

Location. Location. Location!

*How Los Angeles is using
spatial analysis to
understand & combat
place-based health
inequities*



APHA 2014
New Orleans, LA

Beth Altshuler, MCP MPH CPH



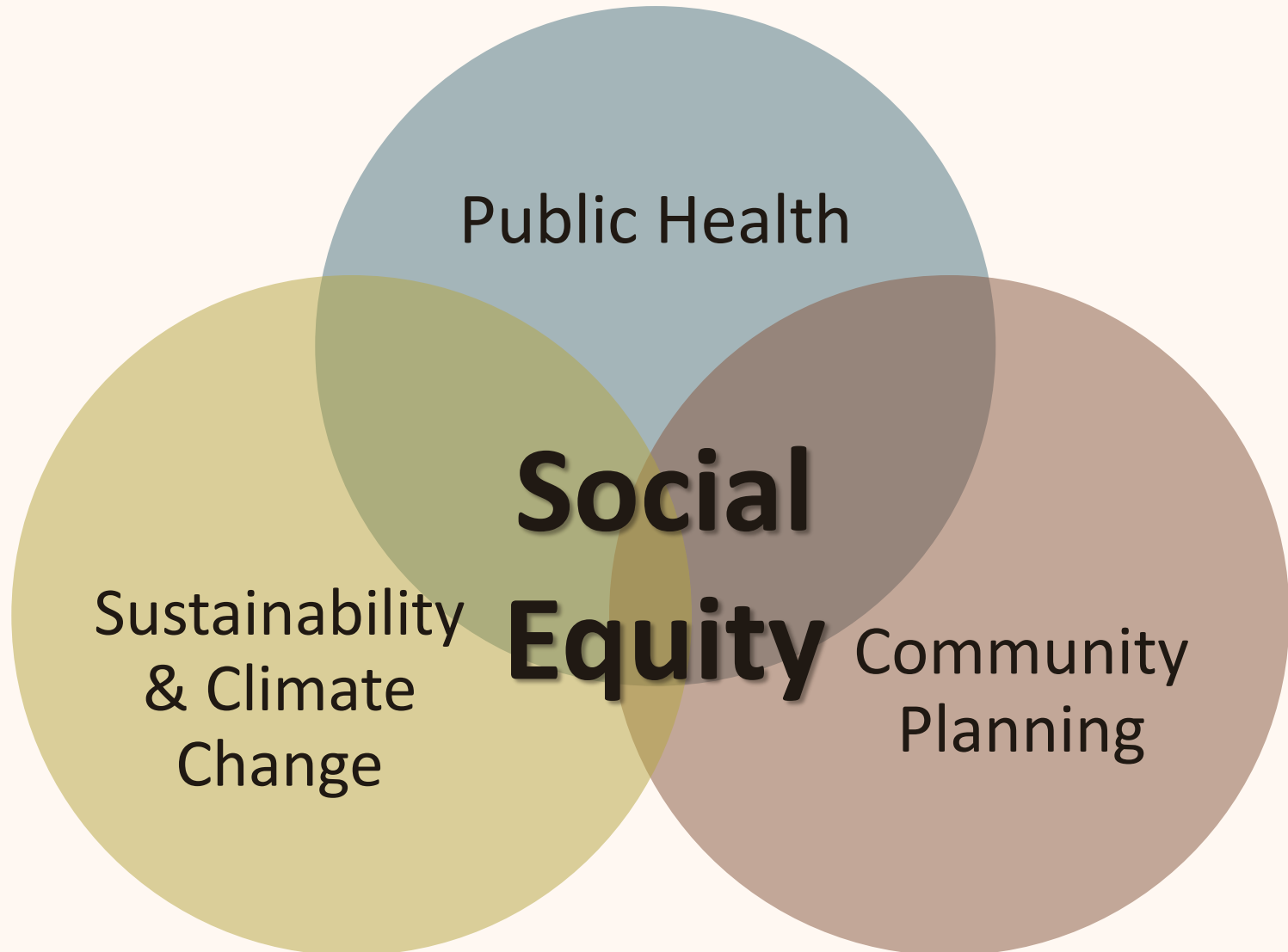
raimi+
associates
the nature of community

Presenter Disclosures

Beth Altshuler

- (1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose



Some Neighborhoods Need a Boost



Giving everyone the same thing only works if everyone starts from the same place.



Equity means all people have access to same opportunities. We need equity before we can reach equality.



Efforts to ensure
that all people
have full & equal
access to
opportunities
that enable them
to lead healthy
lives

PLAN FOR A HEALTHY LOS ANGELES ♥



Raimi + Associates

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Elizabeth Carvajal

Lys Mendez

L.A. Dept. of City Planning

Ken Bernstein

Claire Bowin

(and many others)

L.A. County Public Health Dept.

Jean Armbruster

(and many others)

Community Advisory Committee

40+ Organizations

Technical Advisory Committee

30+ Departments and Agencies

Expert Panel

15 visionaries, movers, and shakers⁶

And the contributions of over 1,000 residents



Plan for a Healthy LA Overview



- The Plan for a Healthy Los Angeles elevates health as a priority in the City's future growth and development, establishing a policy framework to make Los Angeles a healthier place to live, work and play.
- Creates a "Health and Wellness Element" for the City's General Plan (*comprehensive plan*)
- Officially began in Fall 2012



Project Components



- Health Atlas
- Interactive website www.healthyplan.la
- “Health in All Policies” Technical Committee
- Community Advisory Committee
- Robust public participation program
- Health Element – goals, policies and programs
- TA to City to implement programs

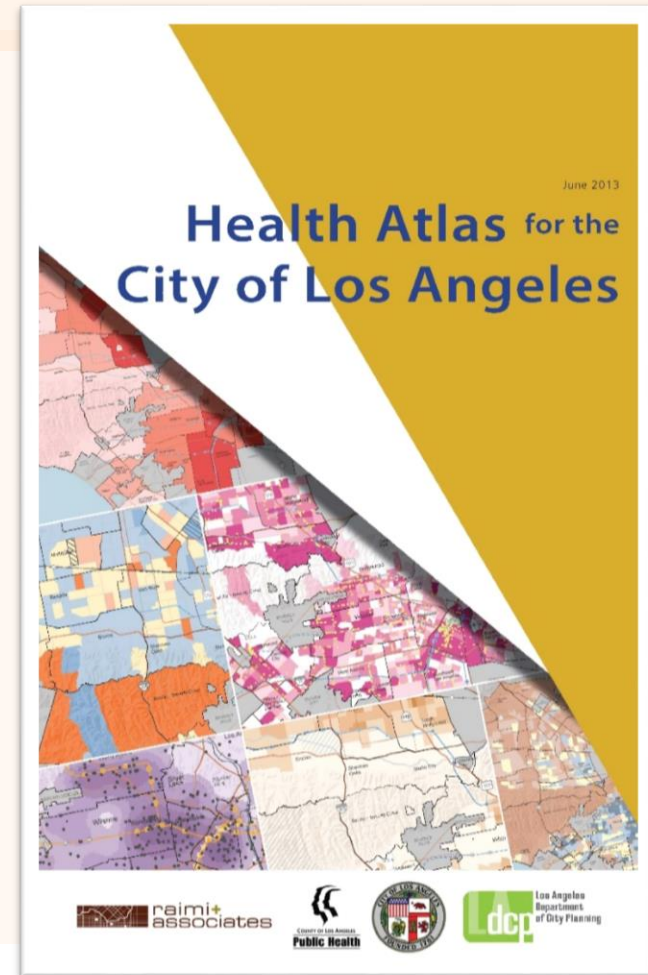


Health Atlas & Interactive Website: An Examination of Health Conditions in the City of Los Angeles

Health Atlas Purpose



- Point in time spatial analysis snapshot by neighborhood
- Identify locational disparities and inequities in over 100 mapped indicators:
 - Health problems
 - Environmental conditions
 - Socio-economics
- Point us to targeted outreach and policy development
- **Sets baseline measures for Plan's objectives**



Health Atlas Topics – Single Topic + Indices



-  Demographic & Social Characteristics
-  Economic Conditions
-  Education
-  Health Conditions
-  Land Use and Employment
-  Transportation
-  Food Systems
-  Crime
-  Housing
-  Environmental Health

COMMUNITY HEALTH & EQUITY INDEX

Community Health and Equity Index

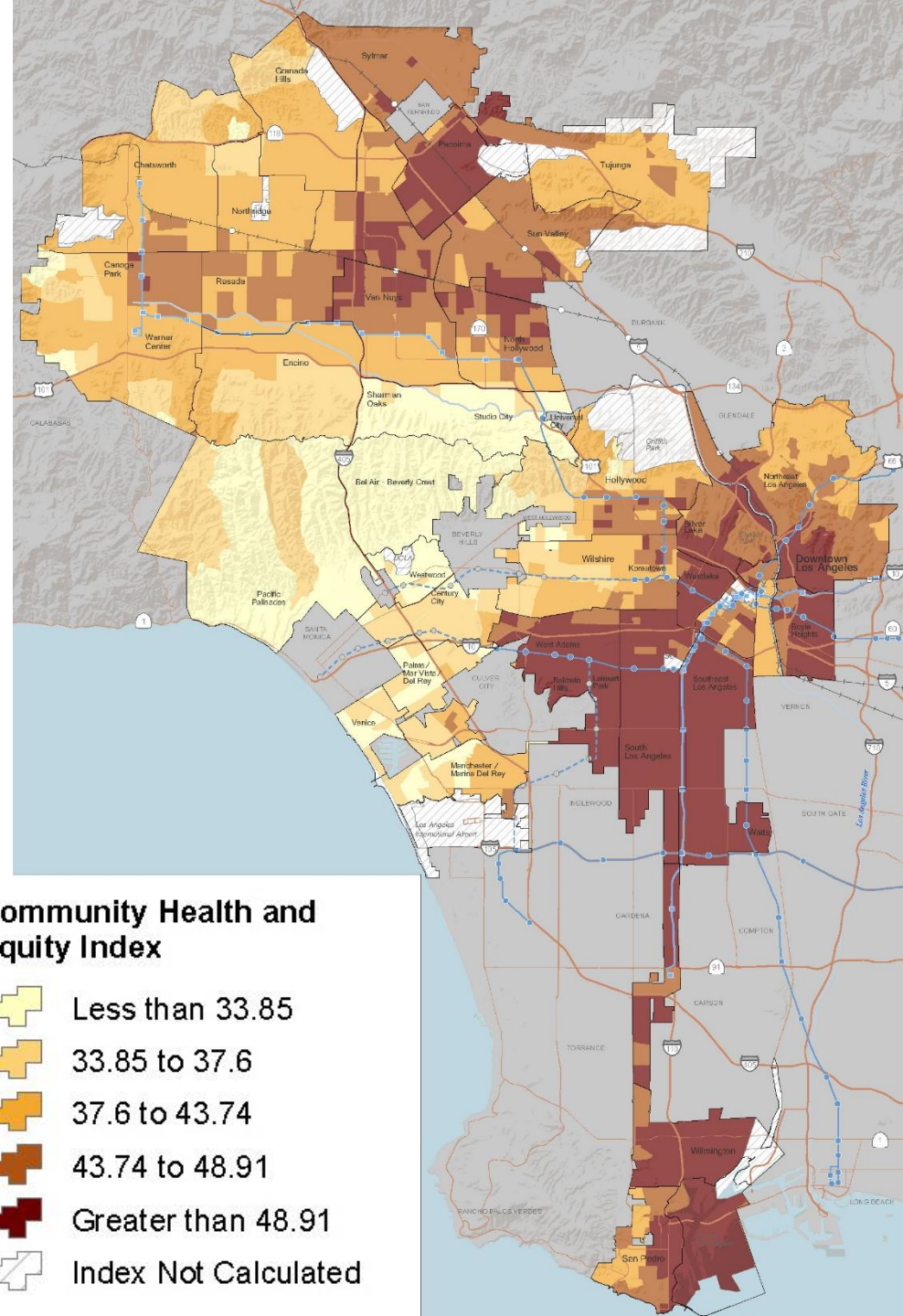
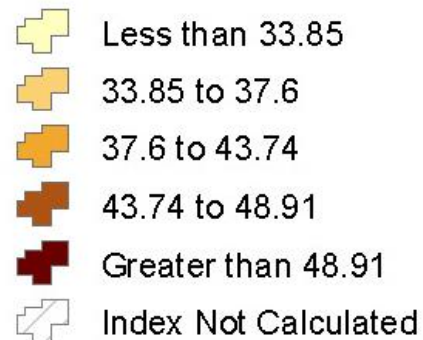


Hardship Index	Standardized Index Score for Overcrowding, Poverty, Employment Status, Educational Attainment, Age Dependency, and Income	35
Life Expectancy at Birth		15
Health Outcomes	Respiratory Disease, Heart Disease, Heart Attacks, Asthma, Low Birth Weight	10
Walkability Index	Standardized Index Score for Housing Density, Retail Density, Street Connectivity, and Land Use Mix	5
Complete Communities Index	Index Score of the Diversity of Amenities and Establishments	2.5
Multi-Modal Transportation Index	Walk & Bike Commuting, Transit Ridership, Street Connectivity, Bicycle Facilities, High-Frequency Transit Service, Collisions with Bicyclists and Pedestrians	7.5
Modified Retail Food Environment Index	Index Score of the Ratio of Healthy to Unhealthy Food Retailers	10
Crime Rate Index	Rate of Violent and Property Crime per 10,000 Residents	7.5
Pollution Burden Index	Index Score for Pollution Exposure and Environmental Effects	7.5



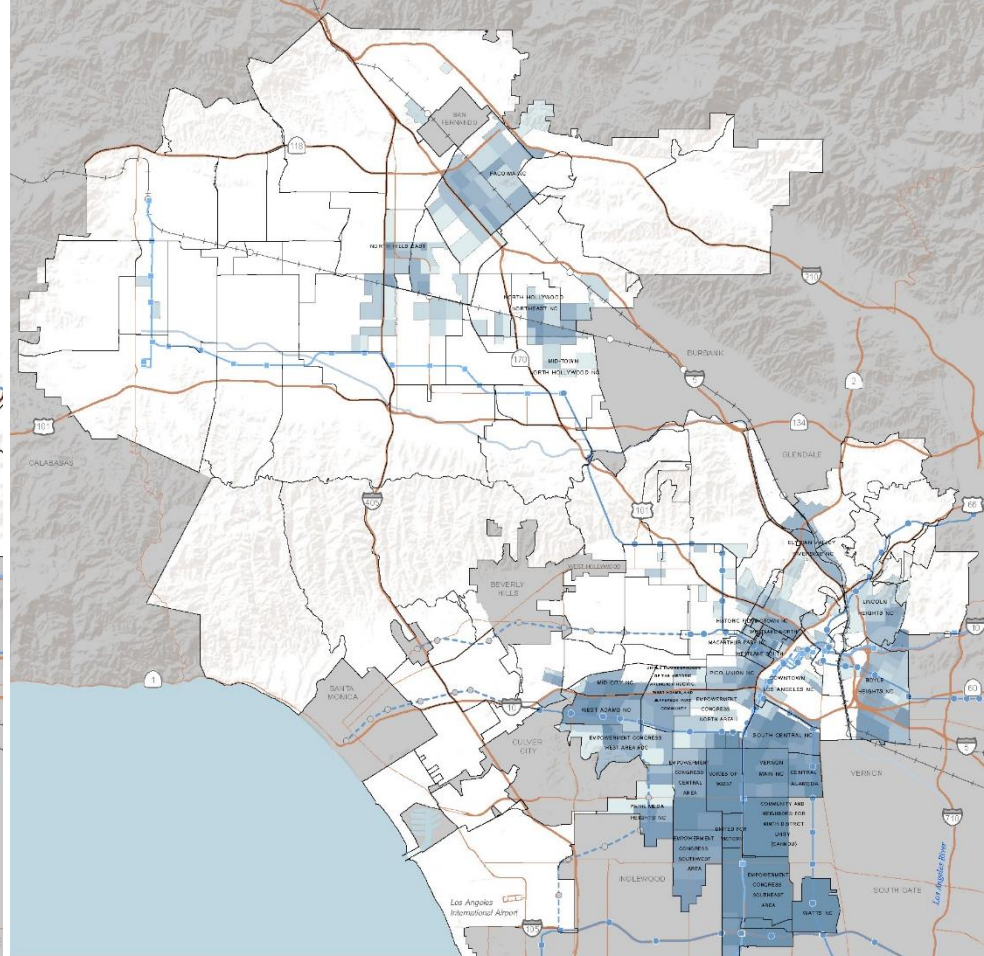
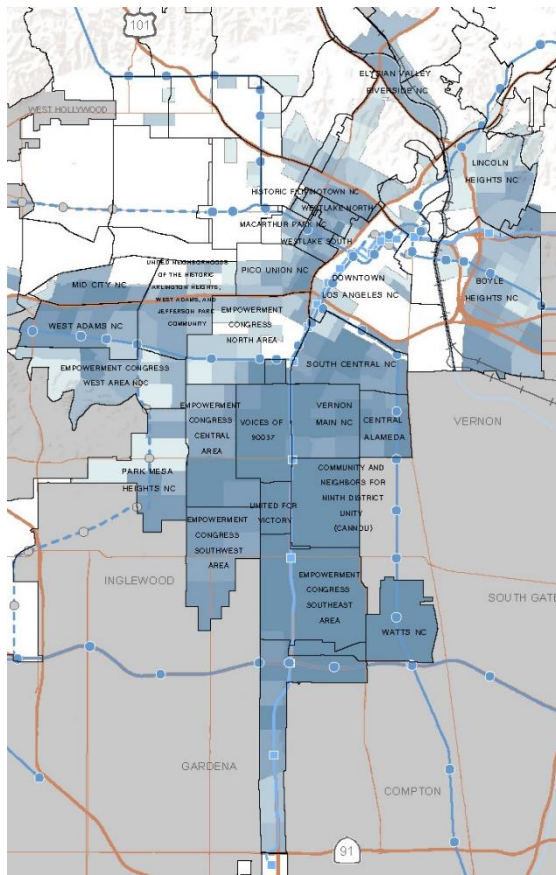
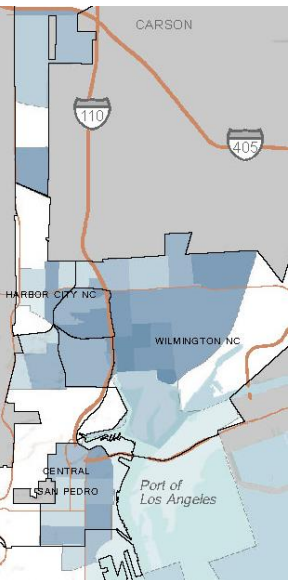
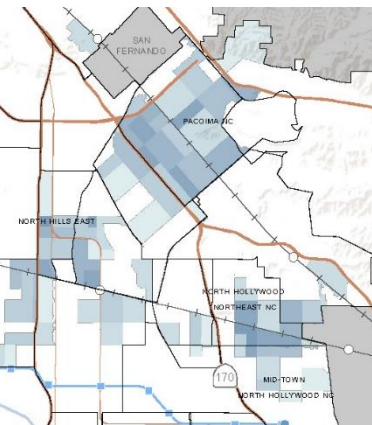
Community Health and Equity Index

Community Health and Equity Index



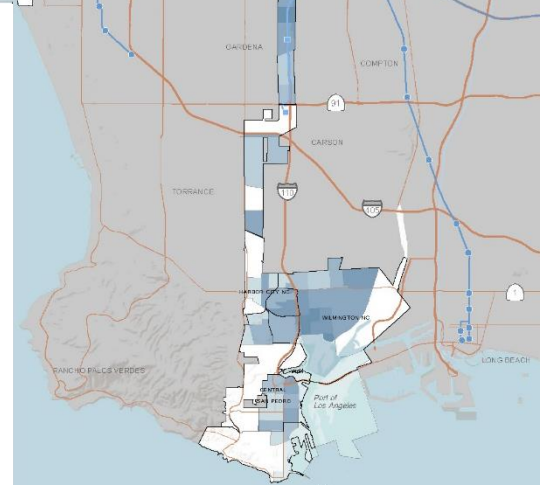


Community Health and Equity Index – Top Quintile



Community Health and Equity Index

- 48.91 to 49.77
- 49.77 to 50.68
- 50.68 to 51.867
- 51.87 to 52.62
- 52.62 to 53.83
- 53.83 to 55.62
- 55.62 to 57.74
- 57.74 to 70.91



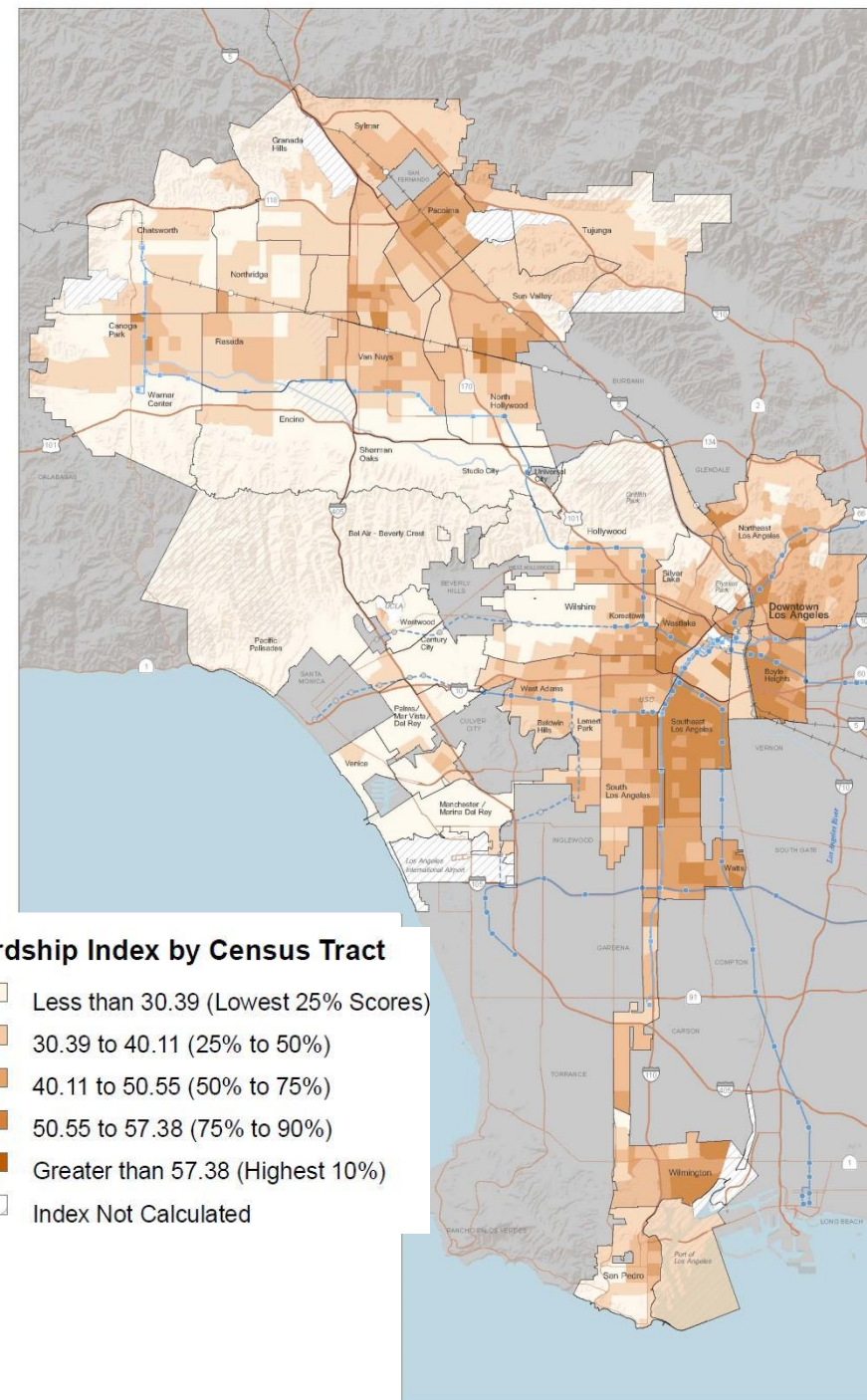


Hardship Index

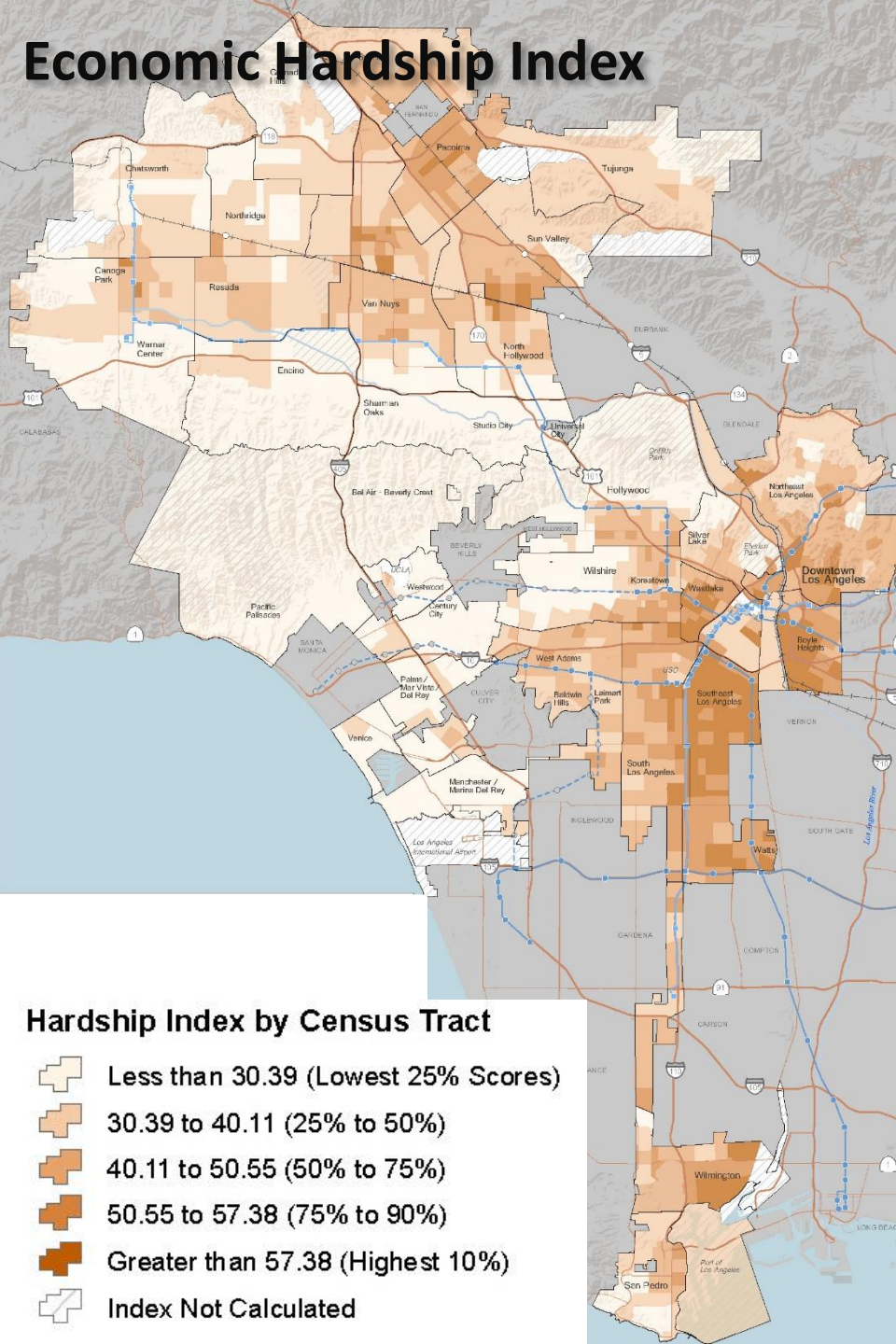
Indicators:

- Overcrowding
- Poverty
- Employment Status
- Education
- Age
- Income

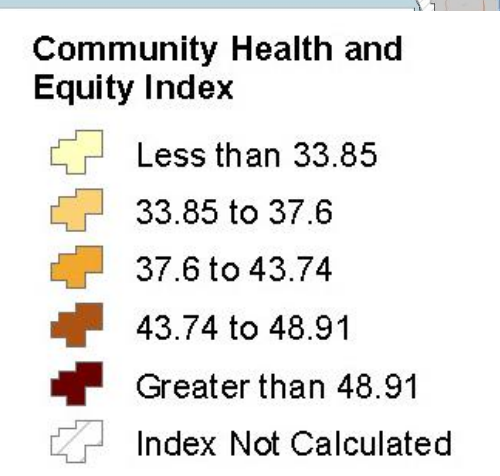
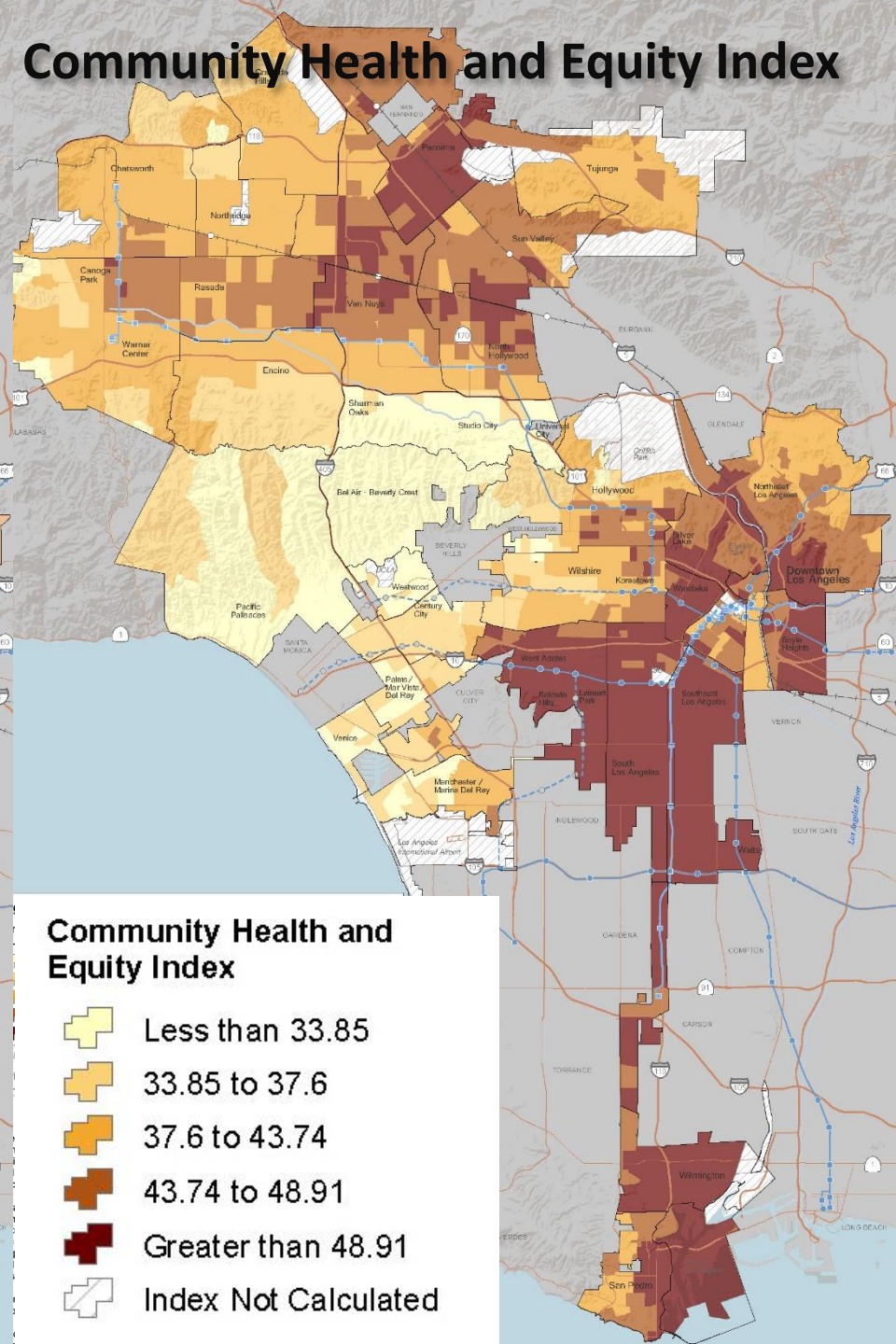
Southeast LA has the greatest level of hardship



Economic Hardship Index



Community Health and Equity Index

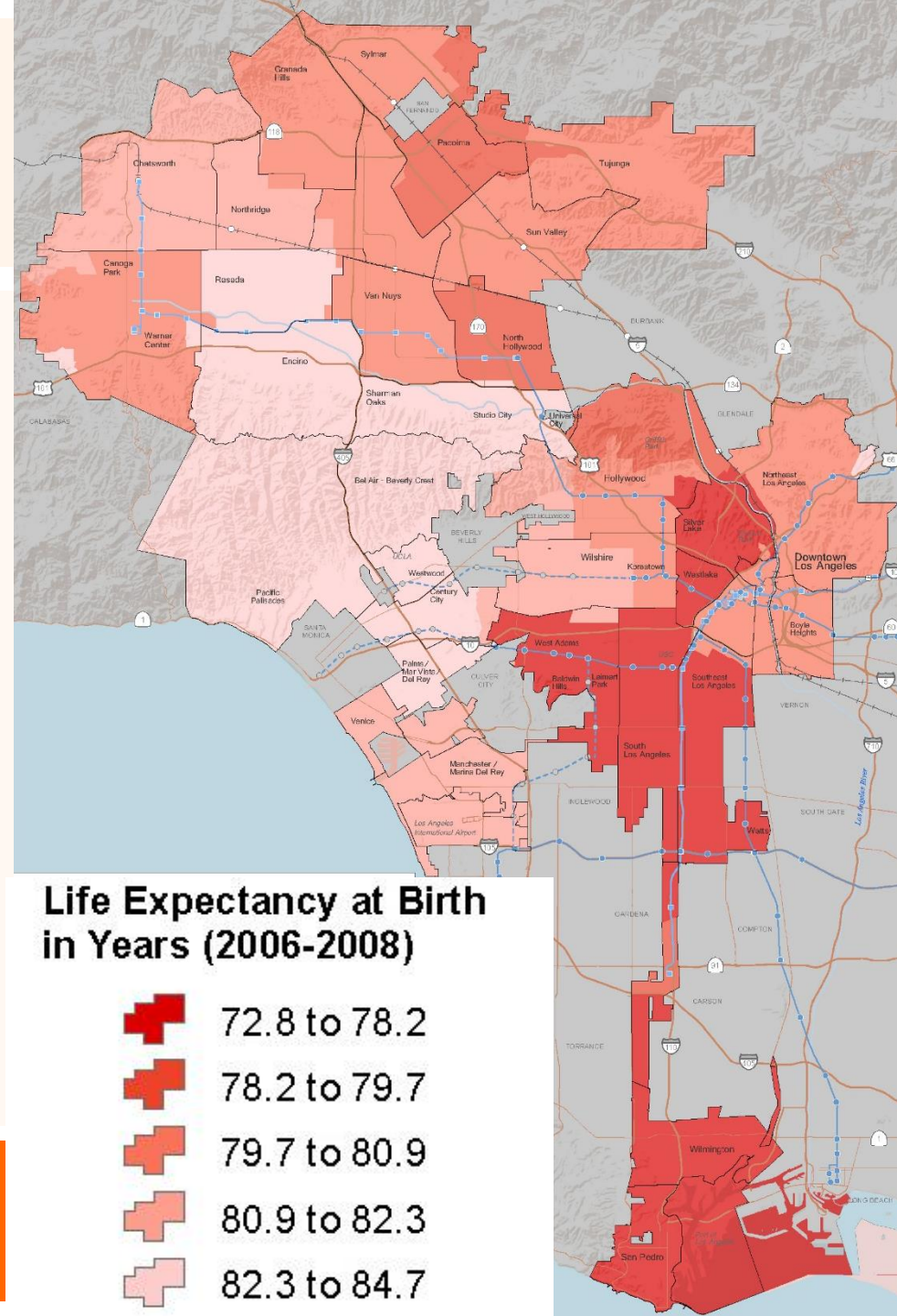




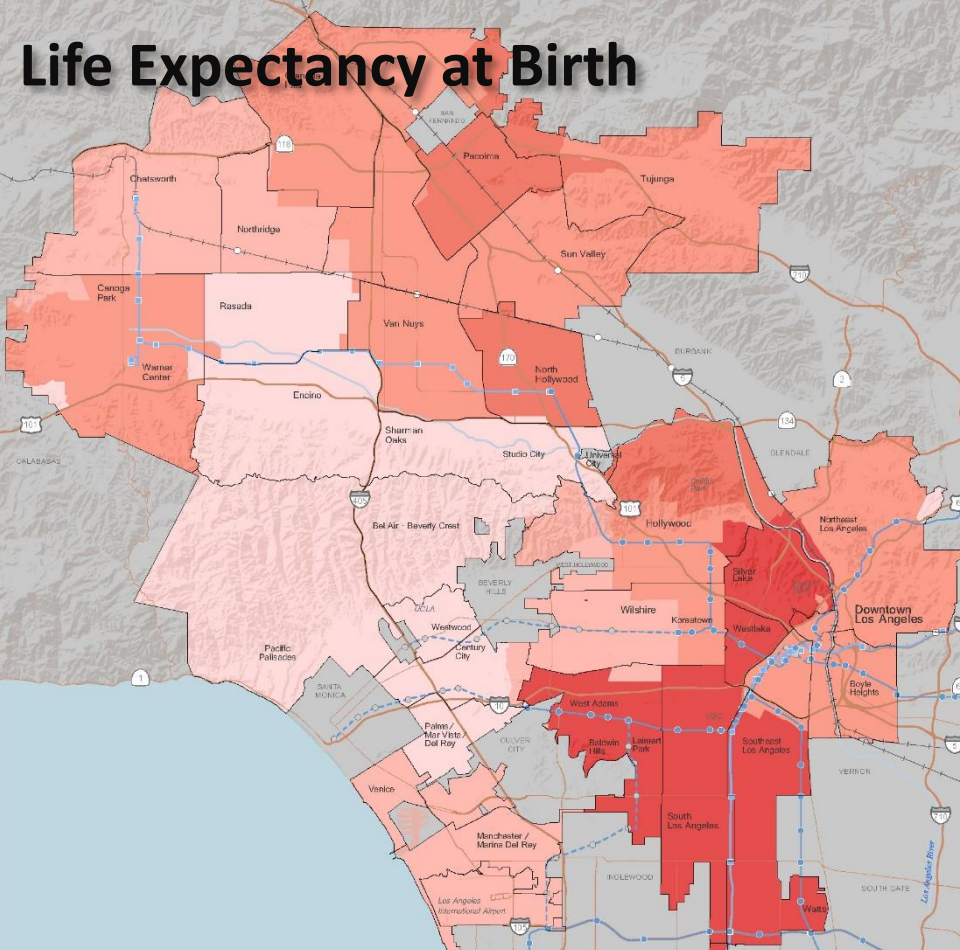
Life Expectancy at Birth

Range

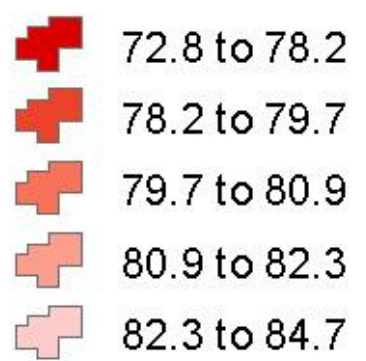
- 72.8 years (Watts)
- 84.7 years (Bel-Air Brentwood- Pacific Palisades)



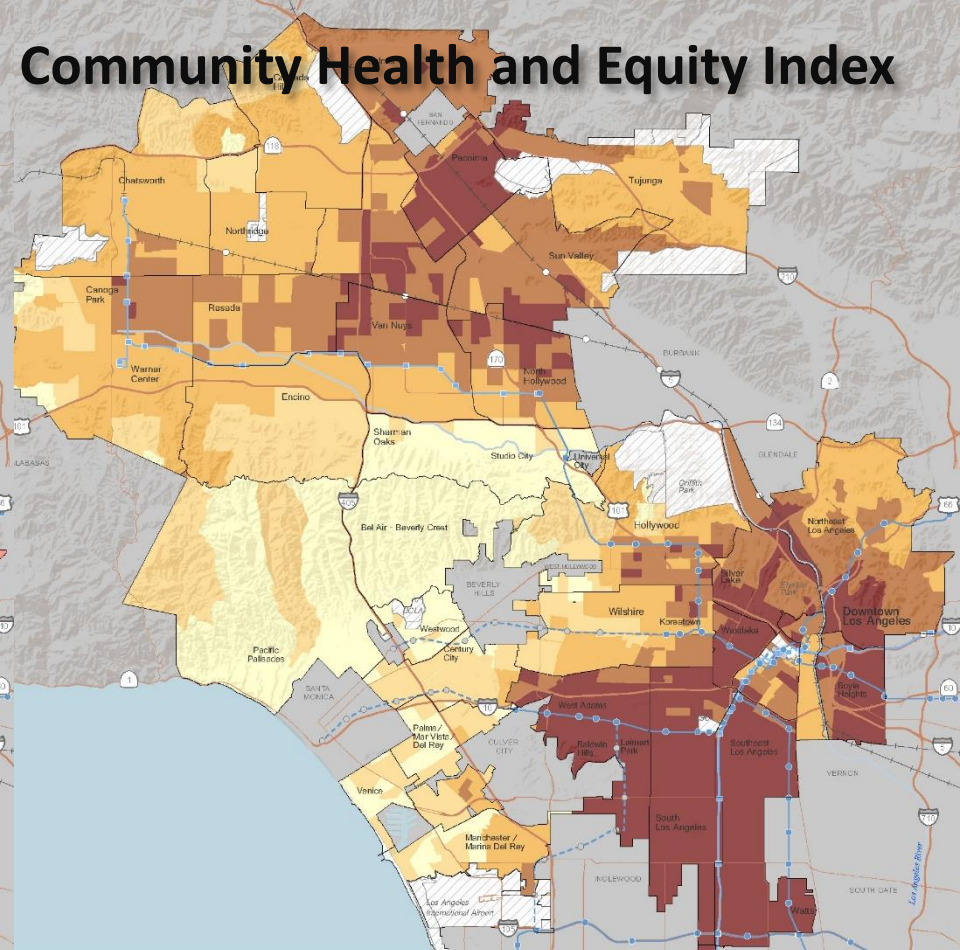
Life Expectancy at Birth



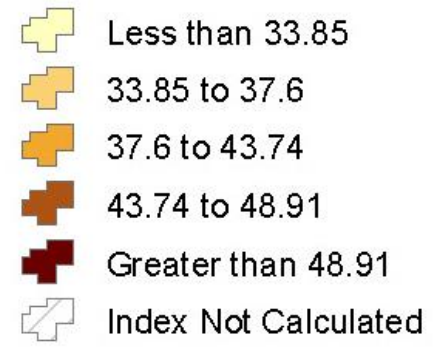
Life Expectancy at Birth in Years (2006-2008)



Community Health and Equity Index



Community Health and Equity Index



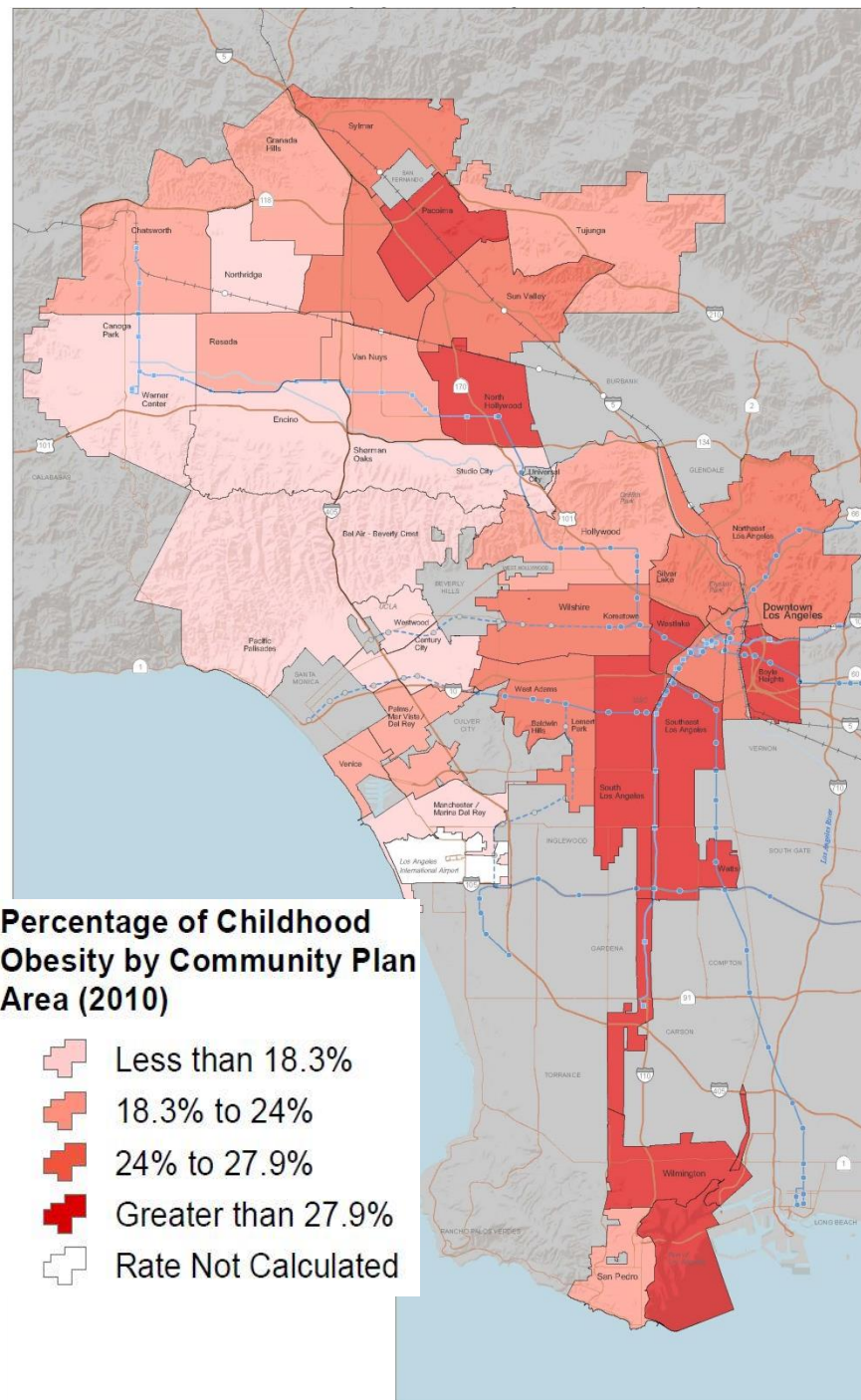


Childhood Obesity

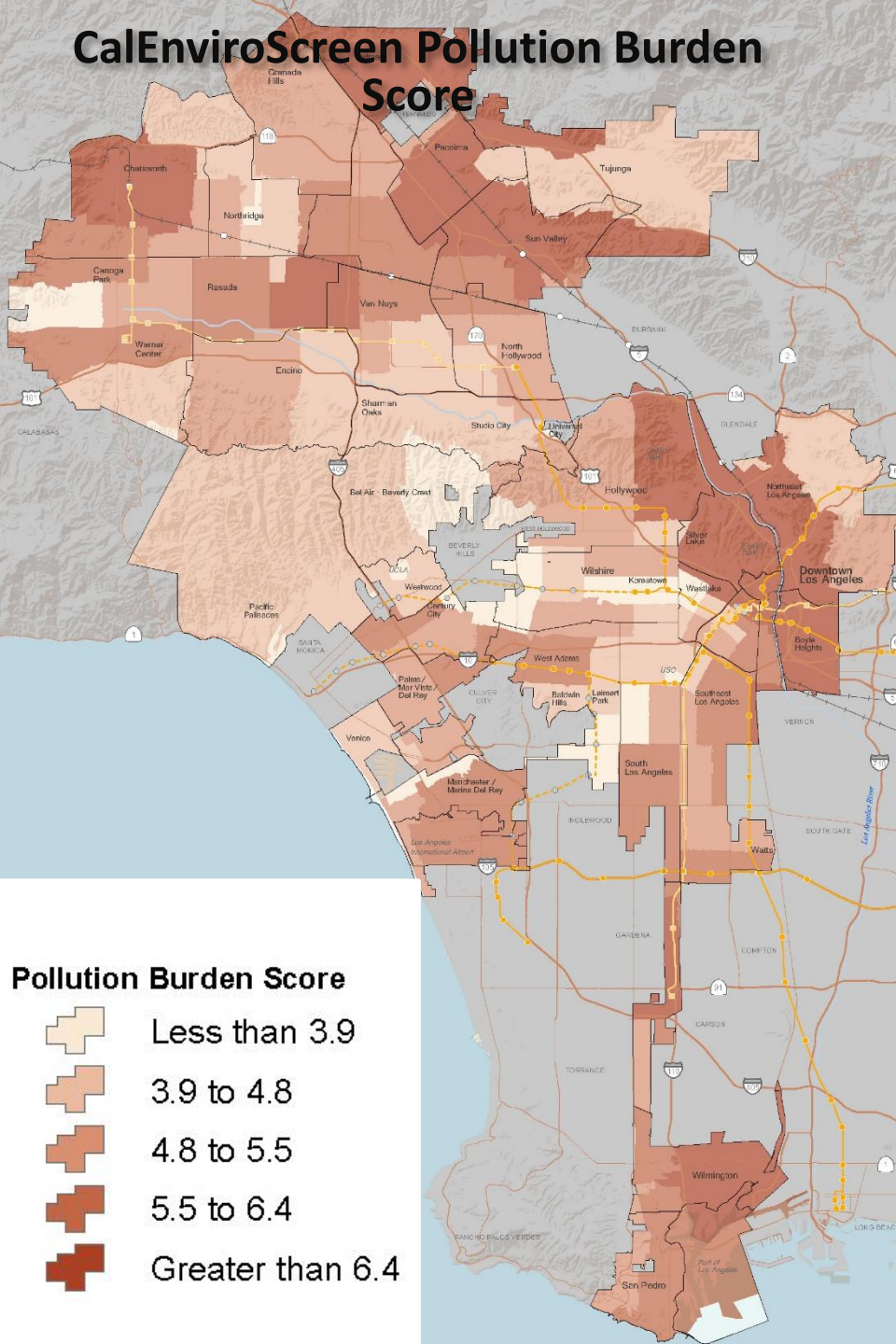
Prevalence of Childhood Obesity in Brentwood was 11%

Prevalence of Childhood Obesity at 30% or greater:

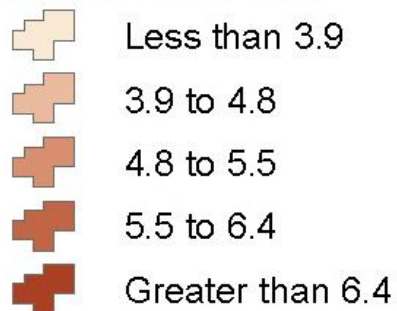
- Boyle Heights
- Harbor Gateway
- South Los Angeles
- Southeast Los Angeles



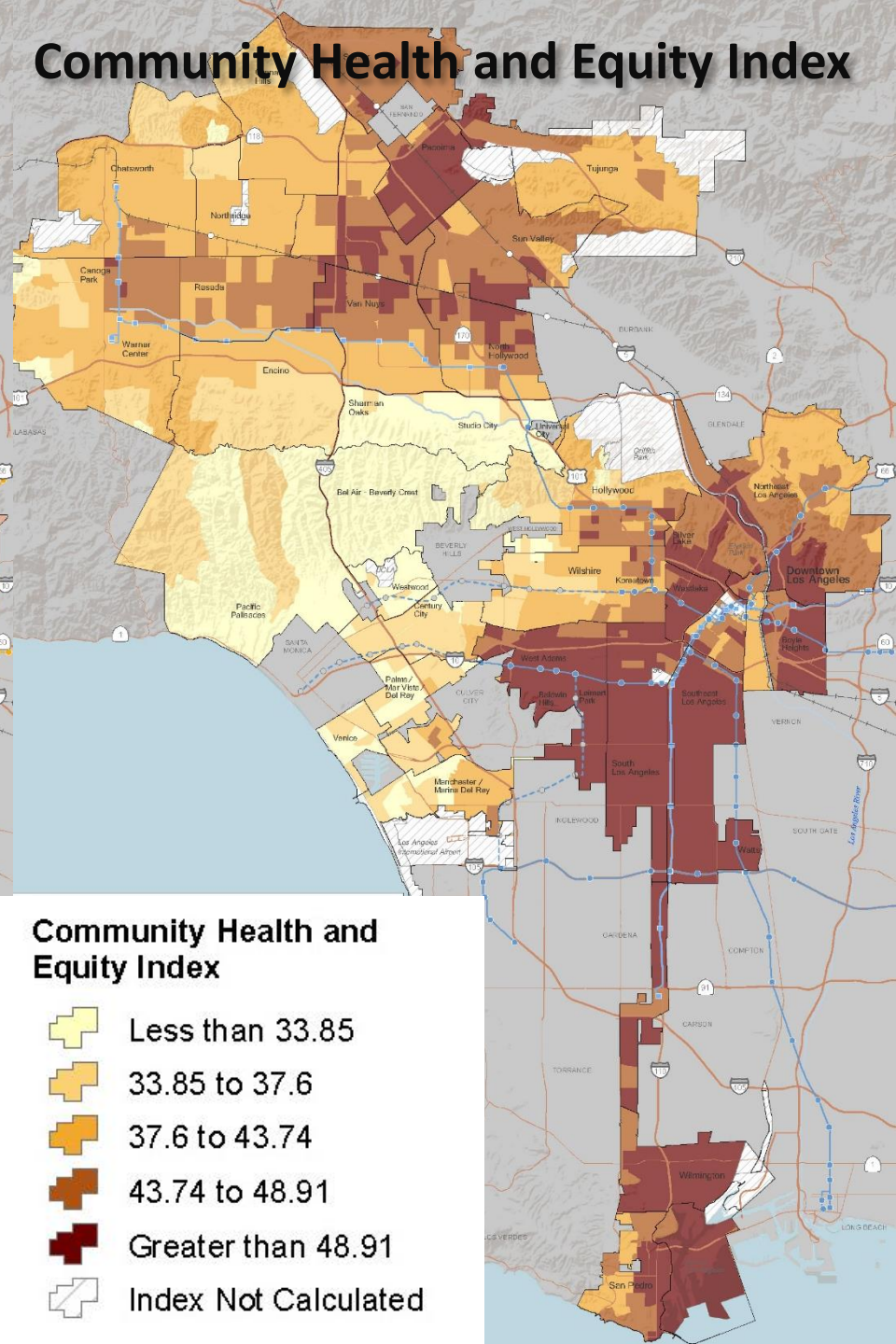
CalEnviroScreen Pollution Burden Score



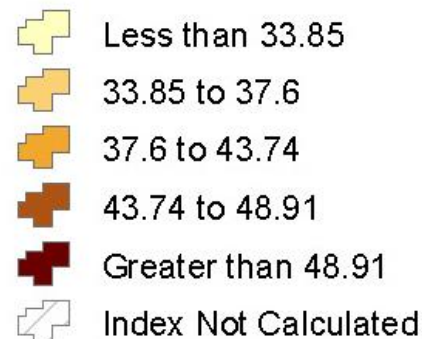
Pollution Burden Score



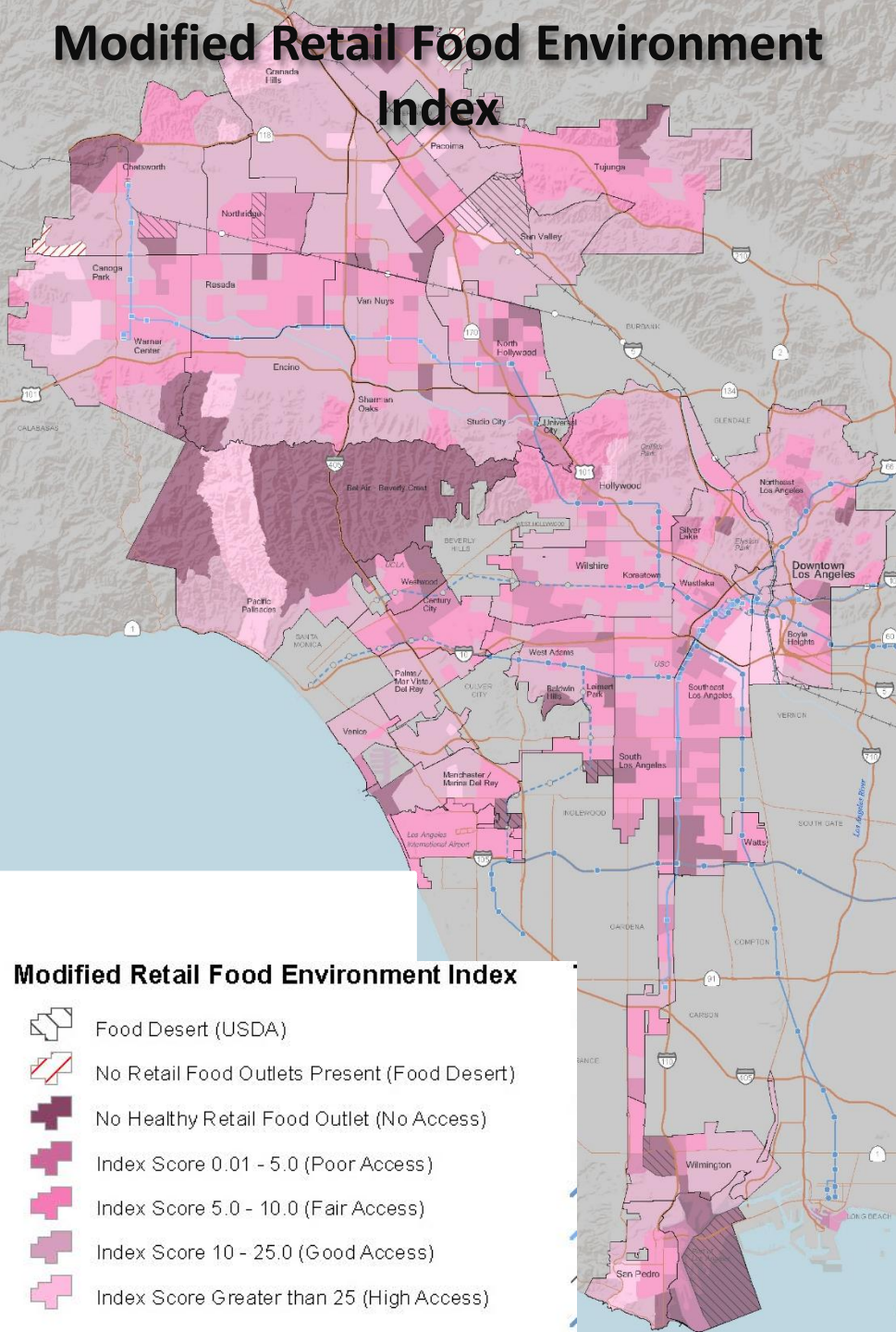
Community Health and Equity Index



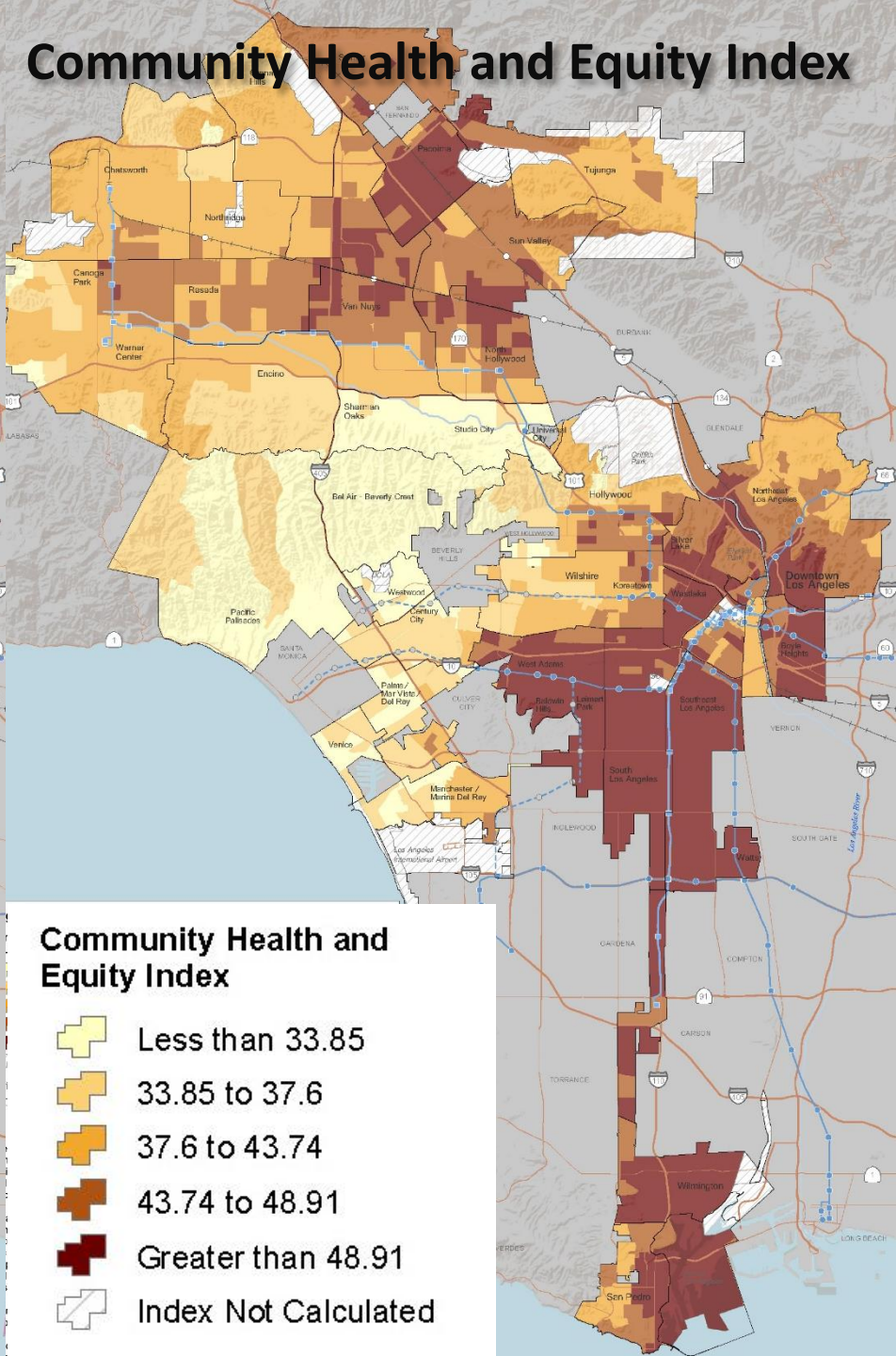
Community Health and Equity Index










Modified Retail Food Environment Index









Community Health and Equity Index



Modified Retail Food Environment Index

-  Food Desert (USDA)
-  No Retail Food Outlets Present (Food Desert)
-  No Healthy Retail Food Outlet (No Access)
-  Index Score 0.01 - 5.0 (Poor Access)
-  Index Score 5.0 - 10.0 (Fair Access)
-  Index Score 10 - 25.0 (Good Access)
-  Index Score Greater than 25 (High Access)

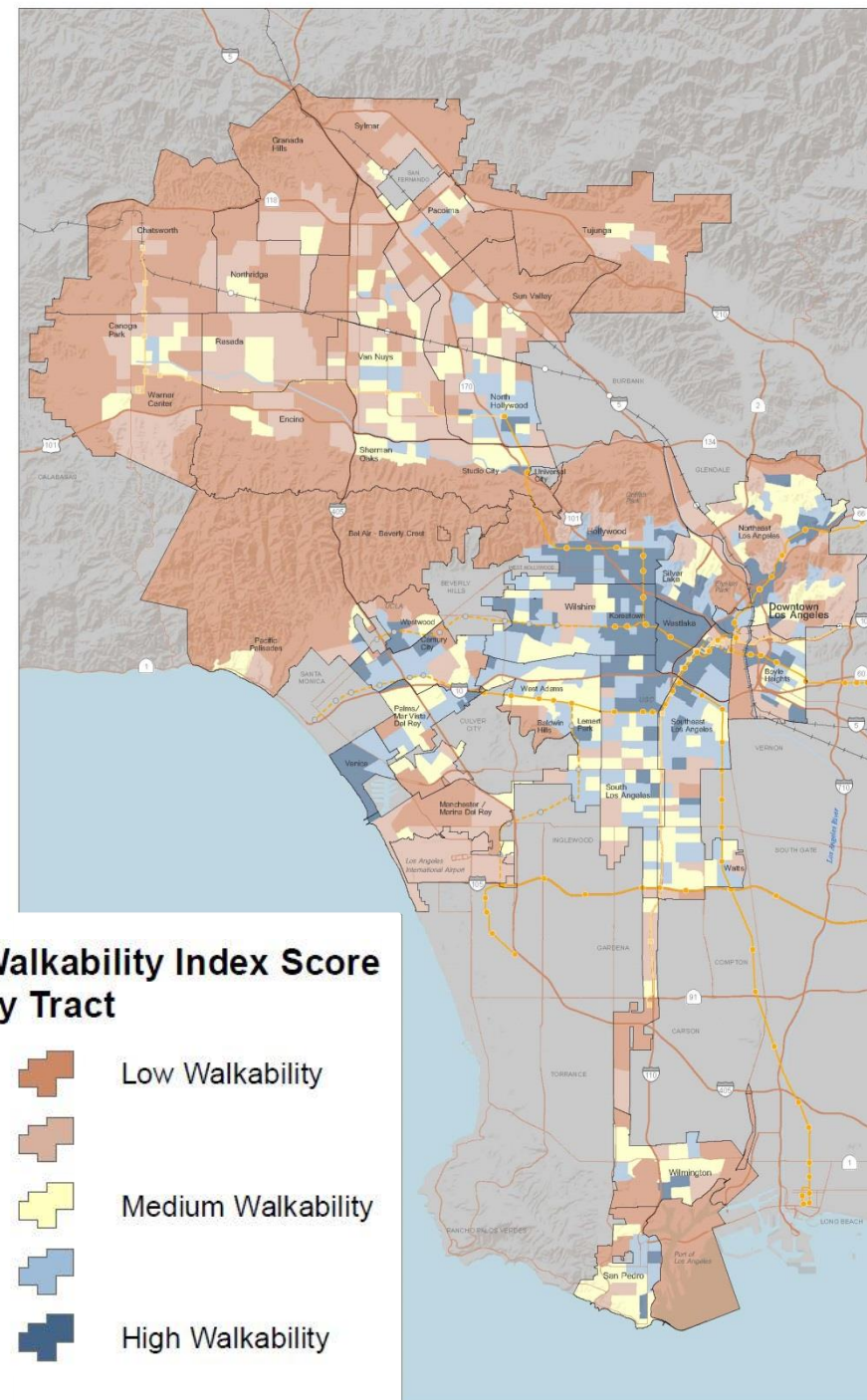
Community Health and Equity Index

-  Less than 33.85
-  33.85 to 37.6
-  37.6 to 43.74
-  43.74 to 48.91
-  Greater than 48.91
-  Index Not Calculated



Walkability Index

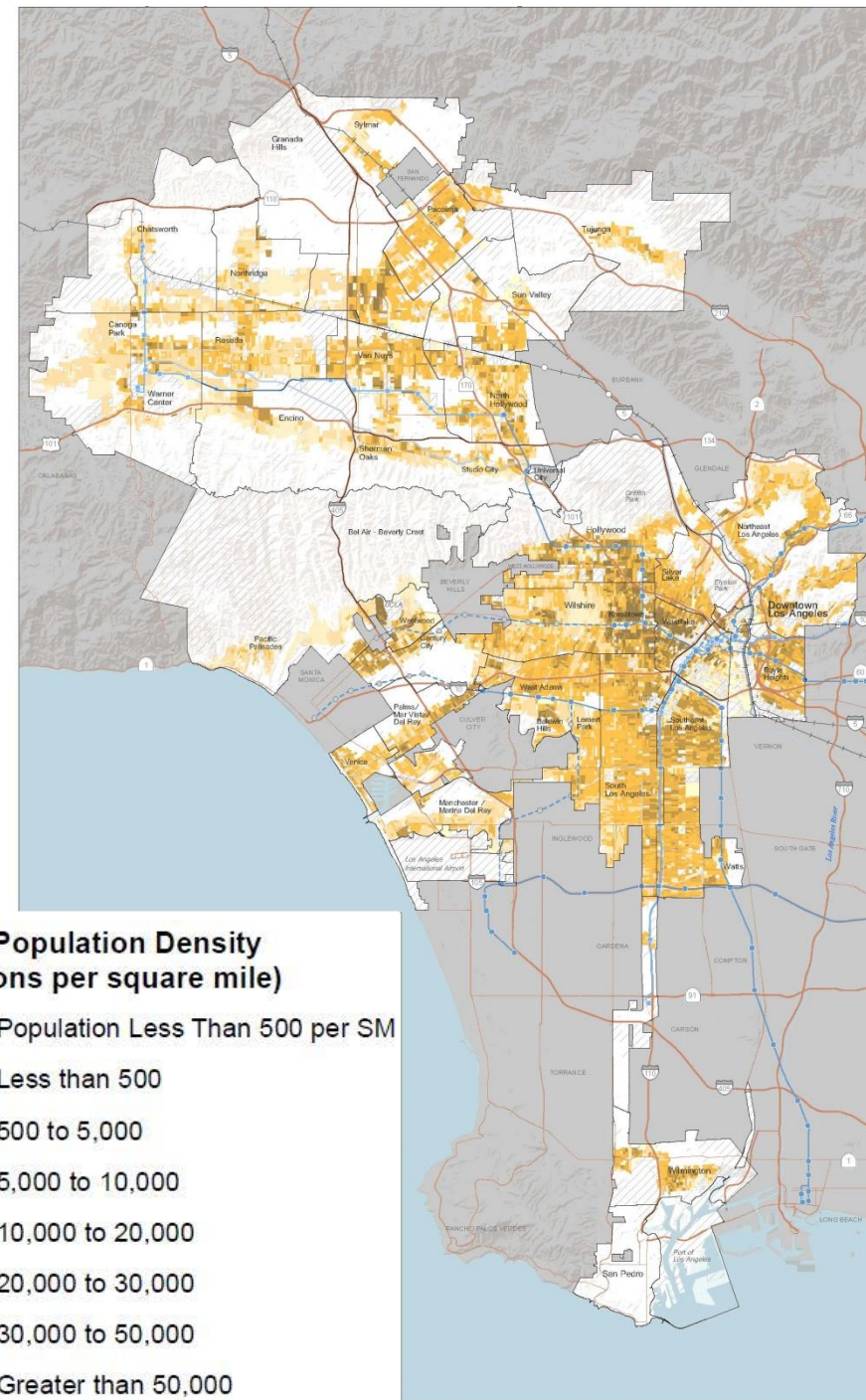
- Central City CPA had the highest composite Walkability score, followed by Westlake, Venice, Wilshire, and West Los Angeles.
- Bel Air-Beverly Crest and Sunland-Tujunga had the lowest scores.





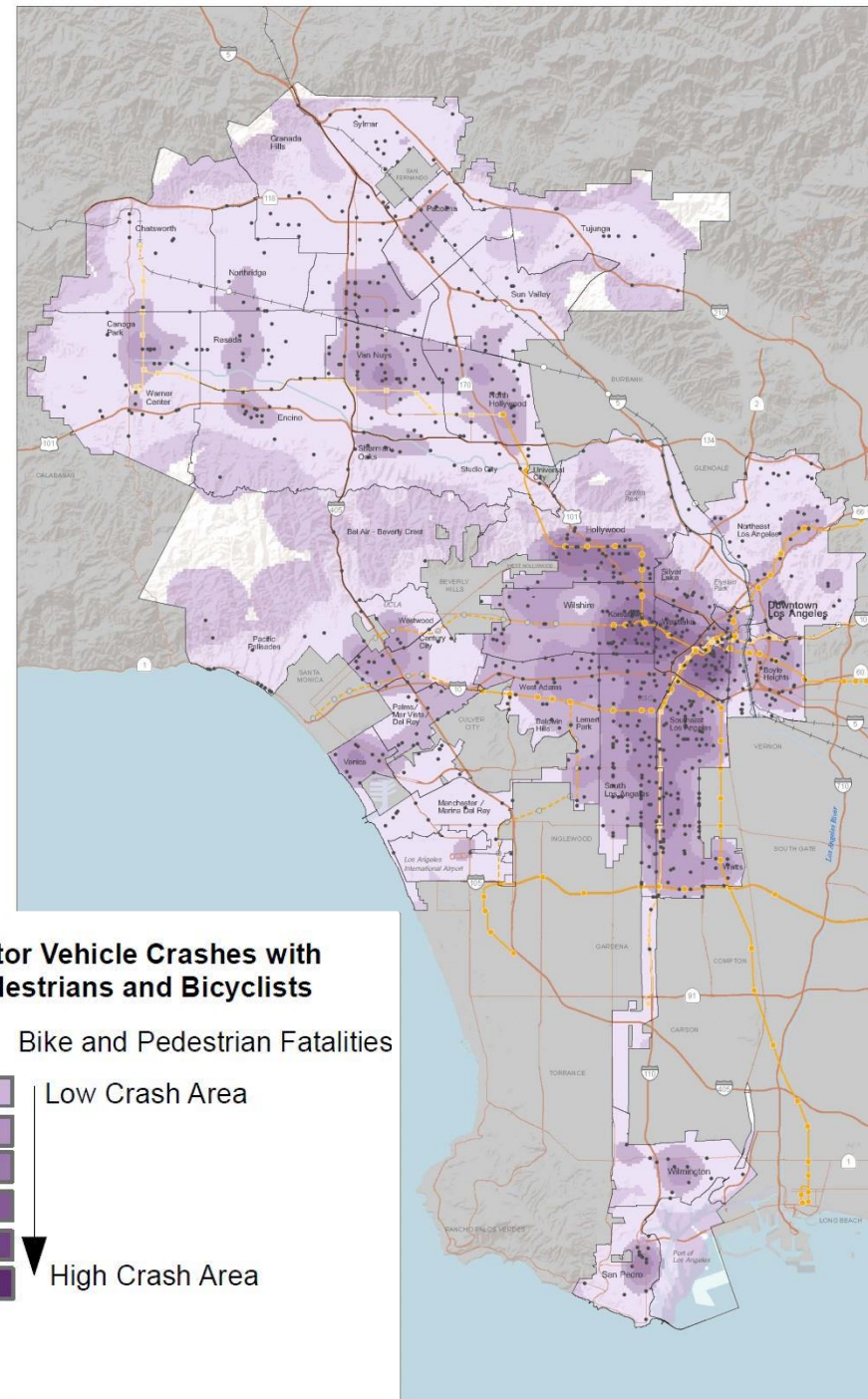
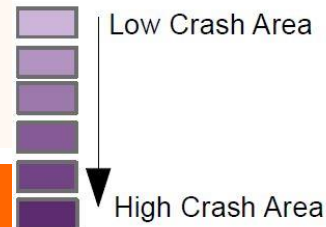
Transit Access

- $\frac{3}{4}$ of residents live within $\frac{1}{2}$ mile of a high frequency Metro line
- Many areas had greater than 90% of population within $\frac{1}{2}$ mile





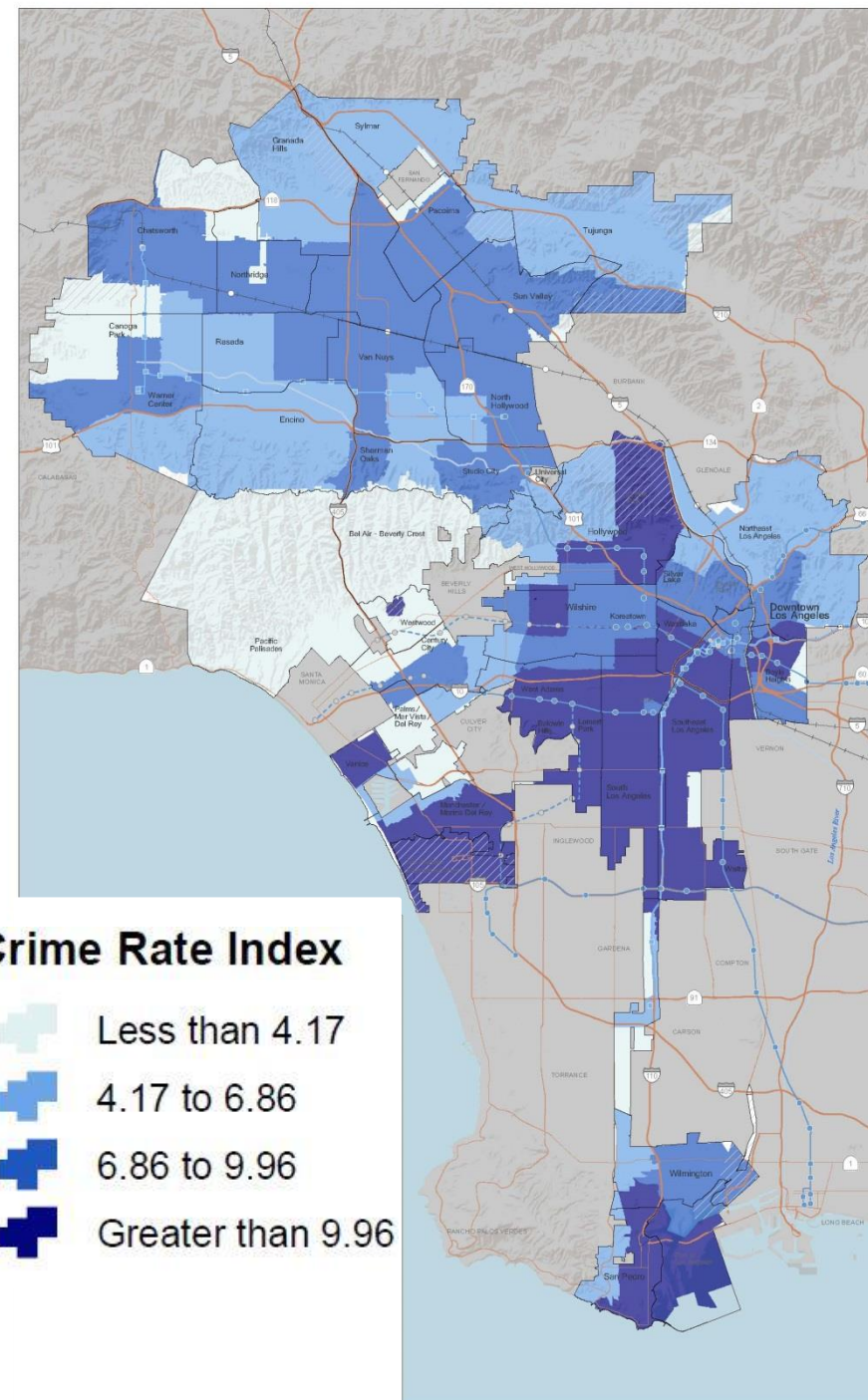
- Pedestrian Collisions: Highest rates of in Central City (36.3) followed by Central City North (10.3) and Hollywood (10.4)
- Bicycle Collisions: highest in Central City (17.6) and Venice (10)





Crime Rate

- Lowest crime rates in:
 - Brentwood
 - Bel Air-Beverly Hills
- Highest crime rates in:
 - Central City North
 - Sherman Oaks-Studio City
 - West Adams-Baldwin Hills-Leimert
 - Southeast LA
 - Hollywood
 - San Pedro
 - South LA
 - Venice
 - Central City (more than double the average City rate)



Plan for a Healthy Los Angeles website



<http://healthyplan.la/>



HEALTH PROFILES

City

Neighborhoods

South Los Angeles



Community Planning Areas

TOTAL POPULATION

270,354 people

7% of Los Angeles

POPULATION DENSITY

17,497 per sq mile

POPULATION AGE

Under 5: **20,467**

Under 18: **73,201**

Over 65: **22,683**

RACE & ETHNICITY

Non-white: **96%**

Linguistically isolated:
20%

COLOR KEY



DEMOGRAPHIC AND SOCIAL CHARACTERISTICS

Race and Ethnicity



- White (4%)
- Latino (60%)
- African American (30%)
- Native American (0%)
- Asian American or Pacific Islander (4%)
- Other (2%)

Age of Population

Under age 5

here **8%**

city avg **7%**

Under age 18

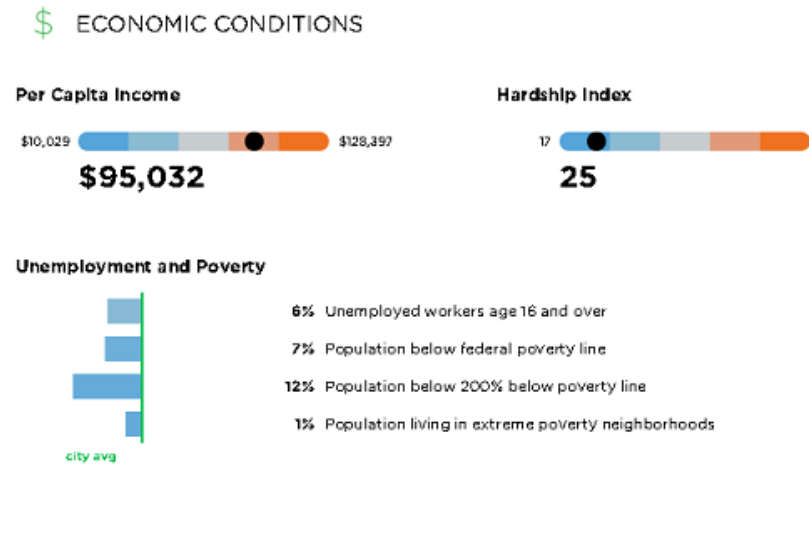
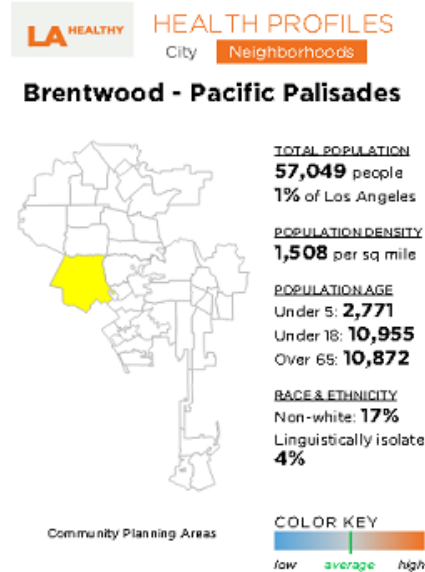
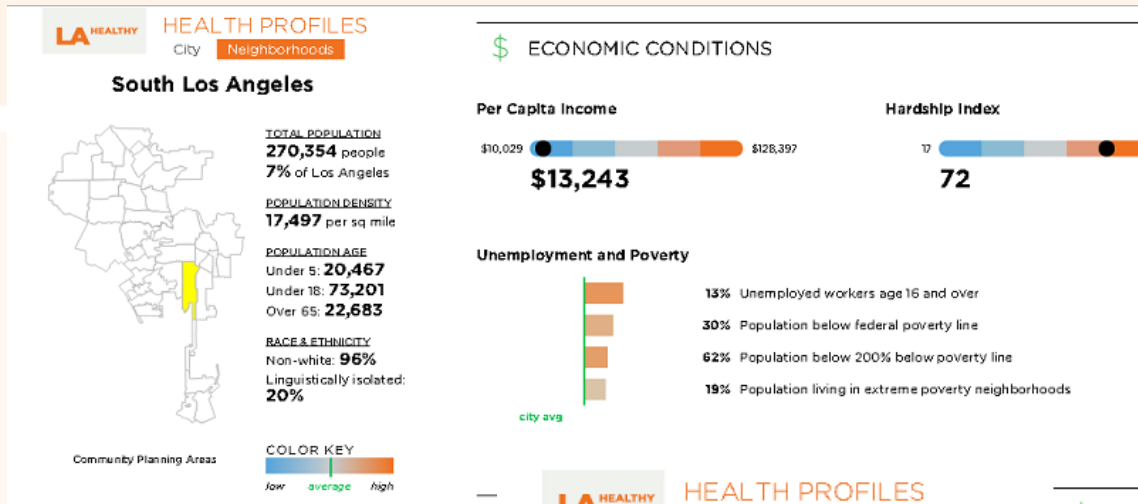
here **27%**

city avg **23%**

MORE INFORMATION [DOWNLOAD A GUIDE TO USING THE PROFILES AND SOURCES](#)

Plan for a Healthy Los Angeles website

<http://healthyplan.la/>



Health Guidelines Recommend Certain Lifestyle Choices to Increase Health:



Eat Five Fruits and Vegetables a Day



Limit Unhealthy Behaviors



Have Regular Health Check-ups



Get Regular Physical Activity

But Are the Healthy Choices the Easiest Choices in Our Communities?



Some neighborhoods in Los Angeles...



don't have access to affordable, healthy food.



have high rates of violent crime.



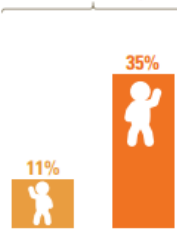
have issues with pollution and air quality.



lack safe park space.

Los Angeles is a City with Many Health Inequities.

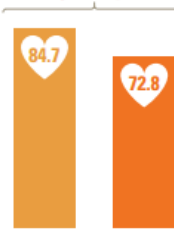
Childhood Obesity



Brentwood-Pacific Palisades

Harbor Gateway

Life Expectancy (Years)



Brentwood

Watts

Where You Live in Los Angeles Often Determines Your Health Destiny.

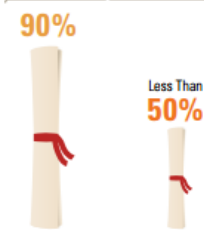
Per Capita Income



Bel Air-Beverly Crest

Southeast Los Angeles

Rate of High School Graduation



The City's most affluent communities

The City's poorest communities

Health Happens in Your Community

Public Transportation



Transit use helps **increase** physical activity.



Obesity

In California, obesity rates are higher for residents living in the **least healthy** food environments.



Air Pollution



Declines in air pollution are linked to **increased** life expectancy.

Public Parks

Residents who live **within a mile** of a park are more likely to use it for physical activity.



What Would Make Your Community a Healthier Place?

Share Your Vision for a Healthier Los Angeles

Los Angeles Department of City Planning

Contact us on the web:



URL

Email



URL

Email

Methods & Sources - The PEOPLE'S EPIDEMIOLOGY

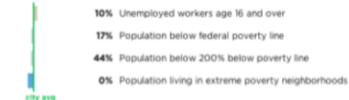
- Each map in the Atlas includes sources and methods.
- Data guide pdf on [website](#)
- Obtained data from:
 - Public databases,
 - State and County Health Departments,
 - Cleaned / created our own data layers,
 - City GIS data
- HiAP and Community Advisory Committees modified indicators and ground-truthed results before public release

Indicator Name	Data Source	Description
Intersection density	City of Los Angeles (2012)	Intersections per square mile for each Community Plan Area.
Park level of service	City and County of Los Angeles (2012)	Acres of parks per 1,000 residents for each community plan area. This includes city and county parks, state parks, and federal parks, but it does not include features such as cemeteries, golf courses, amusement parks, or senior centers.
Percentage of the population within one-half mile walking distance of a park	U.S. Census Bureau (2010)	Percentage of population within one-half mile of a park or open space. Distances are calculated based on the street network.
Population density	U.S. Census Bureau (2010)	Population density is the measure of total population per square mile by Community Plan Area.
Employment density	U.S. Census Bureau LEHD (2010)	Employees per square mile by Community Plan Area.
Percentage of households without access to a vehicle	U.S. Census Bureau (2010)	Percentage of households with no vehicle available by Community Plan Area.

Stem and Leaf Chart

The green vertical stripe denotes the city or county average. Bars extending to the right denote values that are higher than the average. Bars extending to the left denote values that are lower than the average. This encoding is used in situations where the "typical" figure for a given statistic would not be known to an average user and so a deviation from average is the most important aspect of a given number.

Unemployment and Poverty



Thermometer

A simple token moves along a colored track from left to right. Left is low, Right is high. This encoding is used in situations where the figure would be of interest even without additional context. (e.g. Median Income).

Per Capita Income

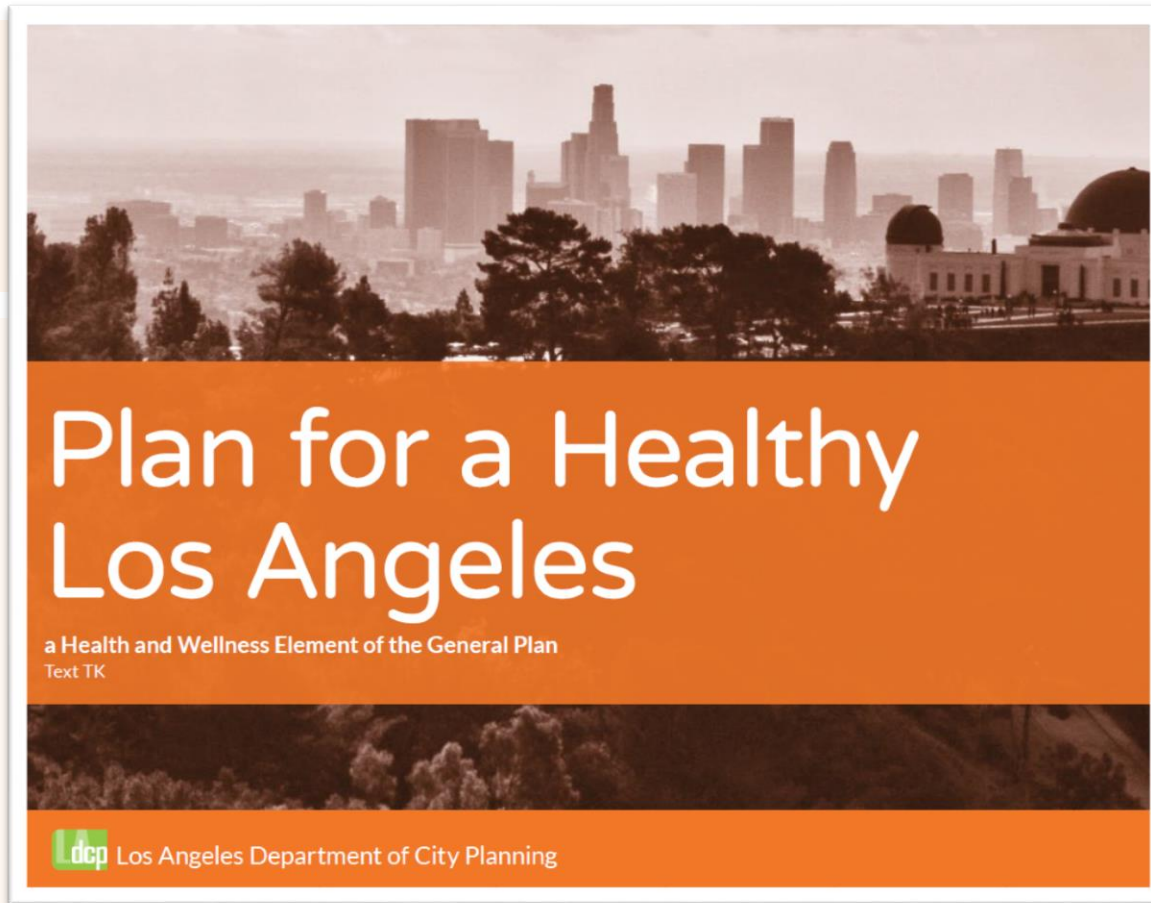


Isotype Chart

These are essentially deployed as bar charts in fancy dress. They provide visual interest but are read exactly the same as a barchart. The length of the bar corresponds to the amount. The green outline indicates the average amount.

Age of Population





Policy Document and Implementation Programs

Vision of health for Los Angeles



- Los Angeles, a Leader in Health and Equity
- A City Built for Health
- Bountiful Parks and Open Space
- Food that Nourishes the Body, Soul, and Environment
- An Environment Where Life Thrives
- Lifelong Opportunities for Learning and Prosperity
- Safe and Just Neighborhoods

Implementation Programs



Initial programs

- **Parks fee ordinance**
- Continuing regular Health-in-all-Policies meetings
- Community Plan Strategic Plan
- Healthy Building and Design Guidelines

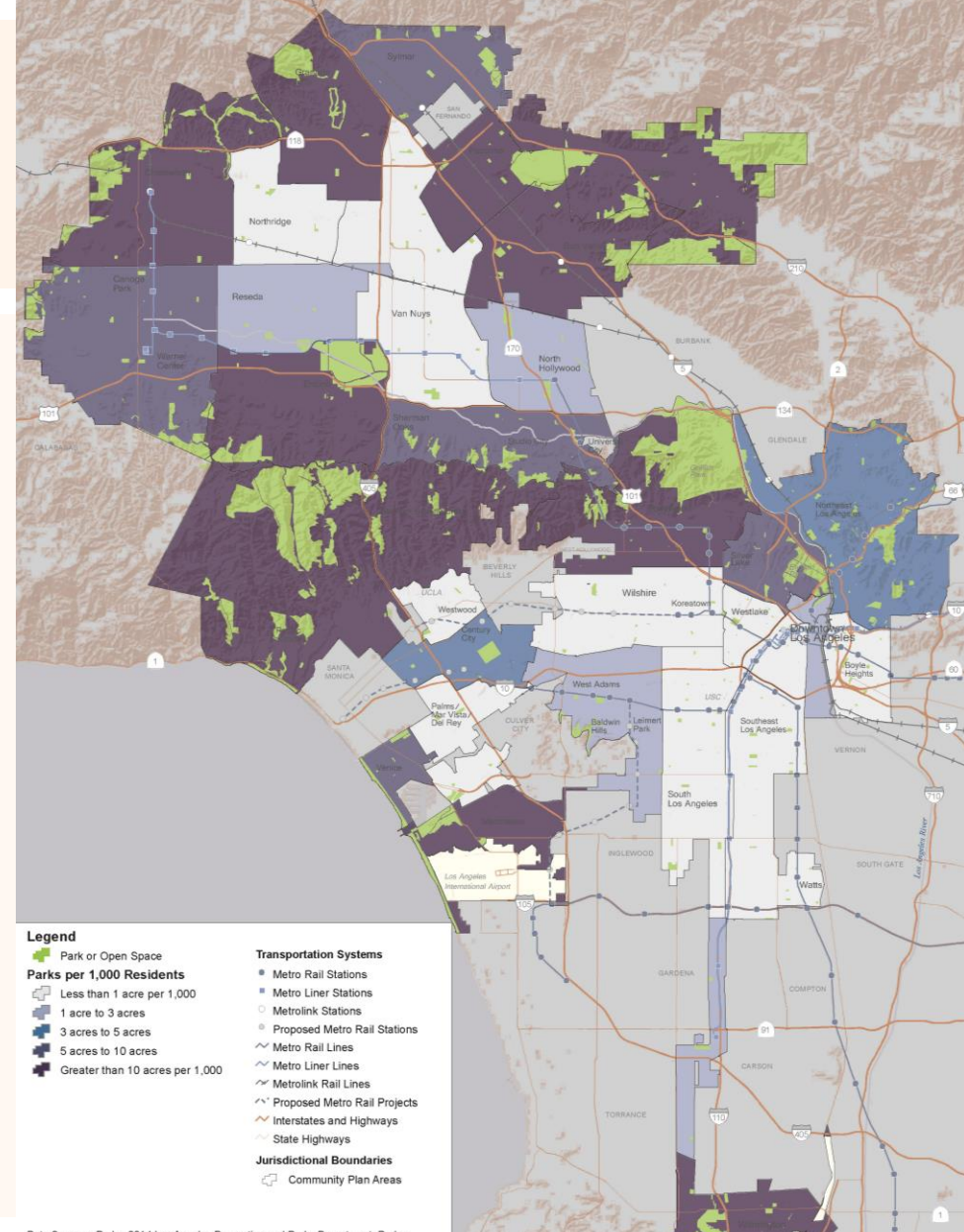
Plan for a Healthy Los Angeles Implementation Programs						
#	ACTION DESCRIPTION	Goal	Time Frame	Responsible Department(s)	Key Partner(s)	Relevant Policies
P65	Los Angeles River: Actively pursue grant funding to build out the bicycle and greenway trail system identified in the 2007 LA City Council adopted Los Angeles River Revitalization Master Plan (LARRMP), and support campaigns, such as Greenway 2020, that pledge to help fund and raise awareness for this effort which will increase opportunities for access to nature, multi-generational community gathering spaces, physical activity, and psychological respite.	Parks	Immediate	Board of Public Works, Department of City Planning, Department of Recreation and Parks		3.3 Los Angeles River
P66	Recreation for individual with disabilities and special needs: Continue to evaluate available internal and external resources and partnership opportunities to increase the number of Recreation and Parks staff that can assist and enable and increase the number of individuals with disabilities and special needs to engage in City recreational activities.	Parks	Immediate	Department of Recreation and Parks and Department on Disability		3.4 Park and quality and recreation programs
P67	Existing parks: Build off of the Recreation and Parks 2009 Citywide Community Needs Assessment to develop a strategic plan with an implementation timeline that identifies opportunities to refurbish existing parks with amenities and programming that facilitate physical activity and recreation with considerations for individuals of all ages and abilities. Prioritize refurbishment in the communities most underserved in opportunities for physical activity and recreation and ensure that parks, open spaces, and recreational facilities include restrooms and drinking fountains.	Parks	Mid-term	Department of Recreation and Parks		3.4 Park quality and recreation programs, 3.5 Park safety,
P68	Los Angeles River Improvement Overlay: Implement the Los Angeles River Improvement Overlay (LA-RIO) district and develop similar ordinances along all waterways within the City to encourage the build-out of healthy, multipurpose trail systems connected to natural open spaces and safer streets.	Parks	Long-term	Department of City Planning and Board of Public Works		3.3 Los Angeles River
P69	China Shipping Community Aesthetics Mitigation Trust Fund: Continue to implement the China Shipping Community Aesthetics Mitigation Trust Fund to landscape and create new open space for the port communities.	Parks	Immediate	Port of Los Angeles		3.2 Expand parks
P70	50 Parks: Continue to implement the 50 Parks Initiative in the communities identified in the 2009 Citywide Community Needs Assessment.	Parks	Immediate	Department of Recreation and Parks		3.1 Park funding and allocation, 3.2 Expand parks
P71	Recreation programming: Continue, and as funding permits, expand the provision of free or low-cost recreational programs in the City's most underserved neighborhoods for Angelenos of all ages and abilities.	Parks	Immediate	Department of Recreation and Parks		3.4 Park and quality and recreation programs
P72	Local partnerships: Continue to create volunteer opportunities for Angelenos, businesses, and community based organizations to improve park safety, maintain park spaces, develop and implement recreational programs, and similar strategies.	Parks	Immediate	Department of Recreation and Parks		3.4 Park quality and recreation programs, 3.6 Local partnerships
P73	Transit to parks and beaches: Develop a Transit to Parks and Beaches system to improve transit access to regional, state, and federal parks and beaches for underserved communities. Identify and implement strategies to improve existing transit connections (bus, shuttle, and rail) or create new service. Develop and implement a robust marketing campaign to advertise the availability of transit and shuttle services.	Parks	Short-term	Department of Transportation, Department of Recreation and Parks	Metro	3.7 Water recreation
P74	Community gardens and parks: Explore the feasibility of permitting by-right community gardens and parks that are operated by not for profits in residential zones by-right.	Parks	Immediate	Department of		3.2 Expand parks, 4.1 Land for urban

Quimby Ordinance Update (*Developer Park Fee*) LA ♥

- Expanding upon Health Atlas Analysis to re-write the City's Developer Park Fee / Quimby Ordinance
- Need solid analysis
 - Developers will likely sue the City
- Analyze by type and by neighborhood:
 - Park level of service
 - Park access
 - Recreation and facility cost analysis
 - Existing school facilities
 - Housing unit construction
 - 11 years of Quimby Fee collection

Parks per 1,000 Residents

- Shown by Community Plan Area



Community Plan Areas with the Highest and Lowest Park Level of Service



Community Plan Area	Park Level of Service			
	Parks per 1,000 Residents	Neighborhood (and Mini) Parks per 1,000 Residents	Community Parks per 1,000 Residents	Regional Parks per 1,000 Residents
Wilshire	0.3	0.1	0.1	0.0
Westlake	0.4	0.1	0.3	0.0
Southeast Los Angeles	0.4	0.2	0.2	0.0
Mission Hills - Panorama City - North Hills	0.4	0.2	0.3	0.0
South Los Angeles	0.5	0.2	0.1	0.1
Central City	0.6	0.3	0.0	0.2
Van Nuys - North Sherman Oaks	0.6	0.2	0.0	0.4
Boyle Heights	0.7	0.5	0.2	0.0
Granada Hills - Knollwood	15.2	0.2	1.1	13.9
Chatsworth - Porter Ranch	17.4	0.3	2.2	14.9
Hollywood	27.1	0.2	0.6	26.2
Bel Air - Beverly Crest	28.6	0.2	1.6	26.8
Encino - Tarzana	45.3	0.2	1.1	44.0
Sunland - Tujunga - Lake View Terrace - Shadow Hills - East La Tuna Canyon	80.7	0.4	1.3	79.0
Brentwood - Pacific Palisades	95.9	0.2	5.4	90.2

- Darker green shows the top 15% for each metric. Lighter green shows bottom 15%.

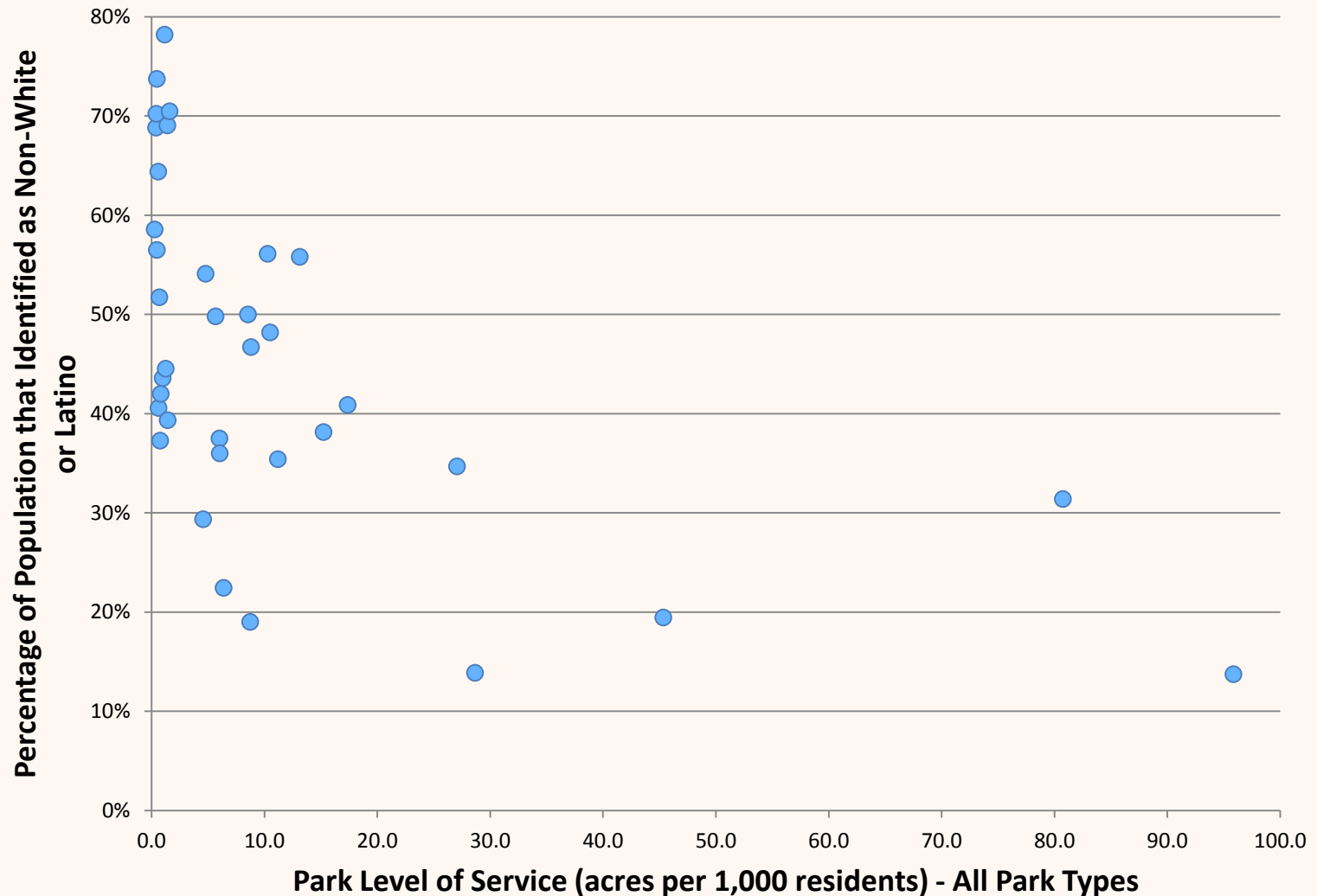
Community Plan Areas with the Highest and Lowest Park Level of Service



Community Plan Area	Percentage of Population that Identified as Non-White or Latino	Hardship Index	Percentage of Population with Income Less than 200 Percent of the Federal Poverty Level	Prevalence of Childhood Obesity	Percentage of Households without Access to a Vehicle
Wilshire	59%	48	44%	26%	14%
Westlake	69%	79	70%	28%	34%
Southeast Los Angeles	70%	85	72%	30%	11%
Mission Hills - Panorama City - North Hills	57%	61	48%	28%	5%
South Los Angeles	74%	72	62%	30%	11%
Central City	64%	61	70%	25%	22%
Van Nuys - North Sherman Oaks	41%	51	45%	22%	6%
Boyle Heights	52%	81	66%	32%	13%
Granada Hills - Knollwood	38%	38	21%	19%	2%
Chatsworth - Porter Ranch	41%	37	22%	19%	2%
Hollywood	35%	40	42%	24%	10%
Bel Air - Beverly Crest	14%	17	7%	12%	1%
Encino - Tarzana	19%	35	22%	16%	2%
Sunland - Tujunga - Lake View Terrace - Shadow Hills - East La Tuna Canyon	31%	43	31%	24%	1%
Brentwood - Pacific Palisades	14%	25	12%	11%	1%

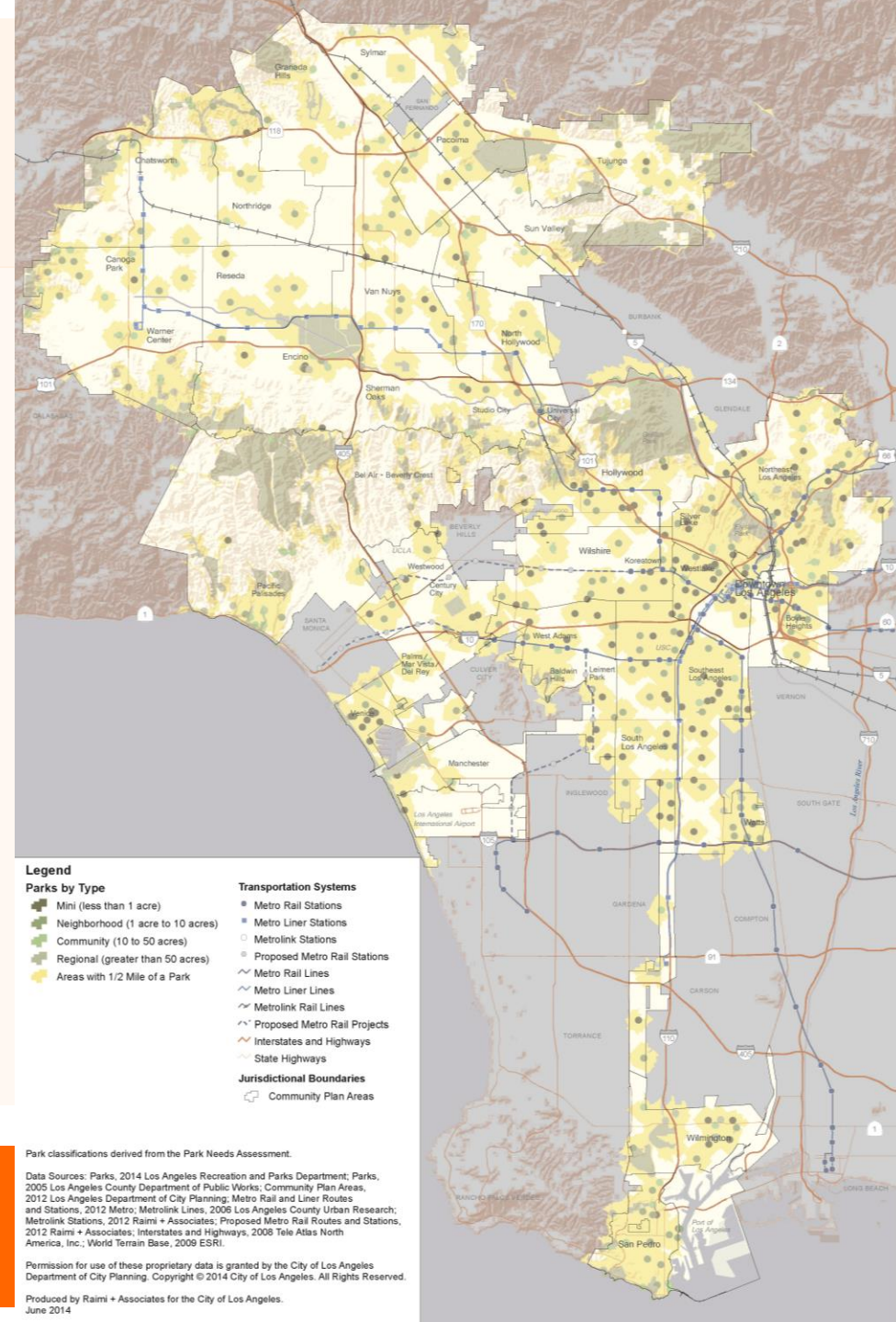
- Darker orange shows the top 15% for each metric. Lighter orange shows bottom 15%.

Scatter Plot Showing Park Level of Service and Population that Identified as Non-White or Latino by Community Plan Area



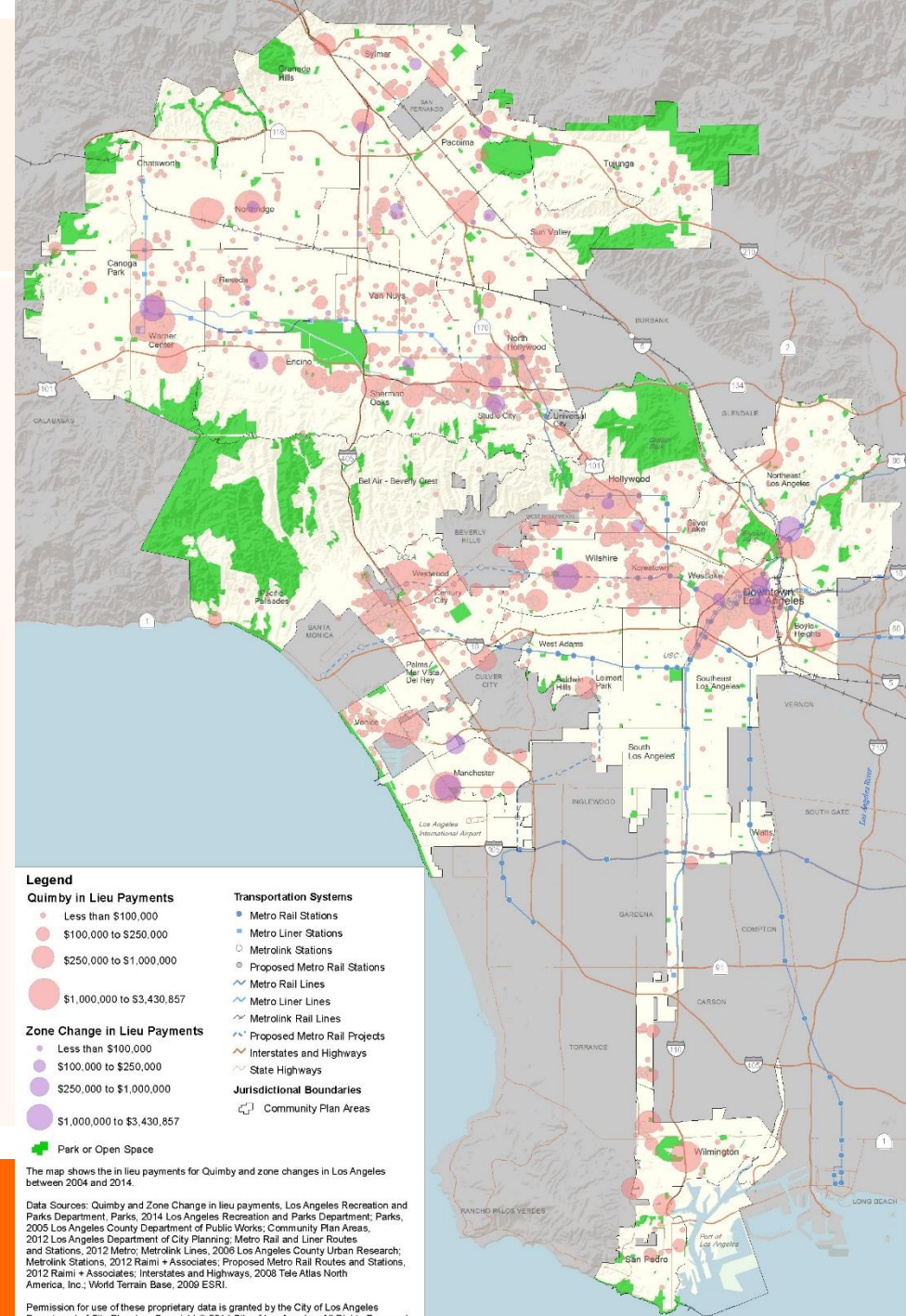
Park Access

- Areas within ½ Mile of a Park
- 50% of the City's population is within a walking distance of a community and/or neighborhood park



In-lieu Payments for Quimby and Zone Changes

- 1,676 payments since 2003
- 35 zone change payments
- 1,641 Quimby payments
- Over \$161 million collected





Health Atlas Lessons and Takeaways

Spatial Analysis Takeaways

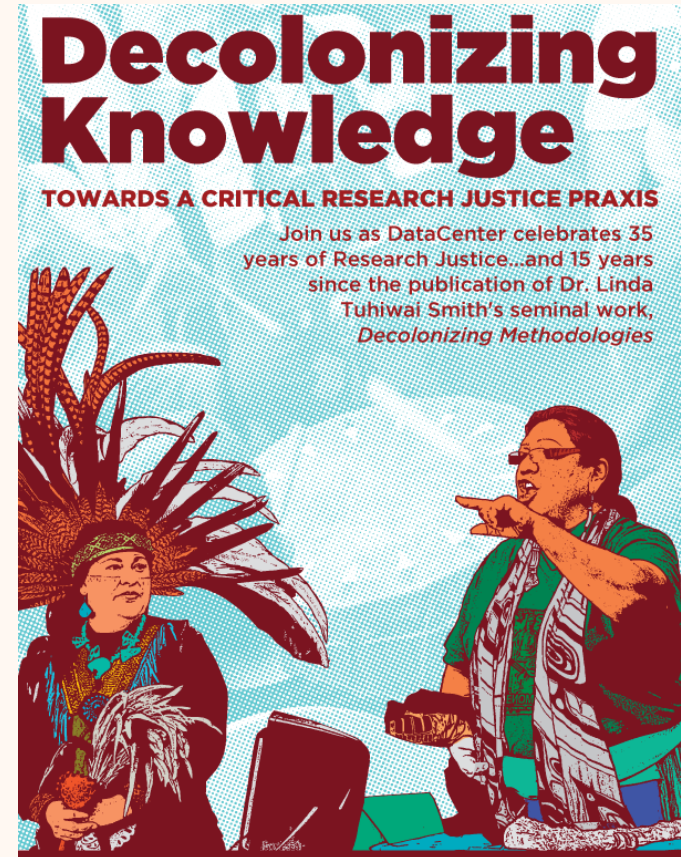


- **Geo scale: How “low” can you go?**
 - Sacrifice small confidence intervals for neighborhood-specific data to understand trends and comparisons.
- **Sometimes the data doesn't exist – yet!**
 - Coffee + music + hours of data cleaning & geocoding = new spatial data!
 - Community surveys
- **Choose wisely (but try everything first)**
 - Local relevancy (Urban vs. Suburban vs. Rural; Culture of the place and people, etc.)
 - **Policy relevancy**
 - Measure what you want to **MOVE!**

Spatial Analysis Takeaways



- **Sharing is caring**
 - Transparent methods and results
 - Share data freely so others can further the cause
- **Present community-friendly results**
 - Simple language
 - Images
 - Multi-lingual
 - Make relevant for residents – clarify the “so what?”





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