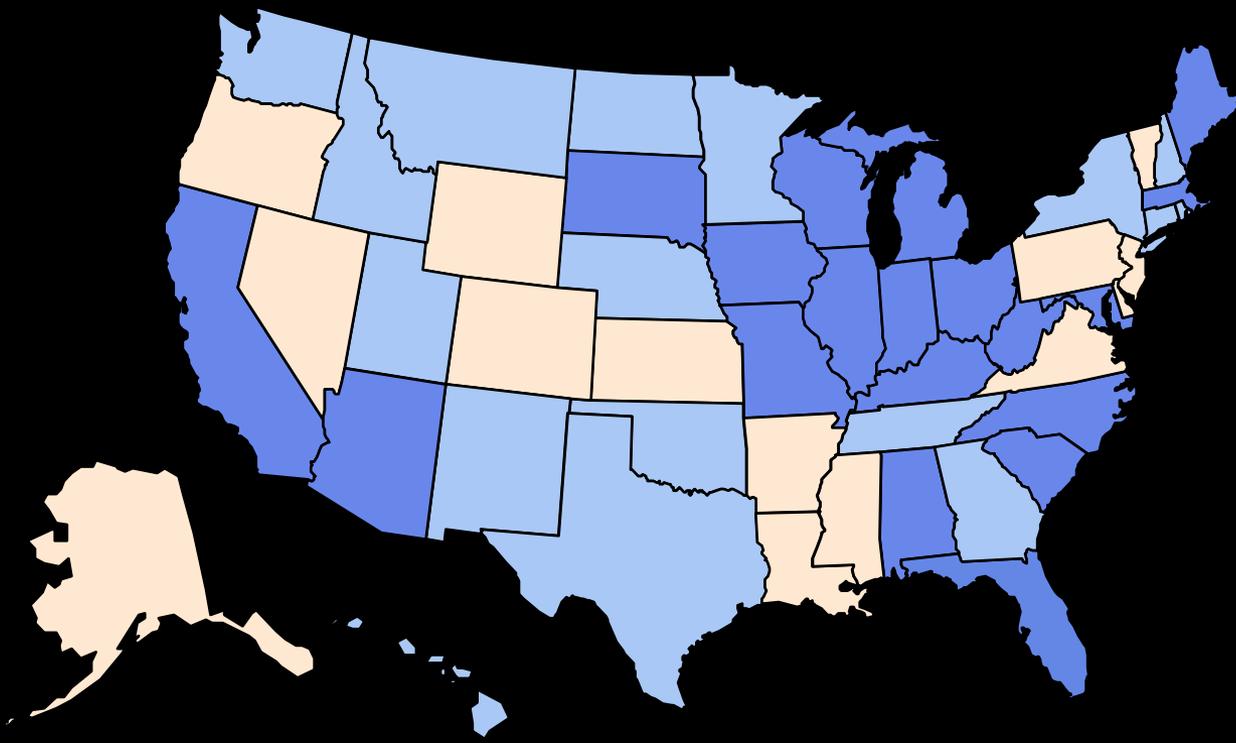
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



No Data <10% 10-14%

Obesity Trends* Among U.S. Adults BRFSS, 1988

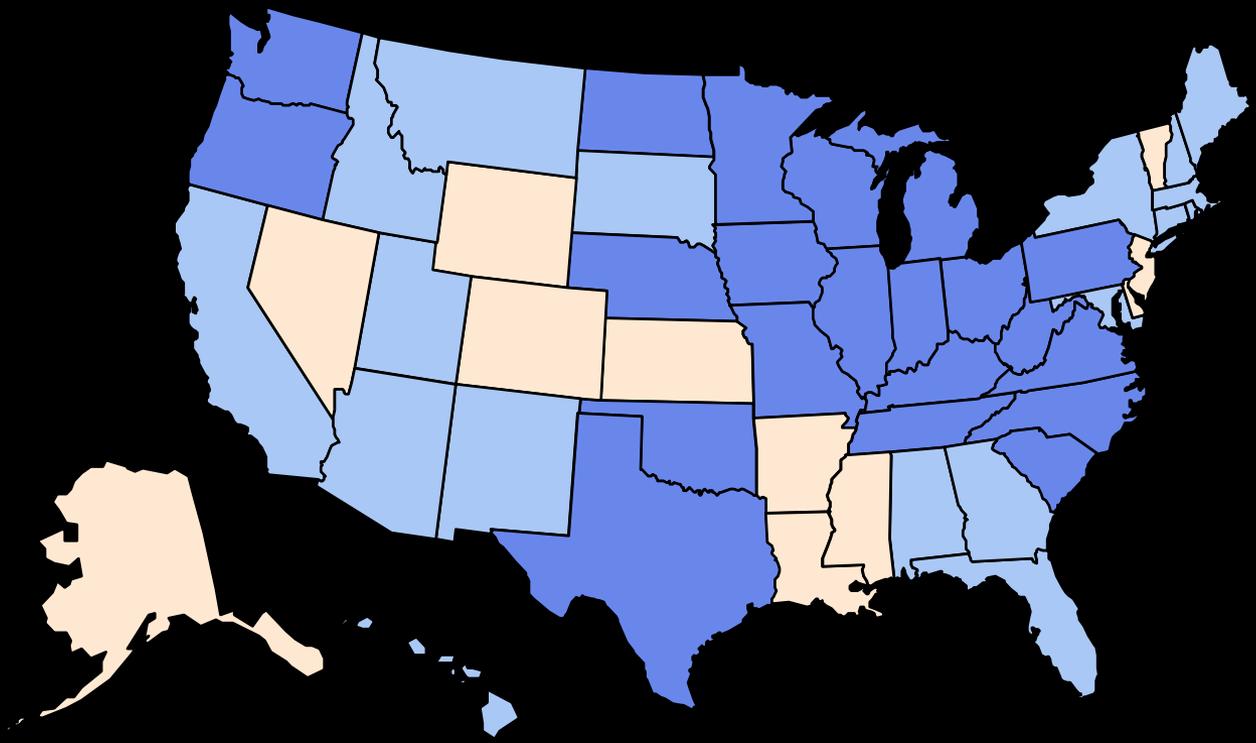
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



No Data <10% 10-14%

Obesity Trends* Among U.S. Adults BRFSS, 1989

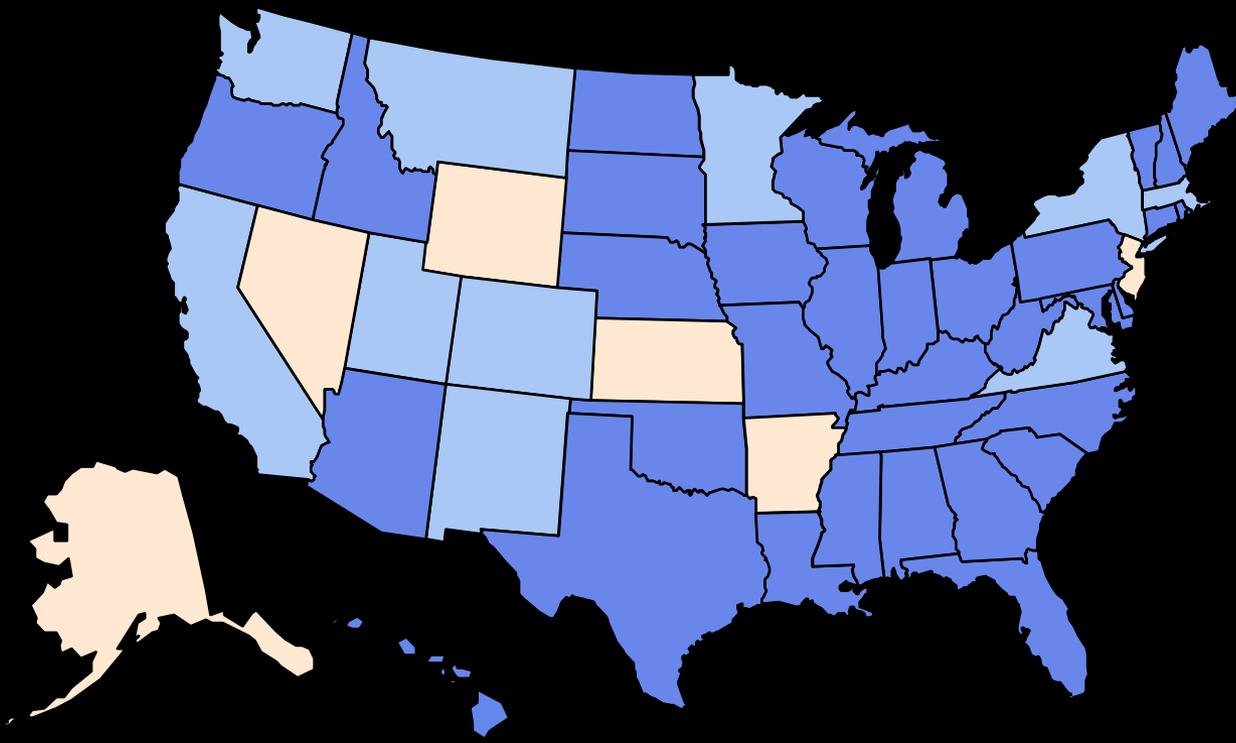
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



No Data <10% 10-14%

Obesity Trends* Among U.S. Adults BRFSS, 1990

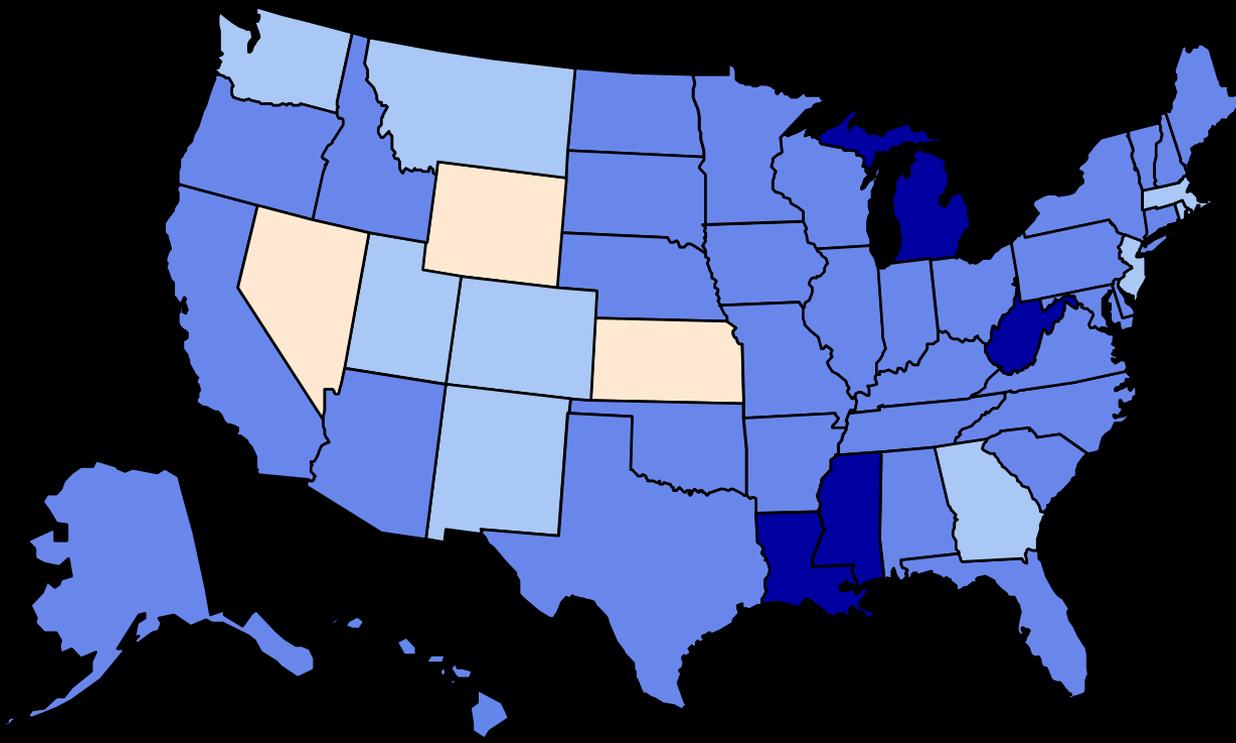
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



No Data <10% 10-14%

Obesity Trends* Among U.S. Adults BRFSS, 1991

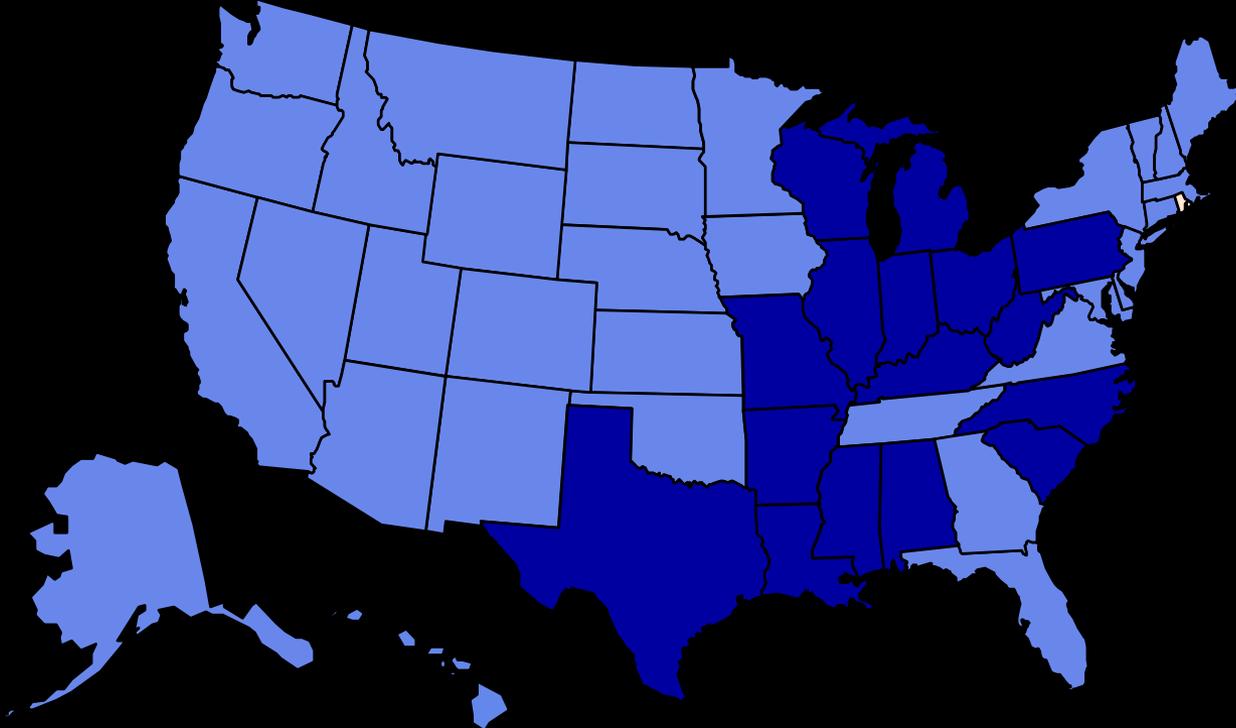
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



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

Obesity Trends* Among U.S. Adults BRFSS, 1994

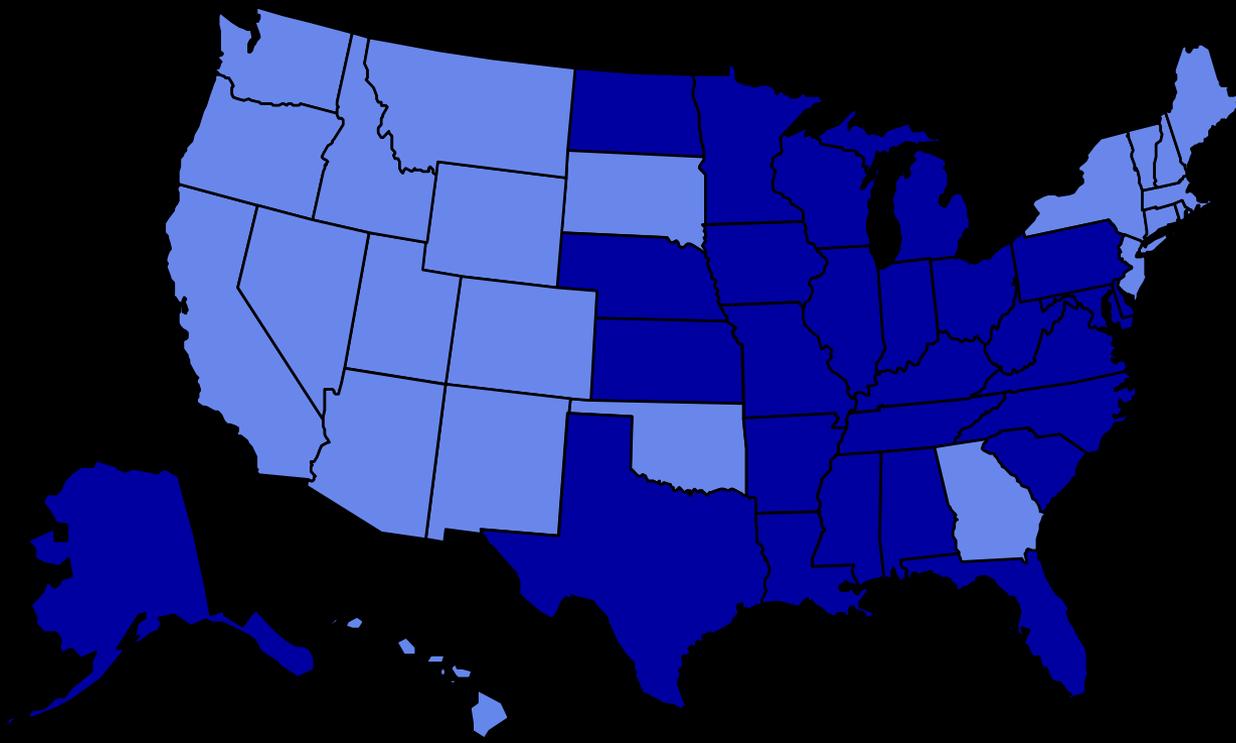
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



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

Obesity Trends* Among U.S. Adults BRFSS, 1995

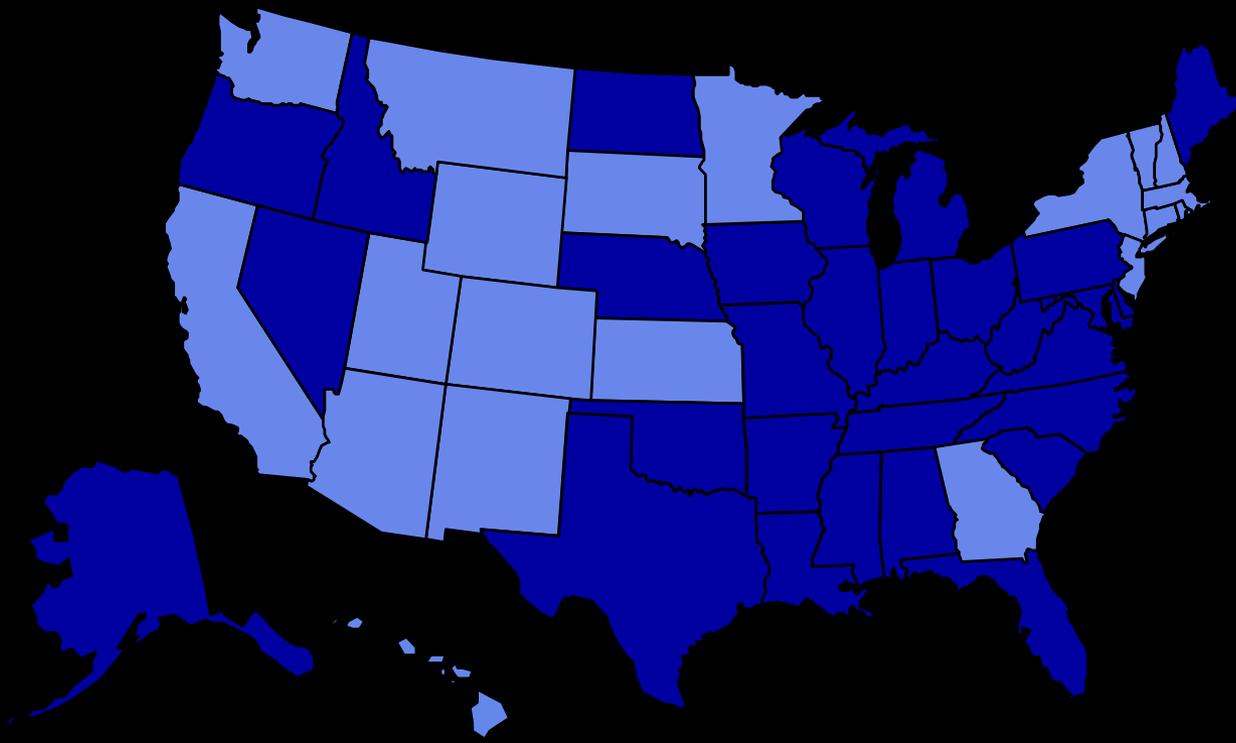
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



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

Obesity Trends* Among U.S. Adults BRFSS, 1996

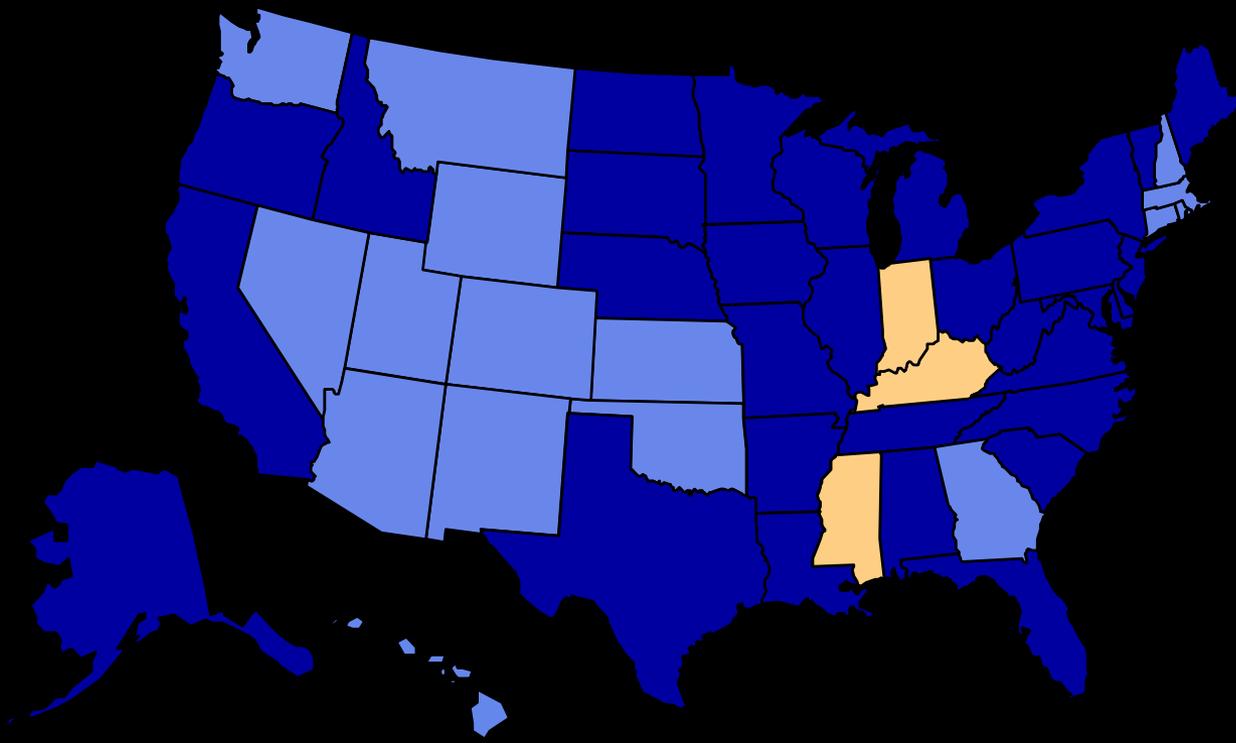
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



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

Obesity Trends* Among U.S. Adults BRFSS, 1997

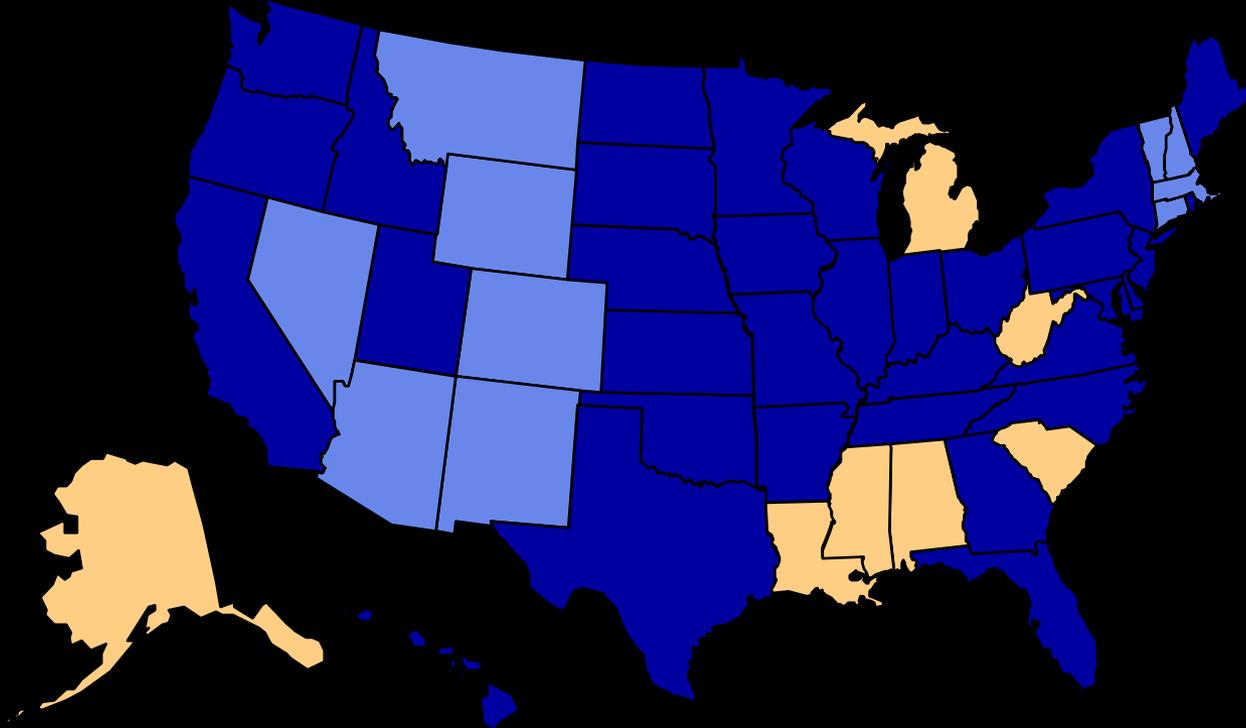
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



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

Obesity Trends* Among U.S. Adults BRFSS, 1998

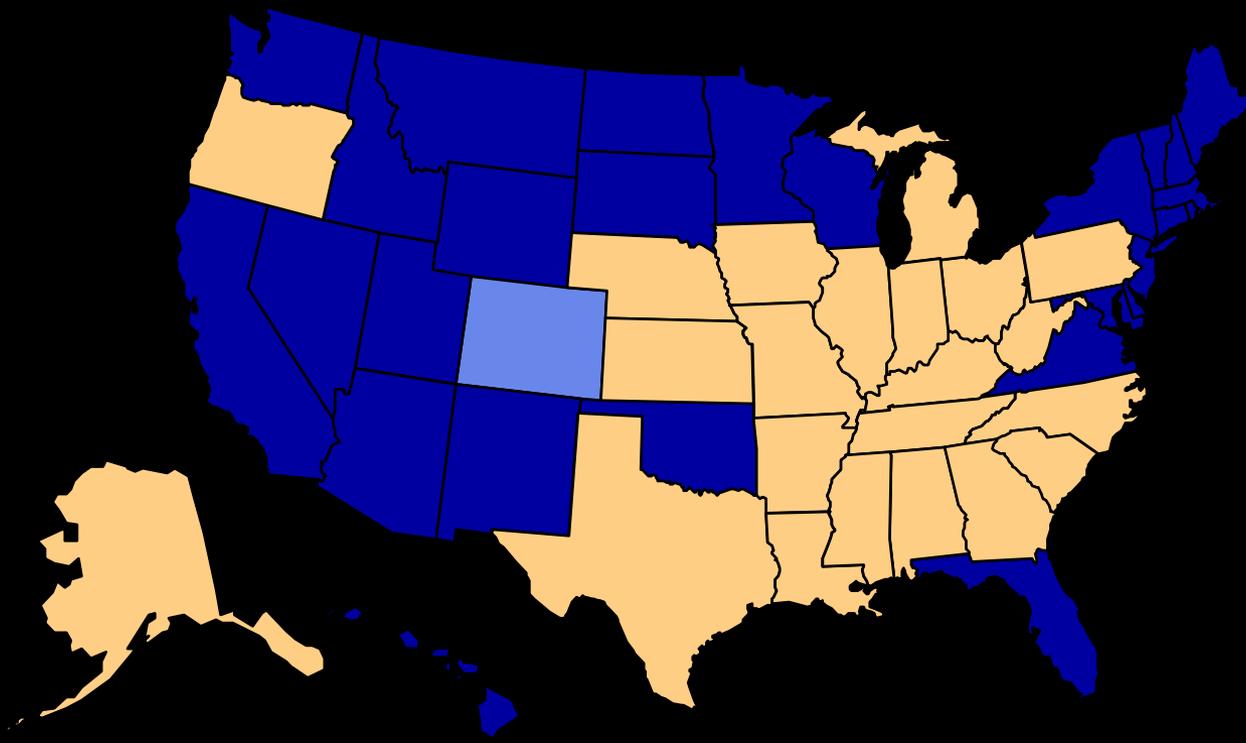
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



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

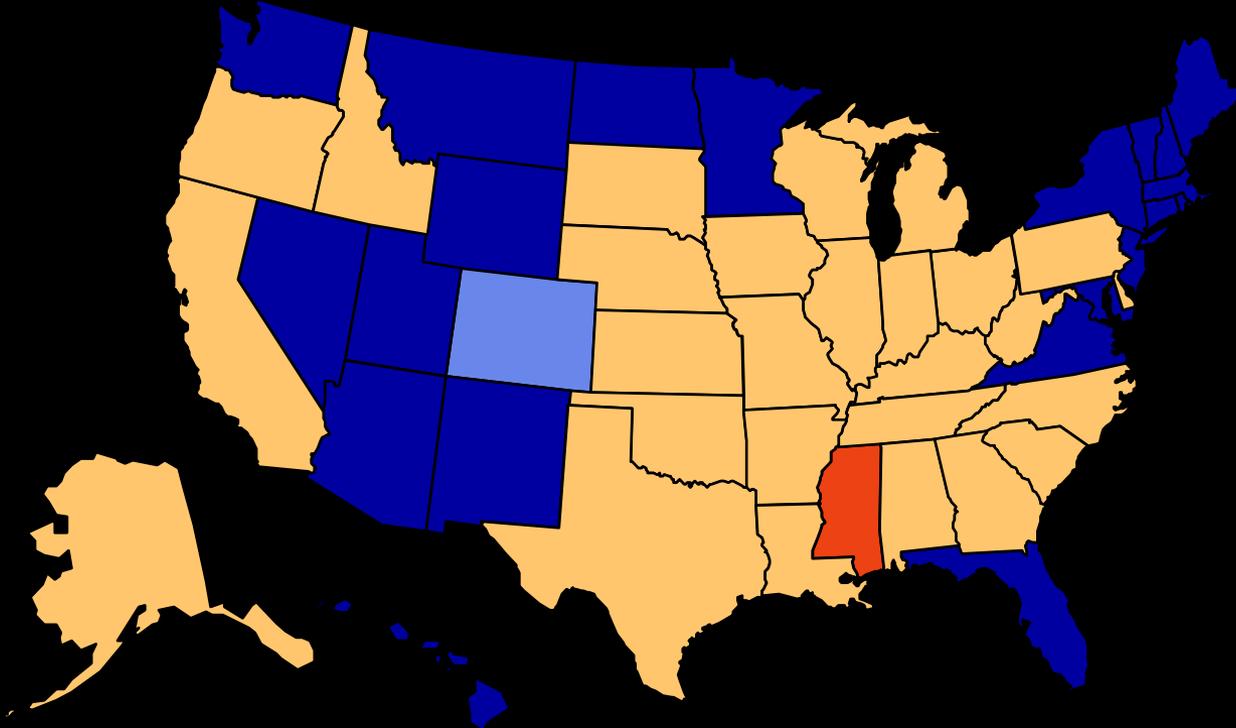
Obesity Trends* Among U.S. Adults BRFSS, 2000

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



Obesity Trends* Among U.S. Adults BRFSS, 2001

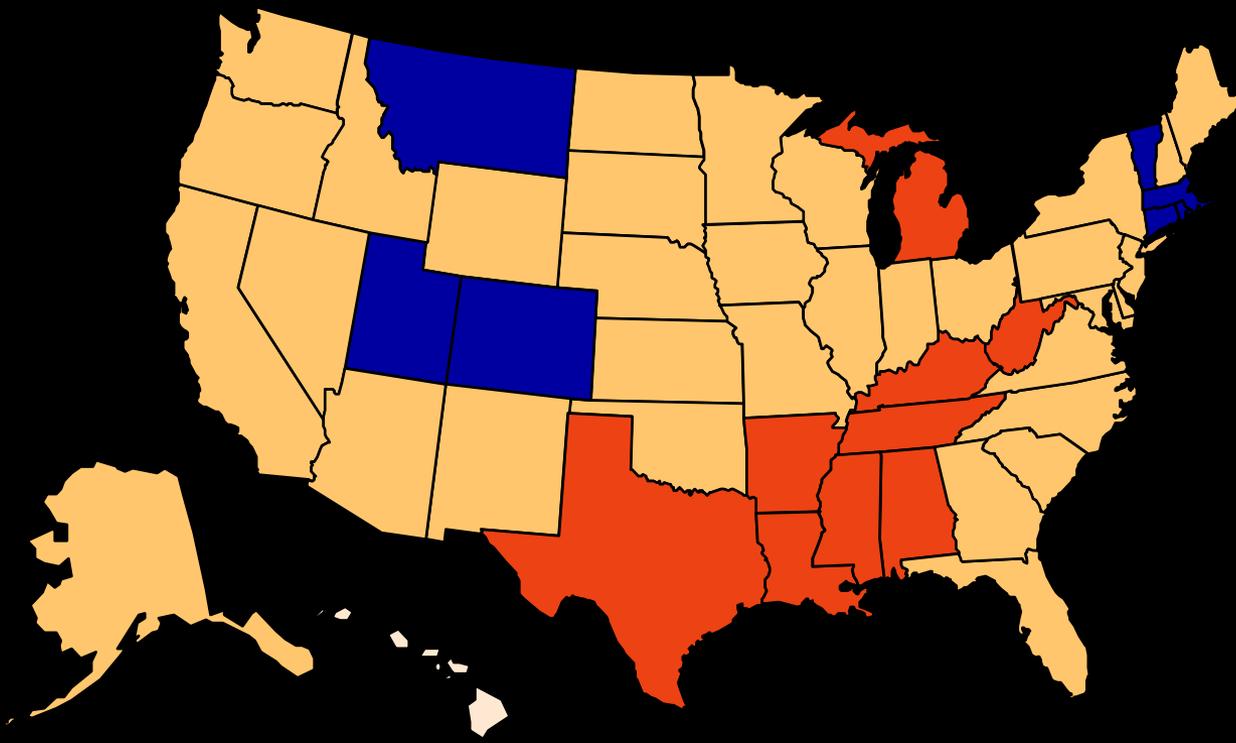
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



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

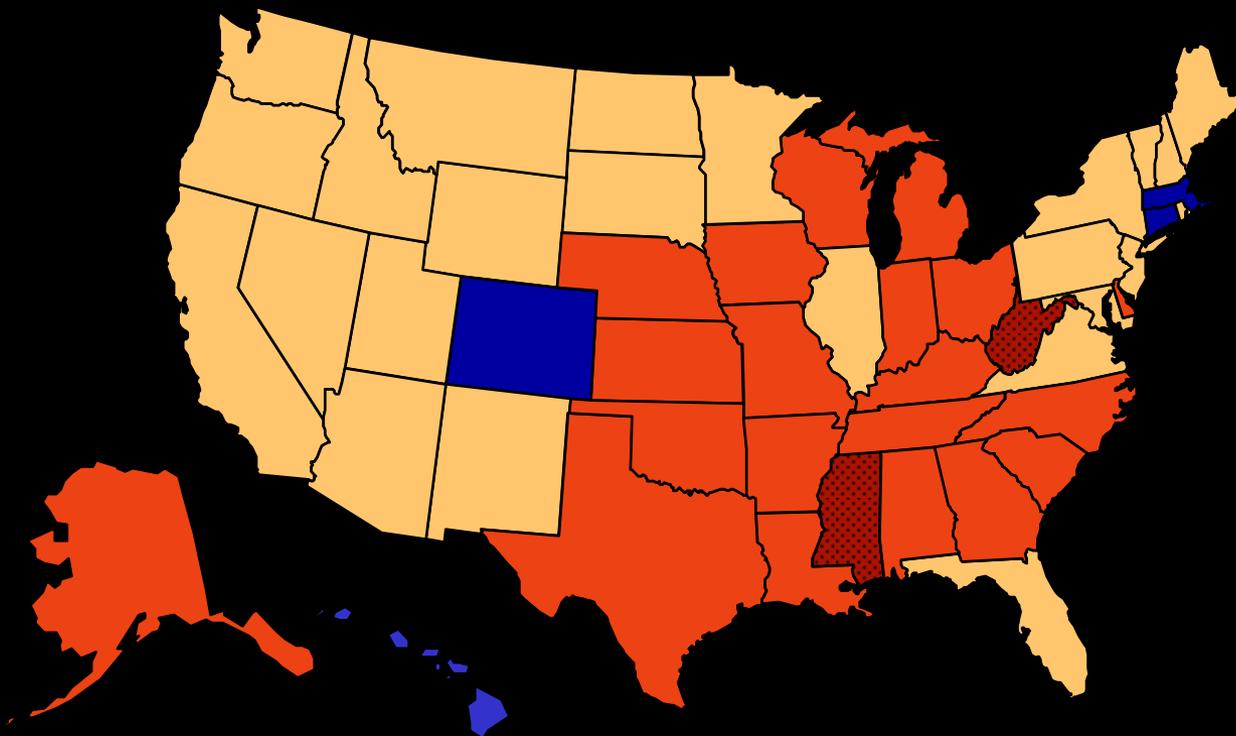
Obesity Trends* Among U.S. Adults BRFSS, 2004

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



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

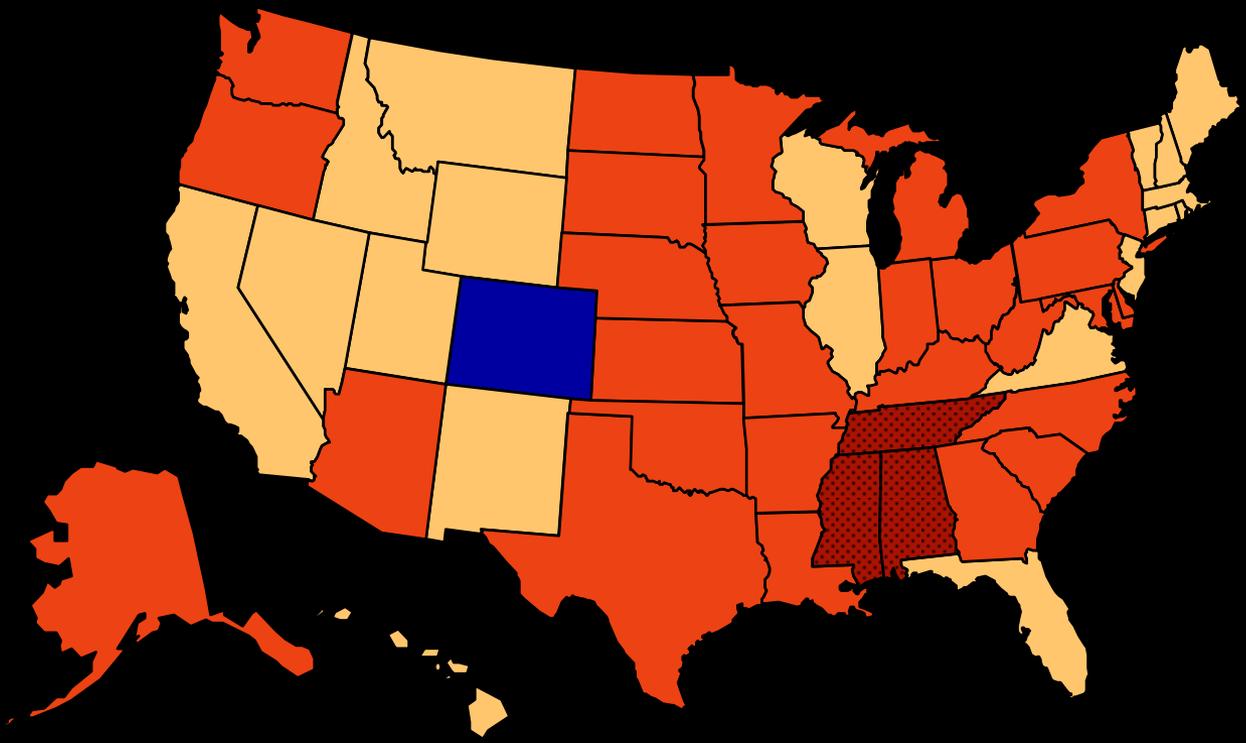
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



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

Obesity Trends* Among U.S. Adults BRFSS, 2007

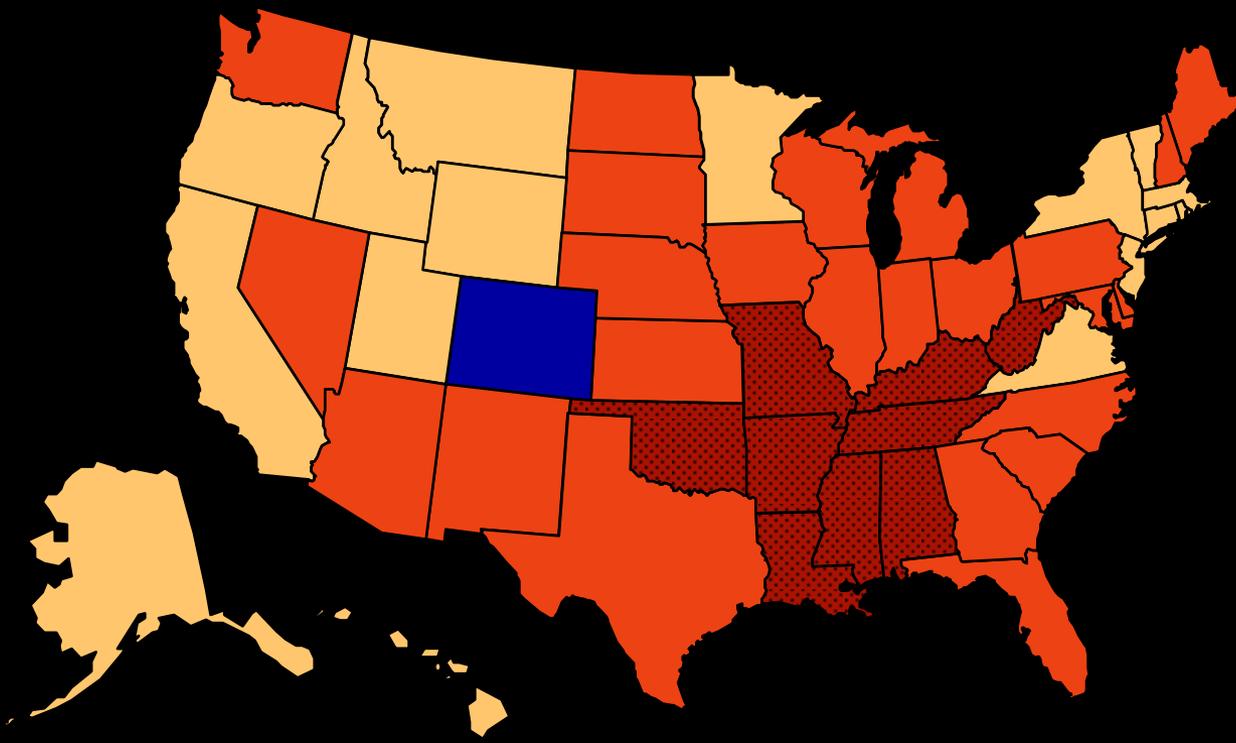
(*BMI ≥30, or ~ 30 lbs. overweight for 5' 4" person)



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

Obesity Trends* Among U.S. Adults BRFSS, 2009

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



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

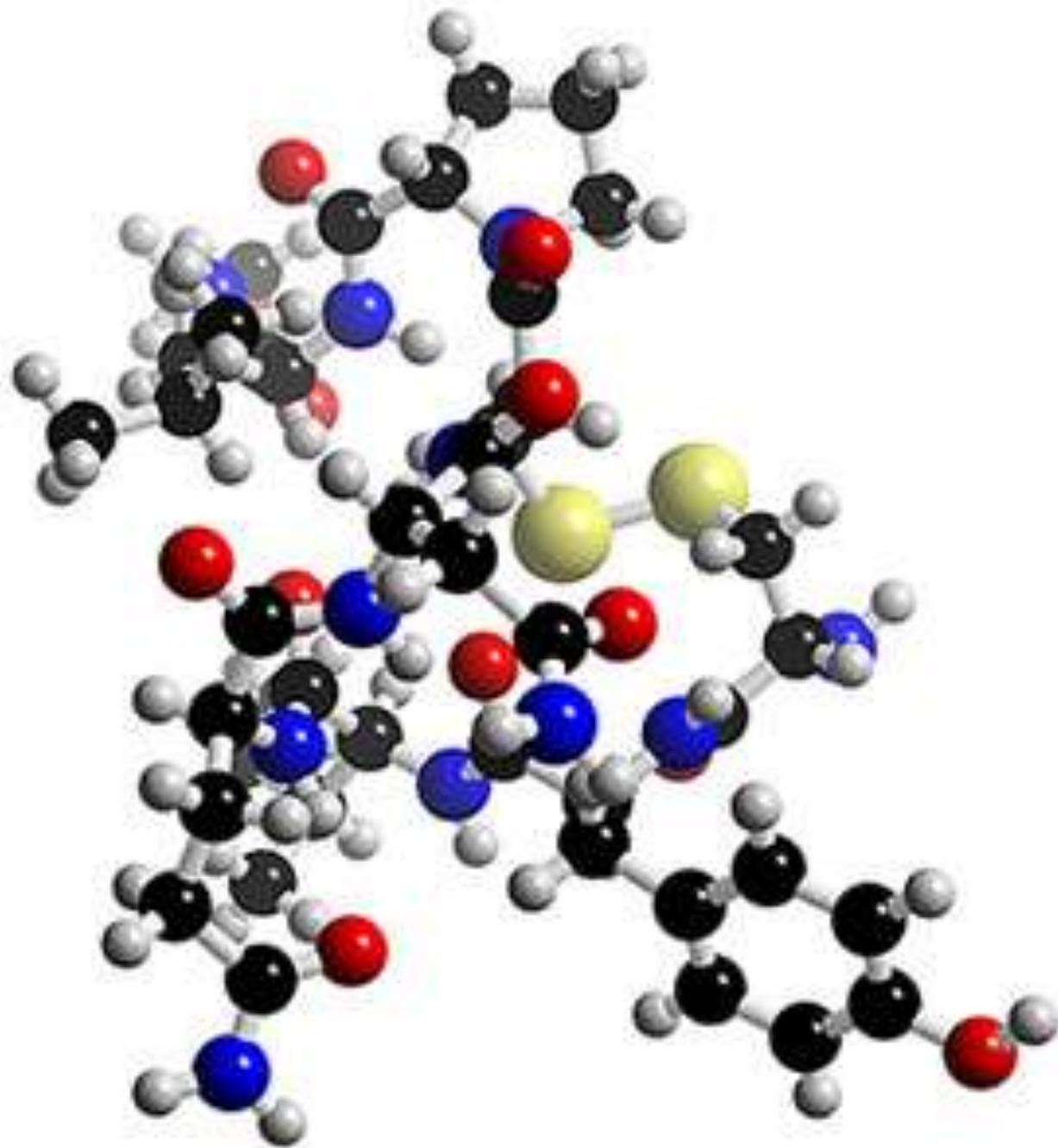














Image source: Dan Burden



Image source: Dan Burden



Image source: Diabetes Daily

Mixed message?



Image source: Diabetes Daily



Image source: Carbolic Smokeball

1. Think like an economist

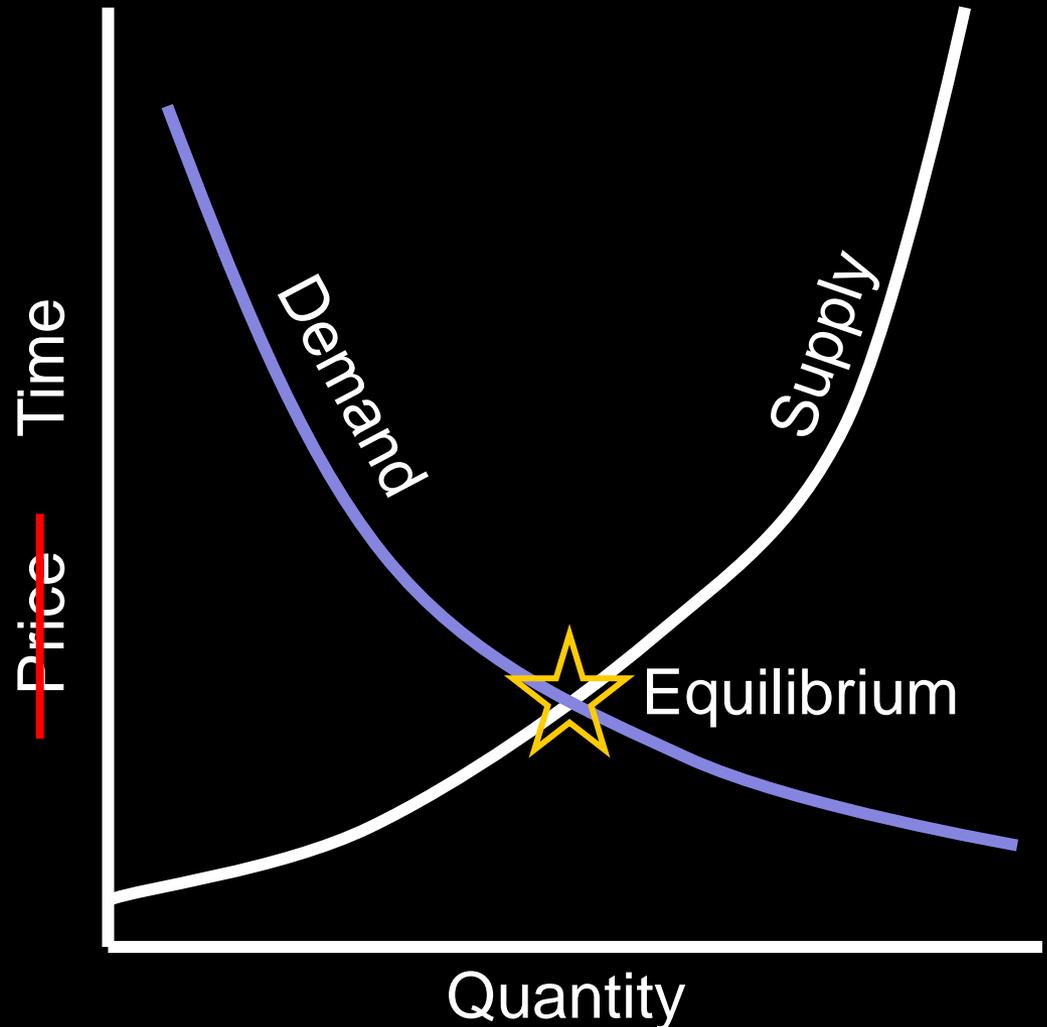
Personal Mobility: Most Inefficient Sector

- Cars used only 5% of useful life
- Only 25% of capacity used

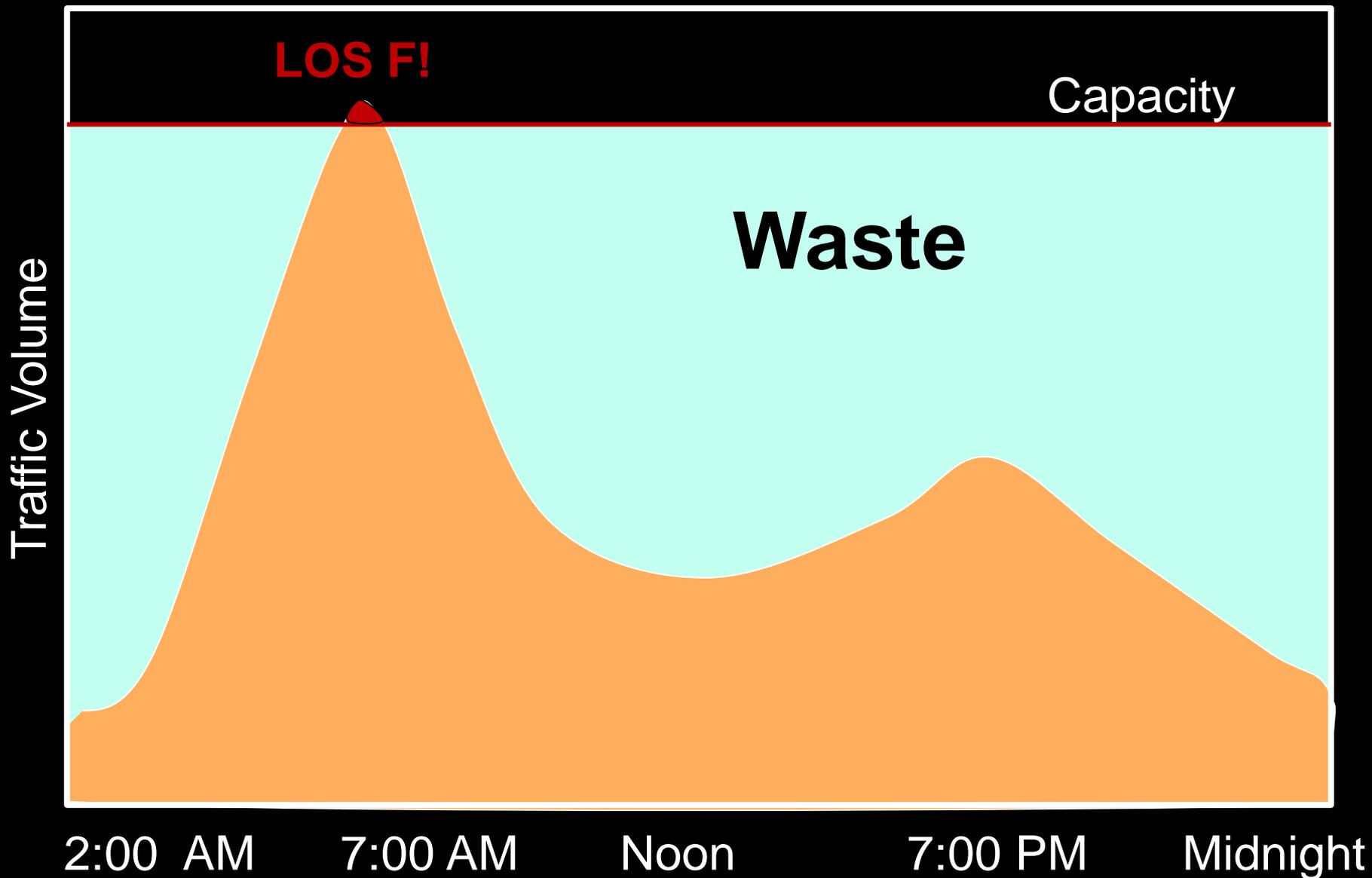


Transportation Demand Management

- Making more efficient use of existing infrastructure
- Making sure mobility is always available, whenever needed



Traffic Economics



2. 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

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 sl

CAP

slams



Level of Service A



Level of Service, F



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



California Shift: Senate Bill 743

LOS

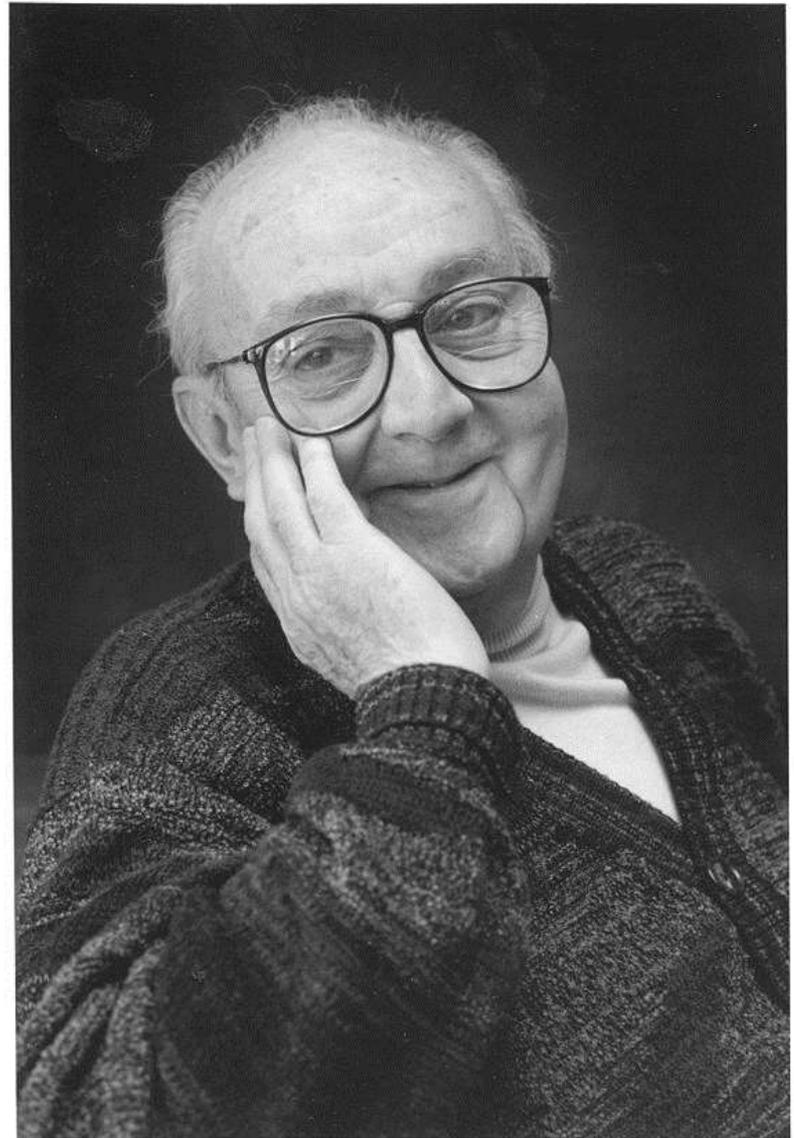


**Regional
Average per
Capita
Vehicle
Kilometers
Traveled**

**3. 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)**



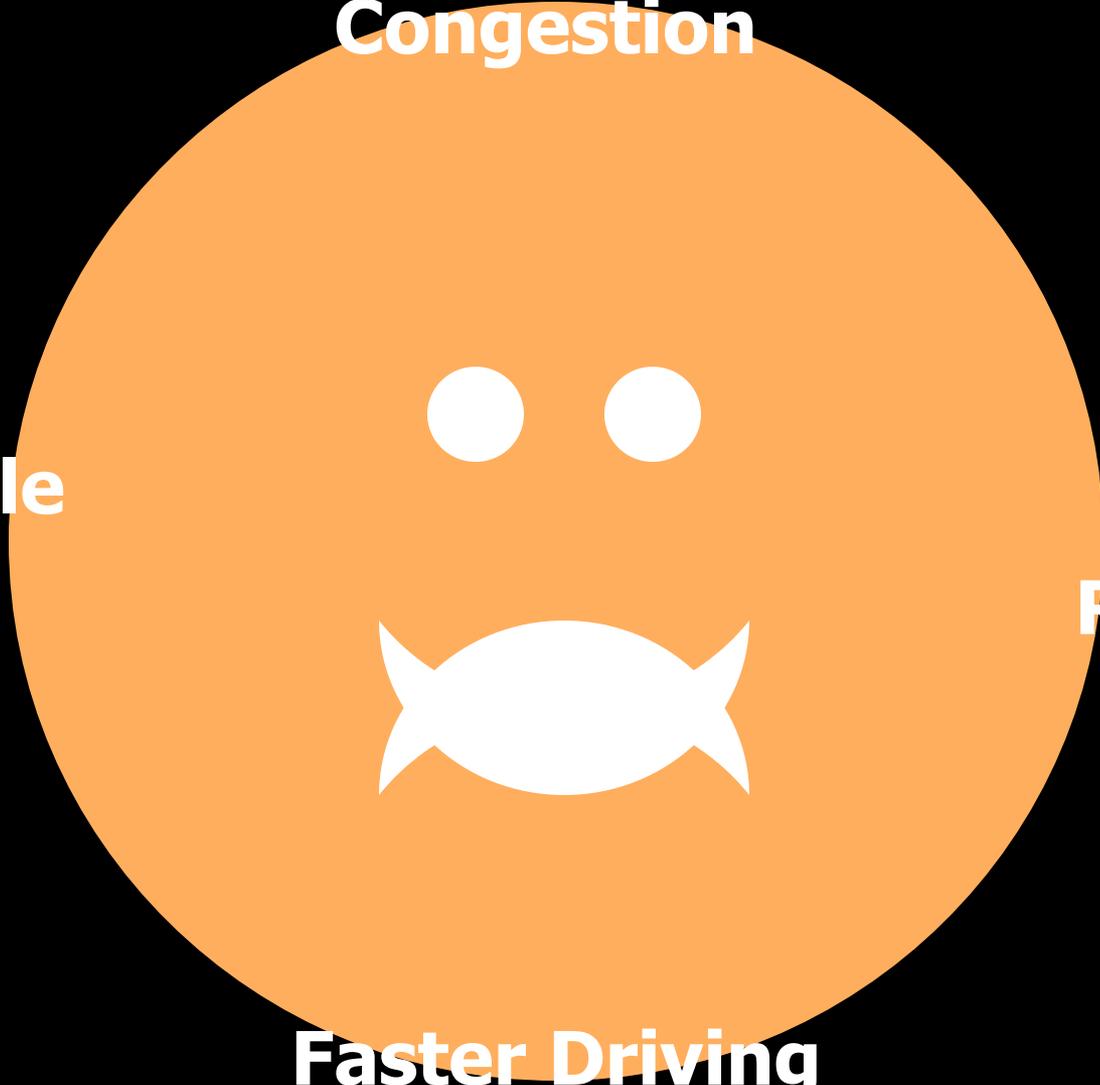
Induced and Latent Demand

Congestion

**More People
Drive**

**Widen
Roadway**

Faster Driving



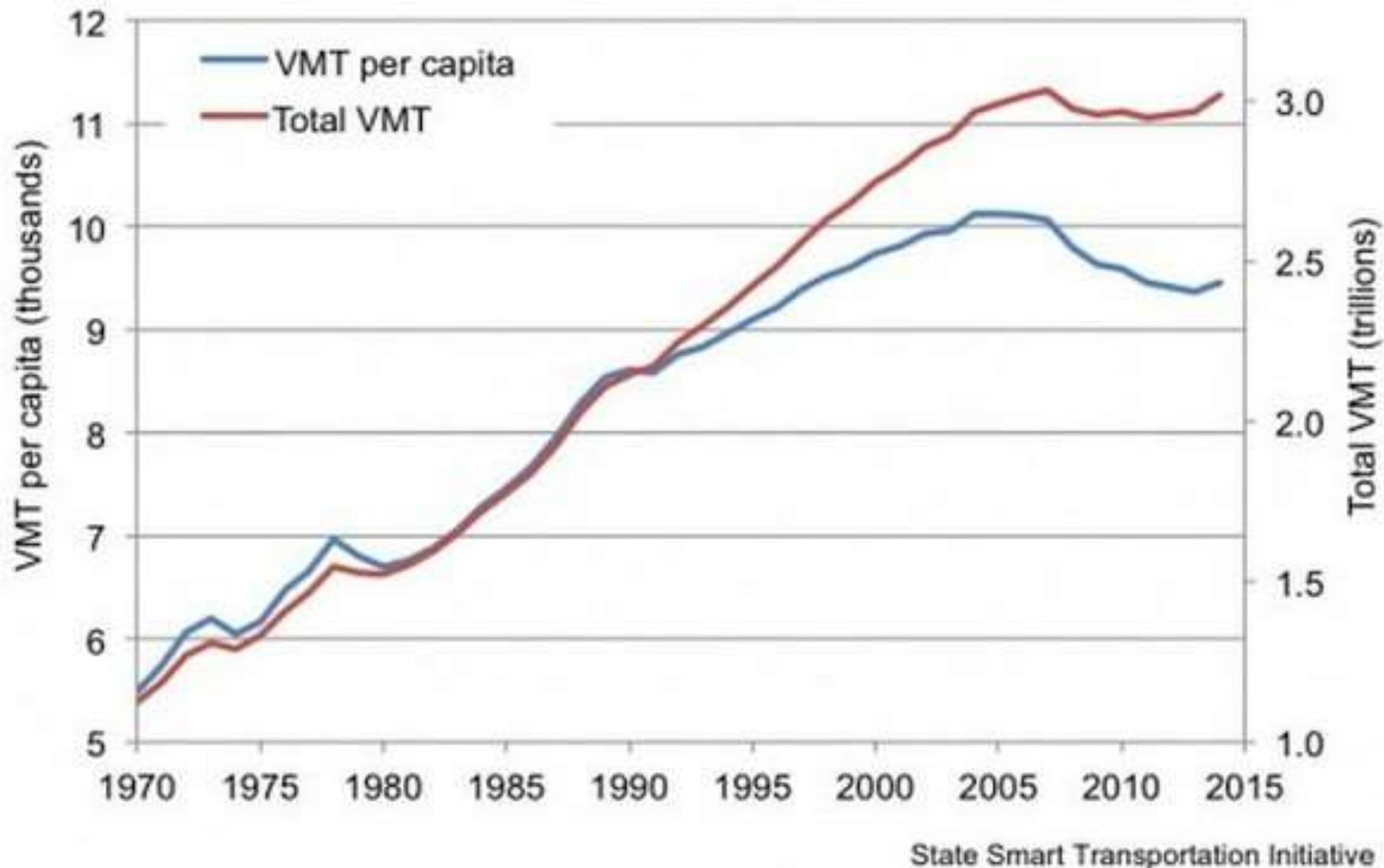


Figure 1. Annual vehicle-miles traveled (VMT), total and per capita, in United States. Data source: FHWA and Census Bureau.

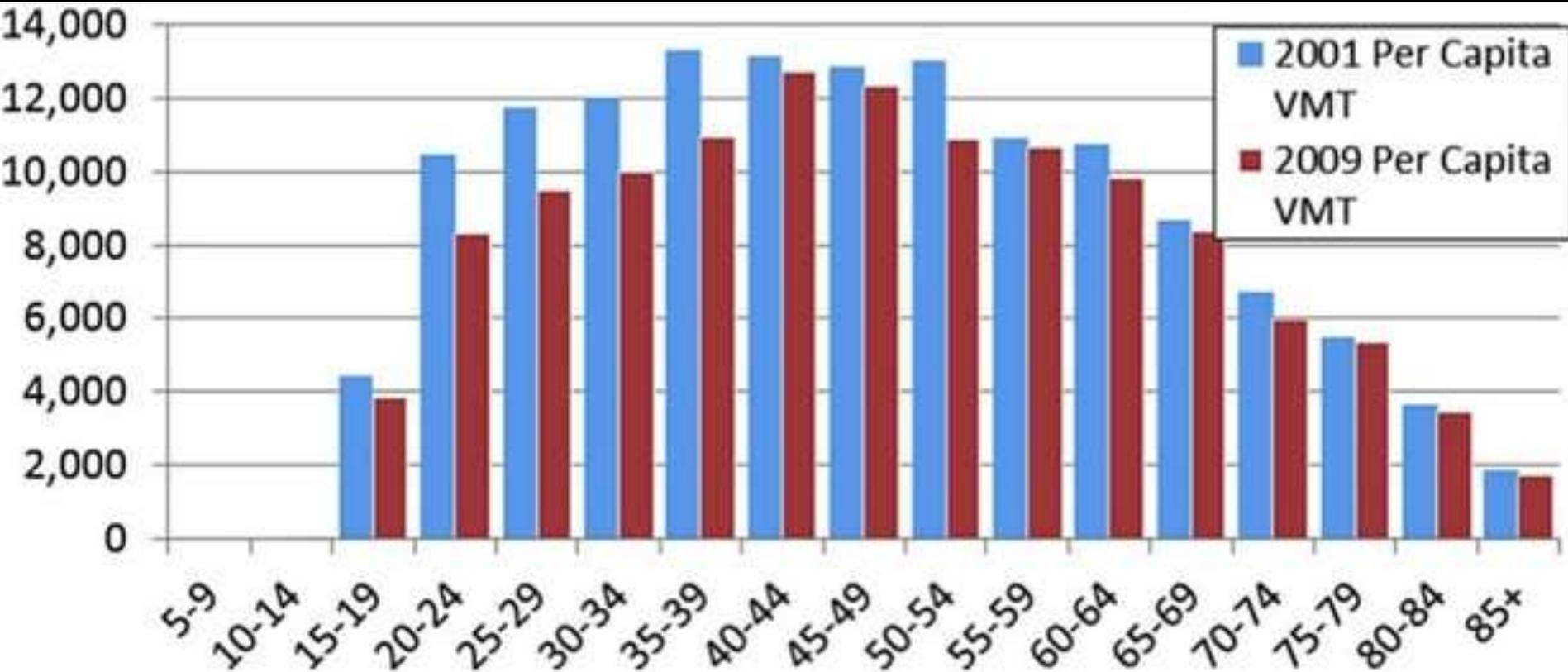


Fig. 4. NHTS person miles of travel change. Source: Author's analysis of NHTS.

**4. Put the Needs of Daily
Life within Walking
Distance**

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



THE MANN JIVRY

OPENING JUNE 26
MY SISTER'S
KEEPER

WANT WE GO
IMAGINE THAT
ANGELS AND DEMONS
FE IN RUINE TERMINATOR

OPENING JUNE 19
11:59
ONLY

OLD

5. Make Cycling Safe and Pleasant for All Ages



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

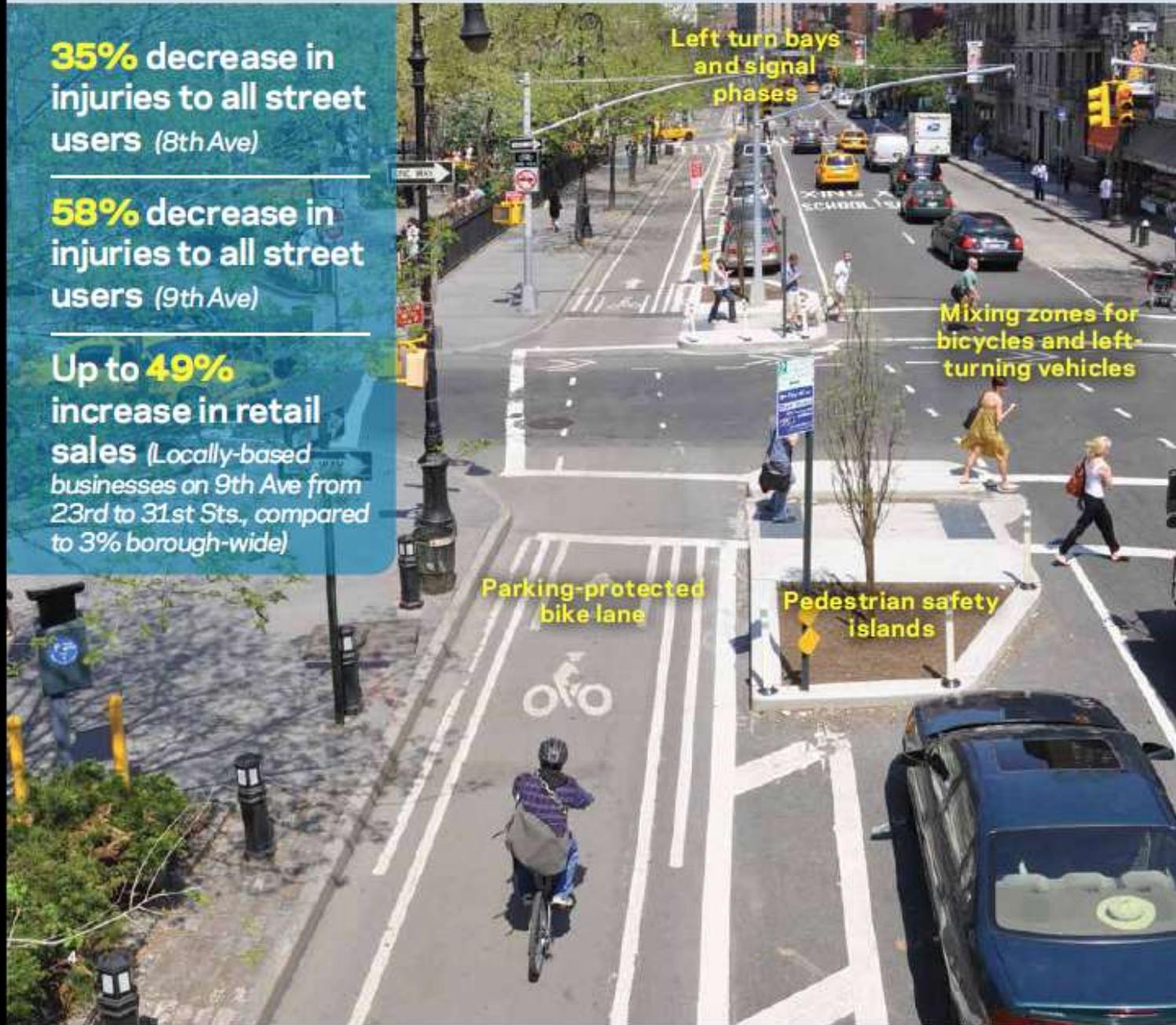
Prefer shorter trip distances

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)



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



Space Needs per Person

Not Moving

5

20

20

150-400 sq ft

150-400 sq ft

5,000 sq ft

Moving

20

50

75 sq ft

1,500 sq ft

Walk at 3 mph

Bike at 10 mph

Bus at 30 mph with 40-60 pax

Single Occupant Car at 30 mph

Single Occupant Car at 60 mph



Why reallocate space?

Today

- 6 lanes at 28.4 people per block
- Capacity for **170** people per block

With BRT Lanes

- 4 lanes at 28.4 people per block
 - 2 lanes at 225 people per block
 - Capacity for **563** people per block
- BRT **triples** the person capacity a major arterial

7. Adopt the Right Street Design Manual

Urban



Street



Design



Guide



National Association of City Transportation Officials

An ITE Recommended Practice



Designing Walkable Urban Thoroughfares:
A Context Sensitive Approach



Institute of Transportation Engineers



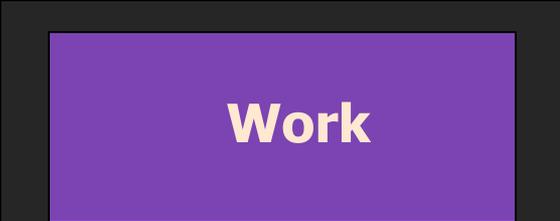
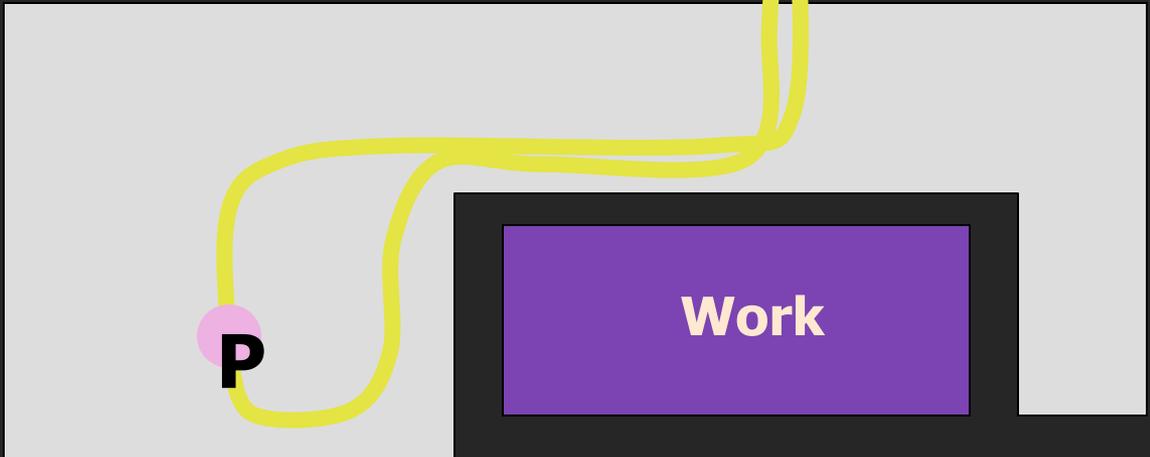
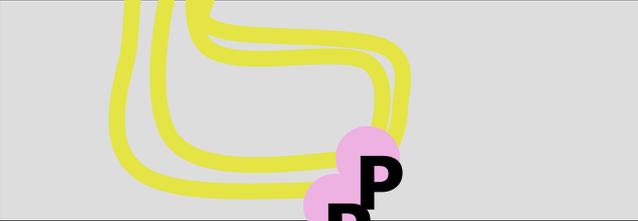
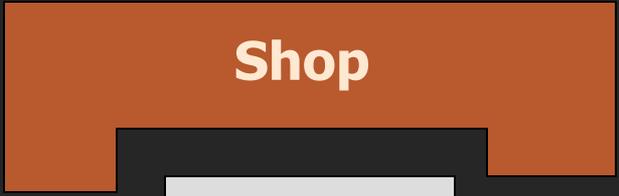
NACTO



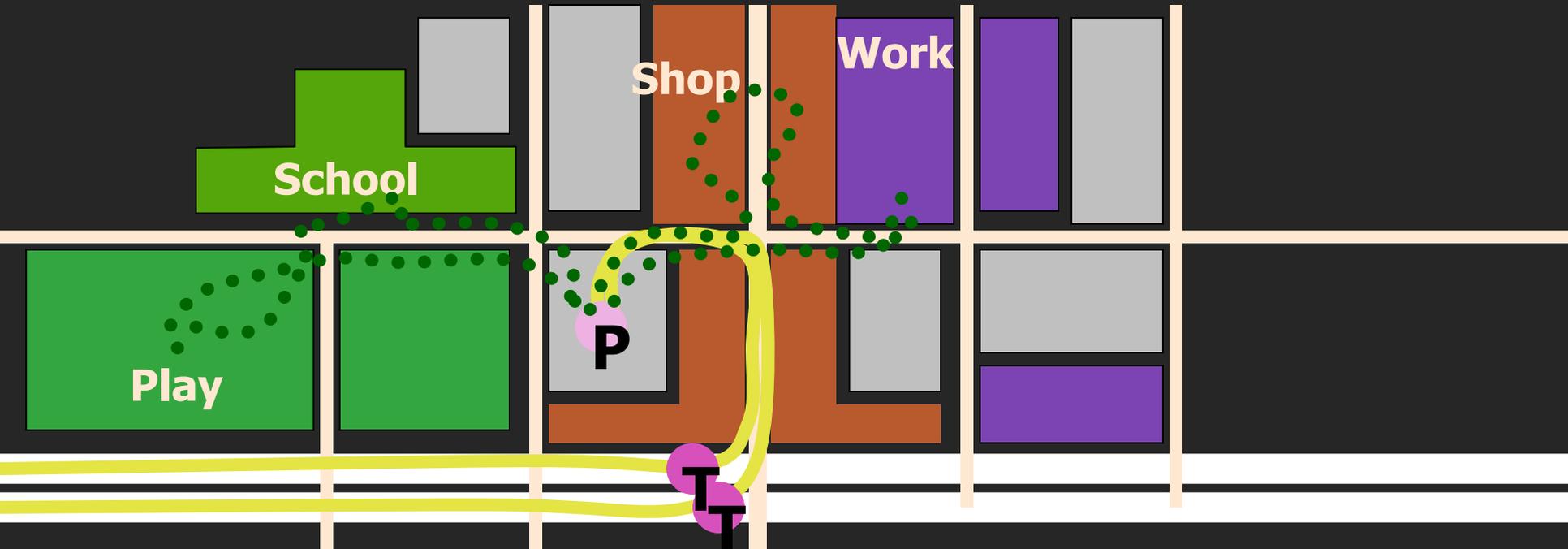
Urban Bikeway Design Guide

April 2011 Edition

8. Be Smart About Parking



Mixed Use, Park Once District

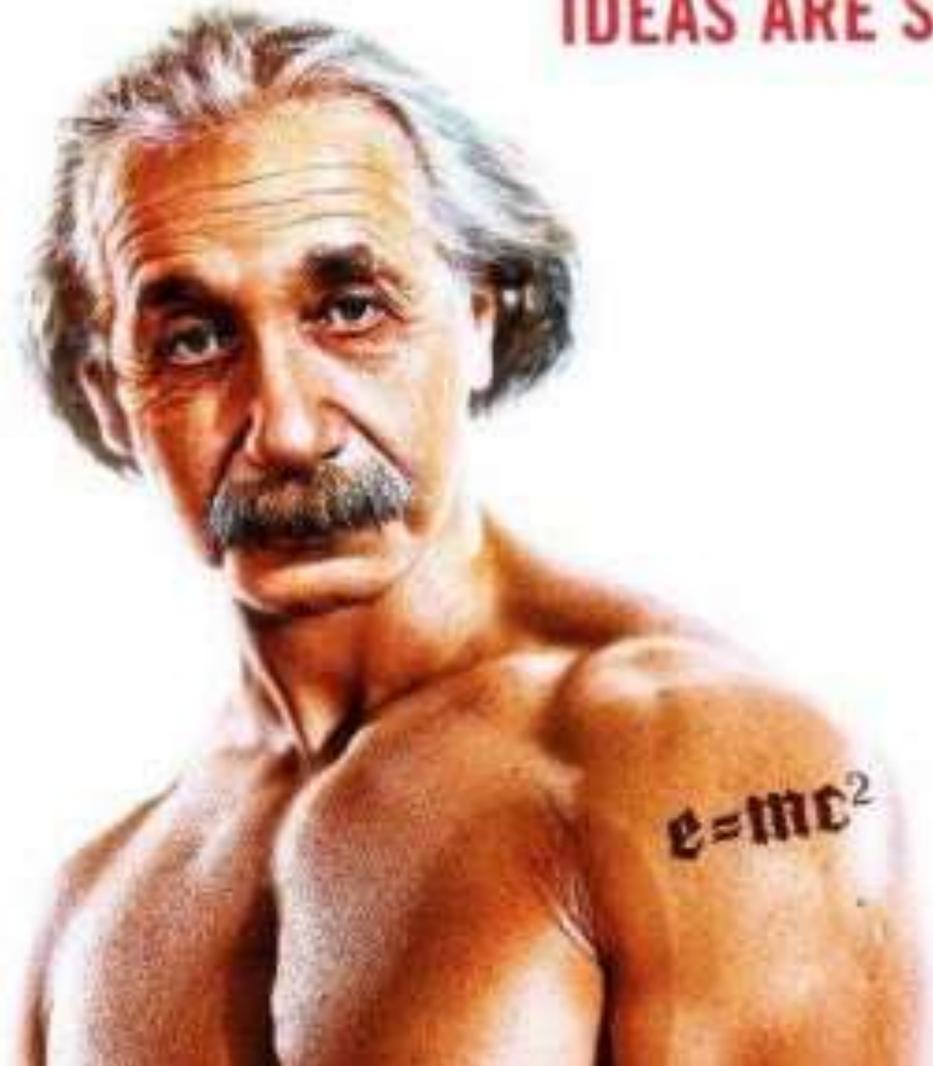


Results:

- $< \frac{1}{2}$ 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

9. Create a New Vision

IDEAS ARE SEXY TOO.



It's not sustainable if it's not beautiful





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