
Table 1. What is a Healthy Community?

A Healthy Community provides for the following through all stages of life:

► **Meets basic needs of all**

- Safe, sustainable, accessible and affordable transportation options
- Affordable, accessible and nutritious foods and safe drinkable water
- Affordable, high quality, socially integrated and location-efficient housing
- Affordable, accessible and high quality health care
- Complete and livable communities including quality schools, parks and recreational facilities, child care, libraries, financial services and other daily needs
- Access to affordable and safe opportunities for physical activity
- Able to adapt to changing environments, resilient, and prepared for emergencies
- Opportunities for engagement with arts, music and culture

► **Quality and sustainability of environment**

- Clean air, soil and water, and environments free of excessive noise
- Tobacco- and smoke-free
- Green and open spaces, including healthy tree canopy and agricultural lands
- Minimized toxics, greenhouse gas emissions and waste
- Affordable and sustainable energy use
- Aesthetically pleasing

► **Adequate levels of economic, social development**

- Living wage, safe and healthy job opportunities for all, and a thriving economy
- Support for healthy development of children and adolescents
- Opportunities for high quality and accessible education

► **Health and social equity**

► **Social relationships that are supportive and respectful**

- Robust social and civic engagement
 - Socially cohesive and supportive relationships, families, homes and neighborhoods
 - Safe communities, free of crime and violence
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Source: Rudolph L, Sisson A, Caplan J, et al. Health in All Policies Task Force. Report to the Strategic Growth Council. Sacramento, CA: Strategic Growth Council. December 3, 2010 ([/www.sgc.ca.gov/docs/workgroups/HiAP_Final_Report_12.3.10.pdf#page=22](http://www.sgc.ca.gov/docs/workgroups/HiAP_Final_Report_12.3.10.pdf#page=22)).

Table 2. What Is a Healthy Community and Its Indicators?

Aspirational Goal/Domain	Indicators ⁺
Meets basic needs of all	
Safe, sustainable, accessible and affordable transportation options	<ul style="list-style-type: none"> • Number and rate of collisions by severity and mode of transport (e.g. pedestrian-car collisions per vehicle mile or mile walked)^{1, 2} • Miles traveled per capita by mode (car, public transit, walk/bike)³ • Percent of residents mode of transportation to work⁴ • Percent of population located <1/2 mile of a regional bus/rail/ferry & <1/4 mile local bus/light rail⁵ • Percent of household income spent on travel⁶ • Percent of population aged 16 years or older by time walking and biking to work (e.g. ≥10 minutes/day)⁴
Affordable, accessible and nutritious foods	<ul style="list-style-type: none"> • Average weekly cost of a market basket for food items relative to income⁷ • Percent of households within 1/2 mile of a full-service grocery store, fresh produce market, or store with fresh produce⁸ • Percent of adults who consume ≥5 servings of fruits & vegetables a day⁹ • Retail food environment index⁸ [e.g. number of fast-food restaurants and convenience stores/total number of supermarkets and produce vendors (produce stores and farmers markets)]
Affordable, high quality, socially integrated and location-efficient housing	<ul style="list-style-type: none"> • Percent of household income spent on rent or mortgage^{4, 10} using benchmarks of >30% (burdened) and >50% severely burdened) • Percent of households in overcrowded (≥1.01 persons/room) and severely overcrowded (≥1.50 persons per room) conditions^{4, 10} • Household by type of family and head of household^{4, 10} • Neighborhood Completeness Index^{8, 11} (<1/2 mile radius for 8 out of 11 common public services and 9 of 12 common retail services) • Housing to jobs ratio³⁸ • Jobs:housing match³⁸ (e.g., Percent of adult working population who could find a job that matches their general occupational qualifications within a specified travel radius of their residence) • 5-year change in number of households by income and race/ethnicity (neighborhood change or gentrification)⁴ • Degree of residential segregation (e.g., ratio of percent of non-white race/ethnic groups in a specific geographic area to city or county average)⁴
Affordable, accessible and high quality health care	<ul style="list-style-type: none"> • Percent of adults aged 18 - 64 years without health insurance^{8, 11} • HEDIS primary care indicators related to patient satisfaction¹²
Complete and livable communities	<ul style="list-style-type: none"> • Neighborhood Completeness Index^{8, 11} (<1/2 mile radius for 8 out of 11 common public services and 9 of 12 common retail services)
Access to affordable and safe opportunities for physical activity	<ul style="list-style-type: none"> • Proportion of adults getting moderate/vigorous daily exercise⁹ • Percent of children scoring 6 of 6 on fitnessgram¹³

Table 2. What Is a Healthy Community and Its Indicators?

Aspirational Goal/Domain	Indicators
Able to adapt to changing environments, resilient, and prepared for emergencies	<ul style="list-style-type: none"> • Cities and counties with adopted climate action plans and FEMA-approved local hazard mitigation plans³⁹ • A resilience index composed of places with climate action and hazard mitigation plans and other Healthy Community Indicators (unemployment, lacking health insurance, educational attainment, income inequality, and registered voters)⁴³
Opportunities for engagement with arts, music and culture	<ul style="list-style-type: none"> • Per capita revenue in nonprofit arts organizations⁴⁰ • Percent of workers employed in artistic occupations⁴
Quality and sustainability of environment	
Clean air, soil and water, and environments free of excessive noise	• Number of days per year geographic area exceeds ambient air standards for criteria pollutants (ozone and PM2.5) ¹⁴
	• Percent of households/population near busy roadways ^{4, 15}
	• Average daily water use per capita ¹⁶
	• Drinking water quality (percent of the population served by water systems meeting regulations of the Safe Drinking Water Act) ¹⁷
	• Average daytime and night time noise outdoor noise levels
Tobacco and smoke free	• Prevalence of smoking in adults ^{9†} and youth ^{18, 19}
Green and open spaces, including agricultural lands	• Percent of residents within ½ mile of park, beach, open space, or coastline ²⁰
	• Acres of parkland per 1,000 residents ²⁰
	• Acres of cropland converted to developed land ²¹
	• Tree canopy coverage (urban areas) ²²
Minimized toxics, GHG emissions and waste	• Pounds of toxic chemicals generated by reporting facility per capital/geographic area ²³
	• Reported pesticide use ²⁴
	• Annual per capita GHG emission ^{25, 26}
	• Total waste diversion (per capita disposal rate) ²⁷
Affordable and sustainable energy use	• Energy costs relative to household income
	• Percent of electricity from renewable sources ²⁸
Adequate levels of economic, social development	
Living wage, safe and healthy job opportunities for all	• Unemployment rate ^{4, 29}
	• Overall and child (0 to 18 years of age) poverty rate ⁴ and percent of the population living in concentrated poverty (census tracts in which >40% of households are living below poverty line) ⁴
	• Number and rate of fatal and nonfatal occupational injuries by industry ³⁰
	• Percent of the households earning a living wage
Support for healthy development of children and adolescents	• Percent of children who are kindergarten ready ^{31, 32} (not available statewide)
	• Percent of resilient high school students ¹⁸
	• Number of licensed daycare center slots per 1000 children aged 0-4 years ^{31, 33}

Table 2. What Is a Healthy Community and Its Indicators?

Aspirational Goal/Domain	Indicators
Opportunities for high quality and accessible education	<ul style="list-style-type: none"> • Mean score of Academic Performance Index (API)¹³ • Percent of population aged ≥ 25 years by educational attainment^{4,34}
Health and social equity	<ul style="list-style-type: none"> • Race/ethnicity equity score as a composite of multiple core indicators, including median income⁴ • Income Inequality: Gini coefficient describing the amount of total annual community income generated by the number of households⁴ • Place-based equity score as a composite of multiple core indicators calculated for census tracts
Social relationships that are supportive and respectful	
Robust social and civic engagement	<ul style="list-style-type: none"> • Percent of adults age ≥ 18 years who are registered voters^{4,35}
Socially cohesive and supportive relationships, families, homes and neighborhoods	<ul style="list-style-type: none"> • Percent of adults (18-65 years) who report physical or sexual violence by an intimate partner³⁶ • Percent of children (<18 years) reported with neglect or physical or sexual abuse³⁷
Safe communities, free of crime and violence	<ul style="list-style-type: none"> • Reported crime rate by type of crime³⁶ • Density of alcohol outlets by type of establishment sales (on-site/off-site)⁴²

Notes: Indicators are usually a population-based measurement with a numerator, denominator, and time period, ideally capable of being stratified by population characteristics (race/ethnicity for assessment of inequity) or geography; Benchmarks are levels of an indicator that a deemed as acceptable or represent a goal.

Table 3. Indicators to Assess Health and Social EquityDefinition

Inequities are differences in indicator values (outcomes) that are avoidable, unfair, preventable, and rooted in social position such as race/ethnicity, social/economic class, educational attainment, occupation, place (urban/rural), tribal status, gender, sexual orientation, or other social disadvantage.

Measurement of Equity

We propose 3 scores for the equity dimensions of race/ethnicity, income, and place. Each score can be applied at the level of a city, county, or region by drawing on information from census tracts and individuals, depending on data availability.

The race/ethnicity composite is made up from scores of a selection of 15-20 individual core indicators (Table 2) that have data available for each race/ethnicity:

Table 3A. Indicators Having Race/Ethnicity Detail

• Percent of residents mode of transportation to work
• Average weekly cost of a market basket for food items relative to income
• Percent of adults who consume ≥ 5 servings of fruits & vegetables a day (county)
• Percent of households in overcrowded conditions
• Household by type of family and head of household
• Percent of adults aged 18 - 64 years without health insurance
• Proportion of adults getting moderate/vigorous daily exercise (county)
• Percent of children scoring 6 of 6 on fitnessgram (school district)
• Percent of children who are kindergarten ready
• Percent of resilient high school students
• Mean score of Academic Performance Index (API)
• Percent of population aged ≥ 25 year by educational attainment
• Prevalence of smoking in youth (school district) and adults (county)
• Unemployment rate
• Median income
• Overall and child (0 to 18 years of age) poverty rate
• Percent of children (<18 years) reported with neglect or physical or sexual abuse (county)

For each indicator, a pair-wise comparison of different groups (e.g. African American vs. non-Hispanic White) will identify the race/ethnicity groups with the largest difference based on the highest and lowest indicator values. If the ratio of highest to lowest indicator value is statistically different than 1 (parity), then 1 point will be added to the composite score. This scoring of ratios is repeated for each indicator. After the scores are summed and divided by the total number of indicators in the composite, the results can be expressed on scale from 0% to 100%, where higher scores indicate less race/ethnicity equity:

$$\text{Race/Ethnicity Equity Composite} = 100 \times \frac{\sum \text{Count of indicators with significant difference between highest and lowest groups}}{\text{Number of Indicators}}$$

Income inequality is measured by the Gini coefficient, which is in wide use by economists, and is routinely reported at the city level in the American Community Survey.⁴ The Gini coefficient indicates the evenness of income distribution in a community on a 0 to 1 scale. A value of 0 indicates that each household generates an equal share of annual income and a value of 1 indicates that a small number (percent) of households generate nearly all of annual income of that community.

Using the same income data stratified by race/ethnicity, a complementary equity measure associated with displacement/gentrification can be created for a city, describing the change over time in the number (percent) of households by race/ethnicity and annual income in a specific geographic area.

The place composite is also made up of a score from a selection of the core indicators above (Table 3A) and the following with data available for census tracts:

Table 3B. Indicators Having Census Tract Detail

• Number and rate of collisions by severity and mode of transport
• Miles traveled per capita by mode
• Percent of population located <½ mile of a regional bus/rail/ferry &<¼ mile local bus/light rail
• Percent of household income spent on travel
• Percent of households within ½ mile of a full-service grocery store, fresh produce market, or store with fresh produce
• Retail food environment index
• Percent of household income spent on rent or mortgage
• Neighborhood Completeness Index
• Percent of households/population near busy roadways
• Average daytime and night time noise outdoor noise levels
• Percent of residents within ½ mile of park, beach, open space, or coastline
• Tree canopy coverage (urban areas)
• Pounds of toxic chemicals generated by reporting facility per capital/geographic area
• Reported pesticide use
• Number of licensed daycare center slots per 1000 children aged 0-4 years
• Percent of adults age ≥18 years who are registered voters
• Percent of children reported with neglect or physical or sexual abuse

The place equity score for a city can be calculated from the value of indicators in each of the city's census tracts. The ratio of the highest to lowest indicator values will be taken from the top and bottom 20% (quintile) of census tracts. If the ratio of highest to lowest indicator value is statistically different than 1 (parity), then 1 point will be added to the composite score. After the scores are summed for each indicator and divided by the total number of indicators in the composite, the results can be expressed on scale from 0% to 100%, where higher scores indicate less place-based or neighborhood level equity within a jurisdiction.

$$\text{Place-Based Equity Composite} = 100 \times \frac{\sum \text{Count of indicators with significant difference between the highest and lowest quintiles of census tracts}}{\text{Number of Indicators}}$$

Table 4. Data Sources, Geographic Scale, and Frequency of Update, Preliminary Data Sources for Health Community Indicators

Data Source/Notes	Geographic Scale	Frequency of Update
1. Statewide Integrated Traffic Records System (www.chp.ca.gov/html/aiuswitr.html). 2. Department of Transportation, California Highway Patrol, Office of Traffic Safety, Department of Motor Vehicles, Dept. of Alcohol Beverage Control. California Strategic Highway Safety Plan. Sacramento, CA: California Department of Transportation; 2006.	City/Census place	Annual with DOF denom. Decade with travel survey
3. Metropolitan Transportation Commission and other Metropolitan Transportation Organizations travel demand models and household transportation surveys (http://www.mtc.ca.gov/maps_and_data/datamart/research/).	Census tract	5-10 years
4. American Community Survey. Detailed data sets, annual, 3-year, 5-year (http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=ACS). U.S Bureau of Census.	City (1, 3 years) Census tract (5 yrs)	
5. University of California Davis (ULTRANS), University of California Berkeley (SafeTREC). Transit asset inventories (http://safetrec.berkeley.edu/ , http://ultrans.its.ucdavis.edu/org/transportation-sustainability-research-center-uc-berkeley).	Census tract	Annual
6. Housing and Transportation Affordability Index (http://htaindex.cnt.org/). Center for Neighborhood Technology.	Census tract	Periodic 3-5 years
7. Official USDA Food Plans: Cost of Food at Home at Four Levels (http://www.cnpp.usda.gov). Center for Nutrition Policy and Promotion, U.S. Department of Agriculture.	Region	Annual
8. California Board of Equalization. http://www.boe.ca.gov .	Census tract	Annual
9. California Health Interview Survey, various years (www.chis.ucla.edu/main/default.asp?page=puf). University of California, Los Angeles.	County	2-4 years
10. California Department of Housing and Community Development. Building Blocks for Effective Housing Elements. Housing needs(http://www.hcd.ca.gov/hpd/housing_element/).	Census tract	Annual
11. The Healthy Development Measurement Tool (www.thehdmt.org). San Francisco Department of Public Health. <u>Neighborhood public services</u> : childcare/daycare, community garden, hospital and public health clinic, library, open spaces, neighborhood or regional parks, performance/cultural space, post office, public art, recreational facility, and public school. <u>Neighborhood retail</u> : auto repair, banks/credit unions, beauty salon/barber shop, bike repair, dry cleaner, eating establishments, gym/fitness center, hardware store, laundromat, pharmacy, retail food market (including supermarket, produce store, and other retail food stores), entertainment (i.e. video store or movie theater).	Census tract	Annual
12. Office of Patient Advocate. Quality Report Card (www.opa.ca.gov).	County and medical group	Annual
13. Academic Performance Index (API) Report (http://data1.cde.ca.gov/dataquest/AcntRpt2010/2009BaseStApi.aspx?allcids=). California Department of Education.	School district	Annual
14. Air Resources Board. Aerometric Data and Analysis System (http://www.arb.ca.gov/adam/). California Air Resources Board.	Air basin/county	Annual
15. Federal Highway Administration. FHWA Functional Classification Guidelines (http://www.fhwa.dot.gov/planning/fcsec2_1.htm). Department of Transportation; 2008 in conjunction with public or commercial GIS files of roadways.	Census tract	annual

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Data Source/Notes	Geographic Scale	Frequency of Update
16. 20x2020 Water Conservation Plan (www.water.ca.gov/wateruseefficiency/sb7/docs/20x2020plan.pdf). Dept. of Water Resources, Dept. of Public Health, SWRCB, Air Resources Board, Public Utilities Commission, Bay-Delta Authority.	Water districts	Annual
17. 2007 Annual Compliance Report for Public Water Systems (http://www.cdph.ca.gov/certlic/drinkingwater/Pages/default.aspx), CDPH	Water districts	Annual
18. California Healthy Kids Survey (http://chks.wested.org/). WestEd and the California Department of Education. 19. California Tobacco Control Update 2009:20 Years Of Tobacco Control In California. California Department of Public Health.	School district	Annual
20. California Protected Areas Database (www.calands.org/). GreenInfo Network.	Census tract	Annual
21. Farmland Monitoring Program (http://redirect.conservation.ca.gov/DLRP/fmmp/product_page.asp). Department of Conservation.	Subcounty	Every 2 years
22. National Land Cover Database(http://www.epa.gov/mrlc/nlcd-2006.html). USGS, EPA, NOAA, DOI, NASA, USFS, US Park Service (Multi-Resource Land Consortium) and other public and commercial satellite imaging projects.	Census tract	5-10 years
23. California Toxic Release Inventory (http://www.dtsc.ca.gov/database/CALTRIP/index.cfm). Department of Toxic Substances Control.	City	Annual
24. Information Portal (CalPIP) (http://calpip.cdpr.ca.gov/main.cfm). Department of Pesticide Regulation.	Division/range	Annual
25. Climate Change Scoping Plan (http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf). California Air Resources Board; 2008. 26. Recommendations of the Regional Targets Advisory Committee (RTAC) Pursuant to Senate Bill 375 (http://www.arb.ca.gov/cc/sb375/rtac/report/092909/finalreport.pdf). California Air Resources Board.	State	Periodic
27. California 2008 Statewide Waste Characterization Study (http://www.calrecycle.ca.gov/publications/General/2009023.pdf). Cal/Recycle and California Integrated Waste Management Board.	City	Annual
28. California Energy Commission, California Independent System Operator. Renewable Energy Program (http://www.energy.ca.gov/2010publications/CEC-300-2010-008/CEC-300-2010-008-CMF.PDF , http://energyalmanac.ca.gov/electricity/total_system_power.html , www.caiso.com/green/greenhome.html).	State	Periodic
29. Monthly Labor Force Data for Cities and Census Designated Places (CDP). (http://www.labormarketinfo.edd.ca.gov/?pageid=1006). Employment Development Department.	City	Monthly
30. Incidence rates of nonfatal occupational injuries and illnesses by selected industries and case types (www.dir.ca.gov/dlsr/Injuries/2009/2009Table1.pdf). California Department of Industrial Relations.	State	Annual
31. California Children and Families Commission (First Five). Strategic Plan (http://www.cafc.ca.gov/pdf/F5C_StrategicPlan08.pdf), 32. Kindergarten Readiness Data Efforts: Survey of California First 5 County Commissions (http://www.cde.ca.gov/sp/cd/re/documents/first5survey.pdf). California Department of Education and Applied Survey Research (http://www.appliedsurveyresearch.org/projects/index.html#ksra).	School district	Periodic
33. Licensed facilities (https://secure.dss.cahwnet.gov/cclid/securenet/cclid_search/cclid_search.aspx). Dept. of Social Services Community Care Licensing Division.	Census tract	Annual

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Data Source/Notes	Geographic Scale	Frequency of Update
34. Condition of Education (http://nces.ed.gov/programs/coe/2010/pdf/22_2010.pdf). U.S. Department of Education National Center for Educational Statistics.		
35. 15 Day Report of Registration (http://www.sos.ca.gov/elections/ror/ror-pages/15day-prim-10/hist-reg-stats.pdf). Secretary of State.	Legislative districts, county	Annual
36. Uniform Crime Reports (http://www.ucrdatatool.gov/Search/Crime/Local/JurisbyJuris.cfm). U.S. Department of Justice, Federal Bureau of Investigation.	City	Annual
37. Child Welfare Dynamic Report System (http://cssr.berkeley.edu/ucb_childwelfare/GeoData.aspx). University of California, Berkeley and Dept. of Social Services.	Census tract	Annual
38. U.S. Census Bureau. <i>LODES Data: Longitudinal-Employer Household Dynamics Program</i> . Washington, DC: U.S. Census Bureau; 2012. http://lehd.ces.census.gov/led/onthemap/ . Accessed on 7/5/12.	Region	Annual
39. Governor's Office of Planning and Research. <i>California Jurisdictions Addressing Climate Change</i> . Sacramento, CA: Governor's Office of Planning and Research; 2012. http://www.opr.ca.gov/docs/California_Jurisdictions_Addressing_Climate_Change_Excel.xlsx . Accessed on 7/5/12.	City/County	Periodic
40. Urban Institute. <i>National Center for Charitable Statistics</i> . DS. Washington, DC: Urban Institute; 2011. http://nccs.urban.org/ Accessed on 7/5/12.	Zip code	Annual
41. Glasmeier AK, Arete W. <i>Poverty in America: Living Wage Calculator</i> . Cambridge, MA: Massachusetts Institute of Technology; 2012. http://livingwage.mit.edu/ Accessed on 8/27/12.	City	Periodic
42. California Department of Alcoholic Beverage Control. <i>California Department of Alcoholic Beverage Control</i> . DS. Sacramento, CA: California Department of Alcoholic Beverage Control; 2010. http://www.abc.ca.gov/datport/DataExport.html Accessed on 8/15/12.	Census tract	Annual
43. Cutter SL, Boruff BJ, Shirley WL. Social vulnerability to environmental hazards. <i>Soc Sci Quart</i> 2003;84(2):242-261.	City/County	Periodic

Table 5. Rationale for Selecting Indicators and Possible Alternatives (See Table 3 for Indicators to Assess Equity)

Domain/Indicator	Why was this Indicator Selected?	Possible Alternatives
Meets basic needs of all		
<ul style="list-style-type: none"> • Number and rate of collisions by severity and mode of transport 	<p>Widely used by Cal/Trans, regional transportation planning agencies, CDPH, and county health departments for strategic planning, agency performance, and health surveillance; data available annually and can be geocoded to census tracts and blocks; easily understandable health outcome to wide range of users; mentioned in 2006 California Strategic Highway Safety Plan by the California Highway Patrol, Office of Traffic Safety, Department of Motor Vehicles, and Department of Alcoholic Beverage Control.</p>	<ul style="list-style-type: none"> • Pedestrian Environmental Quality Index (PEQI) score • Intersection Density • Rates of emergency room visits for road traffic injuries
<ul style="list-style-type: none"> • Miles traveled per capita by mode 	<p>Indicator used by Cal/Trans and regional transportation planning agencies (MPOs) as a performance measure and understandable to wide range of users. Miles traveled by motor vehicles is linked to greenhouse gases, particulate matter, ozone, and other air pollutants, which are associated with mortality and morbidity. Miles traveled in active transport (walk, and bicycle) alone and in combination with mass transit are used as performance targets by MPOs and sources of significant health co-benefits. Indicator is available for census tracts (transportation analysis zones) and is derived from transportation demand models of MPOs and decennial household transportation surveys.</p>	<ul style="list-style-type: none"> • Percent of adults who use public transit
<ul style="list-style-type: none"> • Percent of residents who commute to work by mode 	<p>This indicator has the same rationale as above and the ability to be stratified by race/ethnicity to assess equity</p>	
<ul style="list-style-type: none"> • Percent of population located <½ mile of a regional bus/rail/ferry & <¼ mile local bus/light rail 	<p>Indicator employs a commonly used definition of walking distance to access local and regional public transit and is understandable to wide range of users; urban and transportation planners use this indicator to measure geographic accessibility; data are available from transit system operators and are feasible to geocode; evidence supports residents near public transit stops engage in more walking (physical activity to get to and from transit stops) than those who live farther away.</p>	<ul style="list-style-type: none"> • Percent of adults who use public transit • Percent of residents who commute to work, by transport mode
<ul style="list-style-type: none"> • Percent of population aged 16 years or older by time walking and biking to work (e.g. ≥10 minutes/day) 	<p>Direct measure of transport-related physical activity , which reduces risks from premature mortality and disability from cardiovascular disease, some cancers, obesity and other chronic health conditions.</p>	

Table 5. Rationale for Selecting Indicators and Possible Alternatives (See Table 3 for Indicators to Assess Equity)

Domain/Indicator	Why was this Indicator Selected?	Possible Alternatives
<ul style="list-style-type: none"> Percent of household income spent on travel 	<p>Evidence supports that health outcomes improve with available income; spending on travel competes with other basic necessities; indicator understandable to wide range of users; California Regional Progress Report 2010(http://www.calcog.org/documents/CARegionalProgress_000.pdf) includes this indicator; data are available ~5 year intervals for census tracts in most California metropolitan areas from the Center for Neighborhood Technology based on models from several data sets, including U.S. Census.</p>	<ul style="list-style-type: none"> Cost per passenger mile on public transportation
<ul style="list-style-type: none"> Average weekly cost of a market basket for food items relative to income 	<p>Evidence supports that health outcomes improve with adequate nutrition, which is related in part to income. Components of this indicator are used by the U.S Department of Agriculture/WIC. National data are available monthly, and can be regionally adjusted. This indicator is conceptually similar to the federal poverty level, which compares a (non-regionally adjusted) national income threshold to individual household income, adjusted for family size. Denominators such as median income may be stratified by race/ethnicity to assess potential inequities.</p>	<ul style="list-style-type: none"> WIC or Food Stamp enrollment as a percentage of the total population Food Security: the proportion of adults who report sometimes or often running out of food and not having enough money to buy more.
<ul style="list-style-type: none"> Percent of households within ½ mile of a full-service grocery store, fresh produce market, or store with fresh produce 	<p>Employs a commonly used definition of walking distance to access health promoting food resources and understandable to wide range of users. Evidence supports increased access to healthy foods promotes their consumption. Data are available from public and proprietary data sources and are feasibly geocoded for census tracts or blocks. Used by CDPH and county health departments to measure healthy food access.</p>	<ul style="list-style-type: none"> Percent of households within 1 mile of a farmer's market Number of liquor store/alcohol outlets per capita
<ul style="list-style-type: none"> Percent of adults who consume ≥5 servings of fruits & vegetables a day 	<p>Widely used indicator in public health for healthy nutritional intake based on evidence of cancer prevention and other health outcomes; indicator is understandable to wide range of users. Measured biennially in California adults at the county level in the California Health Interview Survey. Mentioned in the CDPH's 2010 California Obesity Prevention Plan 2010. Indicator may be stratified by race/ethnicity, income, and educational level to assess potential inequities.</p>	<ul style="list-style-type: none"> Fast food eaten how many times in the past week Density of fast food outlets

Table 5. Rationale for Selecting Indicators and Possible Alternatives (See Table 3 for Indicators to Assess Equity)

Domain/Indicator	Why was this Indicator Selected?	Possible Alternatives
<ul style="list-style-type: none"> Retail food environment index 	<p>Evidence links the local food environment to obesity using this indicator. Data are available for purchase from proprietary sources or require administrative permission from public agencies. Data require geocoding and frequent updating to avoid inaccuracy. Used by CDPH's Network for a Healthy California CX3 project.</p>	<ul style="list-style-type: none"> Number of supermarkets per capita Number of farmer's markets per capita or per community
<ul style="list-style-type: none"> Percent of household income spent on rent or mortgage (HUD benchmark >30%) 	<p>Widely used indicator of housing affordability for federal (HUD) and state agencies (Dept. of Housing and Community Development) and is mentioned in California Regional Progress Report; understandable to wide range of users; Data available at 1-3 year intervals for most California cities and in 5 year intervals (U.S. Census) for census tracts.</p>	<ul style="list-style-type: none"> Foreclosure rate by race/ethnicity and location Median home prices and/or median rent costs by location
<ul style="list-style-type: none"> Percent of households in overcrowded conditions 	<p>Evidence links overcrowding to respiratory illness and disease and poor educational outcomes. Data are available from U.S. Census at 1-3 year intervals for most California cities and census tracts in 5-year intervals. Indicator recommended by the California Department of Housing and Community Development in county/local general plans' housing elements, and understandable to wide range of users.</p>	<ul style="list-style-type: none"> Percent of the population living in sub-standard housing or lacking some sort of facility (e.g. kitchen, plumbing, telephone) Median age of housing units by location
<ul style="list-style-type: none"> Household by type of family and head of household 	<p>Widely used description of community demographic structure. Indicator published by U.S. Census at 1-3 year intervals for most California cities and at census tract in 5 year intervals. Indicator recommended by the California Department of Housing and Community Development in county/local general plans. Indicator can be stratified by race/ethnicity to assess potential differences.</p>	<ul style="list-style-type: none"> Percent of non-English speaking households Degree of racial segregation by geographic area
<ul style="list-style-type: none"> Neighborhood Completeness Index 	<p>Geographic proximity to retail and public services are increasingly being used by researchers and commercial vendors to rate neighborhood environments. The NCI is based on the experience of the San Francisco Department of Public Health. Data are available for purchase from proprietary sources or require administrative permission from public agencies. Data require geocoding and frequent updating to avoid inaccuracy.</p>	<ul style="list-style-type: none"> Percent of the population within ½ mile of a public recreational facility
<ul style="list-style-type: none"> Housing to jobs ratio³⁸ 	<p>Widely used indicator of location-efficient housing. Housing shortages near job centers (and visa versa) promotes the use of personal passenger automobile in the absence of transit. Increased automobile use is associated with air-pollution, road traffic injuries, and greenhouse gas emissions.</p>	

Table 5. Rationale for Selecting Indicators and Possible Alternatives (See Table 3 for Indicators to Assess Equity)

Domain/Indicator	Why was this Indicator Selected?	Possible Alternatives
<ul style="list-style-type: none"> Jobs:housing match³⁸ 	<p>In conjunction with housing to jobs ratio, provides additional information on whether the geographic distribution of job skills the work force in job centers is balanced with the skills of the residential population. This has implications on travel and whether the resident population has job skills commensurate with income to afford housing near job centers.</p>	
<ul style="list-style-type: none"> 5-year change in number of households by income and race/ethnicity (neighborhood change or gentrification)⁴ 	<p>This is a measure of community succession and/or gentrification. Displacement of low-income and minority populations is negatively associated with adverse mental health outcomes and the disruption of social networks.</p>	
<ul style="list-style-type: none"> Degree of residential segregation (e.g., ratio of percent of non-white race/ethnic groups in a specific geographic area to city or county average)⁴ 	<p>In meta-analyses of longitudinal epidemiologic studies, residential segregation has been associated with adverse mortality outcomes even after statistically adjusting for individual's race/ethnicity.</p>	
<ul style="list-style-type: none"> Percent of adults aged 18 - 64 years without health insurance 	<p>Widely used indicator of lack of access to medical services by health care and state and county public health agencies; and understandable to wide range of users. Data collected biennially in California Health Interview Survey for counties and annually for most California cities by the American Community Survey. Indicator (CHIS) may be stratified by race/ethnicity, income, and educational level to assess potential inequities.</p>	<ul style="list-style-type: none"> Number of medical providers per capita that accept Medi-Cal Proportion of children without health insurance coverage
<ul style="list-style-type: none"> HEDIS primary care indicators related to patient satisfaction 	<p>Patient experience with the health care system is a widely accepted component of health care quality. Based on a validated, nationally standardized questionnaire of commercially insured managed care patients and reported annually at the medical group level within counties by the California Office of the Patient Advocate.</p>	<ul style="list-style-type: none"> Rates of hospitalization for ambulatory care sensitive conditions
<ul style="list-style-type: none"> Proportion of adults getting moderate/vigorous daily exercise 	<p>Strong scientific evidence links physical activity to improved health outcomes for cardiovascular disease, several types of cancers, diabetes, and mental health conditions. Measured biennially in adults for California counties in the California Health Interview Survey. Mentioned in the CDPH's 2010 California Obesity Prevention Plan 2010. Indicator may be stratified by race/ethnicity, income, and educational level to assess potential inequities.</p>	

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Domain/Indicator	Why was this Indicator Selected?	Possible Alternatives
<ul style="list-style-type: none"> Percent of children scoring 6 of 6 on fitnessgram 	<p>Evidence links physical activity to improved educational outcomes, which are associated with improved health outcomes. Standardized measure of physical fitness for K-12 public school students published annually for school districts by the California Department of Education and may be stratified by race/ethnicity to assess potential inequities.</p>	<ul style="list-style-type: none"> Percent of schools requiring minimum standards for duration and activity level for physical activity Percent of schools with joint use of athletic facilities during non-school hours on a regular basis
<ul style="list-style-type: none"> Cities and counties with adopted climate action plans and FEMA-approved local hazard mitigation plans³⁹ 	<p>Cities and counties are responding to the threat of climate change by developing strategies and written plans to reduce their carbon emissions and adapt and prepare for unavoidable consequences of climate change. Climate action and hazard mitigation plans are indicators of responding to this and traditional environmental threats.</p>	
<ul style="list-style-type: none"> A resilience index composed of places with climate action and hazard mitigation plans and other Healthy Community Indicators 	<p>In addition to the planning processes in the preceding indicator, community resiliency has been measured by combining individual indicators across many domains of social vulnerabilities, proximity to hazards, adaptive capacity, and social capital. Because the Healthy Community Indicators already have such measures, a resiliency index will be composed from indicators from several of the domains of the HCI (unemployment, lacking health insurance, educational attainment, income inequality, and registered voters)</p>	
<ul style="list-style-type: none"> Per capita revenue in nonprofit arts organizations⁴⁰ 	<p>This indicator is used in national projects to assess the magnitude of investment in organized arts activities</p>	
<ul style="list-style-type: none"> Percent of workers employed in artistic occupations⁴ 	<p>This indicator is used in national projects to assess the magnitude of investment in organized arts activities</p>	
<p>Quality and sustainability of environment</p>		
<ul style="list-style-type: none"> Number of days per year geographic area exceeds ambient air standards for criteria pollutants (ozone and PM2.5) 	<p>Widely used, easily understandable indicator to measure compliance with state and federal clean air laws. Published annually by CARB for counties and sub-county air basins. Information in this indicator has been combined with census tract information on race/ethnicity and other geocodable information to assess cumulative impacts and health equity for vulnerable populations.</p>	<ul style="list-style-type: none"> Annual number of unhealthy air quality days Toxic air releases-total annual pounds of air releases by Toxic Release Inventory permitted facilities

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Domain/Indicator	Why was this Indicator Selected?	Possible Alternatives
<ul style="list-style-type: none"> Percent of households/population near busy roadways 	<p>Easily understandable indicator associated with noise, pedestrian safety, and air pollution, which impact health outcomes. Roadway classification data are available for all roadways in California but actual vehicle volume/counts must be compiled from municipal and county sources not consistently available in electronic format.</p>	<ul style="list-style-type: none"> Rates of hospitalization and emergency room visits for asthma for age group
<ul style="list-style-type: none"> Average water use per capita daily 	<p>Average daily use (gallons) per capita stratified by user (residential, institutional, industrial, etc.) is an indicator used in the water conservation plan of multiple California state agencies (DWR, CDPH, SWRCB, ARB, PUC, Energy, Bay-Delta Authority); easily understandable indicator available at hydrologic region and updated through annual progress reports.</p>	<ul style="list-style-type: none"> Percent of wastewater reclaimed
<ul style="list-style-type: none"> Drinking water quality (percent of the population served by water systems meeting regulations of the Safe Drinking Water Act) 	<p>Evidence strongly links contaminants in drinking water with outbreaks of water-borne illness and other health outcomes. Understandable indicator used by CDPH to annually report compliance of water system operators with state and federal standards for safe drinking water. Efforts are planned by CDPH to electronically map water systems service areas and to combine this information with other geographic data to facilitate population estimates.</p>	<ul style="list-style-type: none"> Number of violations by water system operator per population or per district
<ul style="list-style-type: none"> Average daytime and night time noise outdoor noise levels 	<p>Noise is associated with poor cardiovascular health, sleep disruption, and mental health outcomes. Direct noise measurements in non-occupational settings are performed by some local environmental health agencies, usually in response to complaints. No systematic statewide database exists. Noise levels for sub-census tract geographies can be estimated by mathematical models inputting local geographic information (roadways, industrial and construction sites).</p>	
<ul style="list-style-type: none"> Prevalence of smoking in adults and youth 	<p>Widely used indicator used by health care and state and county public health agencies, including CDPH Tobacco Control Program; understandable to wide range of users. Data collected biennially in California Health Interview Survey for counties and annually in the California Healthy Kids Survey at the level for school districts. Indicator may be stratified by race/ethnicity, income, and educational level to assess potential inequities.</p>	<ul style="list-style-type: none"> Presence of smoke-free policies in public places, parks, and worksites Number of communities with policies that restricts in- and outside of store tobacco advertising and promotions
<ul style="list-style-type: none"> Percent of residents within ½ mile of park, beach, open space, or coastline 	<p>Employs a commonly used definition of walking distance to access opportunities for physical activity and recreation, and is understandable to wide range of users. Statewide data are compiled from multiple sources; requires geocoding to be available for census tracts.</p>	<ul style="list-style-type: none"> Square miles or acreage of park, beach, open space per capita Proportion of land retained as natural areas/protected areas

Table 5. Rationale for Selecting Indicators and Possible Alternatives (See Table 3 for Indicators to Assess Equity)

Domain/Indicator	Why was this Indicator Selected?	Possible Alternatives
<ul style="list-style-type: none"> • Acres of parkland per 1,000 residents 	<p>Employs a widely used indicator for the amount of park land and open space available to residents of a geographic area.</p>	
<ul style="list-style-type: none"> • Acres of cropland converted to developed land 	<p>Understandable indicator reported biennially at sub-county geographic areas (sections) by the Department of Conservation to assess magnitude of urban encroachment and lost potential of agricultural land. An indirect measure of urban sprawl, which has been linked to built environments with additional health burdens such increased travel-related air pollution.</p>	<ul style="list-style-type: none"> • Percent of cropland acreage harvested for fruits and vegetables • Acreage of agricultural conservation easements protected under the California Farmland Conservancy Program
<ul style="list-style-type: none"> • Tree canopy coverage (urban areas) 	<p>Evidence links tree canopy to positive health effects due to mitigation of air pollution, UV exposure, and urban heat islands and creation of environments that reduce stress and neighborhood violence; understandable to range of users; data are available but require geographic processing of output from mathematical models of satellite imagery for census tract detail, which is currently available only for a few California cities. Cal/Fire mentions urban planning and forestry in its annual reports/strategic plan.</p>	<ul style="list-style-type: none"> • Change in vegetation cover by cover type
<ul style="list-style-type: none"> • Pounds of toxic chemicals generated by reporting facility per capital/geographic area 	<p>Widely used indicator of presence of toxic chemical generation, storage, and potential release based on US EPA's/California Toxic Release Inventory. Indicator mentioned in Dept. Toxic Substance Control strategic plan. Information available for zip codes. Information in this indicator has been combined with other characteristics of neighborhoods to assess cumulative health impacts in vulnerable populations and equity.</p>	

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Domain/Indicator	Why was this Indicator Selected?	Possible Alternatives
<ul style="list-style-type: none"> Reported pesticide use 	<p>Widely used indicator to assess intensity of agricultural pesticide applications. Department of Pesticide Regulation publishes these data annually and data are mapped by CDPH Environmental Tracking Program and other groups. Acute health effects of toxic pesticides are well documented and there is evidence linking pesticide exposure to adverse birth outcomes, developmental disorders, cancers, and other chronic diseases in human populations. Data are compiled at sub-section land grids.</p>	
<ul style="list-style-type: none"> Annual per capita GHG emission 	<p>Widely used indicator mentioned in CARB Climate Change Scoping Plan (AB32) and Regional Targets Advisory Committee (SB375).</p>	
<ul style="list-style-type: none"> Total waste diversion (per capita disposal rate) 	<p>Used by Cal/Recycle to facilitate state reporting requirements (revised 2007) for municipal waste diversion. Annual results are reported by municipality.</p>	<ul style="list-style-type: none"> Total hazardous waste generated Percent of recyclable materials recycled
<ul style="list-style-type: none"> Energy costs relative to household income 	<p>Expenditure as a share of income is widely used to measure affordability. Indicator may be crafted from regionally-adjusted national data (Consumer Expenditure Survey) on energy prices (gas, electricity, fuels) and income.</p>	
<ul style="list-style-type: none"> Percent of electricity from renewable sources 	<p>Widely used, easily understandable indicator reported annually by the Independent System Operator for California. Indicator used to monitor California progress towards 33% renewable share of electricity generation by 2020.</p>	
<p>Adequate levels of economic, social development</p>		
<ul style="list-style-type: none"> Unemployment rate 	<p>Widely used indicator with strong evidence associating increased mortality and illness with unemployment. Data are collected monthly by the Economic Development Department (employment location) and at 1, 3, and 5 years by the U.S. Census for cities and census tracts (residence). This indicator may be stratified by race/ethnicity to assess potential inequities.</p>	<ul style="list-style-type: none"> Living wage compared to median wage

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Domain/Indicator	Why was this Indicator Selected?	Possible Alternatives
<ul style="list-style-type: none"> Overall and child (0 to 18 years of age) poverty rate and percent of the population living in concentrated poverty (census tracts in which >40% of households are living below poverty line)⁴ 	<p>Widely used indicator with strong evidence associating acute illness, injury, and chronic diseases with increased poverty. Multiple state and local agencies use this indicator to identify vulnerable populations/communities of concern, analyze equity, carry out strategic planning. Data are collected biennially in California Health Interview Survey for counties, and annually for most California cities, and in 5-year averages for census tracts by the American Community Survey. Indicator may be stratified by race/ethnicity to assess potential inequities.</p>	
<ul style="list-style-type: none"> Percent of the households earning a living wage 	<p>Widely used measure on the level of income required to meet a basic standard of living</p>	
<ul style="list-style-type: none"> Number and rate of fatal and nonfatal occupational injuries by industry 	<p>Easily understood, widely used indicator of acute occupational health conditions produced annually by California Department of Industrial Relations Cal/OSHA.</p>	<ul style="list-style-type: none"> Number of OSHA violations Distribution of employment by job classification type
<ul style="list-style-type: none"> Percent of children who are kindergarten ready 	<p>Indicator increasingly used by county school districts based on standardized instruments. Measures several early childhood developmental areas that predict educational success. Indicator may be reported by school district or census tract of child's residence, and stratified by child's race/ethnicity to assess equity.</p>	
<ul style="list-style-type: none"> Percent of resilient high school students (peer, school, family, community) 	<p>Indicator based on questionnaire responses of California public secondary school students surveyed annually by the California Department of Education in the California Healthy Kids Survey. Evidence links youth resilience measures to positive youth development and health outcomes. Because this survey module is optional, data may not be consistently available for all school districts.</p>	<ul style="list-style-type: none"> High school drop-out rates Percent of the population aged 18 - 24 years, with less than a high school education
<ul style="list-style-type: none"> Number of licensed daycare center slots per 1000 children aged 0-4 years 	<p>Indicator is associated with availability of childcare settings that may promote early childhood development, which in turn is associated with positive health and social outcomes. Increasing the availability of early child care settings is mentioned in the strategic plan of California Children and Families Commission (First Five). Licensing data from the Dept. of Social Services may be feasibly geocoded and combined with census tract demographic data.</p>	

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Domain/Indicator	Why was this Indicator Selected?	Possible Alternatives
<ul style="list-style-type: none"> • Mean score of Academic Performance Index (API) 	<p>Widely used indicator based on standardized tests of California public school students' proficiency in English language and math subjects. Evidence links educational success with positive health and social outcomes. Reported annually by the California Department of Education and may be stratified by race/ethnicity and economic disadvantage to assess equity.</p>	<ul style="list-style-type: none"> • Mean SAT and ACT and AP test results by school/school district/county • Adequate yearly performance (AYP) values by school/district/county
<ul style="list-style-type: none"> • Percent of population aged ≥ 25 year by educational attainment 	<p>A standard indicator used by the U.S. Department of Education to describe the condition of education. Evidence associates not completing school or an equivalent education with poor health outcomes. Data available at 1-3 year intervals for most California cities and in 5 year intervals for census tracts.</p>	
<ul style="list-style-type: none"> • Distribution of cumulative income by cumulative number of households (Gini coefficient, or deciles/quintiles of Lorenz curve) 	<p>Various statistical measures in use are based on the cumulative distribution of annual household income and cumulative number of households (a type of Pareto chart called the Lorenz curve). Using cut points, the share of total population annual income generated by the poorest 20% (quintiles) of households is simpler to communicate than the Gini coefficient, which summarizes the entire income distribution in a single number that ranges from 0 (evenly distributed) to 1 (highly concentrated in a small proportion of households or individuals). Income data and Gini coefficients are available annually for most cities from the U.S. Census.</p>	<ul style="list-style-type: none"> • Average income, top and bottom 20% • Proportion of households above and below poverty level
<ul style="list-style-type: none"> • Median income by place, race/ethnicity 	<p>Widely used indicator of economic status by state and other agencies. Evidence links income to health outcomes. Data available at 1-3 year intervals for most California cities and in 5 year intervals (U.S. Census) for census tracts. Median income is reported by race/ethnicity and may be used for equity assessment.</p>	<ul style="list-style-type: none"> • Proportion of children in households below the poverty level • Households by sources of supplemental income (e.g. Supplemental Security Income, Food Stamps, Social Security, etc.) as identifier for vulnerable populations

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Domain/Indicator	Why was this Indicator Selected?	Possible Alternatives
<p>Social relationships that are supportive and respectful</p>		<ul style="list-style-type: none"> • Questionnaire items on helpful, cooperative, reliable, trusted neighbors, volunteer work, and perceived neighborhood safety (e.g. 2009 CHIS)
<ul style="list-style-type: none"> • Percent of adults age ≥ 18 years who are registered voters 	<p>A widely used and understandable measure of civic engagement, reported from data compiled by the Secretary of State for major election cycles.</p>	<ul style="list-style-type: none"> • Voter turnout rates
<ul style="list-style-type: none"> • Percent of adults (18-65 years) who report physical or sexual violence by an intimate partner 	<p>A widely used indicator of incidents reported to police (with concerns of significant underreporting). Compiled for cities and reported annually by U.S. Dept. of Justice (FBI). Monitoring statistics of this type is mentioned in the CDPH's California Statewide Policy Recommendations for the Prevention of Violence Against Women.</p>	
<ul style="list-style-type: none"> • Percent of children (<18 years) reported with neglect or physical or sexual abuse 	<p>A standard indicator produced annually for census tracts and counties by California Department of Social Services and UC Berkeley. Child abuse is linked to adverse health and social outcomes that endure into adulthood. May be stratified by race/ethnicity to assess equity.</p>	
<ul style="list-style-type: none"> • Reported crime rate by type of crime 	<p>A widely used indicator of police reported incidents (with concerns of significant underreporting by type of crime). Compiled for cities and reported annually by U.S. Dept. of Justice (FBI).</p>	<p>Rates of emergency room visits for assault</p>
<ul style="list-style-type: none"> • Density of alcohol outlets by type of establishment sales (on-site/off-site) 	<p>Density of alcohol outlets has been associated with adverse alcohol-related health outcomes including child abuse and neglect and domestic violence</p>	