



Improving Public Health through the Built Environment

PLAN4Health
An American Planning Association Project

Kirin Kumar, Executive Director

May 4, 2018

Who is D4AS?

- Judy Robinson, **Principal Planner** at Sacramento County
- Olivia Kasirye MD , **Public Health Officer** at Sacramento County
- Teri Duarte, **Planner** at Sacramento Metropolitan Air Quality Management District
- Adrian Engel, PE **Civil Engineer** at Fehr & Peers
- Monica Hernández, **Public Information Officer** - SACOG
- Mark Horton MD, **NLAPH Coach** – UC Berkeley School of Public Health
- Edie Zusman MD, **Neurosurgeon** – Eden Medical Center
- Sara Jensen Carr, PhD – **Assistant Professor** at University of Hawaii
- Charlene Hauser, MD, **Family Medicine** – Sutter Health
- Glennah Trochet, MD, **Retired Public Health Officer** at Sacramento County
- Caroline Peck, MD, **Chronic Disease Director** at CA Department of Public Health
- Kirin Kumar, **Executive Director** of WALKSacramento



Our Mission is to...

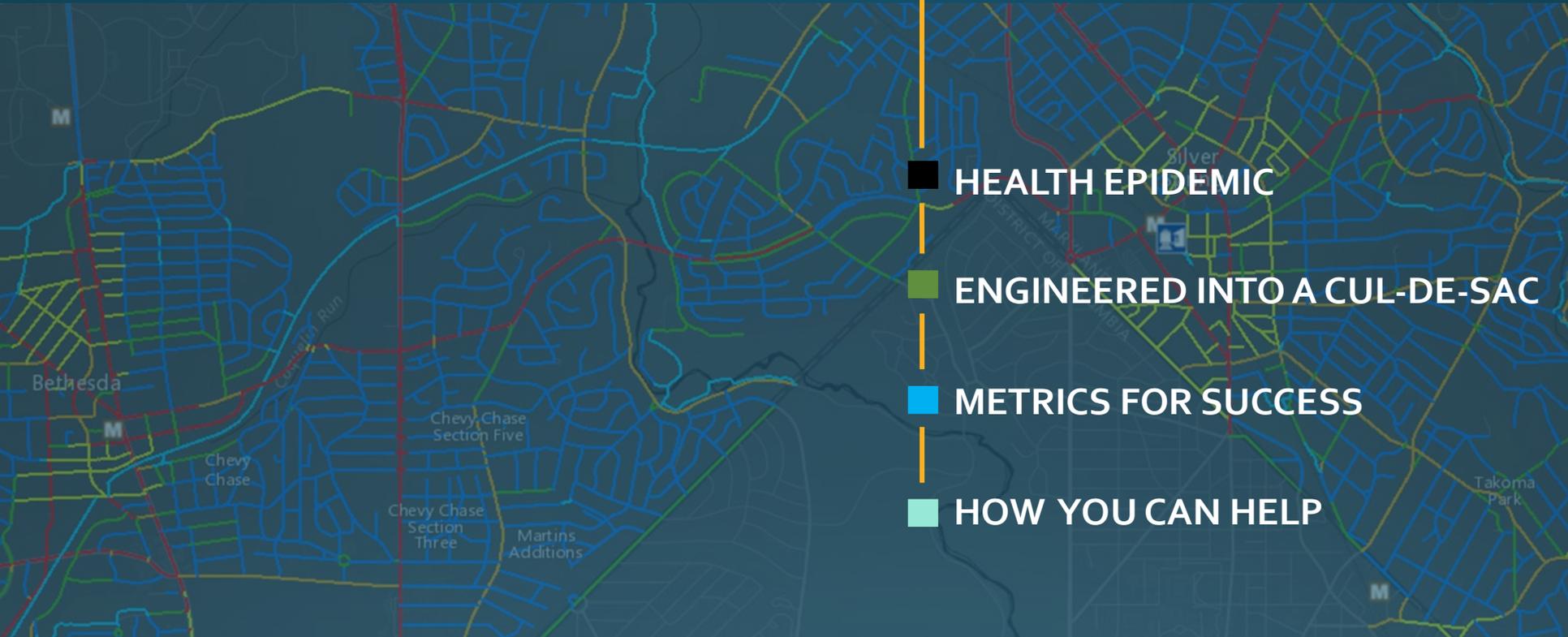
Influence decisions about the built environment in order to promote health.

Our Vision is...

An environment that enables residents to incorporate healthy activities into their daily lives no matter where they live



Overview



■ HEALTH EPIDEMIC

■ ENGINEERED INTO A CUL-DE-SAC

■ METRICS FOR SUCCESS

■ HOW YOU CAN HELP

Sacramento County

HOW PEOPLE DIE IN SACRAMENTO COUNTY

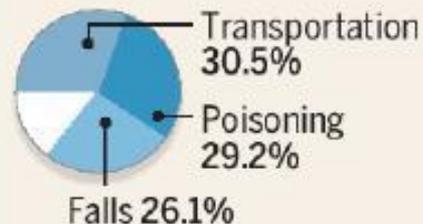
Heart disease was the leading cause of death in Sacramento County in 2011, followed by cancer and stroke. There were 4,735 premature deaths – before age 75 – in the county that year.

Group	Leading causes		
	No. 1	No. 2	No. 3
Females	Cancer	Heart disease	CLRD*
Males	Heart disease	Cancer	Accidents
Asian	Cancer	Heart disease	Stroke
Black	Cancer	Heart disease	Stroke
Hispanic	Cancer	Heart disease	Accidents
White	Heart disease	Cancer	CLRD*
Age 0-14	Birth conditions	Accidents	Cancer
Age 15-24	Accidents	Homicide	Suicide
Age 25-44	Accidents	Cancer	Suicide
Age 45-64	Cancer	Heart disease	Accidents
Age 65-74	Cancer	Heart disease	CLRD*
Age 75+	Heart disease	Cancer	Alzheimer's

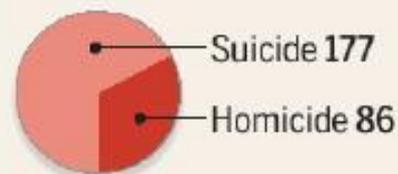
*Chronic lower respiratory disease

	OVERALL	ASIAN	BLACK	HISPANIC	WHITE
Life expectancy	79.5	84.1	73.8	87.7	78.6
Change since 2002:	+1.9 years	+1 year	+2.2 years	+4 years	+1.7 years

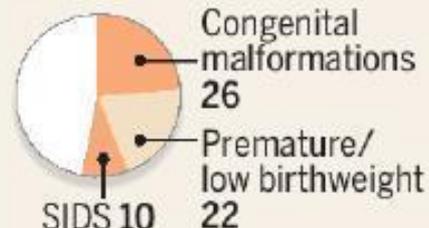
Accident deaths: 425



Intentional deaths: 263

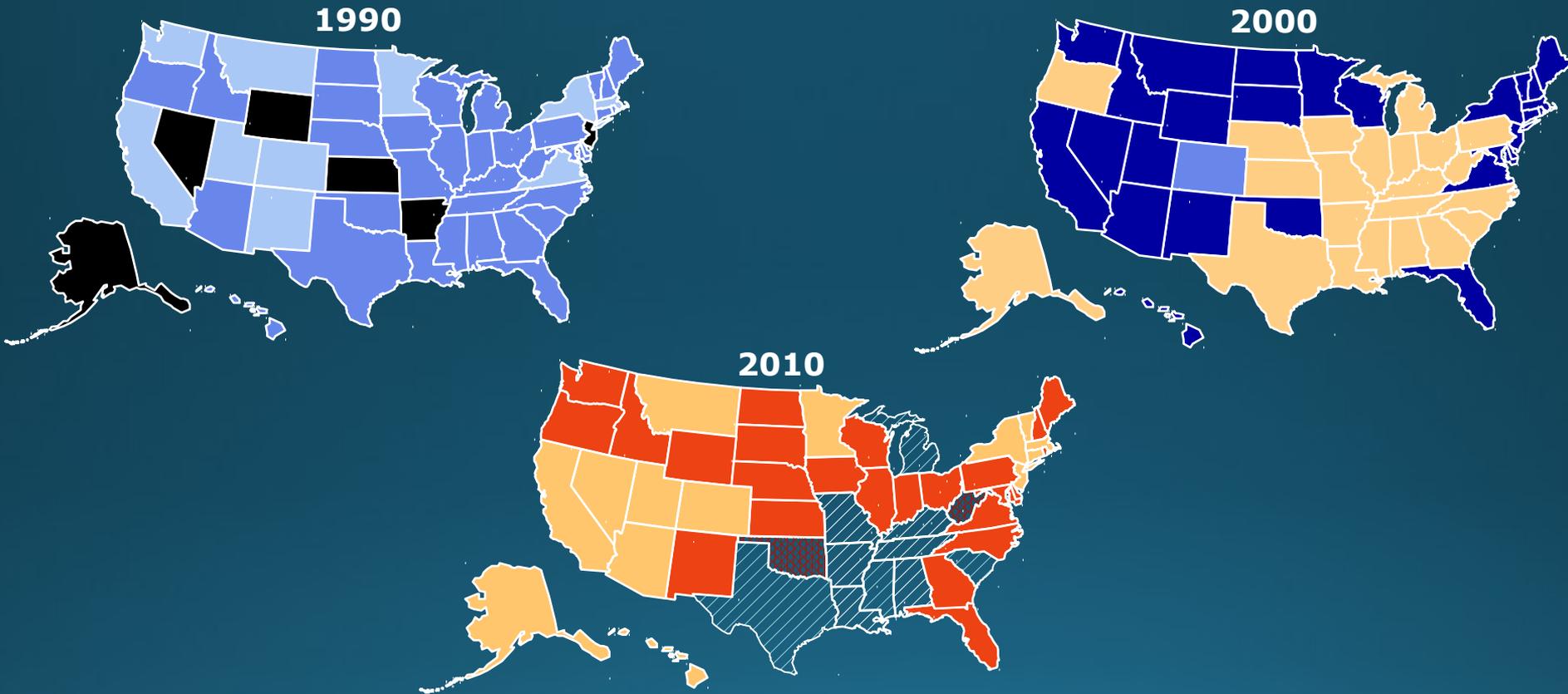


Infant deaths: 109



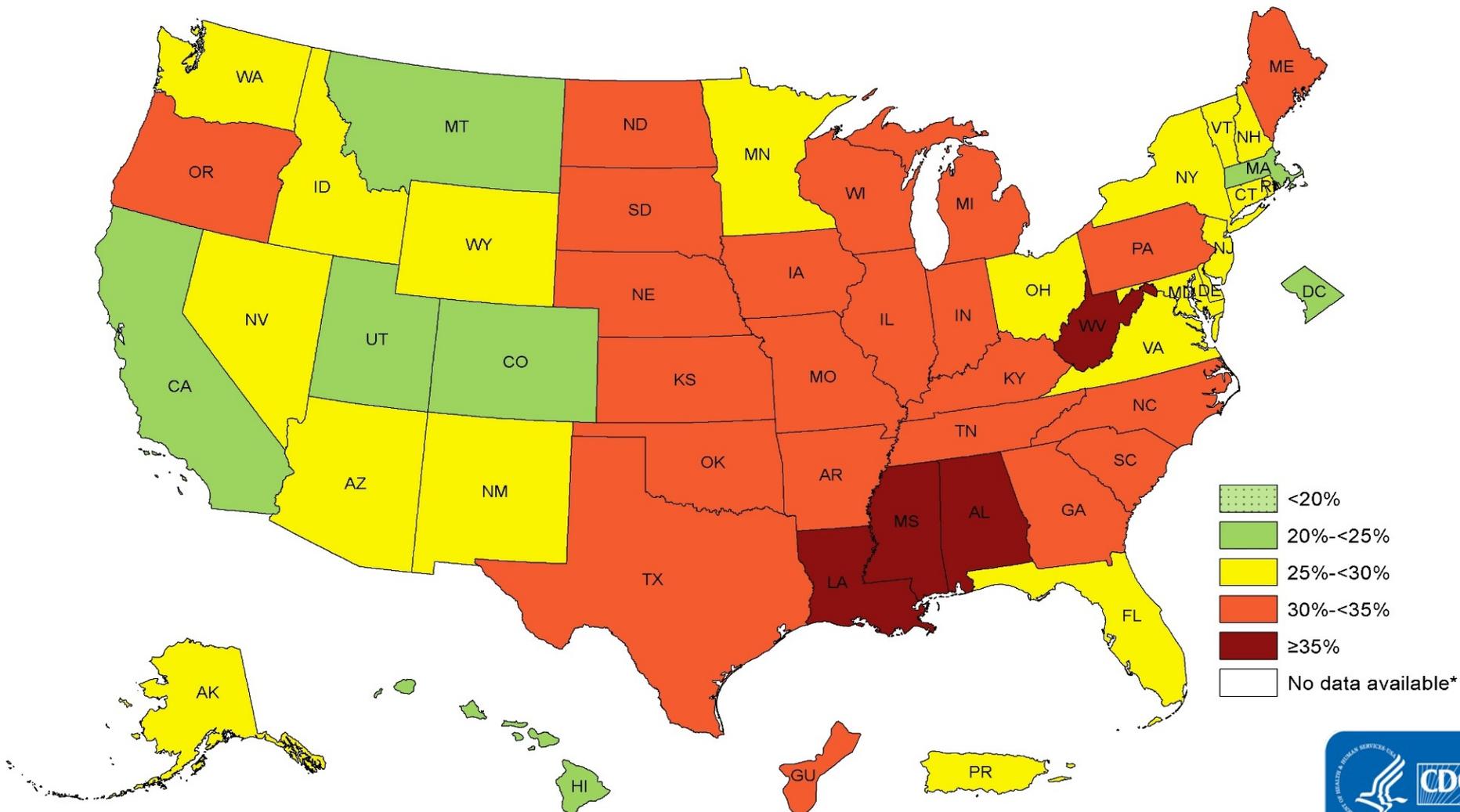
Obesity Trends* Among U.S. Adults BRFSS, 1990, 2000, 2010

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



Prevalence* of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2015

* Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.



*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.



What Makes Us Healthy



What We Spend On Being Healthy





Phil Masturzo / AP



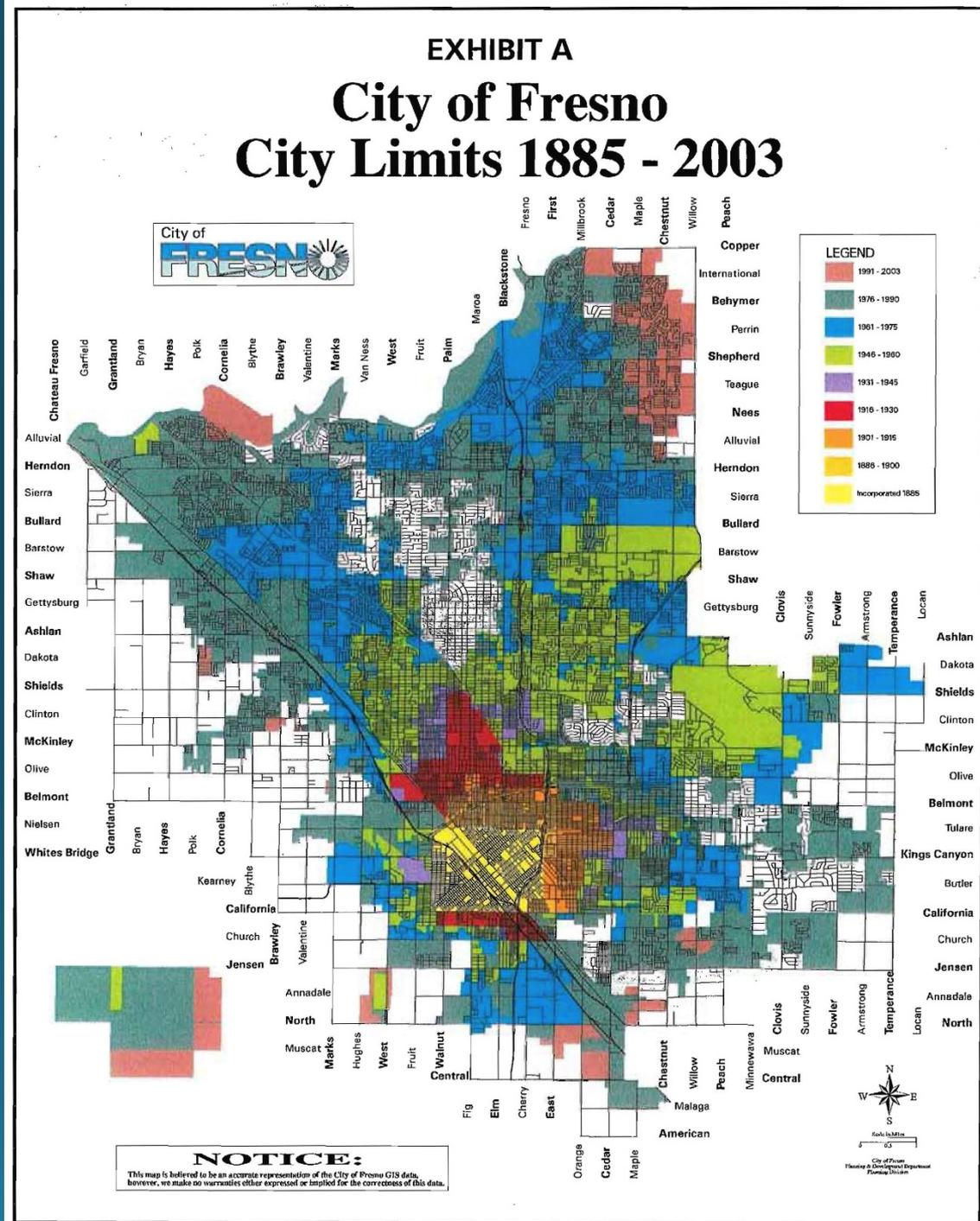


SACRAMENTO
FREE PUBLIC
LIBRARY

K Street, Sacramento, 1940s

Changes to the built environment

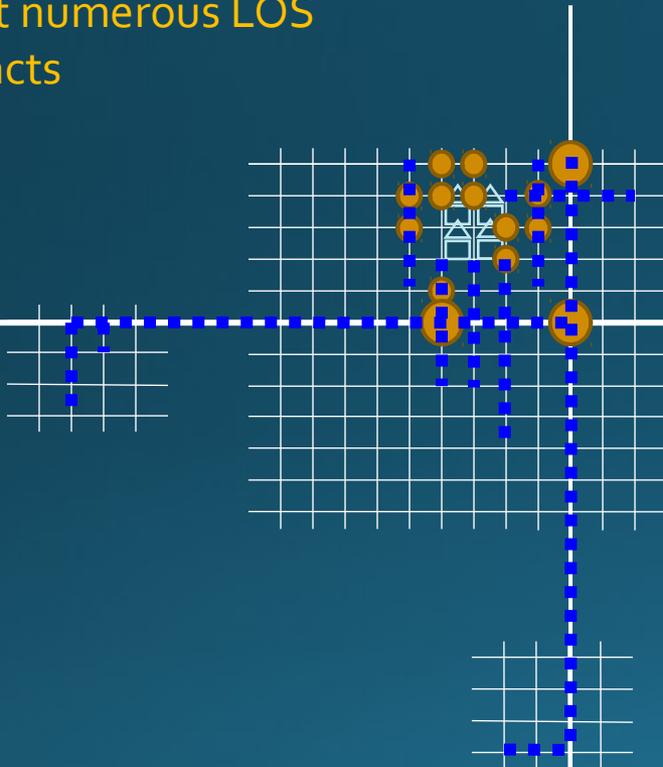
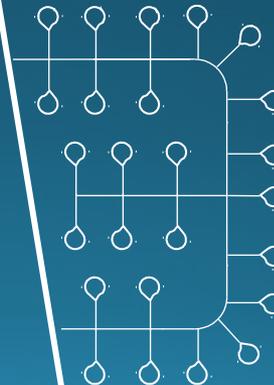
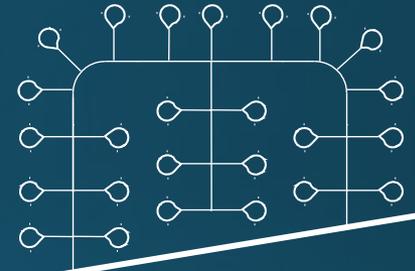
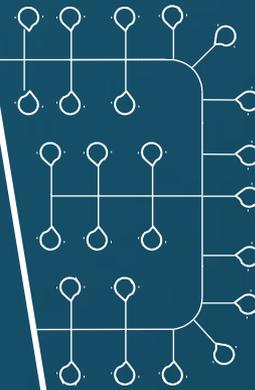
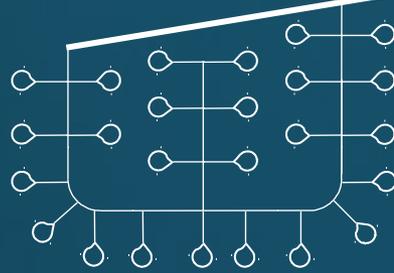
- Post-WWII growth – beginning of American motor vehicle dependence
- US Population
 - 1946 – 141 million
 - 2010 – 309 million
- Growth occurred in a motor vehicle-dependent way



Analysis of **infill**
development using LOS

**Relatively little vehicle
travel loaded onto the
network**

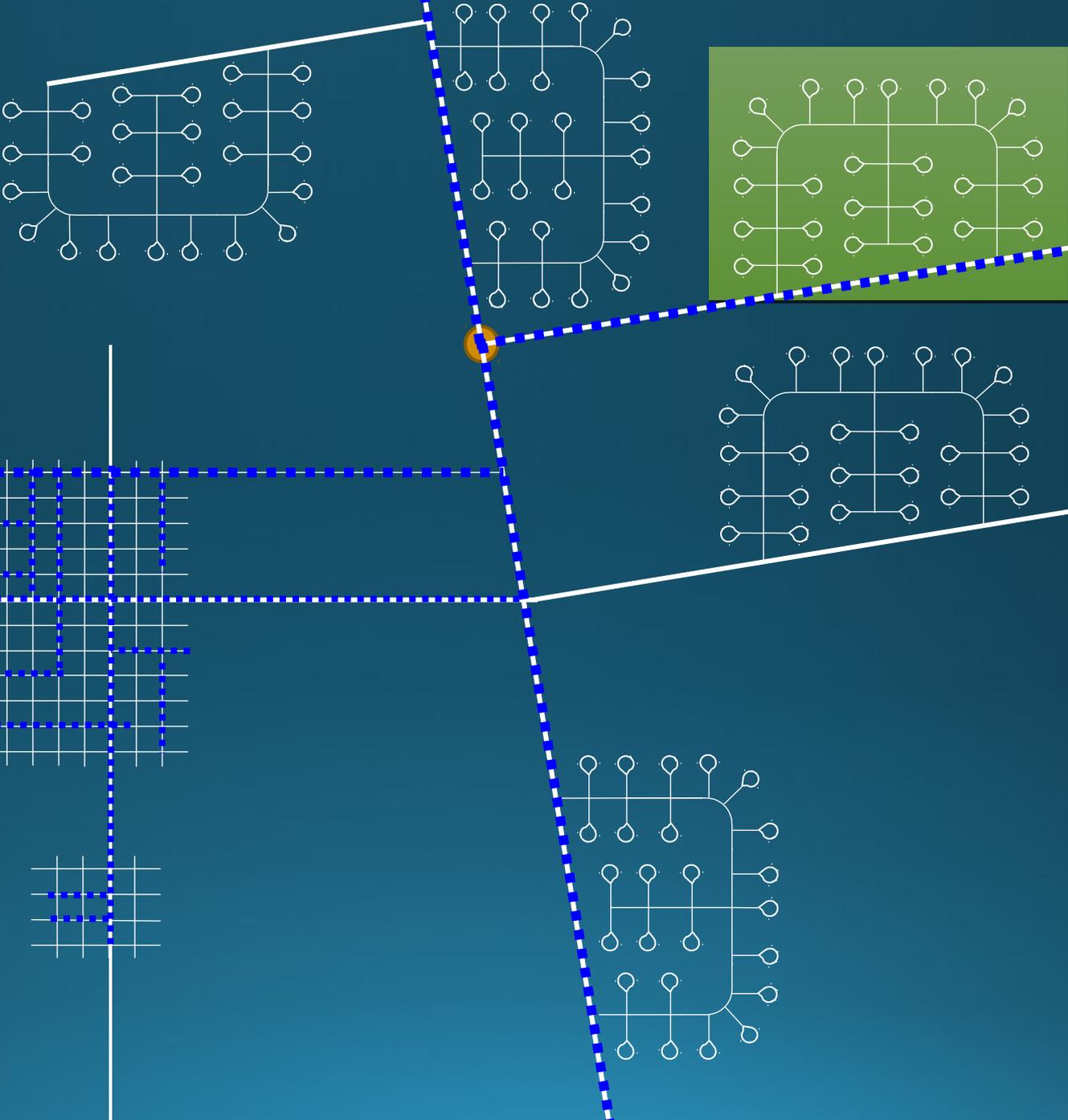
**...but numerous LOS
impacts**



Analysis of greenfield development using LOS

Typically three to four times the vehicle travel loaded onto the network relative to infill development

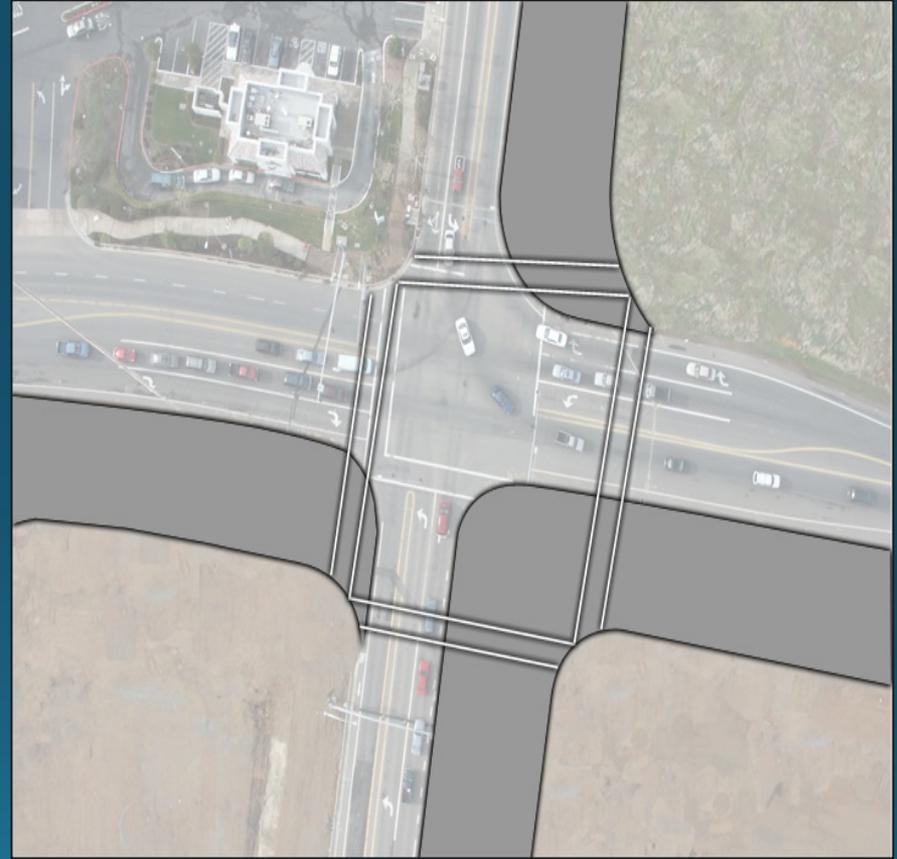
...but few LOS impacts



LOS and its Limitations



EXISTING CONDITION:
LOS E



WIDENED: LOS C

SB 743

- VMT is a relatively simple metric to calculate since it involves only two variables.

VMT = trips \times trip length

or

VMT = roadway volume \times
roadway length

Updating Transportation Impacts Analysis in the CEQA Guidelines

*Preliminary Discussion Draft of Updates to the CEQA Guidelines Implementing
Senate Bill 743 (Steinberg, 2013)*

Governor's Office of Planning and Research
8/6/2014



Evaluating Transportation Improvements using VMT

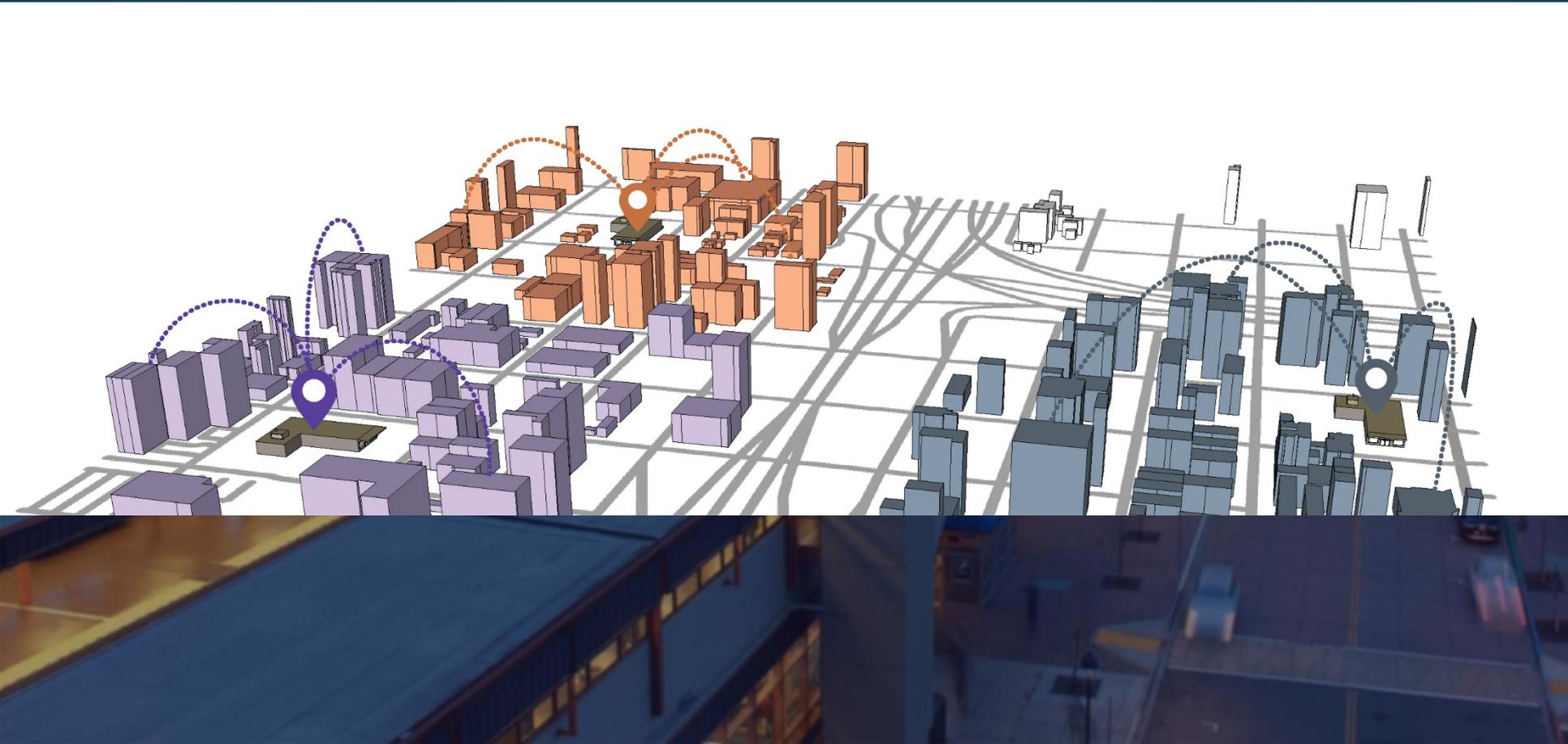
Roadway expansion reduces travel time, which leads to:

1. Longer trips (↑ VMT)
2. Mode shift toward automobile (↑ VMT)
3. Newly generated trips (induced trips) (↑ VMT)
4. More disperse land use development (↑ VMT)

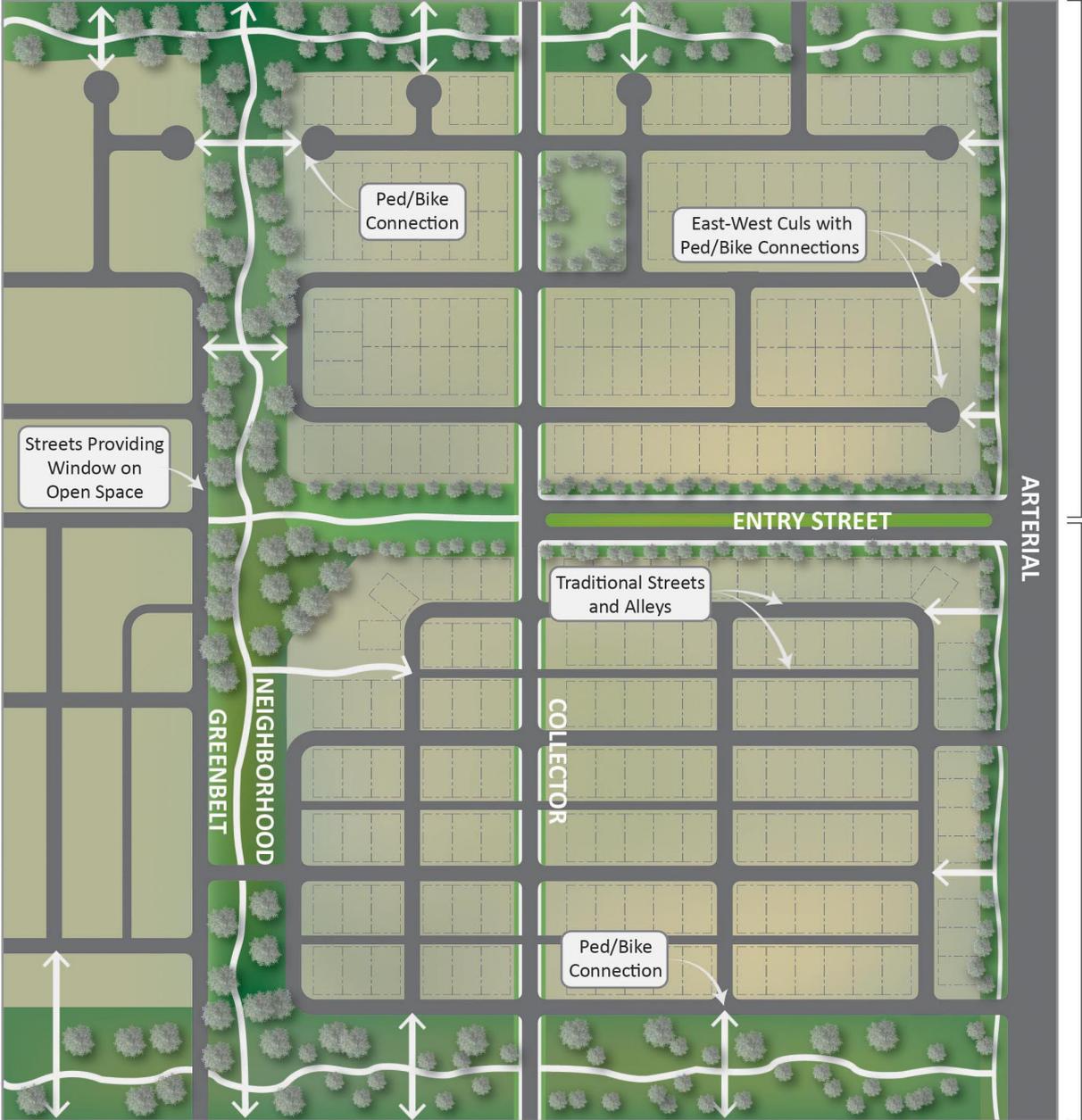
What can you do?

- **Increase accessibility**
- Increase mobility
- Improve personal safety
- Improve environment

Accessibility Visualization



STREET CONNECTIVITY CONCEPTS



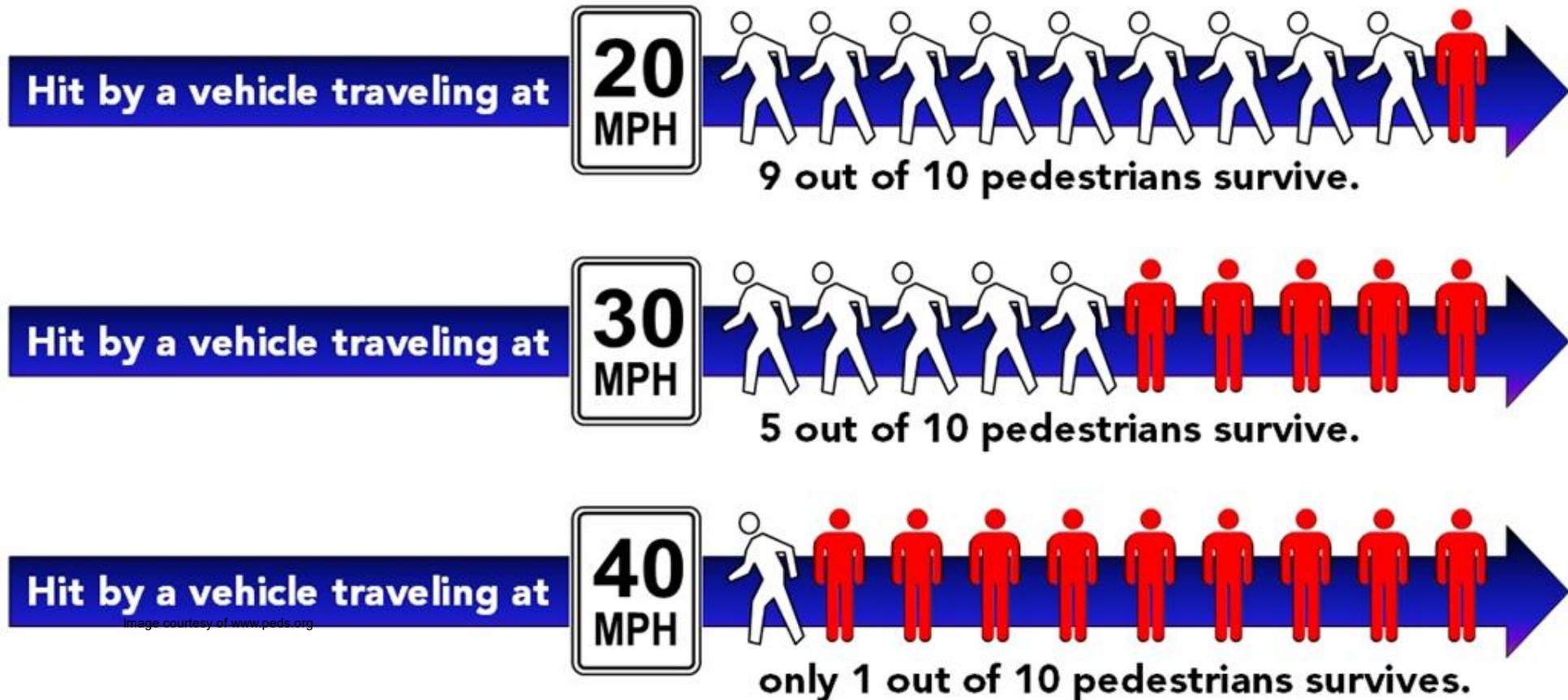
Source:
Fehr & Peers

What can you do?

- Increase accessibility
- **Increase mobility**
- Improve personal safety
- Improve environment

Driving Speed & Pedestrian Fatalities

Pedestrian Fatal Injury Rates by Vehicle Speed



Create multimodal streets



Provide choices to move people



Keep creating safe routes to school



What can you do?

- Increase accessibility
- Increase mobility
- **Improve personal safety**
- Improve environment

Maintenance & territorial reinforcement



Lighting



Activate the sidewalk & create natural surveillance



What can you do?

- Increase accessibility
- Increase mobility
- Improve personal safety
- **Improve environment**

Make gathering places

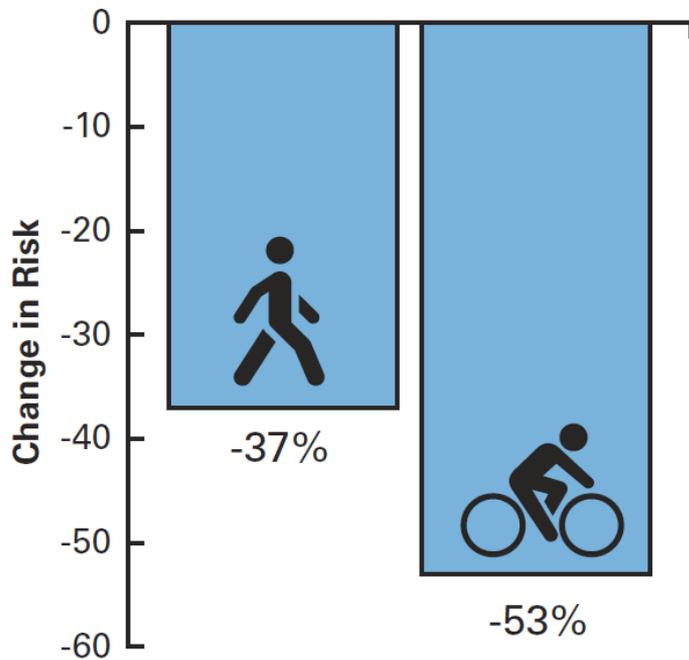


Enhance the tree canopy



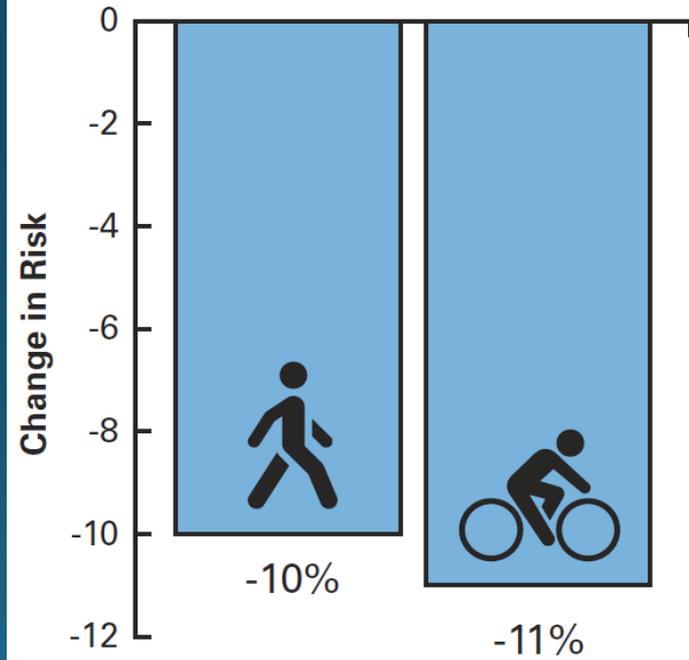
Will it help?

Figure 1: Reduced obesity risk in children who walk or bike to school



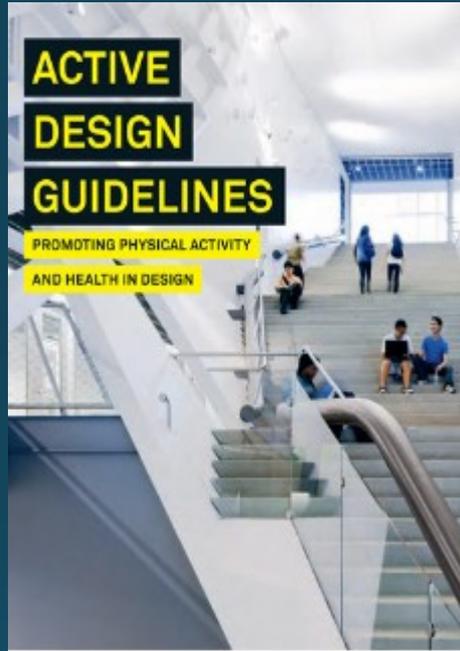
Reference: Ostergaard, et al. Journal of Physical Activity and Health 2012; 9: 5.

Figure 2: Reduced risk of death in adults who walk or bicycle to work

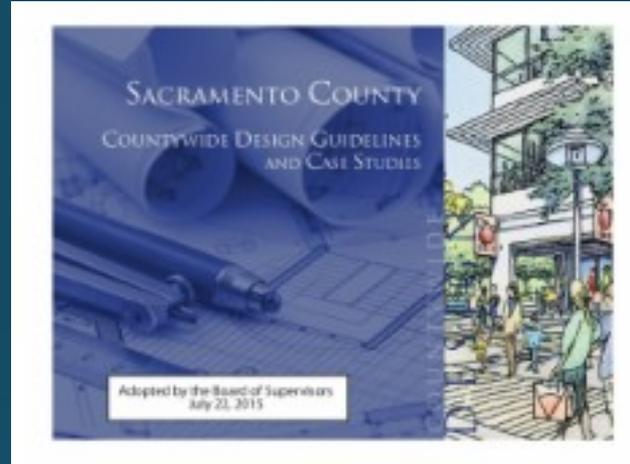


Reference: Kelly, P, et al. International Journal of Behavioral Nutrition and Physical Activity 2014; 11:1

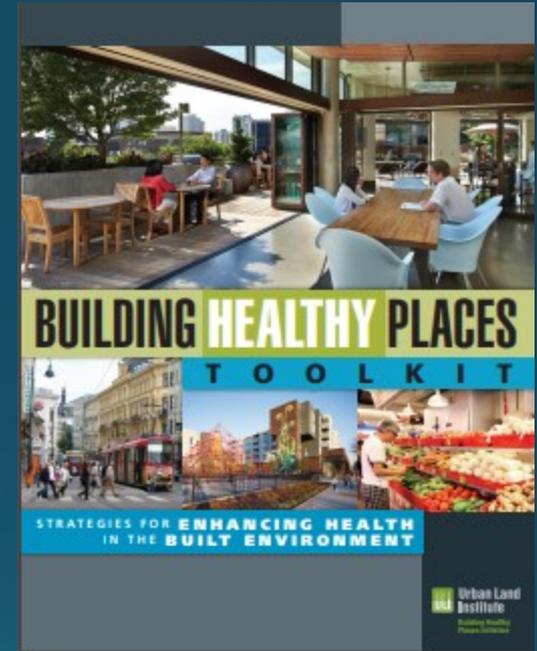
Resources



NYC Active Design Guidelines



Sacramento County Countywide Design Guidelines



Urban Land Institute Building Healthy Places Toolkit



THANKYOU

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