

# Climate Change, Health, and Equity

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“Climate change is the defining health challenge of our time.” Margaret Chan, World Health Organization

“Climate change threatens our fragile existence on this planet.” Jim Kim, World Bank



"Social injustice is killing people on a grand scale."

WHO Commission on the Social Determinants of Health, 2008

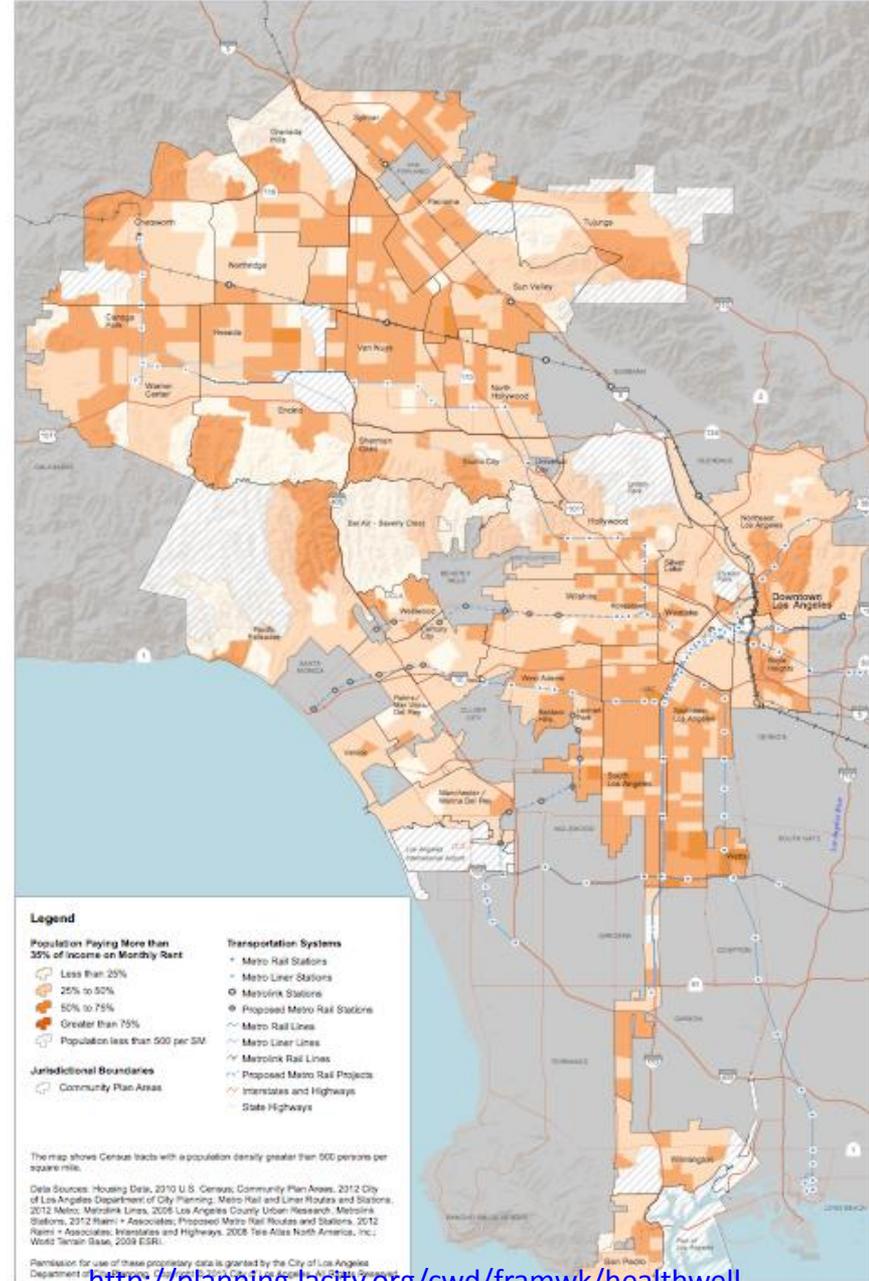
ZIP CODE 95219 Life Expectancy 73 < 88 ZIP CODE 92657 Life Expectancy

health happens here

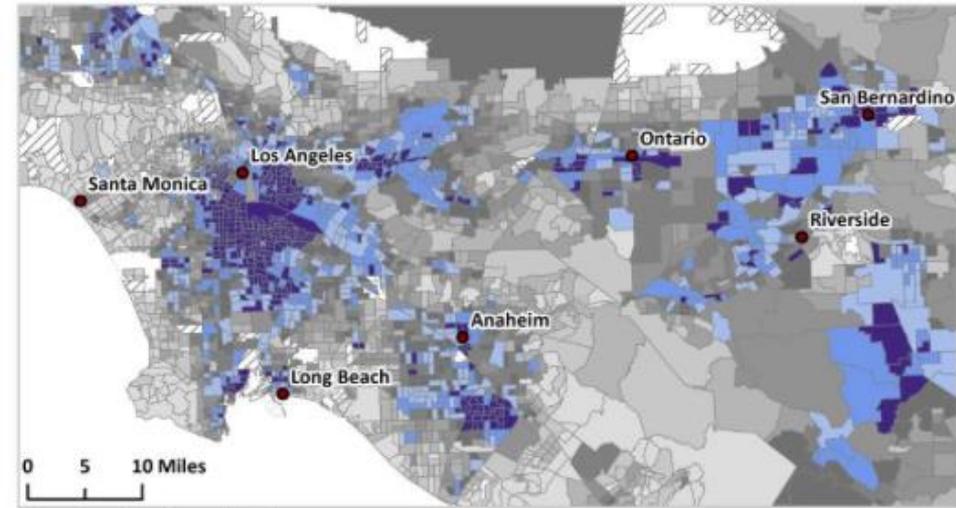
# Living Conditions: Physical, Social, Economic, Services Environments



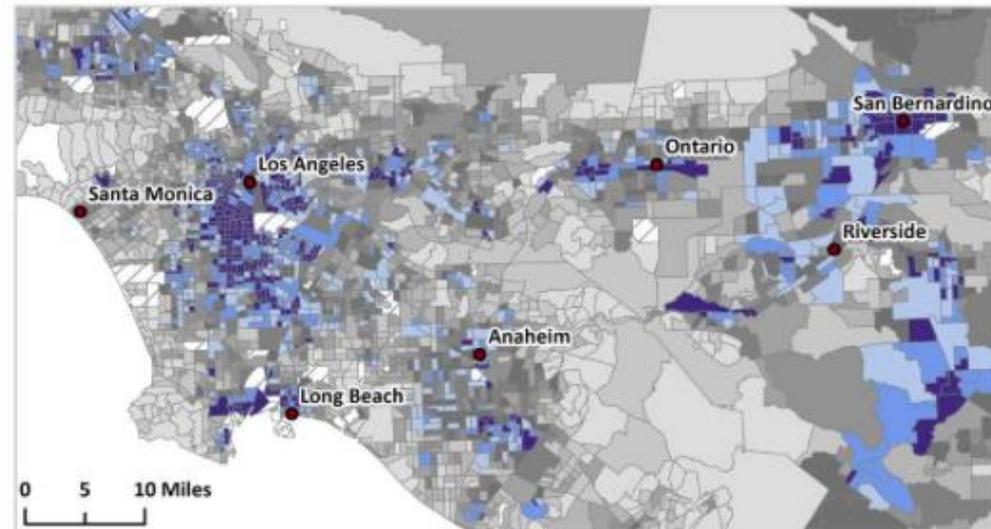
Percentage of Population Paying More than 35% of Income on Monthly Rent (2010)



<http://planning.lacity.org/cwd/framwkw/healthwellness/Maps/106.pdf>



% not completing H.S.



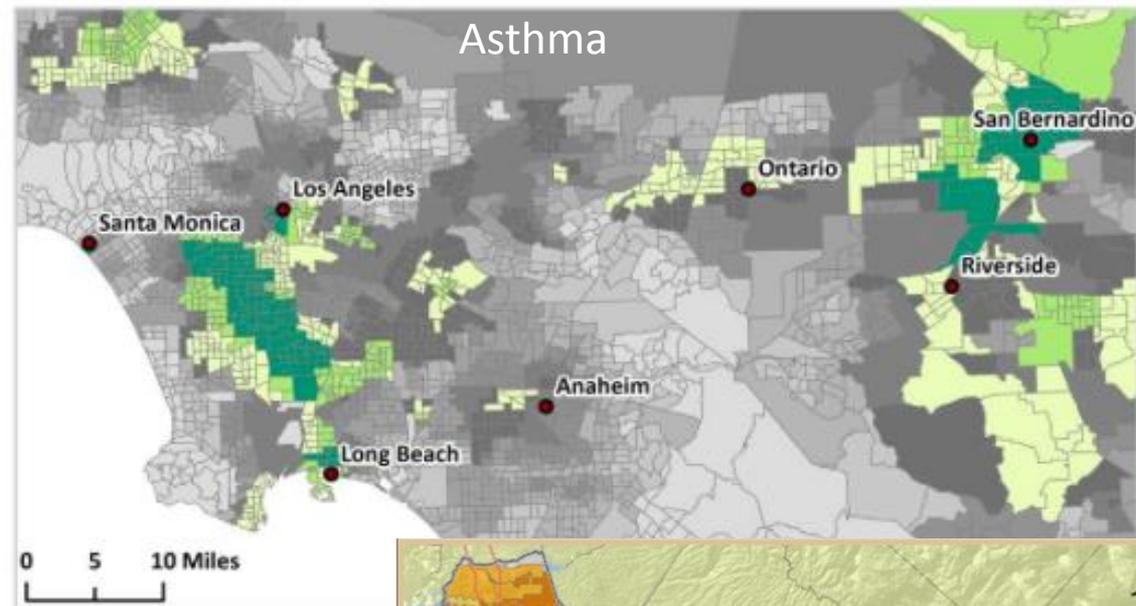
% living below 2x FPL

[http://www.oehha.ca.gov/ej/pdf/CES20Fin\\_alreport2014.pdf#27](http://www.oehha.ca.gov/ej/pdf/CES20Fin_alreport2014.pdf#27)

Greater Los Angeles Area

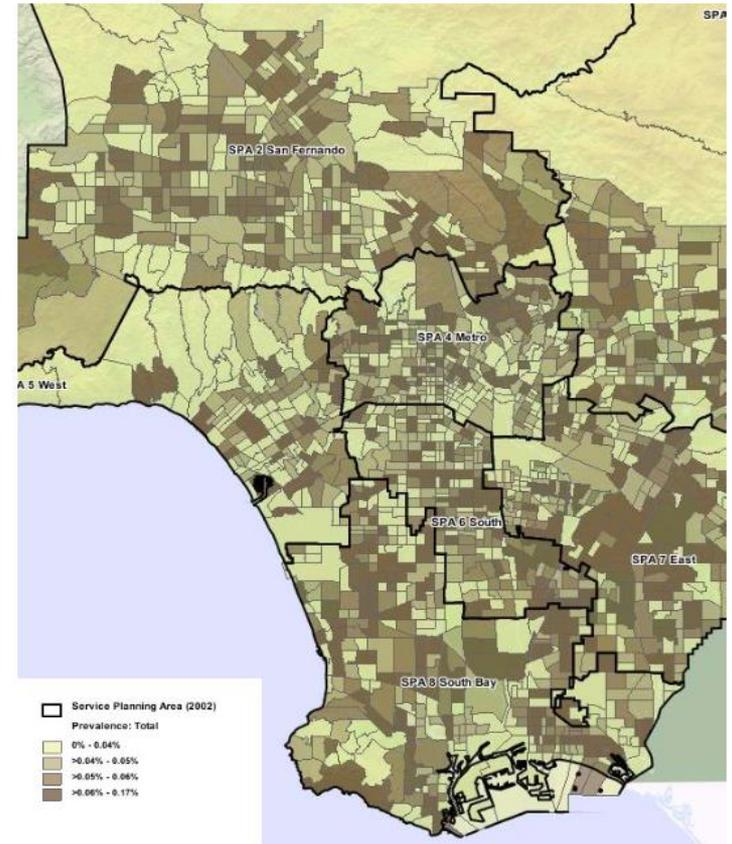
Greater Los Angeles Area

# Asthma



<http://www.oehha.ca.gov/ej/pdf/CES20Finalreport2014.pdf#27>

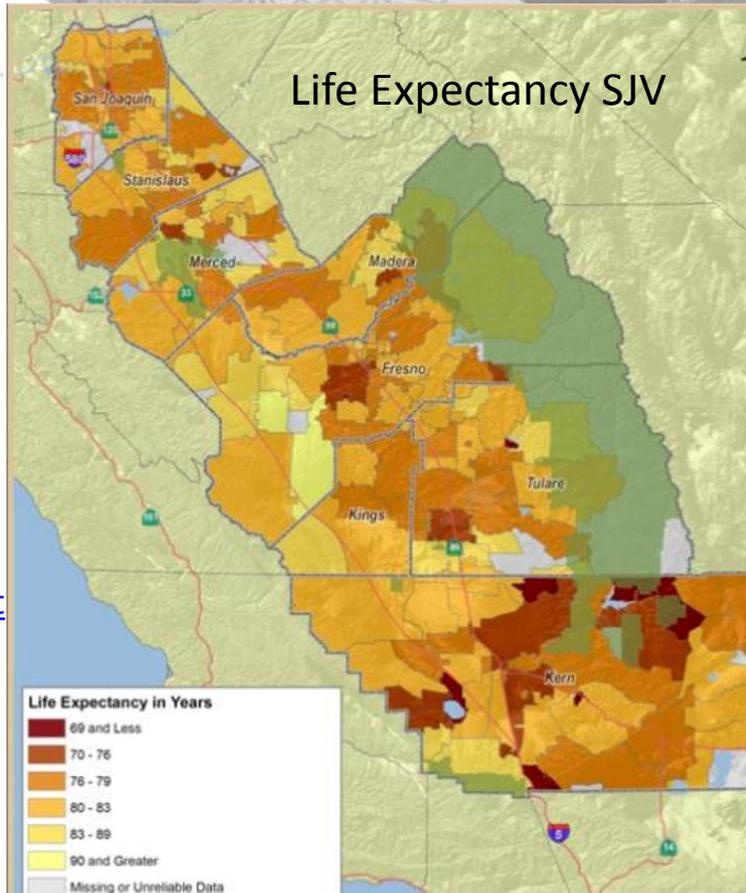
**Estimated Prevalence of Serious Emotional Disturbance and Serious Mental Illness (2008)**



*Estimated Prevalence of Serious Emotional Disturbance and Serious Mental Illness: The map shows the proportion of the population with a serious emotional disturbance (SED) in children and serious mental illness (SMI) in adults. The map is from the Los Angeles County Department of Mental Health for 2008.*

<http://cityplanning.lacity.org/Cwd/framwk/healthwellness/text/HealthAtlas.pdf>

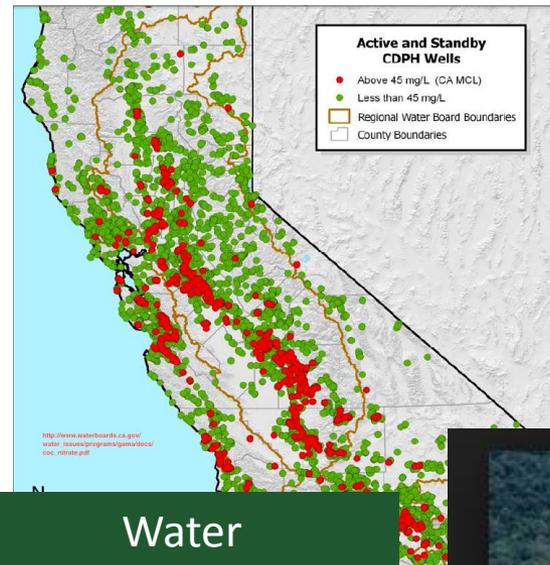
# Life Expectancy SJV



Greater Los Angeles Area

<http://www.societyhealth.vcu.edu/Page.aspx?nav=200>

# Other Environmental Impacts



Ocean Dead Zones

Water Contamination



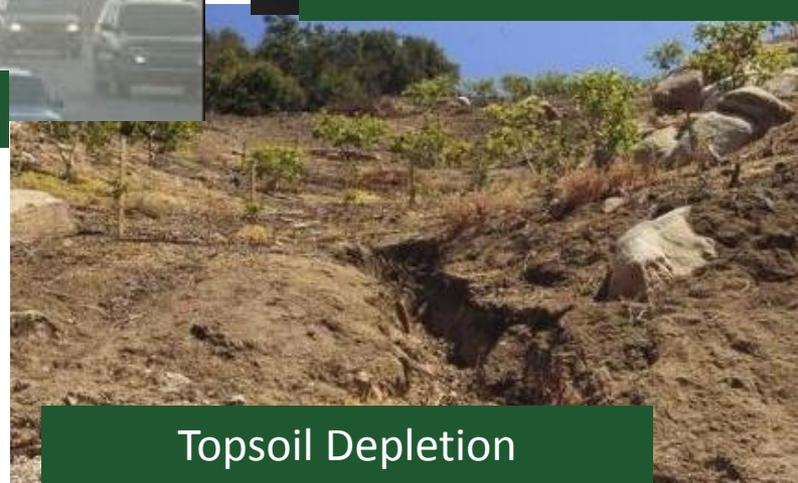
Air Pollution



Deforestation



Ecosystems Collapse

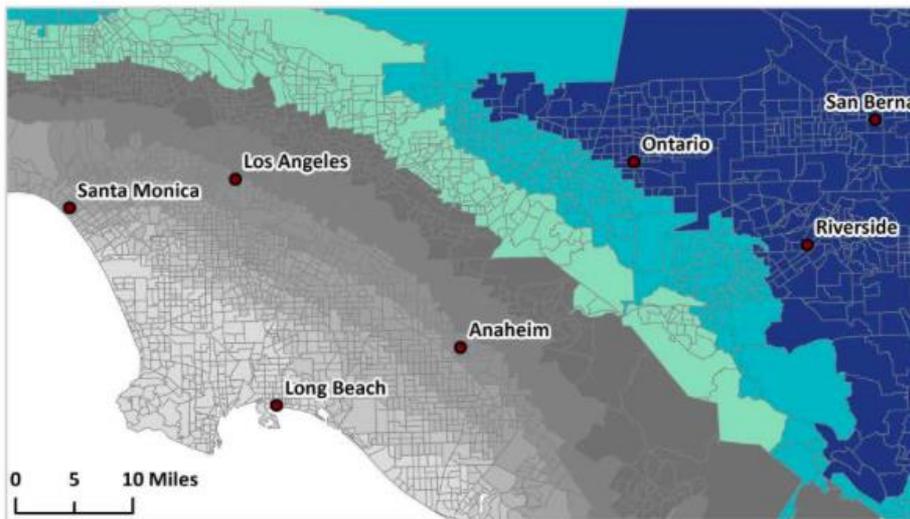
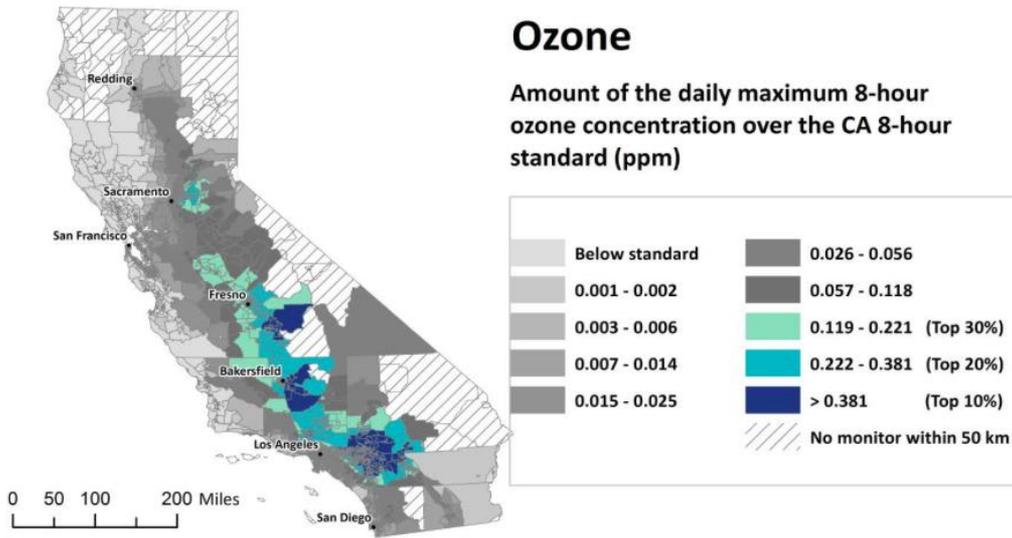


Topsoil Depletion

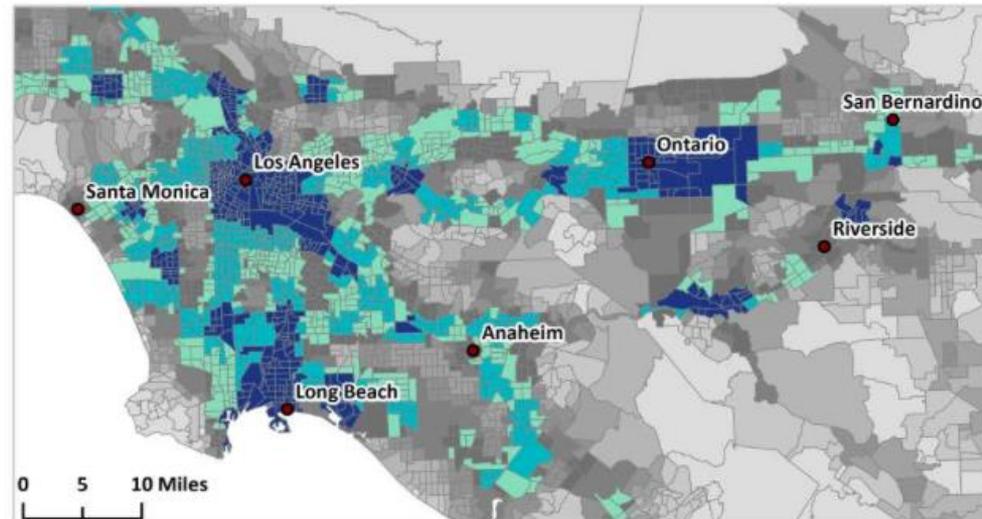
# Ozone

Amount of the daily maximum 8-hour ozone concentration over the CA 8-hour standard (ppm)

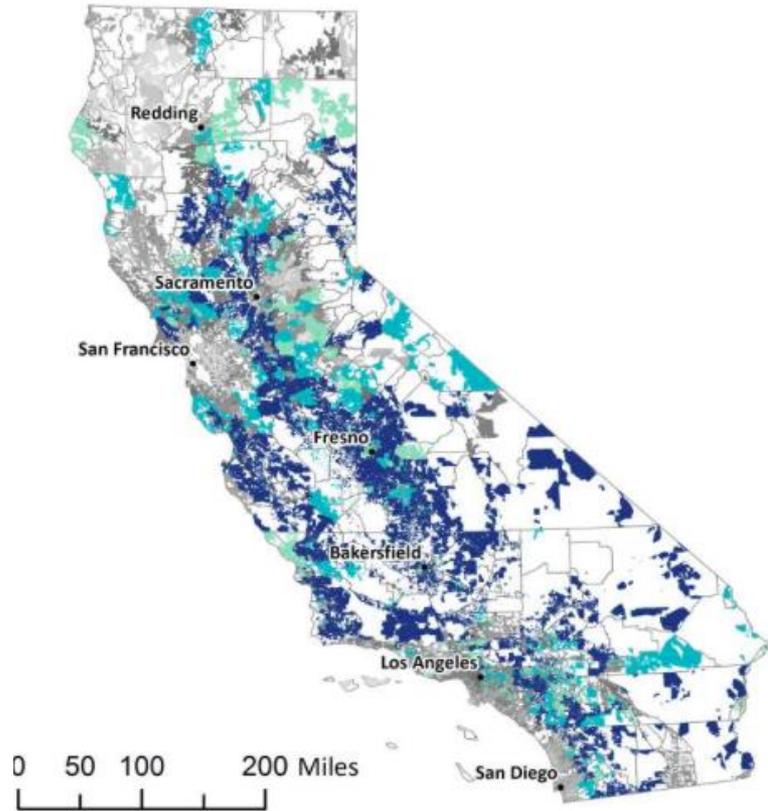
[http://www.oehha.ca.gov/ej/pdf/CE\\_S20Finalreport2014.pdf#27](http://www.oehha.ca.gov/ej/pdf/CE_S20Finalreport2014.pdf#27)



Ozone

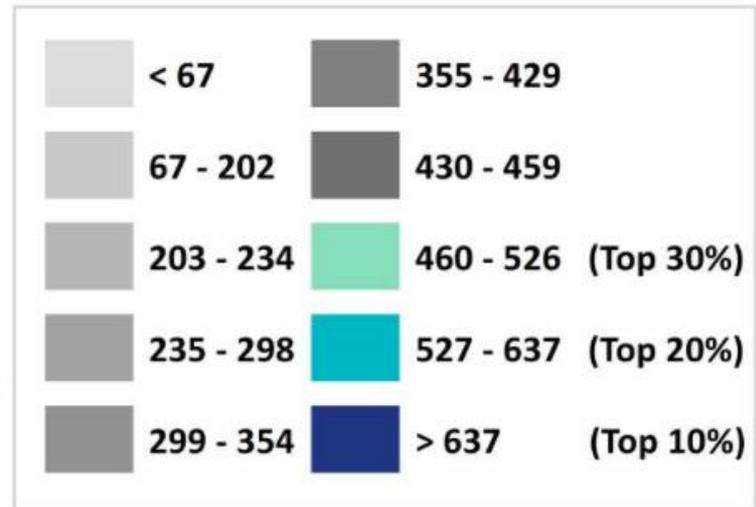


Diesel PM



# Drinking Water

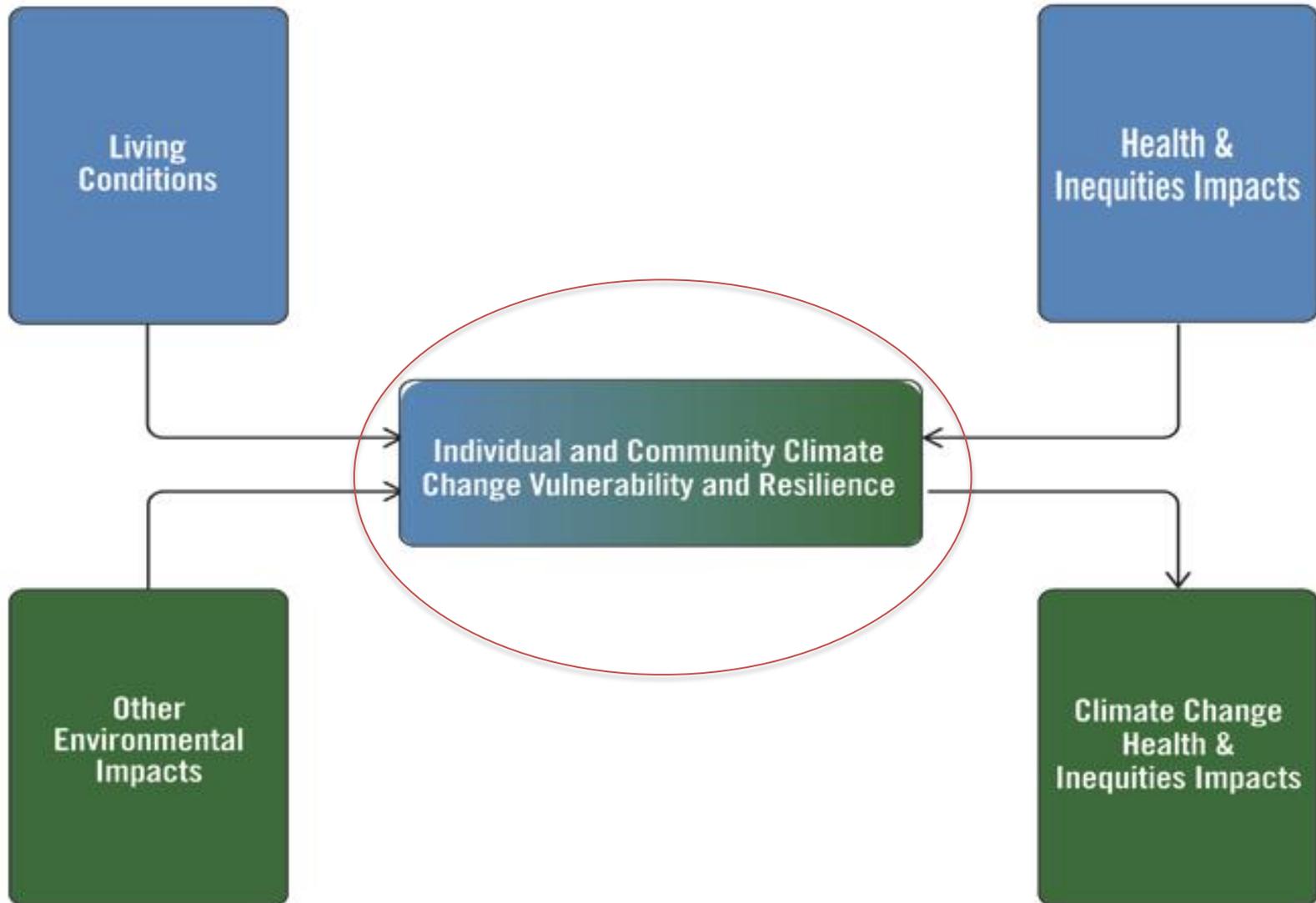
Drinking water contaminant index for selected contaminants



# Climate Vulnerability & Resilience

- Vulnerability
  - the degree to which human populations are susceptible to, and unable to cope with, adverse impacts of ecological or climate change due to both environmental and individual factors
- Resilience
  - the capacity of an individual, community, or institution to dynamically and effectively respond to shifting climate impact circumstances while continuing to function and prosper
- Characteristics of resilience or vulnerability co-exist at the same time in any community or individual.
- Together, the intersection of resources, including social connection, coping mechanisms, exposures, and susceptibility that will determine the extent to which climate change impacts health and well-being.

# Climate Change Vulnerability & Resilience



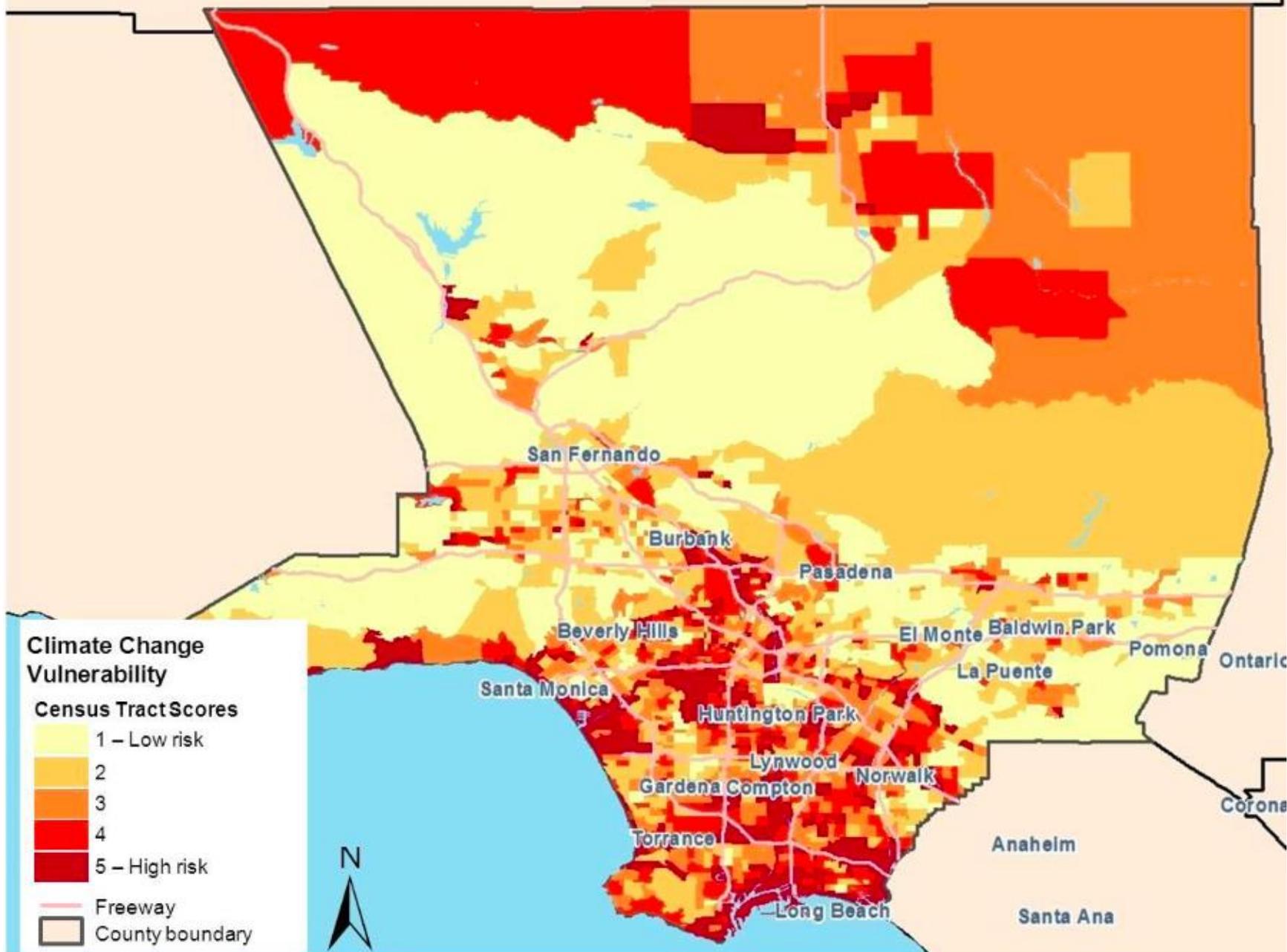
# Climate Health Inequities



# “Climate Gap”



# Los Angeles County, Climate Change Vulnerability by Census Tract



# Growing Public Concern

- Climate change a serious threat to California's future and quality of life:
  - Latinos: 67%
  - African-Americans: 63%
  - Whites: 40%
  - Asians: 38%

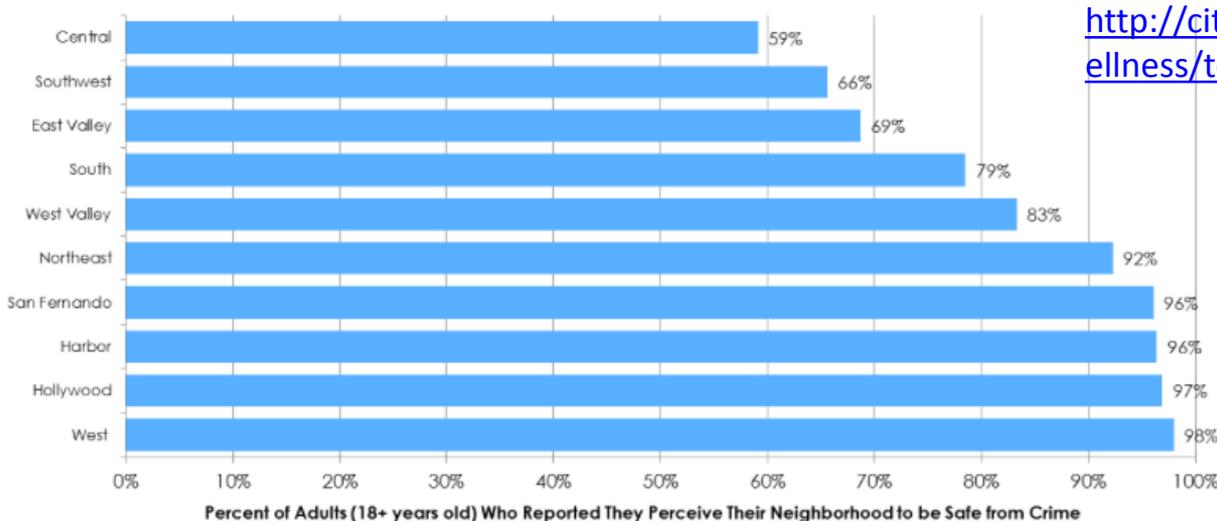
# Active Transportation Co-Benefits

ITHIM Preliminary Projections of Health Impacts of Increased Bicycling and Walking: 4 to 19 minutes of daily physical activity, SCAG Region

	Change in disease burden		Change in premature deaths/yr
<b>Cardiovascular Dis.*</b>	<b>12%</b>		<b>3,134</b>
<b>Diabetes</b>	<b>12%</b>		<b>374</b>
<b>Depression</b>	<b>3%</b>		<b>&lt;2</b>
<b>Dementia</b>	<b>6%</b>		<b>465</b>
<b>Breast cancer</b>	<b>3%</b>		<b>60</b>
<b>Colon Cancer</b>	<b>3%</b>		<b>75</b>
<b>Road traffic crashes</b>	<b>22%</b>		<b>315</b>

\* Ischemic heart disease, stroke, hypertensive heart disease

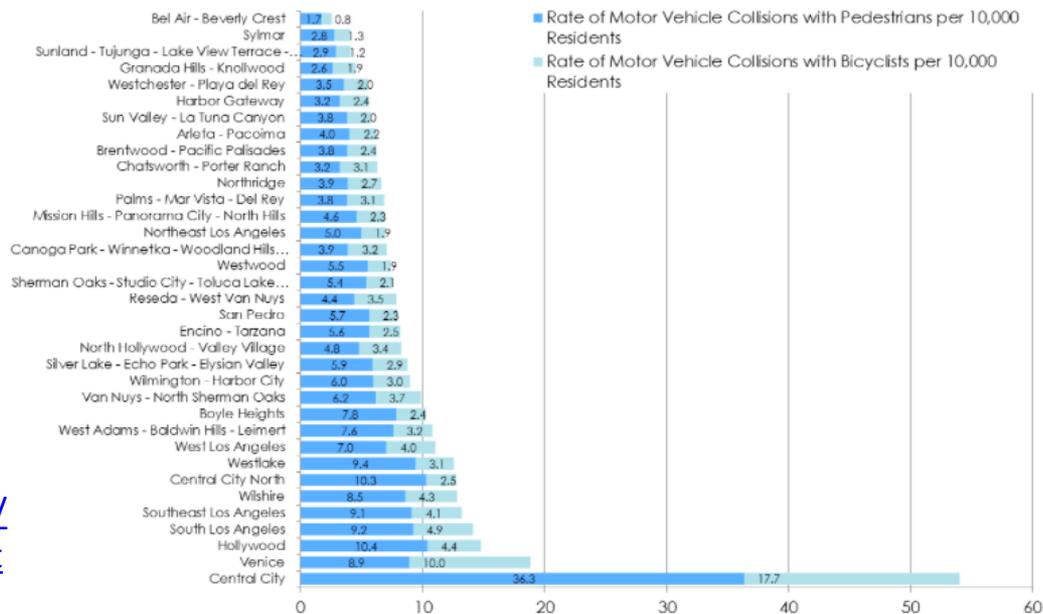
Figure 52: Percentage of Adults Who Reported They Perceive Their Neighborhood to be Safe from Crime by Health District in 2011



<http://cityplanning.lacity.org/Cwd/framwk/healthwellness/text/HealthAtlas.pdf>

Source: Office of Health Assessment and Epidemiology, Los Angeles County Department of Public Health. (2013). 2011 Los Angeles County Health Survey: Perceived Safety from Neighborhood Crime [Data File].

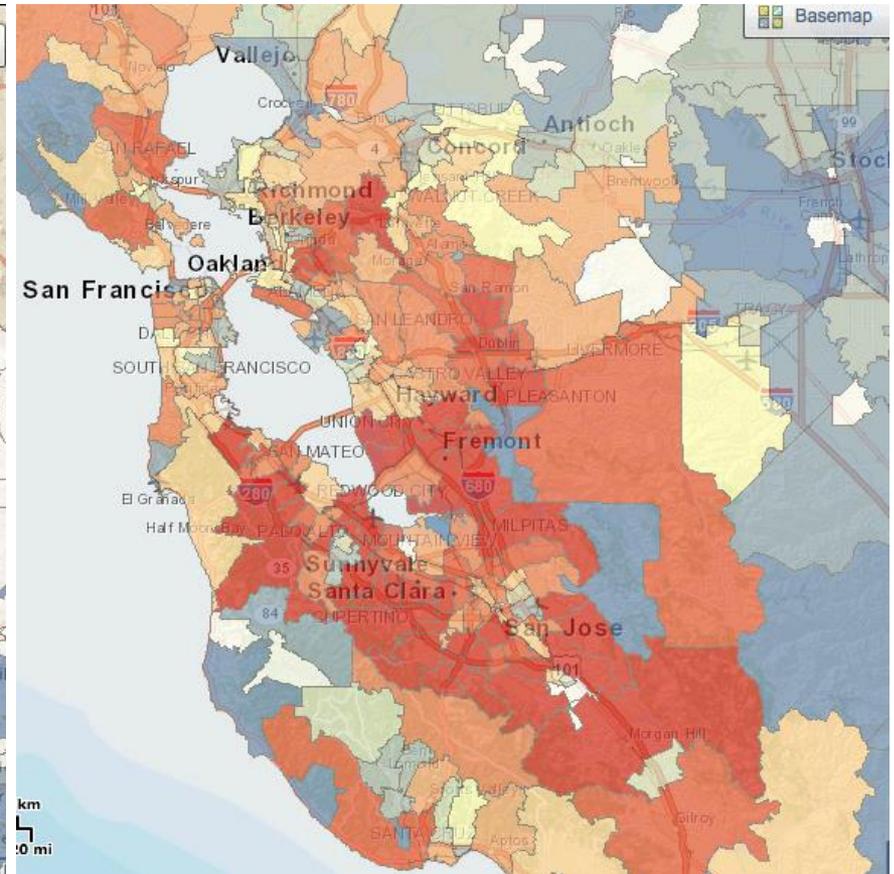
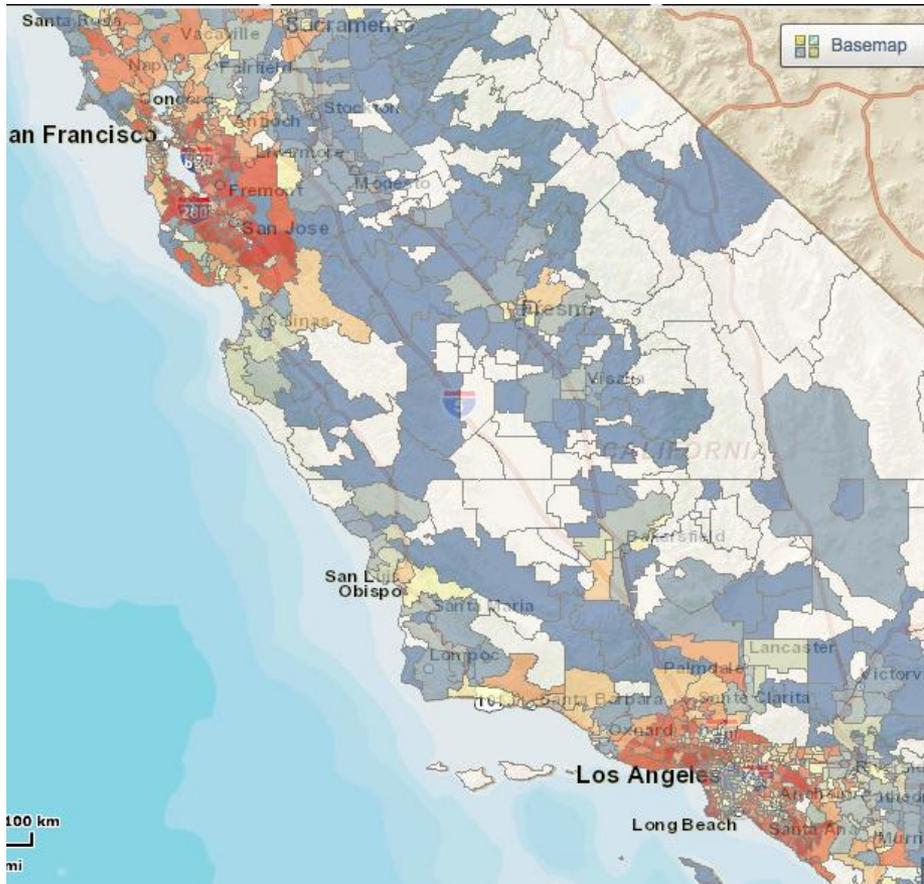
Figure 36: Average Annual Rate of Motor Vehicle Collisions with Pedestrians and Bicyclists per 10,000 Residents by Community Plan Area between 2001 and 2010



<http://cityplanning.lacity.org/Cwd/framwk/healthwellness/text/HealthAtlas.pdf>

Source: SWITRS collision data was collected from TIMS at U.C. Berkeley (2001-2010), compared to 2010 U.S. Census data, and analyzed by Raimi + Associates in 2012.

# California Clean Vehicle Rebates



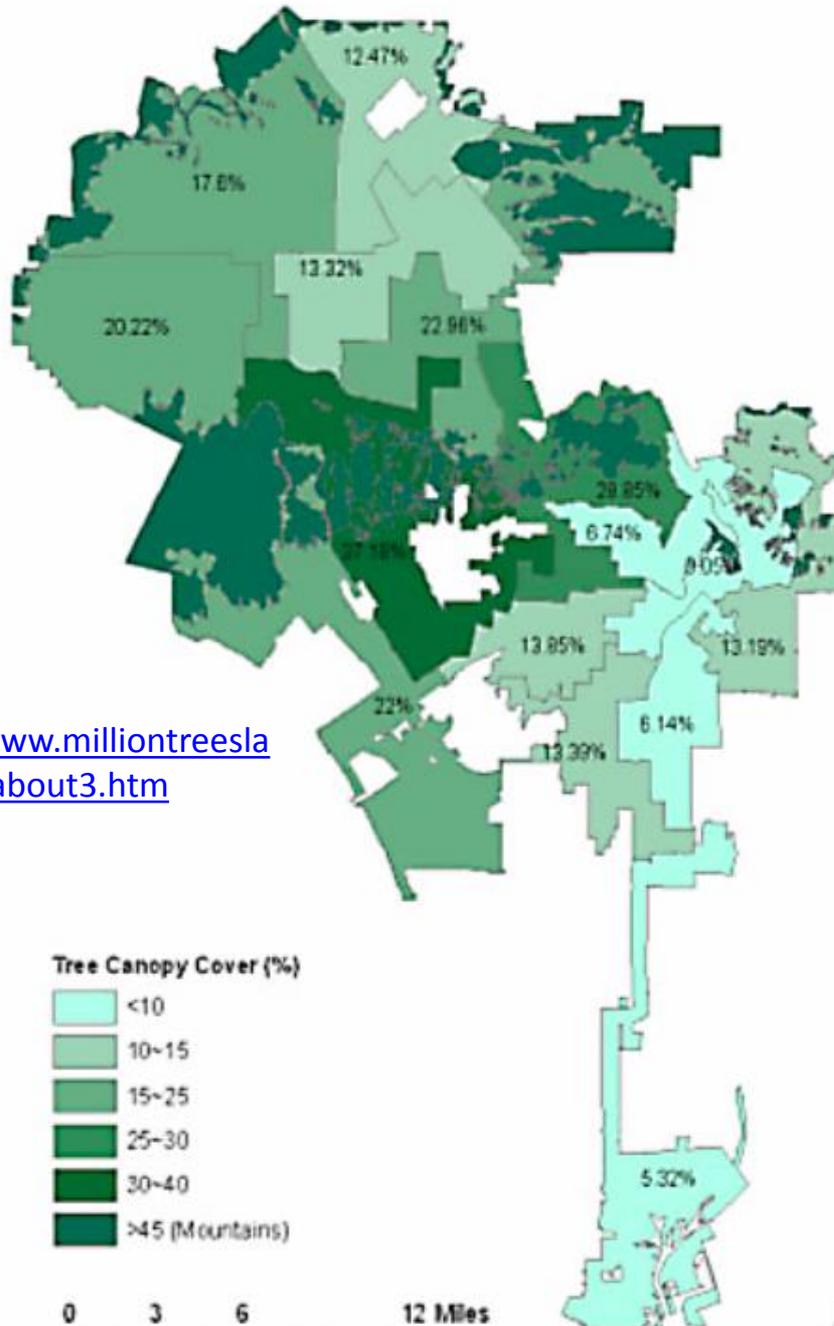
<http://energycenter.org/clean-vehicle-rebate-project/cvrp-rebate-map>

# Heat Resilience Co-Benefits

- Urban greening
  - Reduce heat illness risk
  - Places to be active
  - Healthy food access
  - Reduce storm water run-off & flooding risk
  - Replenish groundwater
  - Reduce crime
  - Decrease energy consumption
  - Lower energy costs
  - Reduce air pollution



# City of Los Angeles Tree Canopy Cover by Council Districts



<http://www.milliontreesla.org/mtabout3.htm>

# Co-Harms



Green Jobs: Occupational Risks



Job Loss



TOD: Displacement



LCFS: Food Prices & Insecurity



Groundwater Use:  
Subsidence



Market Mechanisms:  
Pollution in EJ Communities



# iCHEAP

## integrate Climate, Health, & Equity in All Policies

- Integrate health & equity explicitly into climate change policies and programs
- Integrate climate change reduction and resilience explicitly into health policies & programs

Thank you.

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