OurCounty

OurCounty Indicator Analysis

August 12, 2019

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Energy

1. Renewable Energy Portfolio

Indicator Name:	Renewable Energy Portfolio
Data Source:	California Energy Commission (CEC) Power Content Label program; CEC Electricity Consumption by Entity; CEC Electricity Consumption by County http://www.energy.ca.gov/pcl/labels/
Analysis File:	ElectricityByUtility_LA County.xlsx
Metadata File:	20190301_Energy_Indicators.xlsx
Methods:	• Total 2017 retail sales for each utility operating in LA County disaggregated based on values reported in Power Content Label. • Historical LA County renewable energy as share of total retail sales calculated by aggregating annual retail sales by generation for all utilities operating within LA County for 2010-2017. • In-county Southern California Edison retail sales based on difference between reported retail sales for LA County and the sum of retail sales for utilities operating in LA County, excluding Southern California Edison.
Findings:	The proportion of RPS eligible renewable energy in LA County's energy mix increased from 18% in 2010 to 32% in 2017.

Figure:

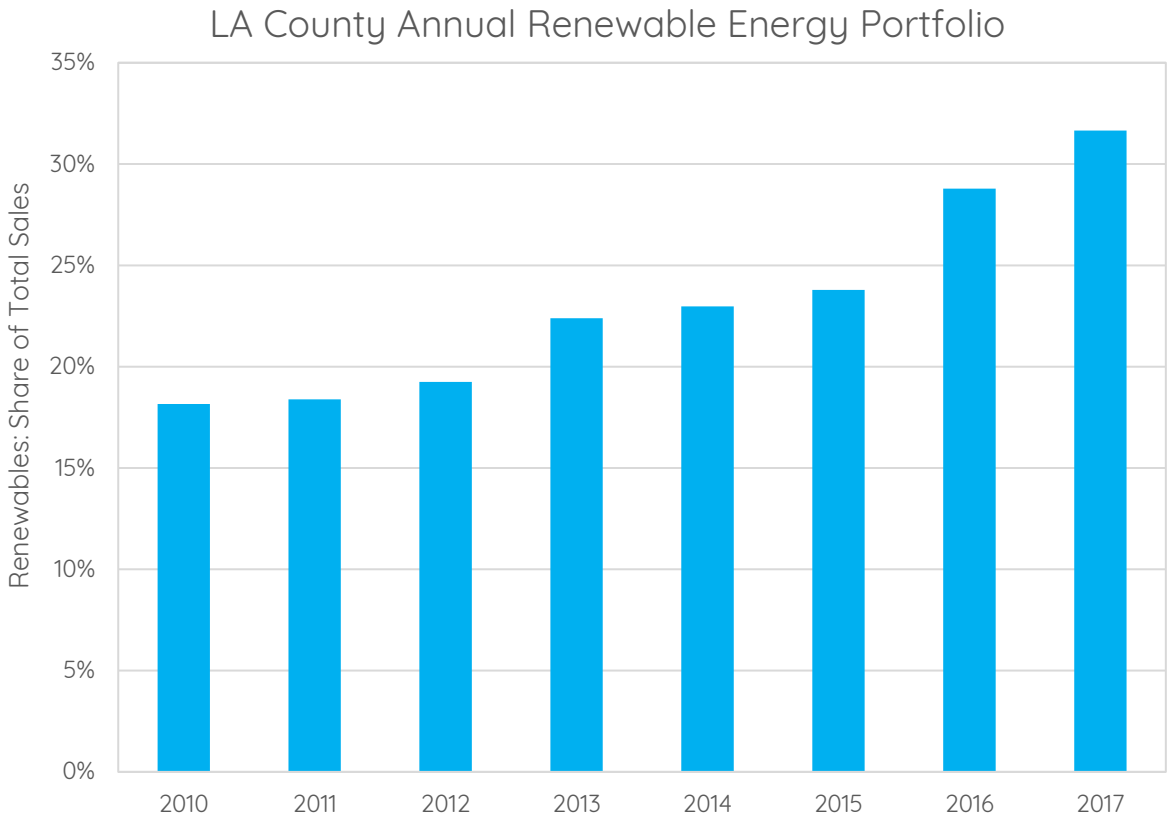

Figure 1. LA County Renewable Energy Portfolio (2010-2017)

Table 1. Retail Sales for each LA County Utility (2017)

	Azusa Light and Water	Burbank Water and Power	City of Cerritos*	City of Industry	Glendale Water & Power	Los Angeles Department of Water and Power	Pasadena Water and Power	SCE (LA COUNTY ONLY)	Vernon Light & Power	TOTAL
POWER CONTENT 2017 (%)										
Eligible Renewable	35%	32%	0%	0%	37%	30%	38%	32%	45%	**32%**
Biomass & biowaste	3%	2%	0%	0%	15%	1%	15%	0%	6%	**1%**
Geothermal	0%	3%	0%	0%	2%	4%	1%	8%	0%	**6%**
Eligible hydroelectric	3%	3%	0%	0%	3%	4%	4%	1%	0%	**2%**
Solar	18%	12%	0%	0%	0%	11%	9%	13%	23%	**12%**
Wind	11%	12%	0%	0%	17%	10%	9%	10%	16%	**10%**
Coal	54%	31%	0%	0%	6%	18%	31%	0%	0%	**7%**
Large Hydroelectric	1%	1%	1%	0%	13%	4%	3%	8%	1%	**6%**
Natural Gas	5%	30%	84%	0%	27%	31%	11%	20%	35%	**24%**
Nuclear	5%	6%	0%	0%	7%	10%	6%	6%	4%	**7%**
Other	0%	0%	0%	0%	5%	0%	0%	0%	0%	**0%**
Unspecified sources of power	0%	0%	15%	100%	5%	7%	11%	34%	15%	**23%**
TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

RETAIL SALES (GWh)										
Eligible Renewable	90.25	349.58	-	-	398.55	6,868.00	403.78	12,813.60	463.71	**21,387.47**
Biomass & biowaste	7.74	21.85	-	-	161.57	228.93	159.39	-	61.83	**641.31**
Geothermal	-	32.77	-	-	21.54	915.73	10.63	3,203.40	-	**4,184.08**
Eligible hydroelectric	7.74	32.77	-	-	32.31	915.73	42.50	400.42	-	**1,431.48**
Solar	46.41	131.09	-	-	-	2,518.27	95.63	5,205.52	237.01	**8,233.94**
Wind	28.36	131.09	-	-	183.12	2,289.33	95.63	4,004.25	164.88	**6,896.66**
Coal	139.24	338.65	-	-	64.63	4,120.80	329.40	-	-	**4,992.72**
Large Hydroelectric	2.58	10.92	0.73	-	140.03	915.73	31.88	3,203.40	10.30	**4,315.58**
Natural Gas	12.89	327.73	61.33	-	290.83	7,096.94	116.88	8,008.50	360.67	**16,275.77**
Nuclear	12.89	65.55	-	-	75.40	2,289.33	63.75	2,402.55	41.22	**4,950.70**
Other	-	-	-	-	53.86	-	-	-	-	**53.86**
Unspecified sources of power	-	-	10.95	39.90	53.86	1,602.53	116.88	13,614.45	154.57	**15,593.15**
TOTAL	**257.84**	**1,092.44**	**73.01**	**39.90**	**1,077.16**	**22,893.34**	**1,062.57**	**40,042.4**	**1,030.47**	**67,569.24**

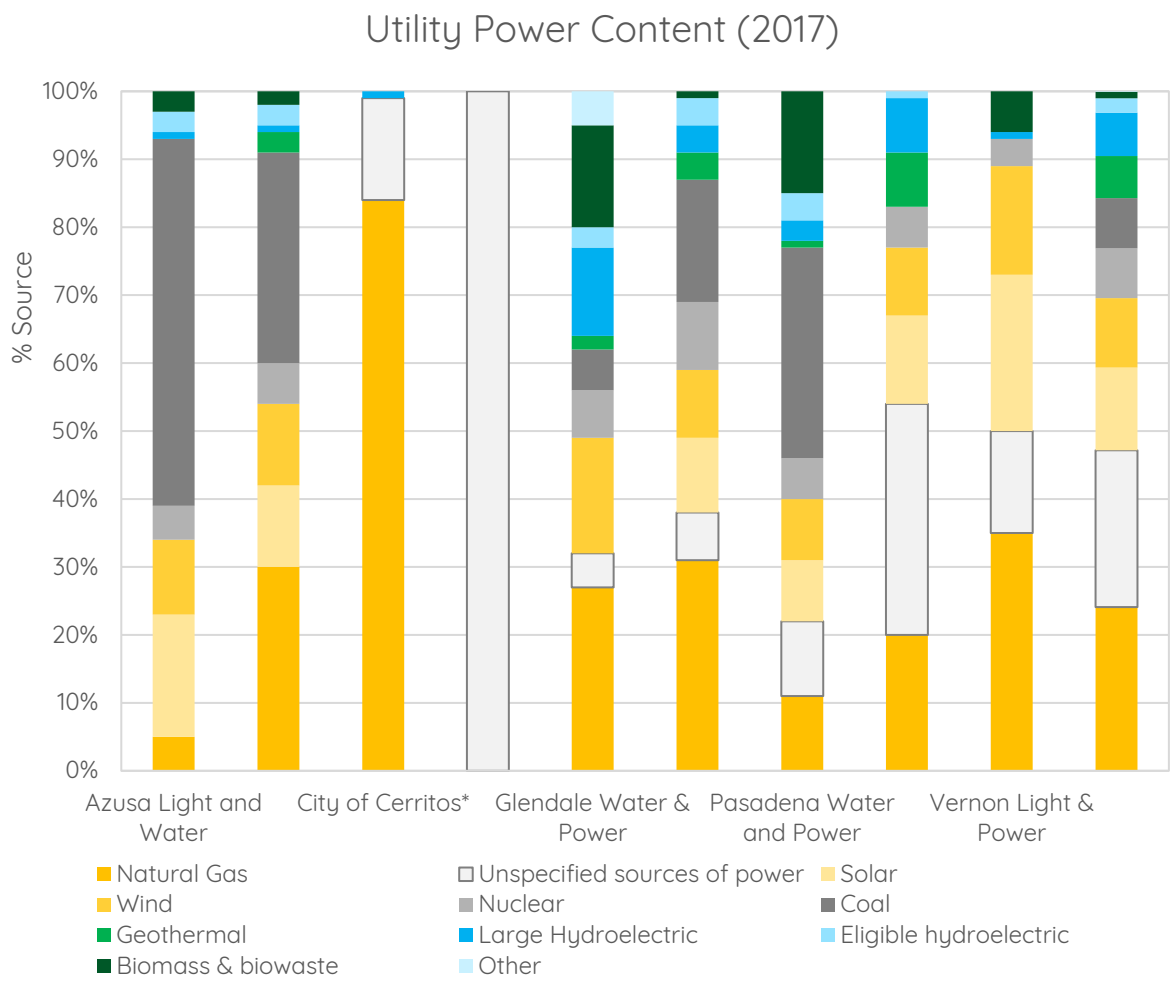

Figure 2. Utility Power Content by Utility (2017)

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2a. Energy sourcing: Large-scale generation

Indicator Name:	Energy sourcing: large-scale generation
Data Source:	CEC Annual Generation - Plant Unit; QFER CEC-1304 Power Plant Owner Reporting Database https://www.energy.ca.gov/almanac/electricity_data/web_qfer/Annual_Generation-County.php; https://www.californiadgstats.ca.gov/downloads/ https://catalog.data.gov/dataset/ladwp-solar-incentive-program-b0ebd https://energyarchive.ca.gov/sb1/pou_reports/
Analysis File:	190305_RE_Capacity_CLEAN.xlxs
Metadata File:	20190301_Energy_Indicators
Methods:	• Joined 2017 CEC Annual Generation data with QFER Reporting to extract subset of California electricity generation located within LA County, disaggregated by city / unincorporated area. • Modified addresses by replacing neighborhoods with cities to aggregate data at the city level.
Findings:	• Natural gas accounts for approximately 78% of all large-scale electricity generation within LA County. • Renewable energy – including solar, hydro, and biomass – accounts for 22% of all large-scale electricity generation within LA County. • There is only one coal-fired generation facility in the county – 35.8MW in Long Beach at the Tesoro Calciner Refinery.

Figure:

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Table 2. Energy Generation by Source (MW) by City (2017)

LA COUNTY	Coal	Biomass	Natural Gas	Hydro	Solar	TOTAL
Avalon			11.1			11.1
Azusa				7.98		7.98
Beverly Hills				2		2
Burbank			557.9			557.9
Carson		38.4	475			513.4
City of Industry			500.5		1.5	502
Commerce		11.5				11.5
Culver City				10.12		10.12
El Segundo			709.17			709.17
Gardena			1.38			1.38
Glendale			287			287
Irwindale			14.86			14.86
La Mirada			2.2		1	3.2
La Verne					2.99	2.99
Lancaster					794.76	794.76
Long Beach	36	34.6	4016.71		1.02	4088.13
Los Angeles		35.81	2485.18	29.83	37.92	2588.74
Norwalk			77			77
Palmdale					43	43
Pasadena			262.1			262.1
Pico Rivera					0.9	0.9
Pomona			46.3			46.3
Redondo Beach			1355.73			1355.73
San Dimas				10.97		10.97
Santa Clarita			71.51	115.38		186.89
Santa Fe Springs					10.1	10.1
South Gate			1.42	1.91		3.33
Torrance			49.28		0.98	50.26
Unincorporated LA County						
Agoura		13.8				13.8
Castaic		9.2		1793.95		1803.15

Pearblossom					9.5	9.5
Unincorporated (general)					55.25	55.25
Vernon			171.8			171.8
West Covina		7.1				7.1
Whittier		52.2				52.2
TOTAL (MW)	**36**	**203**	**11096**	**1972**	**959**	**14266**
TOTAL (%)	**0.3%**	**1.4%**	**77.8%**	**13.8%**	**6.7%**	**100.0%**

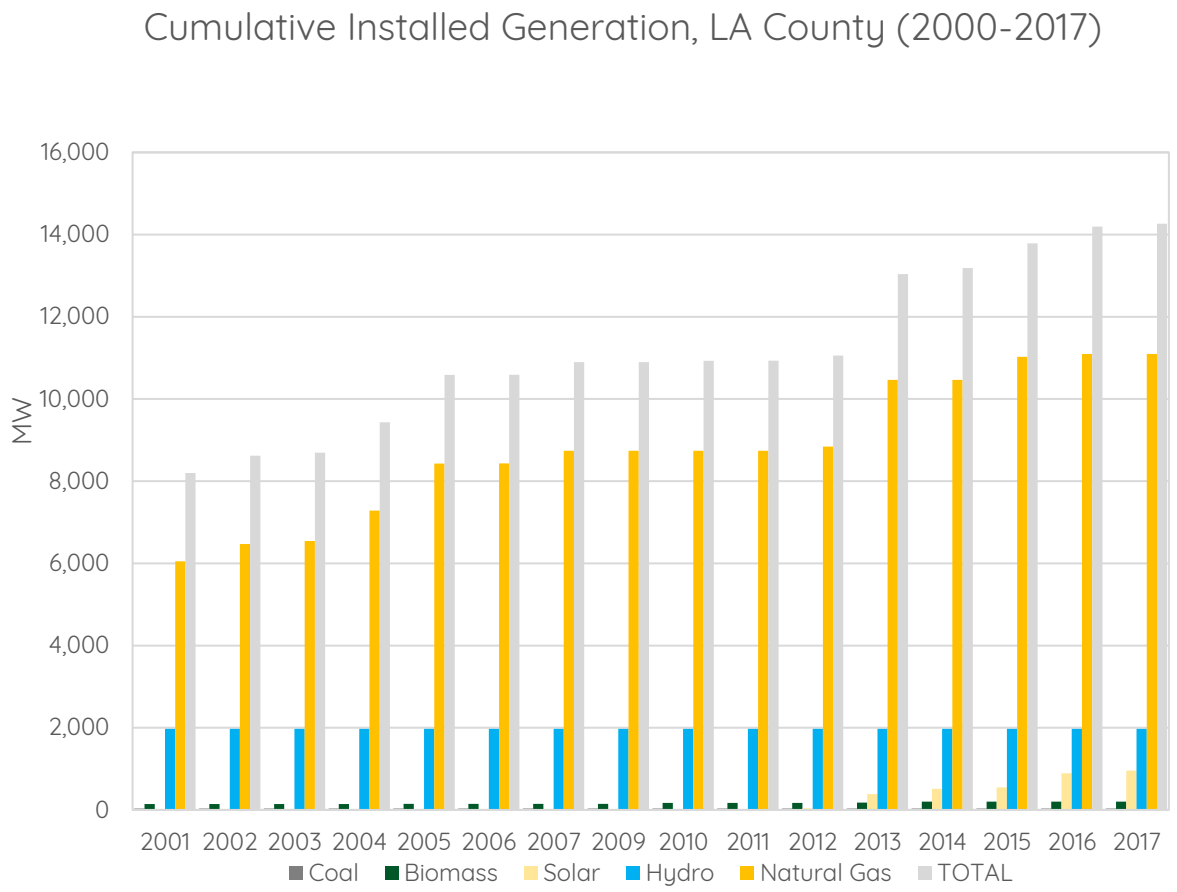

Figure 3. Cumulative Installed Generation in LA County (2000-2017)

2b. Energy sourcing: Distributed generation

Indicator Name:	Energy sourcing: Distributed generation
Data Source:	Publicly Owned Utilities' SB1 Solar Program Status Reports; Form EIA-861M (formerly EIA-826) detailed data; NEM Currently Interconnected Data Set (California Distributed Generation Statistics) https://www.energy.ca.gov/almanac/electricity_data/web_qfer/Annual_Generation-County.php; https://www.californiadgstats.ca.gov/downloads/ https://catalog.data.gov/dataset/ladwp-solar-incentive-program-b0ebd https://energyarchive.ca.gov/sb1/pou_reports/
Analysis File:	190305_DG.xlxs
Metadata File:	20190301_Energy_Indicators.xlxs
Methods:	• Annual distributed generation installations by utility disaggregated by city / unincorporated area based on reported 'service city'. Installations for 2017 and 2018 include SCE, LADWP, and Pasadena Water & Power only.
Findings:	• LA County had a total of 894 MW installed distributed generation capacity as of 2018. • Annual installations had increased nearly every year from 2009 until 2016, after which there was a drop. Installations in 2018 are lower than in 2015.

Figure:

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Figure 4. Distributed Energy Sources by City (MW) (2017-2018)

Cities	Total distributed generation capacity (MW)
Agoura Hills	6.27
Alhambra	2.13
Arcadia	8.25
Artesia	1.03
Avalon	0.08
Azusa	1.63
Baldwin Park	4.7
Bell	0.36
Bell Gardens	0.68
Bellflower	3.88
Beverly Hills	3.74
Bradbury	0.56
Burbank	2.63
Calabasas	6.57
Carson	6.88
Cerritos	7.68
City Of Industry	9.37
Claremont	8.7
Commerce	3.04
Compton	7.28
Covina	8.94
Cudahy	1.29
Culver City	4.36
Diamond Bar	6.8
Downey	8.26
Duarte	1.95
El Monte	3.56
El Segundo	3.21
Gardena	3.93
Glendale	6.33
Glendora	10.36
Hawaiian Gardens	0.77
Hawthorne	6.29

Hermosa Beach	1.57
Hidden Hills	0.47
Huntington Park	1.41
Inglewood	4.67
Irwindale	0.43
La Canada Flintridge	4.47
La Habra Heights	1.58
La Mirada	6.61
La Puente	7.18
La Verne	7.38
Lakewood	7.81
Lancaster	56.45
Lawndale	0.54
Lomita	0.78
Long Beach	32.89
Los Angeles	299.82
Lynwood	3.41
Malibu	4.05
Manhattan Beach	5.49
Maywood	1.06
Monrovia	2.89
Montebello	5.02
Monterey Park	2.3
Norwalk	4.24
Palmdale	38.33
Palos Verdes Estates	1.47
Paramount	1.37
Pasadena	12.04
Pico Rivera	4.36
Pomona	13.12
Rancho Palos Verdes	5.33
Redondo Beach	5.95
Rolling Hills	1.71
Rolling Hills Estates	0.46
Rosemead	2.28
San Dimas	7.76

San Fernando	2.69
San Gabriel	4.45
San Marino	1.58
Santa Clarita	20.92
Santa Fe Springs	2.47
Santa Monica	6.24
Sierra Madre	1.53
Signal Hill	1.36
South El Monte	0.96
South Gate	4.67
South Pasadena	2.06
Temple City	2.11
Torrance	10.88
Unincorporated LA	83.66
Vernon	1.32
Walnut	6.28
West Covina	14.11
West Hollywood	0.5
Westlake Village	6.7
Whittier	11.92
Total	**894.62**

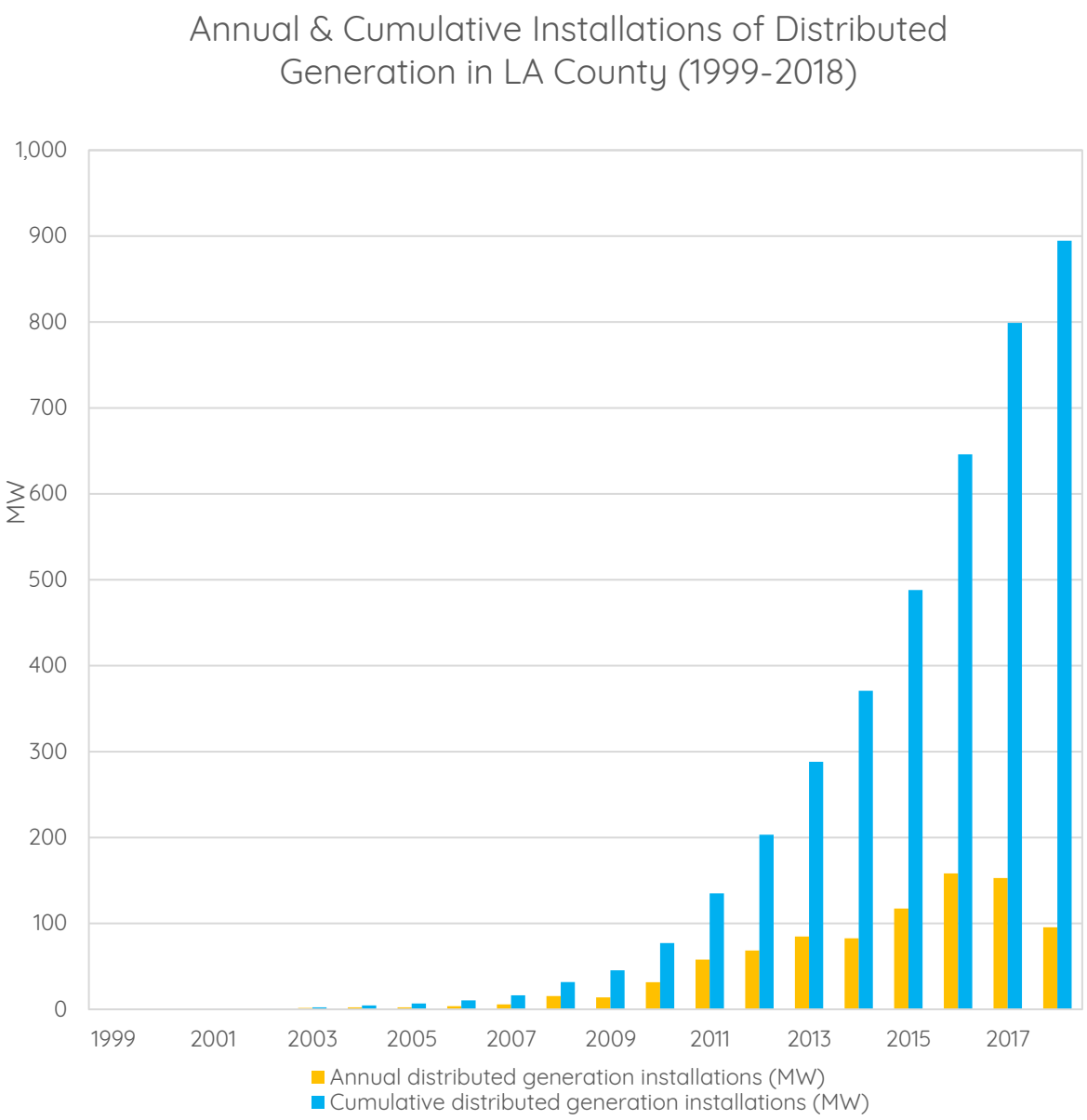

Figure 5. Annual and Cumulative Distributed Energy Generation in LA County
(Note that Data for 2017 and 2018 includes Southern California Edison, Los Angeles Department of Water & Power, and Pasadena Water & Power Only)

3. Total Energy Consumption

Indicator Name:	Total Energy Consumption
Data Source:	California Energy Commission California Energy Consumption Database; California Energy Almanac http://ecdms.energy.ca.gov/
Analysis File:	EnergyConsumption_TOTAL.xlxs; ElectricityByUtility_LA County.xlsx
Metadata File:	20190301_Energy_Indicators.xlxs
Methods:	• Data for electricity, gasoline/diesel and power generation collected and presented at the county level. In-county Southern California Edison retail sales based on difference between reported retail sales for LA County and the sum of retail sales for utilities operating in LA County, excluding Southern California Edison.
Findings:	• Between 2010 and 2017, non-residential electricity consumption has consistently accounted for approximately 70% of total electricity consumption. • While countywide residential natural gas consumption has declined from 1,349 million therms in 2010 to 1116 million therms in 2017, non-residential natural gas consumption has increased from 1,699 million therms in 2010 to 1,841 million therms in 2017.

Figure:

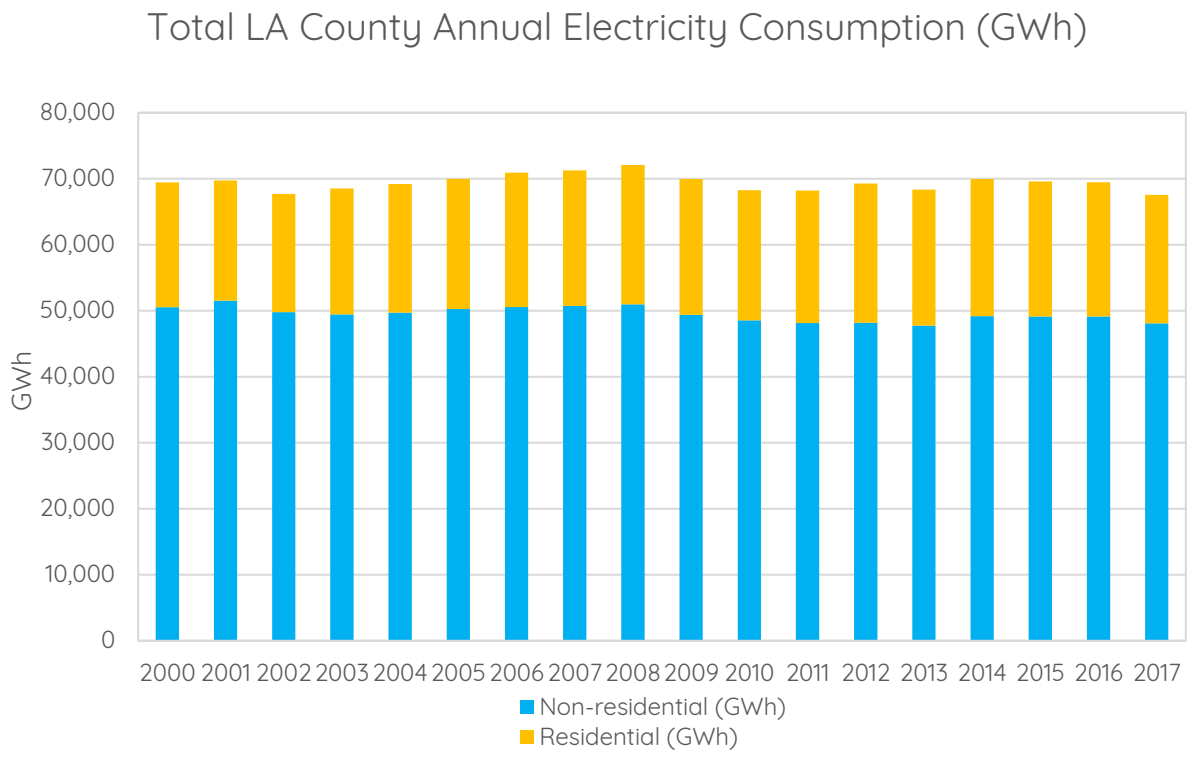

Figure 6. Total LA County Electricity Consumption (GWh) (2000-2017)

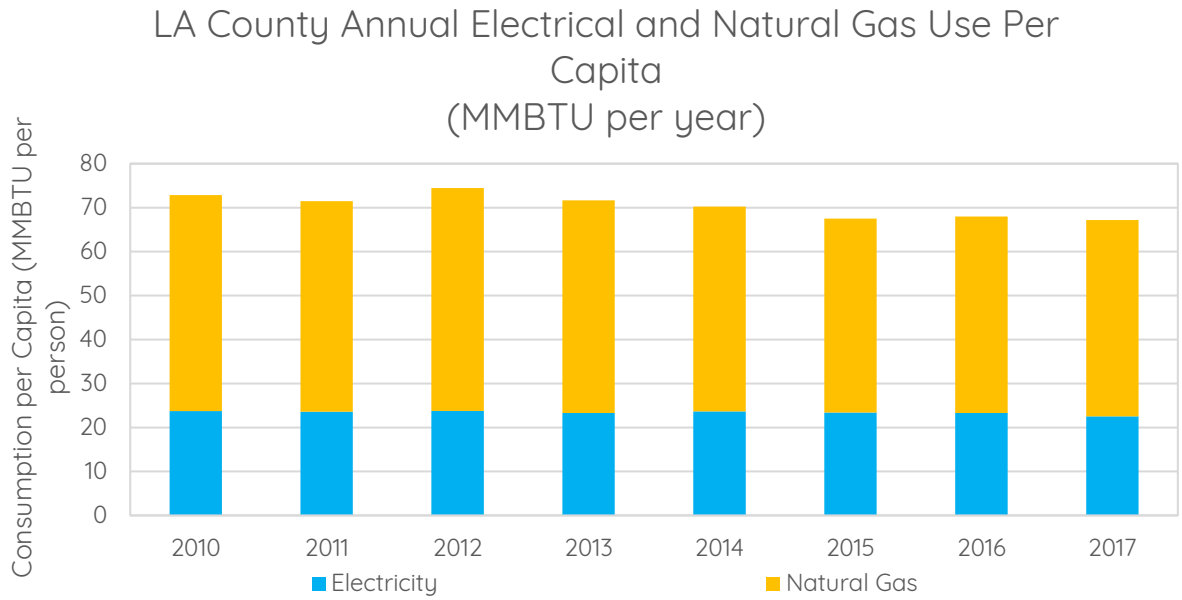

Figure 7. LA County Electricity and Natural Gas Use Per Capita (2010-2017)

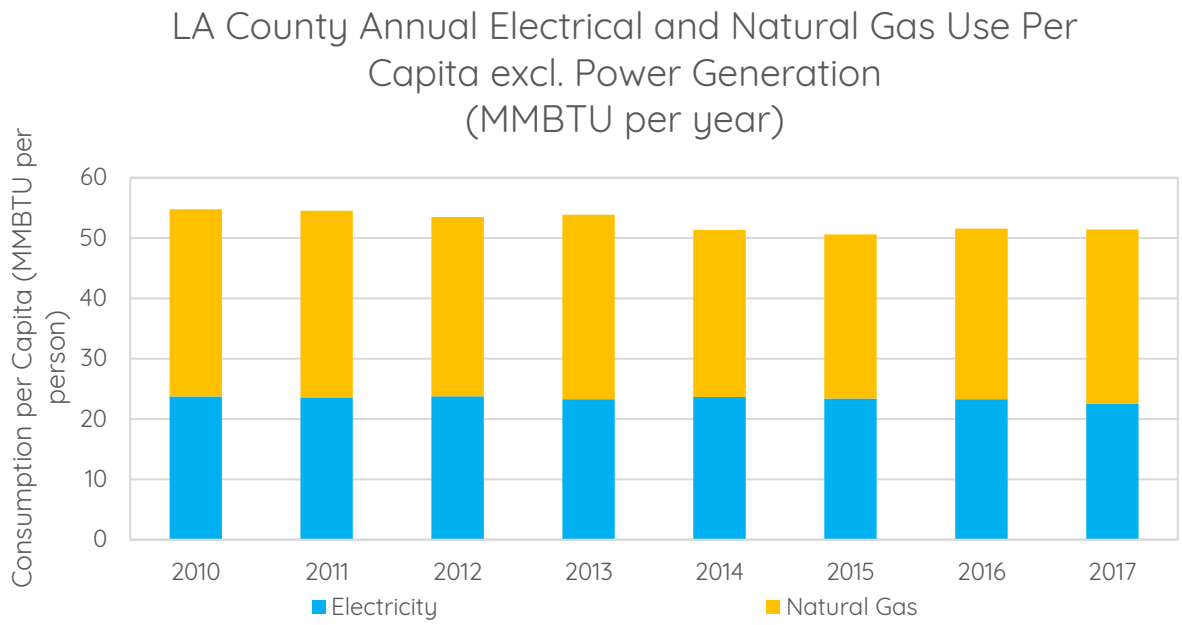

Figure 8. LA County Electricity and Natural Gas Use Per Capita (Excluding Power Generation and Cogeneration) (2010-2017)

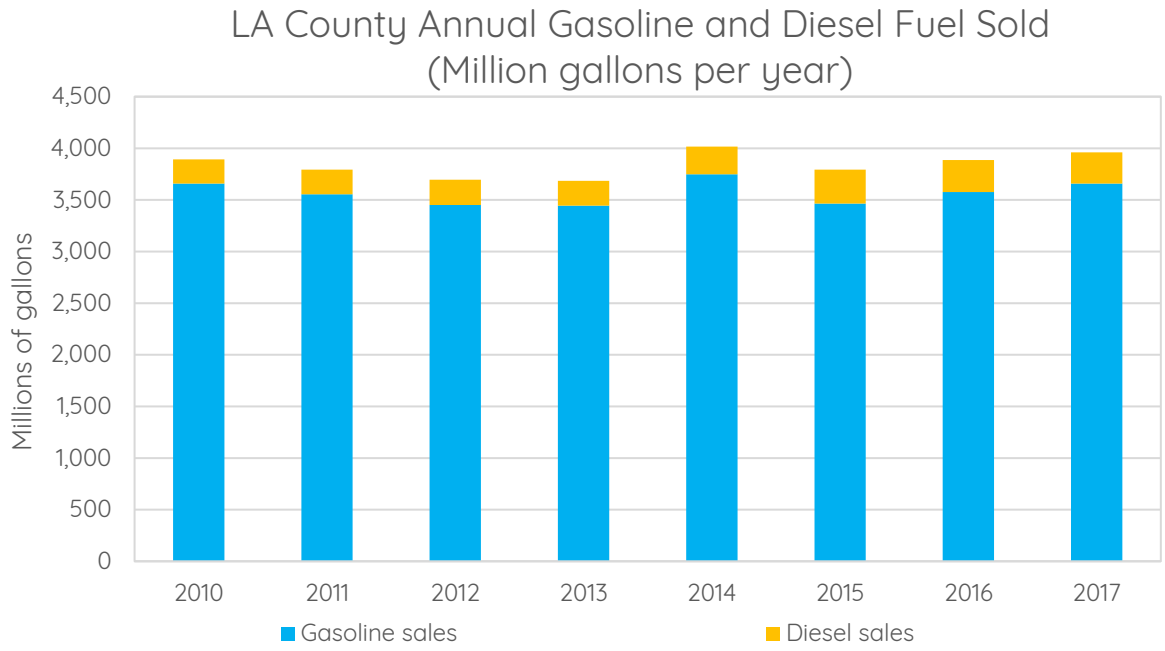

Figure 9. Gasoline and Diesel Fuel Sold in LA County (2010-2017)

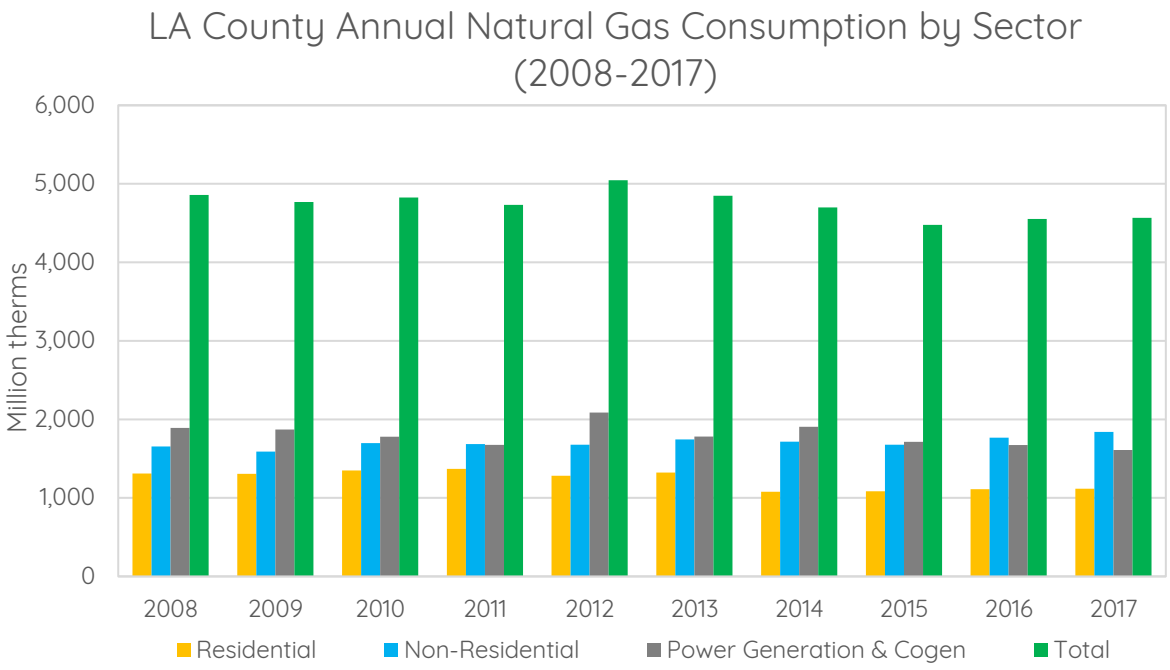

Figure 10. Annual Natural Gas Consumption by Sector in LA County (2008-2017)

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4. Building Energy Use by Sector and Geography

Indicator Name:	Building Energy Use by Sector and Geography
Data Source:	UCLA Energy Atlas http://www.energyatlas.ucla.edu
Analysis File:	190313_Buildings_energyuse_CountyWide.xlsx; bld_btu_analysis_ByCity.csv
Metadata File:	20190301_Energy_Indicators.xlsx
Methods:	• Joined combined residential median usage (Btu) and residential median usage per square foot (Btu) data for 2016 to LA County shapefile. Compared values to 4 previous time periods: 2006, 2010, 2014, and 2015. Mapped values by city.
Findings:	• There is limited variation in median energy usage per square foot across the county. However, median usage exhibits considerable variation. • The three cities with the highest median usage (Hidden Hills, Rolling Hills, and Beverly Hills), have a median energy usage four times greater than the three cities with the lowest median energy usage (Maywood, Commerce, and Lawndale).

Figure:

Table 3. Building Energy Use by Sector (2006, 2010, 2014 and 2016)

	All building types			Residential			Commercial		
	Electricity (thousand GWh)	Natural gas (billion therms)	Combined (trillion BTUs)	Electricity (thousand GWh)	Natural gas (billion therms)	Combined (trillion BTUs)	Electricity (thousand GWh)	Natural gas (billion therms)	Combined (trillion BTUs)
2006	56	2	429	20	1	200	15	0	77
2010	53	2	429	20	1	192	15	0	79
2014	53	3	432	19	1	166	15	0	80
2015	54	2	428	20	1	169	15	0	82
2016	53	2	429	19	1	174	15	0	81
% change 2006 to 2016	-3.8%	2.9%	-0.1%	-5.0%	-17.4%	-13.2%	-3.2%	21.6%	5.5%

	Industrial			Institutional			Other/Uncategorized/ Mixed use		
	Electricity (thousand GWh)	Natural gas (billion therms)	Combined (trillion BTUs)	Electricity (thousand GWh)	Natural gas (billion therms)	Combined (trillion BTUs)	Electricity (thousand GWh)	Natural gas (billion therms)	Combined (trillion BTUs)
2006	11	1	98	3	0	17	6	0	36
2010	10	masked	masked	2	masked	masked	6	masked	masked
2014	10	10	masked	masked	2	masked	masked	masked	masked
2015	10	10	masked	masked	2	masked	masked	masked	masked
2016	10	10	masked	masked	2	masked	masked	masked	masked
% change 2006 to 2016	**-8.2%**	**masked**	**masked**	**-4.6%**	**masked**	**masked**	**masked**	**masked**	**masked**

Note. Masked due to California Public Utilities Commission's "15/15 rule".

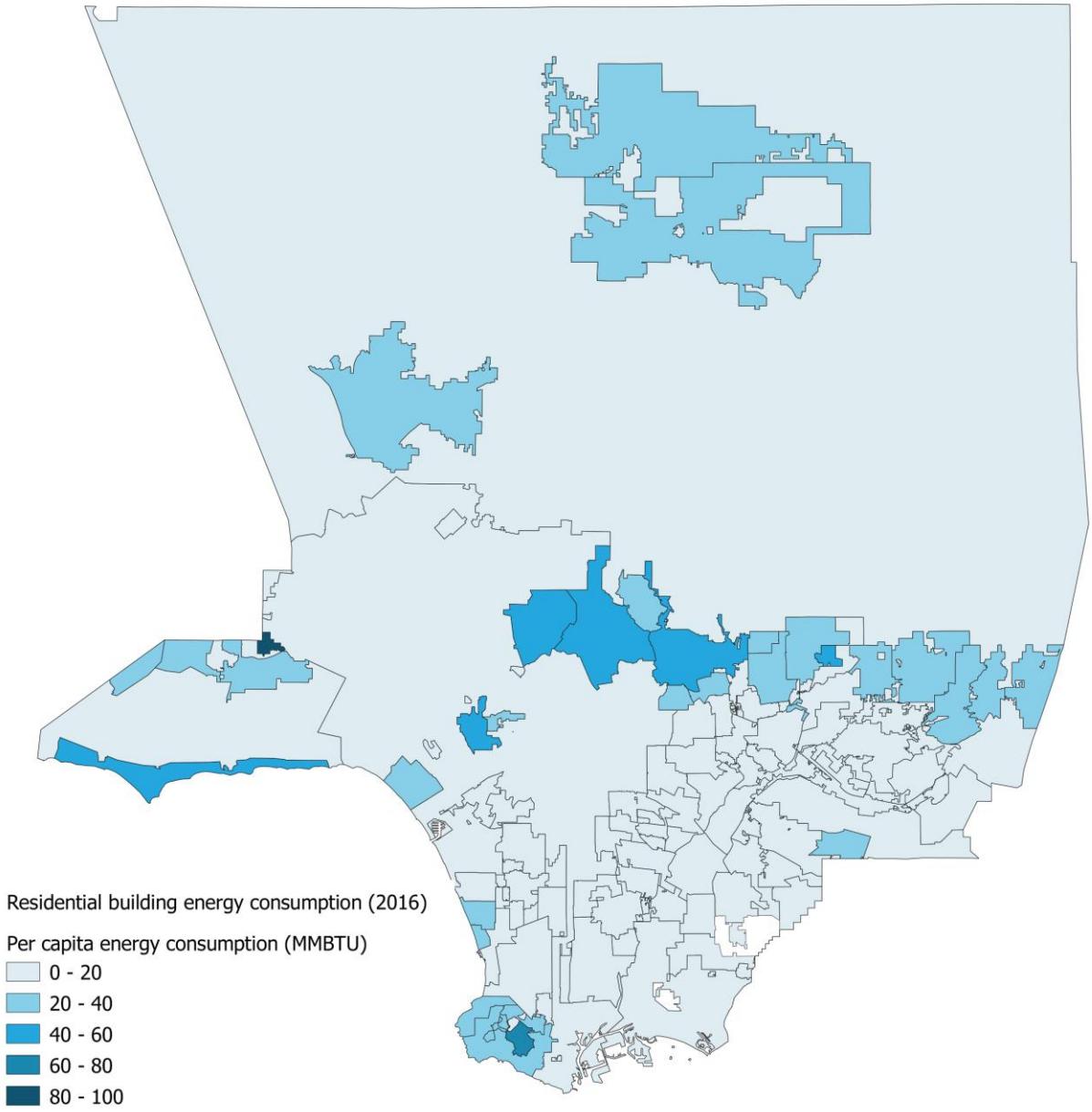


Figure 11. Per Capita Residential Building Energy Use by City / Unincorporated Area (2016)

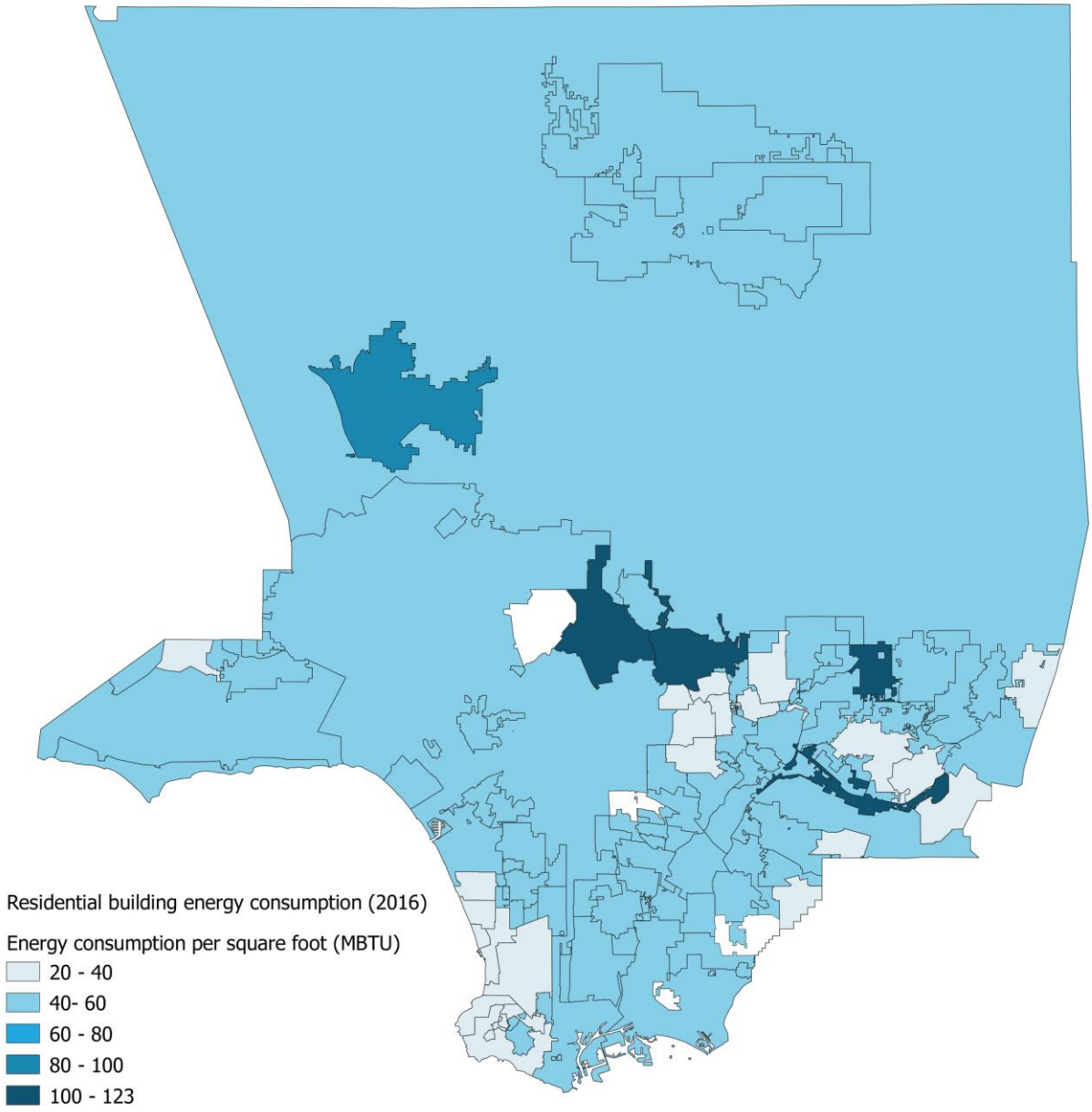


Figure 12. Residential Building Energy Use per Square Foot by City / Unincorporated Area (2016)

5. Building Energy Use for County-owned Buildings

Indicator Name:	Building Energy Use for County-owned Buildings
Data Source:	Account level data for each utility serving
Analysis File:	County_NaturalGas_2015.xlxs; County_Electricity_2017.xlxs
Metadata File:	20190301_Energy_Indicators.xlxs
Methods:	• Account level electricity (2017) and natural gas (2015) usage data obtained directly from LA County. • Raw data sorted by rate type to exclude streetlights, traffic signals, and water pumps. Electricity and natural gas usage data disaggregated by service city location.
Findings:	• In 2017, total county-owned building electricity consumption was approximately 656 GWh. • In 2015, total county-owned natural gas consumption was 56,865,289 therms.

Figure:

Table 4. Electricity Consumption for County-owned Buildings (2017)

City	Total Annual Electricity 2017 (MWh)
AGOURA HILLS	250
ALHAMBRA	9,183
ARCADIA	2,620
AVALON	343
AZUSA	2,012
BALDWIN PARK	2,847
BELL	584
BELL GARDENS	152
BELLFLOWER	1,199
BEVERLY HILLS	507
BURBANK	439
CALABASAS	964
CARSON	2,443
CERRITOS	1,294

CITY OF INDUSTRY	3,487
CLAREMONT	590
COMMERCE	10,980
COMPTON	7,964
COVINA	785
CUDAHY	1,033
CULVER CITY	751
DIAMOND BAR	164
DOWNEY	49,306
DUARTE	400
EL MONTE	6,265
EL SEGUNDO	92
GARDENA	497
GLENDALE	701
GLENDORA	2,001
HAWAIIAN GARDENS	28
HAWTHORNE	3,769
HERMOSA BEACH	150
HIDDEN HILLS	2
HUNTINGTON PARK	797
INGLEWOOD	2,661
IRWINDALE	385
LA CANADA FLINTRIDGE	1,214
LA HABRA HEIGHTS	-
LA MIRADA	639
LA PUENTE	1,679
LA VERNE	1,266
LAKEWOOD	2,071
LANCASTER	21,029
LAWNDALE	682
LOMITA	1,079
LONG BEACH	2,597
LOS ALAMITOS	-
LOS ANGELES	369,715
LYNWOOD	12,927
MALIBU	4,027
MANHATTAN BEACH	529

MAYWOOD	37
MONROVIA	113
MONTEBELLO	619
MONTEREY PARK	6,671
NORWALK	11,074
PALMDALE	4,336
PALOS VERDES ESTATES	244
PARAMOUNT	308
PASADENA	2,815
PICO RIVERA	1,406
POMONA	3,984
RANCHO PALOS VERDES	327
REDONDO BEACH	153
ROLLING HILLS	78
ROLLING HILLS ESTATES	46
ROSEMEAD	574
SAN DIMAS	4,261
SAN FERNANDO	1,323
SAN GABRIEL	288
SANTA CLARITA	1,850
SANTA FE SPRINGS	1,785
SANTA MONICA	646
SIERRA MADRE	-
SIGNAL HILL	773
SOUTH EL MONTE	495
SOUTH GATE	923
SOUTH PASADENA	53
TEMPLE CITY	1,265
TORRANCE	40,721
UNINCORPORATED LA COUNTY	20,102
WALNUT	969
WEST COVINA	2,514
WEST HOLLYWOOD	2,189
WESTLAKE VILLAGE	57
WHITTIER	6,246
Total	**656,344**

Table 5. Natural Gas Consumption for County-owned Buildings (2015)

City	Natural gas usage 2015 (therms)
AGOURA HILLS	13,321
ALHAMBRA	81,026
ARCADIA	80,013
AZUSA	3,312
BALDWIN PARK	60,997
BELL	3,208
BELL GARDENS	1,090
BELLFLOWER	27,997
BEVERLY HILLS	14,592
BURBANK	5,906
CALABASAS	44,020
CARSON	47,552
CERRITOS	14,119
CLAREMONT	6,971
COMMERCE	64,059
COMPTON	80,024
COVINA	2,691
CUDAHY	11,255
CULVER CITY	11,050
DIAMOND BAR	1,257
DOWNEY	1,690,924
DUARTE	4,475
EL MONTE	96,055
EL SEGUNDO	2,626
GARDENA	46,903
GLENDALE	9,399
GLENDORA	15,795
HAWAIIAN GARDENS	356
HAWTHORNE	96,910
HERMOSA BEACH	1,929
HUNTINGTON PARK	3,861
INDUSTRY	9,073
INGLEWOOD	57,590
IRWINDALE	1,541

LA CAÑADA FLINTRIDGE	11,467
LA HABRA HEIGHTS	2,209
LA MIRADA	4,530
LA PUENTE	12,430
LA VERNE	36,441
LAKEWOOD	33,878
LANCASTER	698,143
LAWNDALE	3,010
LOMITA	18,571
LONG BEACH	795
LOS ANGELES	28,539,223
LYNWOOD	1,631
MALIBU	7,350
MANHATTAN BEACH	5,151
MONROVIA	7,686
MONTEBELLO	5,738
MONTEREY PARK	79,176
NORWALK	127,107
PALMDALE	88,416
PARAMOUNT	2,987
PASADENA	33,492
PICO RIVERA	10,438
POMONA	55,188
RANCHO PALOS VERDES	979
REDONDO BEACH	728
ROLLING HILLS	655
ROLLING HILLS ESTATES	6,173
ROSEMEAD	3,979
SAN DIMAS	33,003
SAN FERNANDO	3,671,878
SAN GABRIEL	1,346
SANTA CLARITA	157,115
SANTA MONICA	34,862
SOUTH EL MONTE	4,970
SOUTH GATE	16,514
TEMPLE CITY	24,374
TORRANCE	796,514

UNINCORPORATED LA COUNTY	19,608,081
WALNUT	11,736
WEST COVINA	48,486
WEST HOLLYWOOD	1,968
WESTLAKE VILLAGE	1,120
WHITTIER	43,854
Total	**56,865,289**

Table 6. Fuel Use for LA County Operations (2012 - 2017)

Fuels (gallons)	2012	2013	2014	2015	2016	2017
Stationary-Propane	205,587	164,603	118,763	77,092	56,818	58,354
Mobile-Aviation Fuel	3,556	22,164	13,648	1,276	314,144	-
Mobile-Diesel	2,691,418	2,600,398	2,746,273	3,691,483	3,271,011	3,303,058
Mobile-Jet Fuel	911,569	930,790	311,657	685,889	566,941	861,874
Mobile-Motor Gas	9,420,212	9,140,599	9,276,400	9,214,799	9,016,355	9,144,965
Mobile-Voyager-CNG	50,267	80,266	114,309	149,625	163,706	172,197
Mobile-Marine Fuel	2,290	1,906	38,552	-	2,866	40,290
E-85 104	30	112	60	223	45	121
Methanol	191	13	-	22	-	-
Total	**13,285,120**	**12,940,851**	**12,619,662**	**13,820,409**	**13,391,887**	**13,580,860**

6. Number of EV charging stations and registered PEVs by city

Indicator Name:	Number of EV charging stations and registered PEVs by city
Data Source:	EV charging stations https://www.afdc.energy.gov/data_download/; PEV registration obtained from NREL via SCAG
Analysis File:	ev_stations_LACo.xlsx; 190319_PEV_regs_CITY.xlsx
Metadata File:	20190301_Energy_Indicators.xlsx
Methods:	• EV Charging Stations: Clipped CA EV charging station data to LA County using zip codes. Refined address data to refer only to the 88 cities and unincorporated areas. • PEV and HEV Registrations (provided by NREL/SCAG already aggregated for privacy by city): Refined address data to refer only to the 88 cities and unincorporated areas. Calculated PEV registrations at the city level and county-wide for 2014-2017. Excluded 2018 data as it is incomplete.
Findings:	• EV Charging Stations: As of December 2018, there were 1,013 EV charging stations operating across LA County, which equates to approximately 1 charging station per 10,000 residents. Multiple chargers at one station is counted as one station. • County-wide PEV and HEV registrations increased from 251,925 in 2014 to 375,586 in 2017, about a 50% increase. • Hybrid electric vehicles are the most prevalent, although the share of hybrid electric vehicles has decreased from 86% in 2014 to 76% in 2017.

Figure:

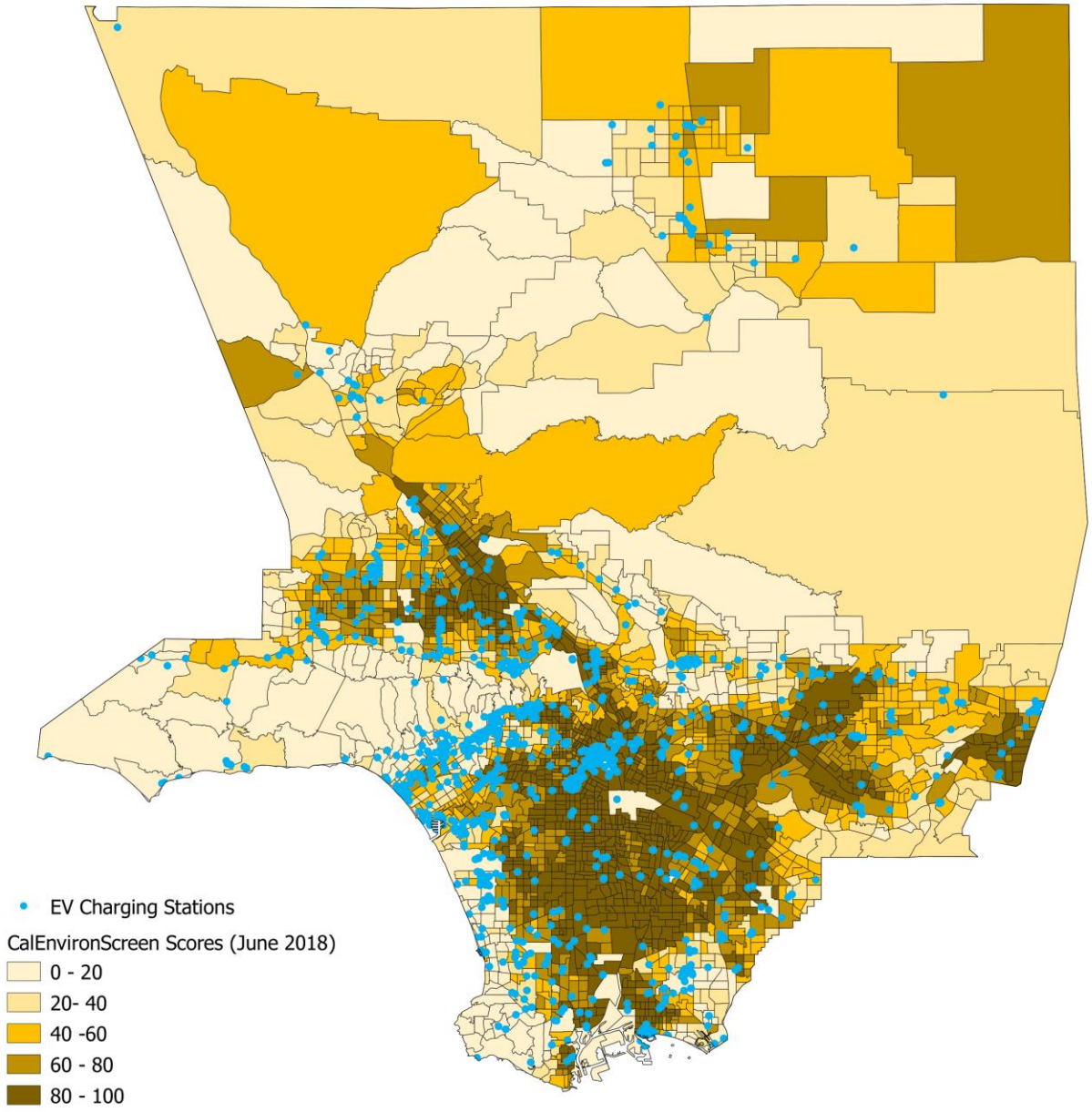


Figure 13. EV Charging Stations (as of December 2018) & CalEnviroScreen Scores (June 2018)

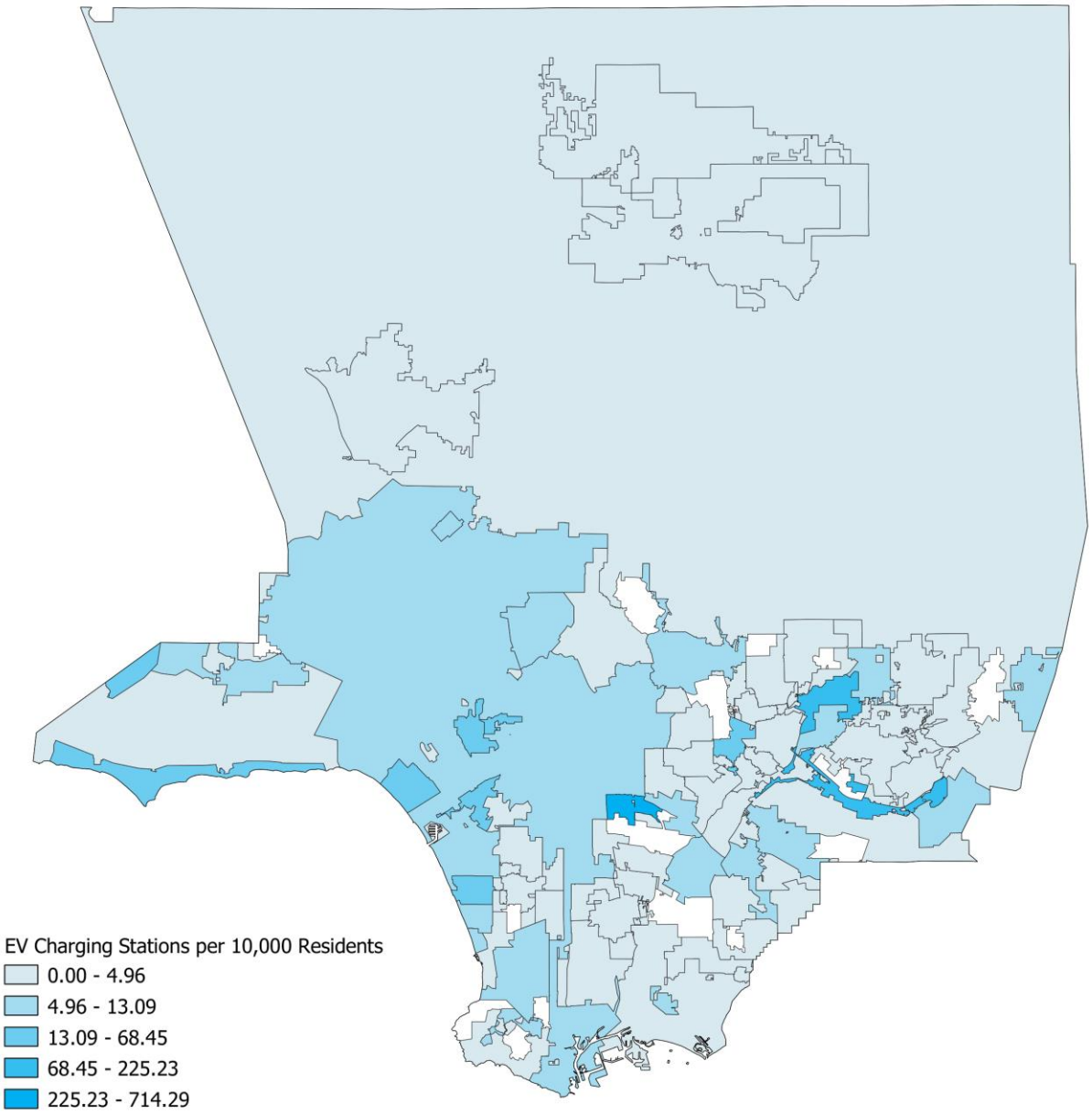


Figure 14. EV Charging Stations (as of December 2018) Per 10,000 Residents

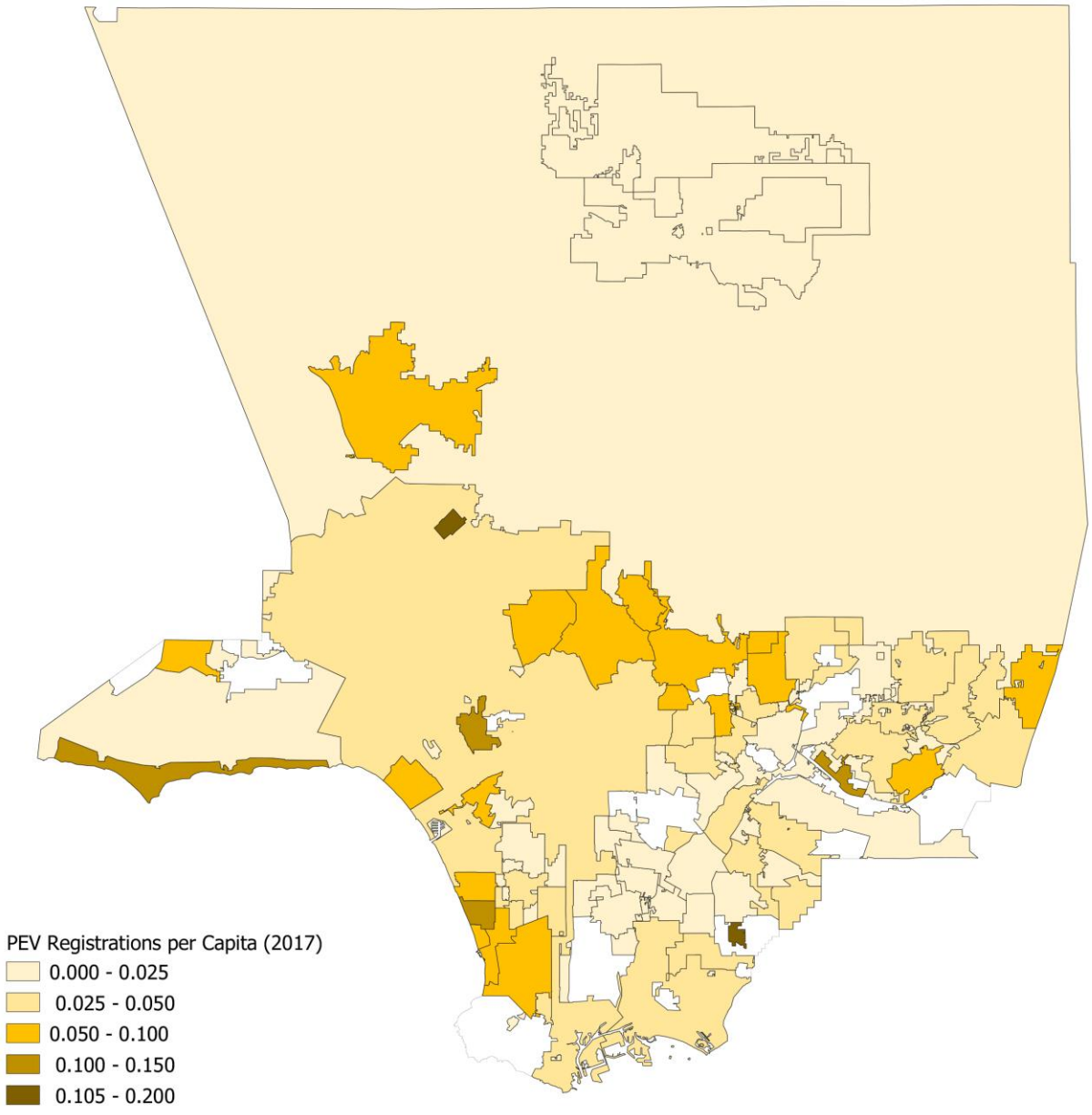


Figure 15. PEV Registrations per Capita (2017)

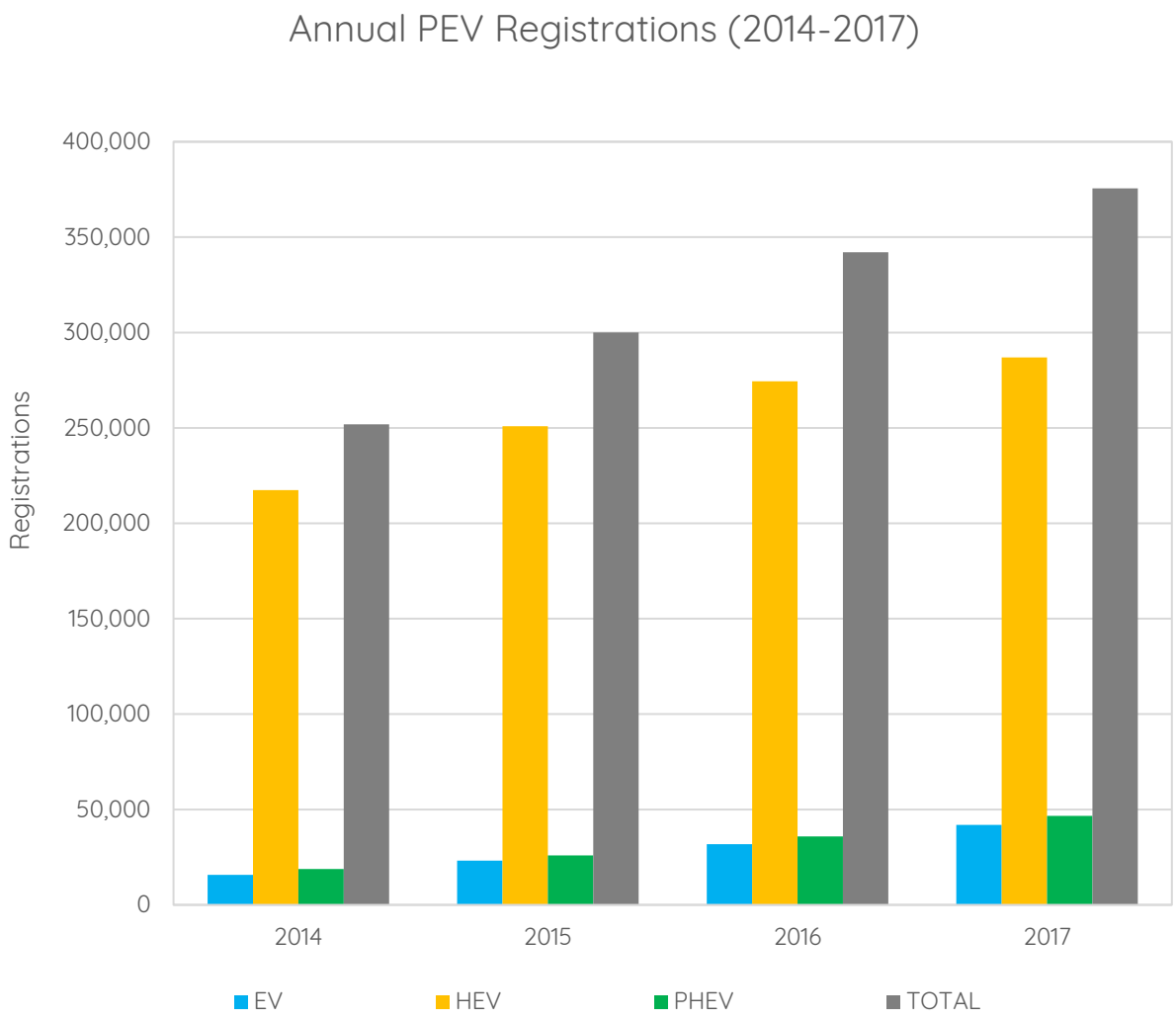


Figure 16. LA County EV, HEV and PHEV Registrations (2014-2017)

OurCounty

Economy and Workforce

1. County Business Assistance to LSBEs, DVBEs, and SEs

Indicator Name:	County Business Assistance to LSBEs, DVBEs, and SEs
Data Source:	Los Angeles County Economic Development Scorecards, June 2018 and November 2017 http://economicdevelopment.lacounty.gov/scorecards/
Analysis File:	20190312_Business Assistance_Analysis.xlsx
Metadata File:	20190217_EconomyWorkforce_Indicators.xlsx
Methods:	• This data was taken from the Los Angeles County Economic Development Scorecards published by the LA County Chief Executive Office. The CEO did not provide underlying data; any missing data in this analysis was because it was not published or accessible through the Scorecard. The next Scorecard should be published by April 2019, and unreleased data was not provided for this analysis. • The Economic Scorecard reports on Los Angeles County programs that prioritize granting county business contracts to Local Small Business Enterprises (LSBEs), Disabled Veteran Business Enterprises (DVBEs), and Social Enterprises (SEs). These are defined and discussed on page 23-27 of the April 2018 Scorecard. • In 2016, the Board of Supervisors set goals of awarding twenty-five percent (25%) of the total value (referred to as utilization rate) of all contracts for goods and services to LSBEs and three percent (3%) to DVBEs by 2020. There is currently no goal for SEs.
Findings:	• There have not been enough Scorecards published to illustrate trends or evaluate progress towards County goals. • The table below includes all of the data that has been published; there are not utilization rates for all categories. The empty cells indicate missing data. Utilization rates for LSBEs have increase each year from FY 14 to FY 16 – from 2.39% to 6.54%; for DVBEs from 0.02% in FY 14 to 0.40% in FY 16; and only reported in FY 16 for SEs at 1.94%. • The Figure below is utilization rate over time for LSBEs, since that is the only category in which there is data for all 3 FYs, and shows an increase in utilization rate in each year.

	• The table shows utilization rate for all three business types for FY16-17.

Figure:

Table 7. LA County Business Assistance to LSBEs, DVBEs, and SEs (FY 14-15 to FY 16-17)

County Business Assistance to LSBEs, DVBEs, and SEs (FY 14-15 to FY 16-17)									
	FY 14-15			FY 15-16			FY 16-17		
	Number of Awards	Award Amount	Utilization Rate	Number of Awards	Award Amount	Utilization Rate	Number of Awards	Award Amount	Utilization Rate
Local Small Business Enterprises			2.39%	99,026	$181,059,214	4.52%	123,371	$245,793,325	6.54%
Disabled Veteran Business Enterprises			0.02%				1,601	$16,061,807	0.40%
Social Enterprises							1,029	$77,963,666	1.94%

Source: County of Los Angeles Economic Development Scorecards (June 2018, November 2017)

Note: Empty cells were not reported by the CEO. There were a total of 1,589,523 County business contracts in FY 15-16 and 1,745,234 contracts in FY 16-17

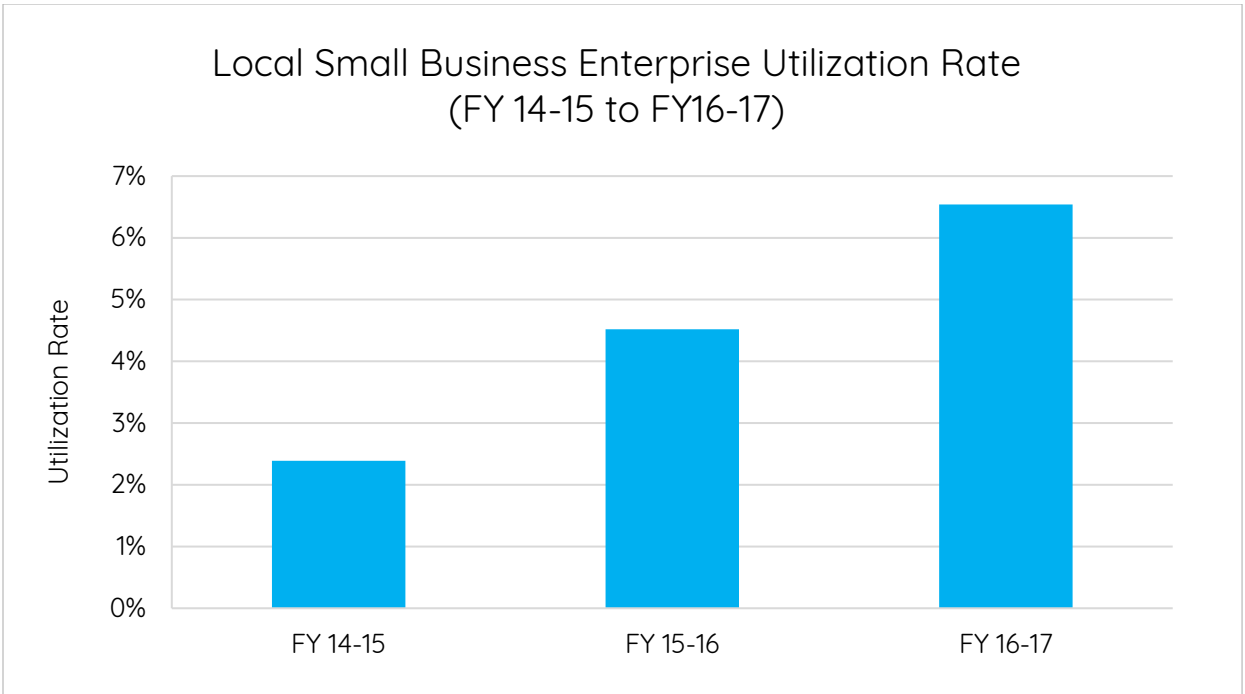


Figure 17. Local Small Business Enterprise Utilization Rate (FY 14-15 to FY16-17)

Table 8. Total LA County Business Assistance to LSBEs, DVBEs, and SEs (FY 16-17)

County Business Assistance to LSBEs, DVBEs, and SEs (FY 16-17)			
	Number of Awards	**Award Amount**	**Utilization Rate**
Local Small Business Enterprises	123,371	$245,793,325	6.54%
Disabled Veteran Business Enterprises	1,601	$16,061,807	0.40%
Social Enterprises	1,029	$77,963,666	1.94%

Source: County of Los Angeles Economic Development Scorecards (June 2018, November 2017)

2. Income Inequality

Indicator Name:	Income Inequality
Data Source:	The US Census American Community Survey – Table B19083 https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
Analysis File:	20190225_Income Inequality_Analysis.xlxs
Metadata File:	20190217_EconomyWorkforce_Indicators.xlsx
Methods:	• The Gini Index is used as a measure of income inequality for years 2006-2017. The Gini Index is a ratio between 0 and 1. An index of 0 represents perfect income equality, while an index of 1 represents perfect inequality. The greater the number of the index, the greater income inequality exists. • The American Community Survey reports the Gini Index in Table B19083. We used data from the 5yr community survey for 2010-2017, 3yr community survey for 2007-2008, and the 1yr community survey for 2006. There was no data for the year 2005. Data for the following geographies was used: LA County, City of Los Angeles, California, U.S., San Diego County, and San Francisco County. • This data was used to graph the Gini Index over time for LA County from 2005-2017. We then compared LA County to City of Los Angeles, California, U.S., San Diego County, and San Francisco County from 2005-2017 in tabular and graphical format. Percent change for each geography from 2005-2017 was calculated and presented this in tabular form.
Findings:	• The Gini Index for LA County, and thus income inequality, increased by 3.9% from 2006 to 2017, from 0.484 to 0.5029. • From 2006 – 2017, LA County had a Gini Index that was consistently greater than that of the United States, the state of California, and San Diego County. During the same period, LA County consistently had a lower Gini Index than City of Los Angeles and San Francisco County. • The Gini Index for all of the selected geographies increased over this period, with a slight decrease only in 2010. • Caveat: a decrease in inequality could indicate that lower income residents have been pushed out.

Figure:

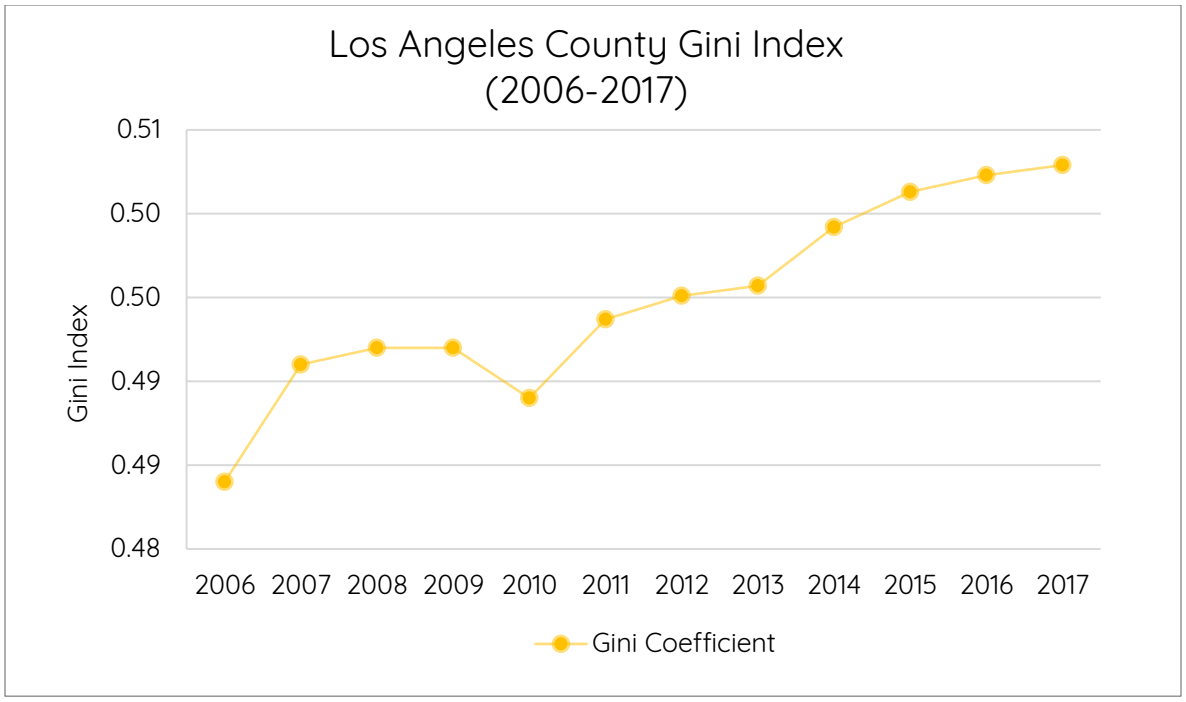


Figure 18. LA County Gini Index (2006-2017)

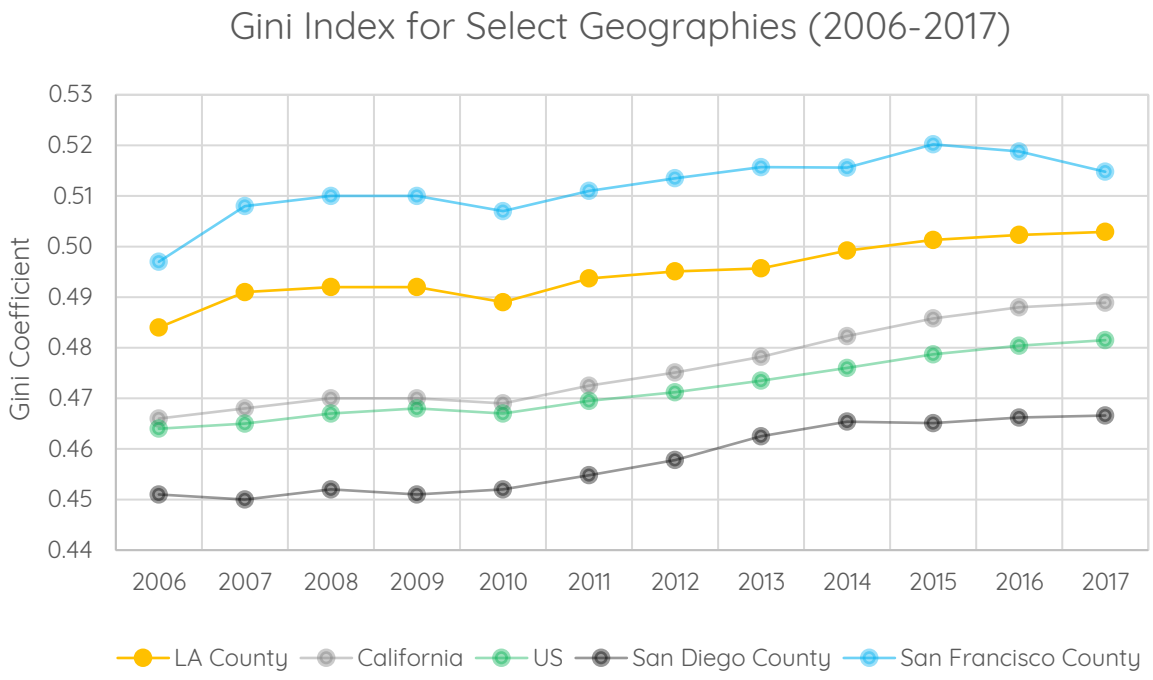


Figure 19. Gini Index for Select Geographies (2006-2017)

Table 9. Gini Index for Select Geographies (2006-2017)

Gini Index for Select Geographies (2006-2017)						
Year	Los Angeles County	California	US	San Diego County	San Francisco County	City of Los Angeles
2006	0.4840	0.4660	0.4640	0.4510	0.4970	0.5140
2007	0.4910	0.4680	0.4650	0.4500	0.5080	0.5240
2008	0.4920	0.4700	0.4670	0.4520	0.5100	0.5280
2009	0.4920	0.4700	0.4680	0.4510	0.5100	0.5260
2010	0.4890	0.4690	0.4670	0.4520	0.5070	0.5220
2011	0.4937	0.4725	0.4695	0.4548	0.5110	0.5267
2012	0.4951	0.4751	0.4712	0.4578	0.5135	0.5268
2013	0.4957	0.4782	0.4735	0.4625	0.5157	0.5257
2014	0.4992	0.4823	0.4760	0.4654	0.5156	0.5304
2015	0.5013	0.4858	0.4787	0.4651	0.5202	0.5313
2016	0.5023	0.4880	0.4804	0.4662	0.5188	0.5322
2017	0.5029	0.4889	0.4815	0.4666	0.5148	0.5318
Percent Change 2006-2017	3.90%	4.91%	3.77%	3.46%	3.58%	3.46%

3. Income, Poverty, and Living Wage

Indicator Name:	Income, Poverty, and Living Wage
Data Source:	Variable Name: Income in the Past 12 Months (Table S1901), American Community Survey 5yr 2017. https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml Variable Name: Median Income (Table B19013), American Community Survey 5yr 2017. https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml Variable Name: Poverty Status in the Past 12 Months (Table S1701), American Community Survey (ACS) 5 year (2012-2017). https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml Los Angeles County Living Wage. MIT Living Wage Calculator, http://livingwage.mit.edu/counties/06037
Analysis File:	20190304_Income Poverty Living Wage_Analysis.xlsx; Income.mxd (GIS file)
Metadata File:	20190217_EconomyWorkforce_Indicators.xlsx
Methods:	• **Poverty Level**: o Used percent of population living below Federal Poverty level data from the U.S. Census 5 year American Community Survey - Table S1701 for years 2012 to 2017 at the county-level. The percent of population living below the federal poverty level in LA County was presented in a table and a chart for each year (2012-2017) by race and ethnicity. o Mapped the percent of the population under the federal poverty level by census tract in LA County using data from Table S1701 (2017) and joined this data with a shapefile of LA County census tracts based on the census tract "ID" field. **Note**: There is no official California poverty line. California specific income-levels are used to determine eligibility for Obamacare, or to

	be considered low income for housing, both of which use percentage of Area Median Income (AMI). • **Income and Living Wage:** o MIT calculates the "living wage" for selected geographies in the current year (http://livingwage.mit.edu/), presented as hourly pay rate for different household makeups. o Historical data is unavailable through their website. MIT defines living wage as the minimum income to achieve financial independence and not be reliant on public assistance o The Living Wage calculator presents these figures for different household makeups (for example, two working parents with two children, one adult, or a family of three with one working parent). • Calculated the ***Percent of Households in LA County Living below the Living Wage*** using the MIT Living Wage data an income distribution data from the U.S. Census American Community Survey 5yr 2017 - Table S1901 through the following steps: o Converted MIT hourly living wage to annual income to match census income data, assuming a full time job. o Used average household size in LA County (countywide) as reported by the census in 2017 (3.1 people) o Defined an income range for a 3-person household using the MIT Living Wage range for different 3-person household scenarios in LA County ($58,052-$75,004). o Calculated percent of households making less than a living wage using American Community Survey household income brackets (specifically, the $50,000 to $70,000 bracket). • ***Census Tracts with Median Income above and below Living Wage*** o Mapped using median income data from the U.S. Census American Community Survey 5yr 2017 - Table B19013. Joined the census data with a shapefile of LA County census tracts based on the census tract "ID" field. o Based on the living wage figures above for an average 3-person household, median income was mapped using symbology based on natural breaks with the midpoint at $68,265 to approximate the living wage. o On the map, median income is <u>below</u> the living wage in

	tracts colored red and orange, and above the living wage in tracts colored green. **Note**: Census data does not allow you to directly calculate the percentage of households below the living wage. For data other than the poverty rate, household income is presented as either the median income for a given geography, or the distribution of households within one of ten income brackets. Also, the census only presents an aggregate figure at a given geography, so the analysis was unable to match a household with a specific makeup to its income. Thus, median income is the best census data to use to calculate the percent of households making a living wage, but a number of assumptions must be made, as described above (e.g. household size and income range). • The data team did not use the CA Family Needs Calculator, since it does not provide as many household options as the MIT Living Wage data and it assumes both parents work. The CA Family Needs Calculator is not updated annually the (MIT Living Wage data is updated annually).
Findings:	• In 2017, 17% of the county population was below the federal poverty level. African Americans, Native Americans and Alaskan, and Hispanics of any race had poverty levels greater than the county average. All White, White non-Hispanics, Asians, and Pacific Islanders had a lower rate of poverty than the overall county. • Poverty rates were greatest in the South Central and Northwest areas of the county. • Between 41-58% percent of households in LA County made less than a living wage in 2017. • Census tracts with median incomes below the living wage were concentrated in the South Central and Northwest areas of the county. ***Note:*** Countywide poverty is calculated using ACS Table S10701 to determine poverty by race and ethnicity. Other measures of the poverty rate presented in other census tables may have different figures due to sample size, or bias in who responds to specific questions.

Figure:

Table 10. Percent of Population below Federal Poverty Level by Race and Ethnicity (2012-2017).
Note: the Data is the Percent of Each Racial/Ethnic Group that is below the Federal Poverty Line and does not Represent 100% of the Population.

Percent of Population Below Federal Poverty Level by Race and Ethnicity (2012-2017)						
	2012	2013	2014	2015	2016	2017
White	14.9%	15.6%	16.2%	16.2%	15.9%	15.3%
Black or African American	22.1%	22.9%	24.3%	24.1%	23.9%	22.8%
American Indian and Alaska Native	21.2%	23.6%	23.1%	22.2%	22.3%	21.0%
Asian	11.9%	12.2%	12.6%	12.6%	12.3%	12.2%
Pacific Islander	14.8%	13.7%	14.6%	15.8%	14.6%	12.8%
Some other race	25.1%	26.0%	26.4%	25.9%	24.8%	22.7%
Two or more races	14.0%	14.9%	15.3%	15.1%	14.3%	13.1%
Hispanic or Latino origin (of any race)	22.4%	23.2%	23.7%	23.4%	22.6%	21.2%
White, not Hispanic or Latino	9.5%	10.1%	10.5%	10.6%	10.6%	10.4%
County Total	17.1%	17.8%	18.4%	18.2%	17.8%	17.0%

Source: Table S1701 ACS 5 year (2012-2017)

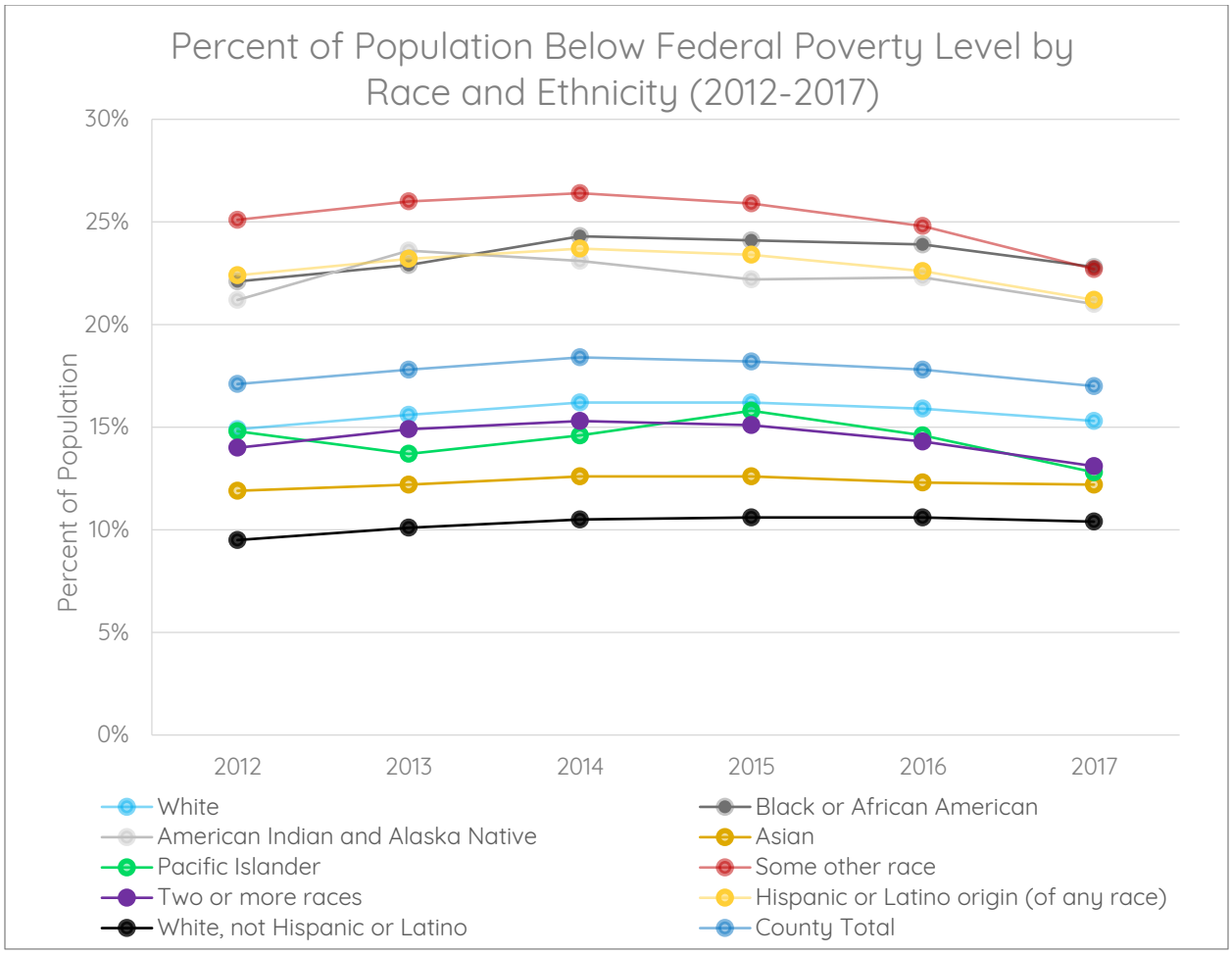


Figure 20. Percent of Population below Federal Poverty Level by Race and Ethnicity (2012-2017)

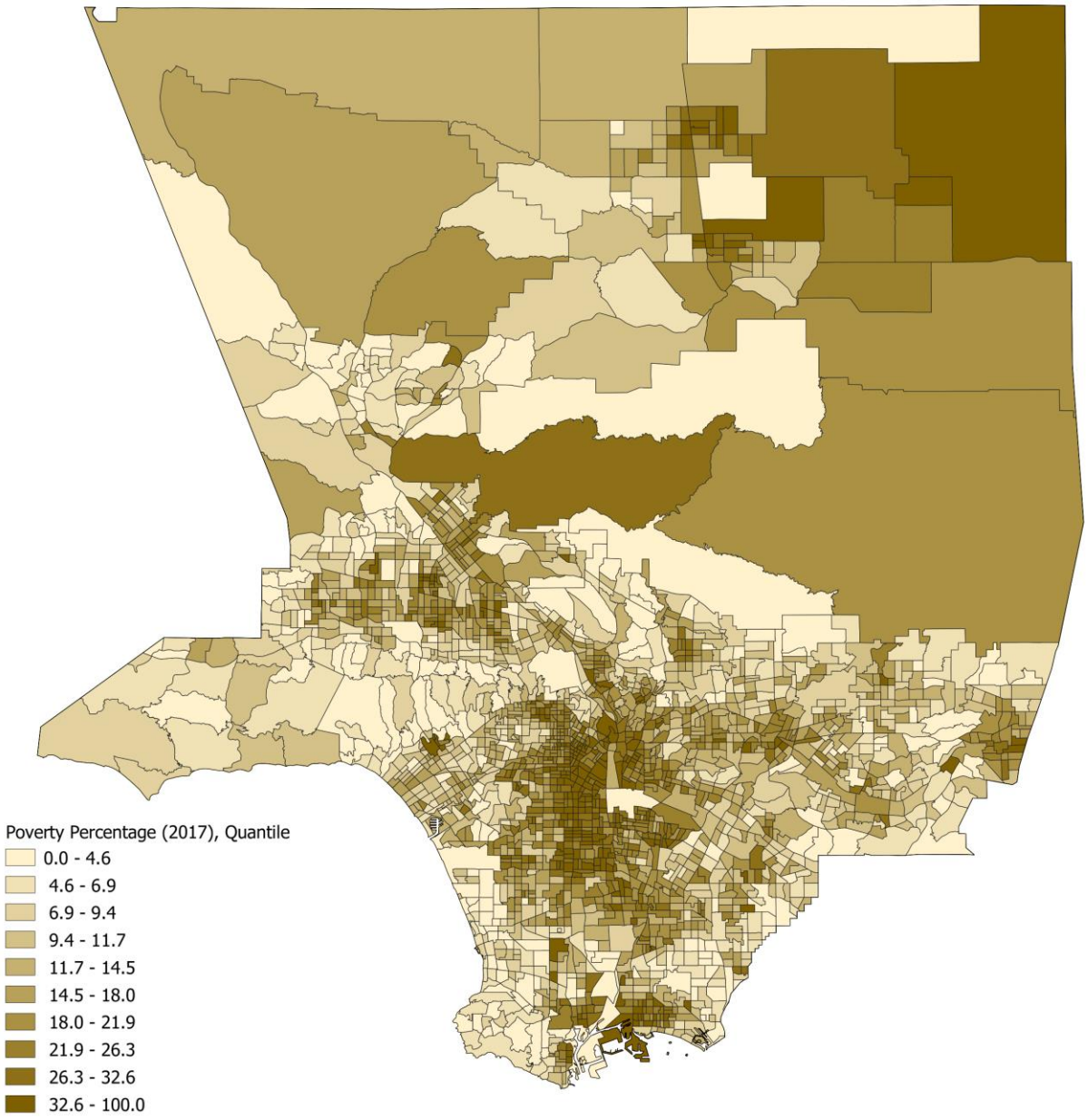


Figure 21. Percent of Population below Federal Poverty Level by Census Tract (2017)

Table 11. MIT Living Wage for LA County (2018)

MIT Living Wage for LA County (2018)												
Household Composition	1 Adult	1 Adult 1 Child	1 Adult 2 Children	1 Adult 3 Children	2 Adults (1 Working)	2 Adults (1 Working) 1 Child	2 Adults (1 Working) 2 Children	2 Adults (1 Working) 3 Children	2 Adults	2 Adults 1 Child	2 Adults 2 Children	2 Adults 3 Children
Living Wage (hourly)	$14.36	$30.27	$36.06	$46.45	$22.49	$27.91	$30.72	$35.83	$11.25	$16.41	$19.51	$23.75

Table 12. Income Distribution and the Percentage of Households Making Less than Living Wage (2017)

Income Distribution and Percent of Households* Living below the Living Wage (2017)	
Household Income Bracket**	**Percent of Households in Income Bracket**
Less than $10,000	6.10%
$10,000 to $14,999	5.40%
$15,000 to $24,999	9.70%
$25,000 to $34,999	8.90%
$35,000 to $49,999	12.00%
$50,000 to $74,999	16.40%
$75,000 to $99,999	11.80%
$100,000 to $149,999	14.50%
$150,000 to $199,999	6.80%
$200,000 or more	8.40%
Median Household Income	$61,051
Mean Household income	$59,855
Percent Households Living below Living Wage***	**42.1 - 58.5%**

Source: ACS 5 year Table S1901 (2017)
** Assumes a 3-person household*
*** Household Income Bracket depends on*
**** Assumes a 2080 hour working year; 42.1% corresponds with a 2 adult (1 working)/1 child household and 58.5% corresponds with a 1 adult/2 children household*

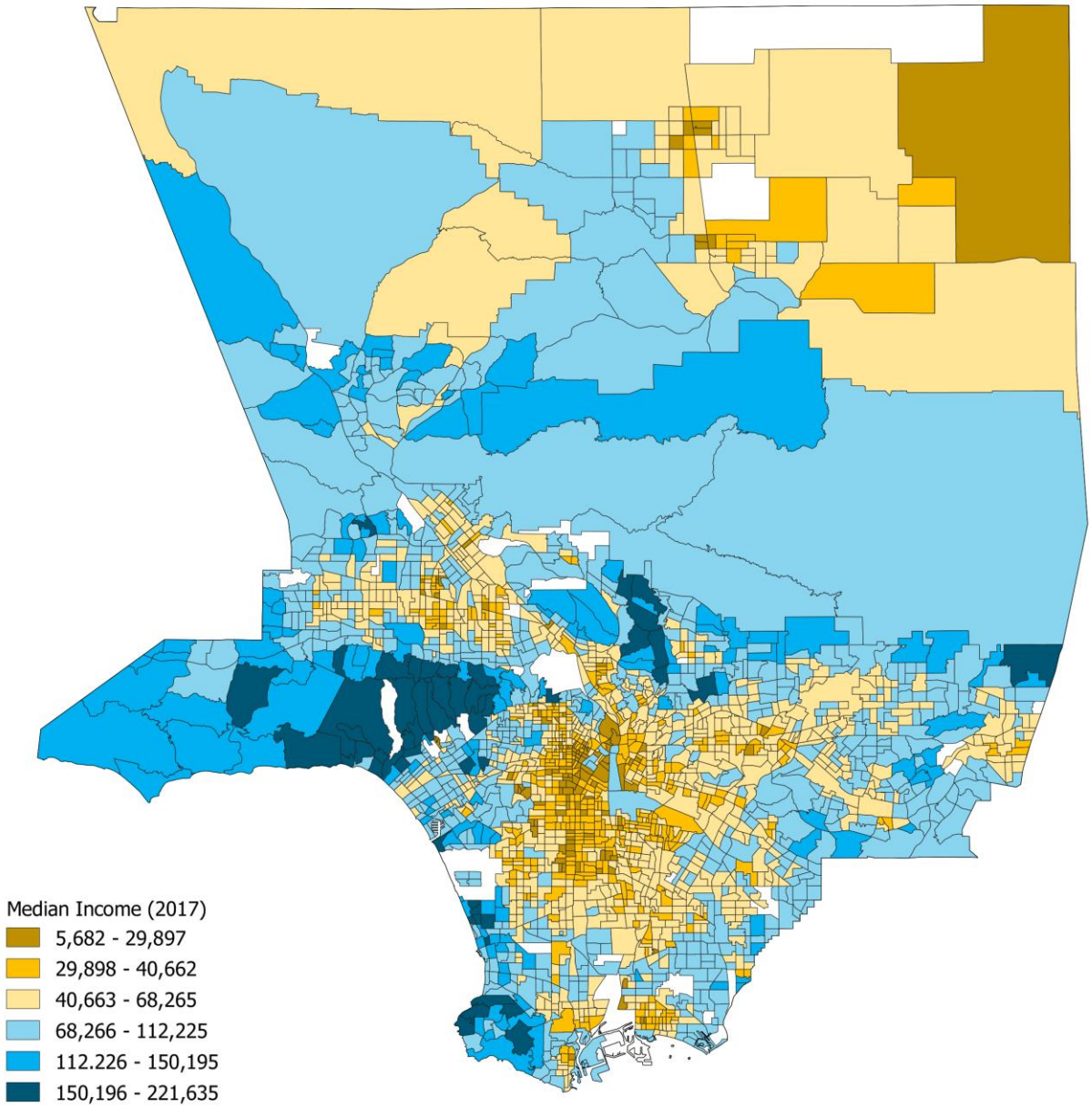


Figure 22. Median Income by Census Tract: above and below living wage (2017)
Note: Blue Tracts have a Median Income Above Living Wage and Brown/Yellow Tracts have a Median Income Below Living Wage (Assuming a 3-Person Household and 2-Adults/1-Child Household for a 2,080-Hour Work Year). White Tracts Represent Missing Data.

OurCounty

4. Workforce Development

4a. Participation and Placements in County Workforce Development and Job Training

Indicator Name:	Workforce Development
Sub-Indicator Name:	Participation and Placements in County Workforce Development and Job Training
Data Source:	FY17-18 to April 30, 2018: County Economic Development Scorecard June 2018 http://economicdevelopment.lacounty.gov/wp-content/uploads/2019/03/June-2018-Economic-Development-Scorecard-.pdf FY16-17: County CEO Request - 20190225_Worker Placements_Data.xls
Analysis File:	20190314_Worker Development_Analysis.xls
Metadata File:	20190217_EconomyWorkforce_Indicators.xlsx
Methods:	• The CEO tracks worker placement programs sponsored by other County departments and publishes a summary in the Economic Development Scorecards. This table combines underlying data obtained from the CEO for FY16-17 and data presented in the June 2018 Scorecard for FY17-18 to April 30, 2018. Because two complete FYs were not included, an analysis of any increase in participation or completion from one year to the next is not possible. • Data was aggregated and included programs that were listed in both FYs, and programs listed in one year only. The programs were organized by sponsoring department.
Findings:	• Programs are not comparable. Programs have different goals (e.g. training or placements) and provide different services to participants. Data was only provided on partial year FY17-18 and cannot compare a given program annually. • The CEO noted that they get data directly from each department and this list is not exhaustive. The catalog of programs should grow as they continue the Scorecards.

OurCounty

Figure:

Table 13. Participation and Placements in County Workforce Development and Job Training Programs (FY16-17 – April 30, 2018)

Participation and Placements in County Workforce Development and Job Trainings FY16-17 and FY18-19 to April 30, 2018								
ADMINISTERING DEPARTMENT	PROGRAM NAME	SERVICE PROVIDED	TARGET POPULATION	SUCCESS INDICATORS	PARTICIPANTS (FY 2016-2017)	SUCCESSFUL COMPLETIONS (FY 2016-2017)	PARTICIPANTS (FY 2017-2018 to April 30,2018)	SUCCESSFUL COMPLETIONS (FY 2017-2018 to April 30,2018)
Arts Commission	Los Angeles County Arts	Internships	Youth	Internship	132	130	179	Not yet available
Community Development Commission (CDC)	Family Self Sufficiency Program (FSS)	Supportive Services	Government Assistance	Employment	616	42	587	53
Department of Children and Family Services (DCFS)	Bridge to Work Program	Employment Placements	Foster Youth	Employment/ Return to School	80	46	116	Not yet available
	Youth Worker (YW)	Internships	Youth/Foster Youth	Internship Completion	20	Not Yet Available	18	Not yet available
Department of Health Services (DHS)	College of Nursing and Allied Health Pre-Licensure Registered Nurse	Training	Future Nurses	Employment	90	69	106	90
	Office of Nursing Affairs Tutoring & Mentoring Program	Training	Future Nurses	Employment	606	61	724	204
Department of Human Resources (DHR)	Career Development Intern Program (CDI)	Internships	Youth/Foster Youth	Employment	54	31	72	24
	Veterans Internship Program (VIP)	Internships	Veterans	Employment	347	119	284	66
	Student Worker Program	Career Exposure/ Employment Placement	Students	Completion of Program/ permanent employment			291	21
Department of Military and Veterans Affairs (MVA)	LA Trade Tech Partnership	Supportive Services	Veterans	Completed Training	0		12	12
	Veterans Work Study Program	Training	Veterans	Employment	2	2	2	2
	Vocational Rehab Training	Training	Veterans	Completed Training	130	130	218	218
	US Veterans Initiative (US Vets)	Job Referral for Career Development Initiatives	Veterans	Job Referral			652	592

ADMINISTERING DEPARTMENT	PROGRAM NAME	SERVICE PROVIDED	TARGET POPULATION	SUCCESS INDICATORS	PARTICIPANTS (FY 2016-2017)	SUCCESSFUL COMPLETIONS (FY 2016-2017)	PARTICIPANTS (FY 2017-2018 to April 30,2018)	SUCCESSFUL COMPLETIONS (FY 2017-2018 to April 30,2018)
Department of Public Social Services (DPSS)	General Relief Opportunities for Work (GROW)	Employment Preparations Services	Adults 18 or older	Employment	26,359 (monthly average)	1,211 (monthly average)	33,289 (monthly average)	1,235 (monthly average)
	Refugee Employment Program (REP)**	Job Readiness Training/ Employment Placements	Refugees 18 or older	Employment	2,231	831	2,355	1,000
	Greater Avenues for Independence (GAIN) Job Club	Job Readiness Training	Adults 18 or older	Training Completion or Employment	5,452	3,925	5,846	3,163
	Colleges and Vocational Training	Education/ Training	Adults 18 or older	Completed program and received certificate or degree	3,613	707	3,035	724
	Greater Avenues for Independence (GAIN) Short-Term Vocational Training (Project with Los Angeles County Office of Education)	Training	Adults 18 or older	Program Completion/ Unsubsidized Employment	359	254	333	92
	Greater Avenues for Independence (GAIN) Transitional Subsidized Employment (TSE)	Job Readiness Training	Adults 18 or older	Program Completion/ Unsubsidized Employment	3,465	875	1,824	96
	Temporary Services Registry Program (TempLA)	Training/ Employment Placements	Local Residents from Low Income Communities and/or Constituents Facing Barriers to Emplyment	Permanent Employment			110	16
Probation Department	Juvenile Justice Crime Prevention Act (JJCPA) - Educational Pathways	Supportive Services	Involvement with Justice	Supportive Service Completion	215	40	237	23
	Juvenile Justice Crime Prevention Act (JJCPA) - Employment Services	Employment Placements	Involvement with Criminal Justice System/Youth	Employment	516	18	352	54
	Probation AB 109 – Employment Services Program	Supportive Services	Involvement with Criminal Justice System	Supportive Service Completion	380	219	1,062	139
	Probation Adult Felony Re-entry Employment Services - Career Pathways	Supportive Services	Involvement with Criminal Justice System	Supportive Service Completion	15	15	90	34
	SB678 Probation Re-entry Adult Population - Employment Services	Employment Placements	Involvement with Criminal Justice System	Employment	48	Not Yet Available	118	75
	Homeboy Industries	Employment Contract	Adults Involvement with Criminal Justice System	Supportive Services			51	32
				Employment			73	73

ADMINISTERING DEPARTMENT	PROGRAM NAME	SERVICE PROVIDED	TARGET POPULATION	SUCCESS INDICATORS	PARTICIPANTS (FY 2016-2017)	SUCCESSFUL COMPLETIONS (FY 2016-2017)	PARTICIPANTS (FY 2017-2018 to April 30,2018)	SUCCESSFUL COMPLETIONS (FY 2017-2018 to April 30,2018)
Workforce Development, Aging and Community Services (WDACS)	Workforce Innovation and Opportunity Act (WIOA)–Basic Career Services (Total)	Employment Placements	Adults 18 or older	Employment Services	130,683	61,561	80,314	
	• Self Service				83,326		42,201	
	• Staff Assisted				47,357		38,113	
	WIOA Adult and Dislocated Worker Program–Individualized Career Services (Total)	Training/ Employment Placements	Adults 18 or older	Training/ Employment Services	10,623*	5,013*	10,129	3,896
	• Adult Program				7,491	3,446	7,272	2,869
	• Dislocated Worker				3,199	1,605	2,854	1,040
	Youth @ Work (Total)	Training/ Employment Placements/Supportive Services	Youth	Employment or School Enrollment or Job Training Program Completion	16,611	10,244	11,245	7,870
	• WIOA Youth				6,474	2,758	3,661	1,641
	• LACYJ Program				10,137	7,486	7,584	6,229
	Title V - Senior Community Services Employment Program (SCSEP)	Training/ Employment Placements Supportive Services	Low Income Individuals age 55 and over	Employment or Job Training Program Completion	166	166	119	20
	INVEST	Training/ Employment Placements Supportive Services	Adults 18 or older	Training/ Employment Services			38	0

Note: Empty cells are missing data.

**This number represents an unduplicated total of participants in the WIOA Adult and Dislocated Worker Program. Some individuals participated in both the Adult Program and the Dislocated Worker Program, thus the numbers for each subcategory do not sum to the unduplicated total or participants and successful completions for the Program.*

*** In FY17-18 this program is listed as being administered by the Department of Human Resources*

OurCounty

4b. Local and Targeted Worker Participation Goals and Hires

Indicator Name:	Workforce Development
Sub-Indicator Name:	Local and Targeted Worker Participation Goals and Hires
Data Source:	Local and Targeted Worker Participation Goals and Hires as presented in the LA County Economic Development Scorecard, June 2018, Pg. 17-21. (No underlying data from CEO). http://economicdevelopment.lacounty.gov/wp-content/uploads/2019/03/June-2018-Economic-Development-Scorecard-.pdf
Analysis File:	N/A (do not have underlying data)
Metadata File:	20190217_EconomyWorkforce_Indicators.xlsx
Methods:	• This indicator and presentation was directly taken from the April 2018 Economic Development Scorecard (as a snapshot graphic). No underlying data was provided by the CEO. • The County's Local and Targeted Worker Hire Policy imposes a 30% Local Hire goal and a 10% Targeted Worker hire goal on most major construction projects approved by the Board. • In adopting this policy, the Board set forth the definition of a targeted worker as a resident of the County who has indices of career- limiting circumstances, specifically one or more of the following: 1. has a documented annual income at or below 100 percent of the Federal Poverty Level; 2. no high school diploma or GED; 3. a history of involvement with the criminal justice system; 4. protracted unemployment; 5. is a current recipient of government cash or food assistance benefits; 6. is homeless or has been homeless within the last year; 7. is a custodial single parent; 8. is a former foster youth;

	9. is a veteran, or is the eligible spouse of a veteran of the United States armed forces.
Findings:	• As of 5/31/2018, LA County has 22 active Department of Public Works projects hiring local and targeted workers. 18 out of the 22 projects met or exceeded their local and targeted worker hiring goals. The average active mandatory hire project has exceeded goals by 14.2%. 16 out of the 18 completed projects met or exceeded their local and targeted worker hiring goals. Note: the Scorecard does not define "Best Efforts Hiring Goal." It also presents completed projects, but gives no timeline for when they occurred.

Figure:

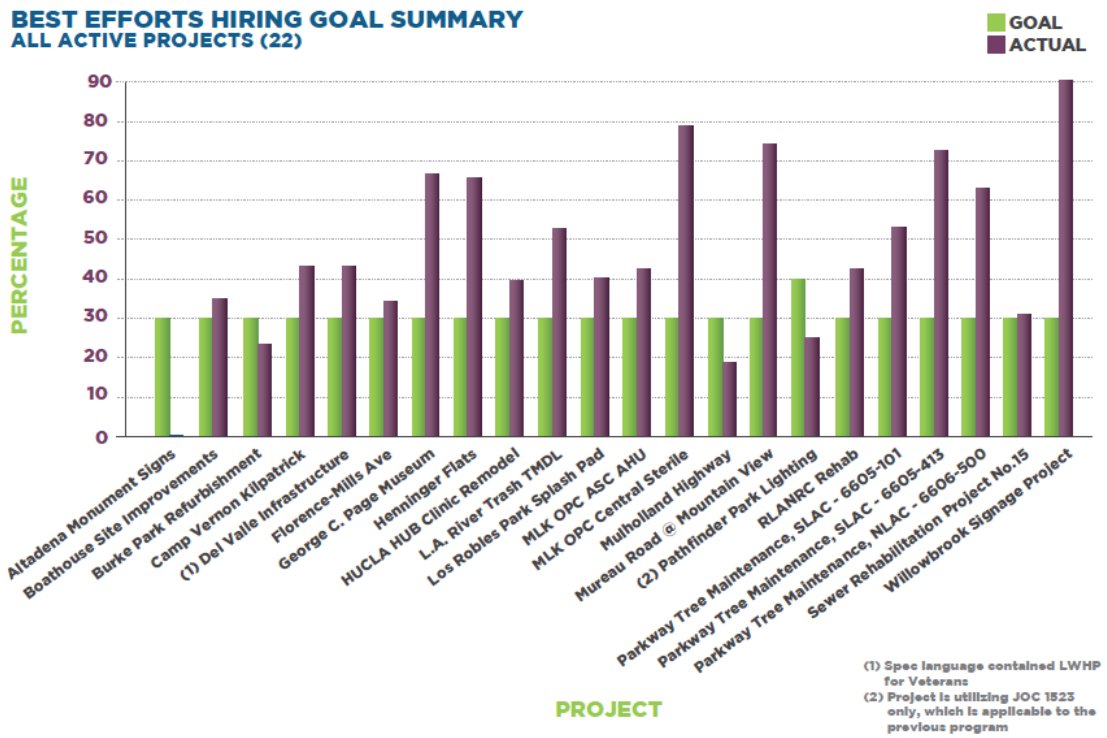


Figure 23. Department of Public Works Local and Targeted Workers Hiring on Active Projects. Image taken from April 2018 Economic Development Scorecard, Page 18. Underlying data was not provided.

OurCounty

Landscapes and Ecosystems

1. Access to Parks and Open Space

Indicator Name:	Access to Parks and Open Space
Data Source:	LA County Parks Needs Assessment Report: WalkableArea_HalfMileWalkFromPark, WeightedOverlay_PopulationPerAcre
Analysis File:	20190313_AccessParksOpenSpace_Analysis.xlsx
Metadata File:	20190226_Landscapes&Ecosystems_Indicators.xlsx
Methods:	• Data was taken from the Los Angeles Countywide Parks & Recreation Needs Assessment initiated in 2015 and completed in 2016. • Publicly accessible data on the size and location of all existing parks, recreational facilities, open space and natural areas was collected through collaboration between the Departments of Parks and Recreation with 86 cities to complete a countywide inventory of existing parks. A total of 3,023 parks were inventoried countywide. • The four types of parks and open spaces used for the inventory were defined as follows: 1. parks (under 100 acres and contain active amenities), 2. regional recreational parks (over 100 acres and contain active amenities), 3. regional open space (over 5 acres and contain minimal amenities), and 4. natural areas (over 100 acres and no amenities) • Local parks, recreational parks and regional open spaces (not natural areas) were then used to conduct a walkability analysis (detailed methods available) using LA County population data. • The two data layers used included population locations (it excludes all areas where people are not living such as natural areas, industrial areas, etc.) and a layer that shows areas in LA County that are within half a mile of a park. These data layers were overlaid to show the areas that are beyond half a mile.

Findings:	• **29.7%** of the County is comprised of parks, recreational facilities, open space and natural areas • Only **49%** of the population lives within a **½ mile walk** of a park, recreational facility or regional open space (natural areas not included in this analysis). • This represents great inequity within the region with respect to access to parks and the many benefits that they provide. • In addition, the County currently has not completed the necessary analyses to conduct an access assessment to the natural areas. This data is critical in assessing the distribution of ecosystem services that these areas provide. Although access to these places are more restricted due to their limited occurrence near urban areas, access by public transport could be a critical component to increasing engagement and enjoyment of these spaces for all residents.

Figure:

Table 14. Park Types in LA County

Park Types in LA County (2016)	Count	Acreage	% Acreage in County
Local Parks	1,602	15,723	0.50%
Regional Recreation Parks	17	18,248	0.60%
Regional Open Spaces	329	98,977	3.20%
Natural Areas	1,075	768,699	25.30%
Total	3,023	901,647	29.70%

Table 15. Park Access in LA County (2016)

Park Access in LA County
Percent of county population within 1/2 mile of park*
49%

*Natural areas were not included in the Walkability (Access) Analysis

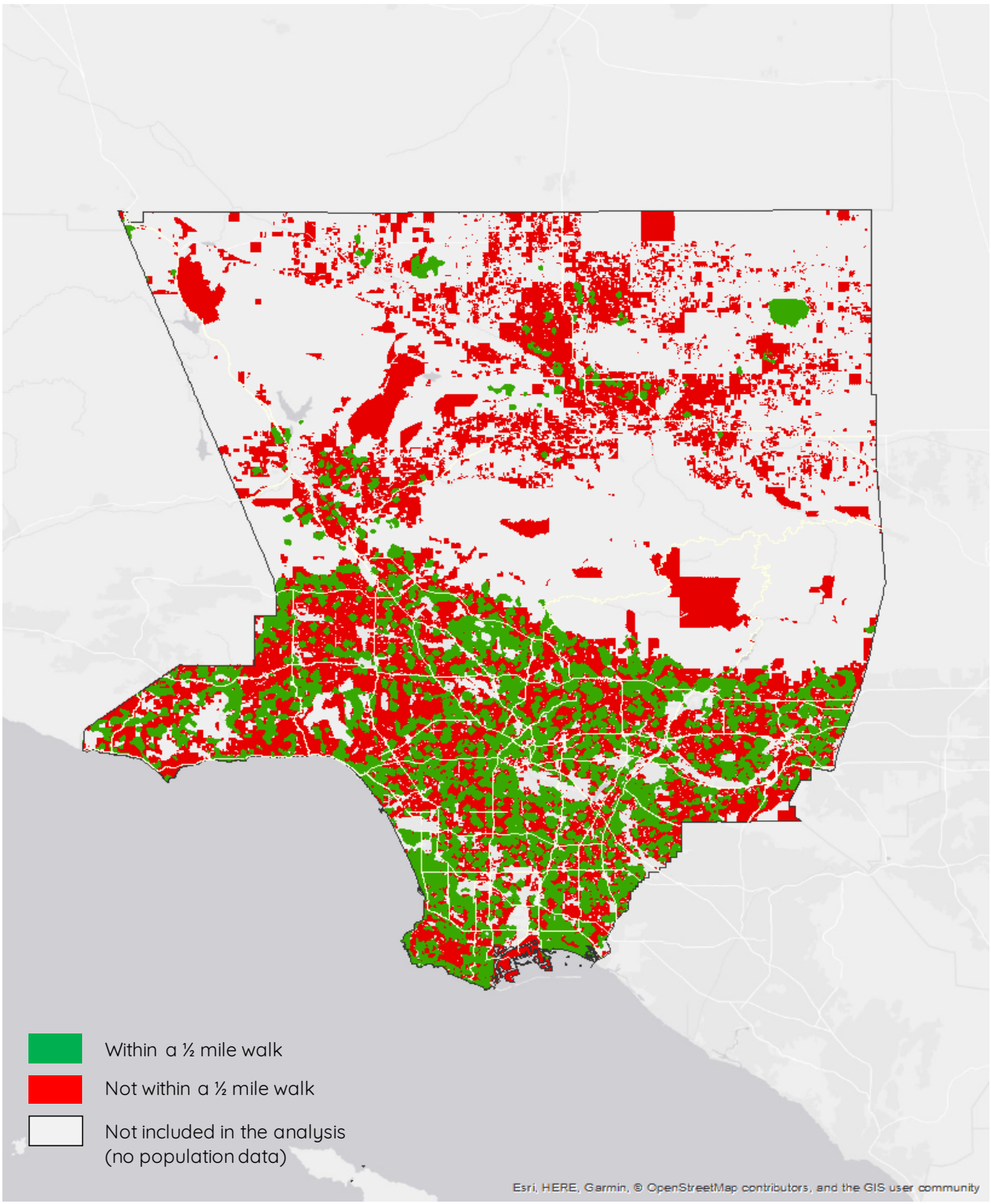


Figure 24. People Living Greater Than a Half Mile Walk from a Park or Open Space (2016)

OurCounty

2. Biodiversity

Indicator Name:	Biodiversity
Data Source:	iNaturalist; USFWS; eBird; Consortium of California Herbaria
Analysis File:	20190304_Biodiversity_Analysis.xlsx
Metadata File:	20190226_Landscapes&Ecosystems_Indicators.xlsx

Methods:	• Species count column — 2018 data exported from iNaturalist for each taxa group using the following specifications:
	  ○ Quality = Research
	  ○ Reviewed = Any
	  ○ Identifications = Most Agree
	  ○ Captive/Cultivated = No
	  ○ Place = Los Angeles County
	• Species were identified that currently occur in LA County and are listed as endangered, threatened based on the Endangered Species Act. The list for all species came from searching the United States Fish and Wildlife Service (USFWS) 5-year plans by county (Los Angeles), which directs you to a table of the currently listed species.
	• Current statuses were confirmed using online databases of species records, including eBird and iNaturalist for vertebrates, the Consortium of California Herbaria for plants, and UCLA experts.

Findings:	• iNaturalist has recorded 4,256 distinct different species, with plants and insects being the most diverse taxa groups recorded. • We can expect iNaturalist data to continue to increase in the number of species reported due to the lack of coverage in some areas and the cryptic nature of some species. Thus, the total number of species should continue to increase, but a more detailed analysis of what species are being recorded and where is an important next step in understanding countywide biodiversity. • The UCLA Biodiversity Expert Council has identified through the use of USFWS listings, iNaturalist and eBird recordings as well as records from the Consortium of California Herbaria 38 endangered species within the County. There were also another 12 species listed as threatened. (50 total endangered or threatened species in total) • This data must be monitored to determine whether a decrease of species listed in the County is due to de-listing (positive change) or because the species has been extirpated from the region (negative change).

Figure:

Table 16. Species Count for LA County (2018)

Species Count for LA County								
Taxa Group	Species Total	Endangered			Threatened		Candidate	Locally Extinct
		State	Federal	Both State & Federal	State	Federal		
Birds	**462**	1	1	3	0	2	0	5
Mammals	**72**	0	8	0	0	1	1	2
Amphibians	**16**	0	2	0	0	1	0	0
Reptiles	**68**	0	1	0	0	2	0	2
Insects	**1,372**	0	2	0	0	0	0	1
Arachnids	**127**	0	0	0	0	0	0	0
Mollusks	**355**	0	2	0	0	0	0	0
Fish	**123**	0	3	1	0	0	0	0
Plants	**1,661**	2	2	10	0	6	0	6
Totals	**4,256**	**3**	**21**	**14**	**0**	**12**	**1**	**16**

Note: Species total refers to the total number of species listed on iNaturalist and thus is not a comprehensive list, but merely a representation on what community scientists have recorded in the county to date. Candidate refers to plants and animals that have been studied and the U.S. Fish and Wildlife Service has concluded that they should be proposed for addition to the Federal endangered and threatened species list. Extirpated refers to species that have disappeared from the region within the last 5 years.

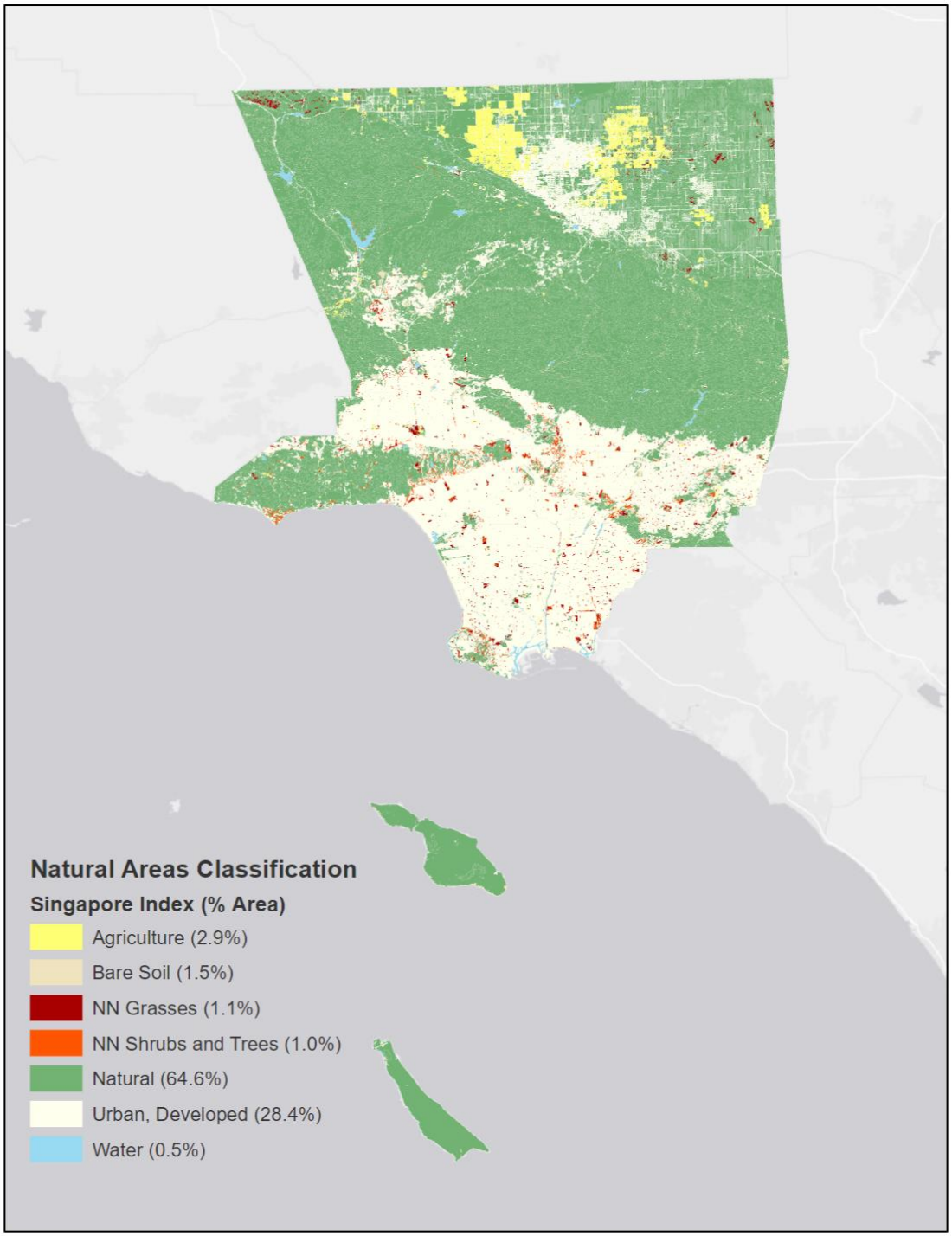
OurCounty

3. Open Space

Indicator Name:	Open Space
Data Source:	CalVeg, National Gap Analysis Project, California Protected Areas Database, Los Angeles County Significant Ecological Areas
Analysis File:	20190325_OpenSpace_Analysis_LandCover.xlsx; 20190308_OpenSpace_Analysis_ProtectedAreas.xlsx
Metadata File:	20190226_Landscapes&Ecosystems_Indicators.xlsx
Methods:	Natural Areas • Download CalVeg vegetation alliances for Region 5 South Coast, Region 5 South Interior, Region 5 South Sierra and Region 5 Central Valley and clip to the county boundary. • CalVeg only covers 69% of LA County and therefore the National Gap Analysis Project data must be combined to cover the remaining 31% of the county. • Use 20190325_VegetationTypes_Classifications to categorize both the CalVeg and GAP data to the 8 classification types and then calculate the percentage land cover for each type • Spatial Data NOT available as this analysis was conducted by Dr. Tom Gillespie's lab and has not been published Protected Areas • CPAD and SEA data was downloaded directly and classes were already identified within each data set. • The missing linkages comparison required dissolving the missing linkages data layer and the CPAD 2018 data layer, calculating the geometry in acres for both data sets, performing a union to combine the layers and the calculating the total area overlapped to determine percentages of linkage areas that are currently protected.
Findings:	• **64.6%** of the County is classified as natural, demonstrating the immense amount of habitat and biodiversity found in our region. This does not include degraded natural areas, nor non-native grasses and shrubs that threaten our native ecosystems and species. • **34.9%** of LA County is protected under federal, state, county, city, special district, nonprofit or private entity representing a vast gap

	between the amount of natural area the county has versus the amount it protects. • With respect to critical habitat linkages identified in the Southern Coast Wildlands Missing Linkages report in 2008, as of 2018 only **57.4%** of those zones are protected at any level.

Figure:



Data Sources: Existing vegetation - CALVEG, [ESRI personal geodatabase]. (2004). McClellan, CA: USDA-Forest Service, Pacific Southwest Region. [Accessed 2019].
U.S. Geological Survey Gap Analysis Project, 20160513, GAP/LANDFIRE National Terrestrial Ecosystems 2011: U.S. Geological Survey. [Accessed 2019].
Cartography by Porter Margolis, 2019

Figure 25. Land Cover Classifications from Vegetation Alliances of LA County (2008-2009)

Table 17. California Protected Areas in LA County (2014-2018); Protected Areas by Agency in LA County (2018); Significant Ecological Areas by Type in LA County (2014 and 2018); and Protected Areas in Critical Linkage Zones (2014-2018)

California Protected Areas in LA County - Change in Acreage from 2014-2018		
California Protected Areas	**Acres**	**% of area in LA County**
2014 Total Area in LA County	886,197	34.1%
2018 Total Area in LA County	905,903	34.9%
Total Maintained Acres	880,902	99.4%
Total Acres Lost	5,295	0.6%
Total Acres Gained	25,001	2.8%
Net Acreage Increase	**19,706**	**2.2%**

California Protected Areas by Agency (2018)		
Agency Level	**Acres**	**% of area in LA County**
Federal	688,988	26.5%
State	57,418	2.2%
County	14,061	0.5%
City	58,352	2.2%
Special District	42,063	1.6%
Nonprofit	45,014	1.7%
Private	185	0.01%
Joint	1	0.00%
Total Protected Land	**906,082**	**34.9%**

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Significant Ecological Areas by Type (2014 and 2018)		
Significant Ecological Areas	**Acres**	**% of area in LA County**
2014 Total Area in LA County	**281,017**	**10.82%**
2018 Total Area in LA County	**624,427**	**24.04%**
Coastal Resources Area	98,272	3.78%
Coastal Resources Area (Incorporated City)	13,074	0.50%
Coastal Resources Area (Ocean)	20,412	0.79%
Conceptual SEA	3,802	0.15%
Significant Ecological Area	407,925	15.71%
Significant Ecological Area (incorporated City)	80,943	3.12%

California Protected Areas in Critical Linkage Zones (2014 and 2018)		
Missing Linkages 2014	**Acres**	**% in protected areas**
Total Acres in LA County	**136,697**	
San Gabriel - Castaic linkage area in LA Co	65,464	75.6%
San Gabriel - San Bernardino linkage area in LA Co	2,754	11.5%
Santa Monica - Sierra Madre linkage area in LA Co	3,306	78.9%
Sierra Madre - Castaic linkage area in LA Co	22	2.5%
Tehachapi linkage area in LA Co	0	0.0%
Total Acres in Protected Areas	**71,546**	**52.3%**
Missing Linkages 2018	**Acres**	**% in protected areas**
Total Acres in LA County	**136,697**	
San Gabriel - Castaic linkage area in LA Co	65,595	75.8%
San Gabriel - San Bernardino linkage area in LA Co	5,415	22.6%
Santa Monica - Sierra Madre linkage area in LA Co	3,307	78.9%
Sierra Madre - Castaic linkage area in LA Co	23	2.6%
Tehachapi linkage area in LA Co	0	0.0%
Total Acres in Protected Areas	**74,340**	**54.4%**

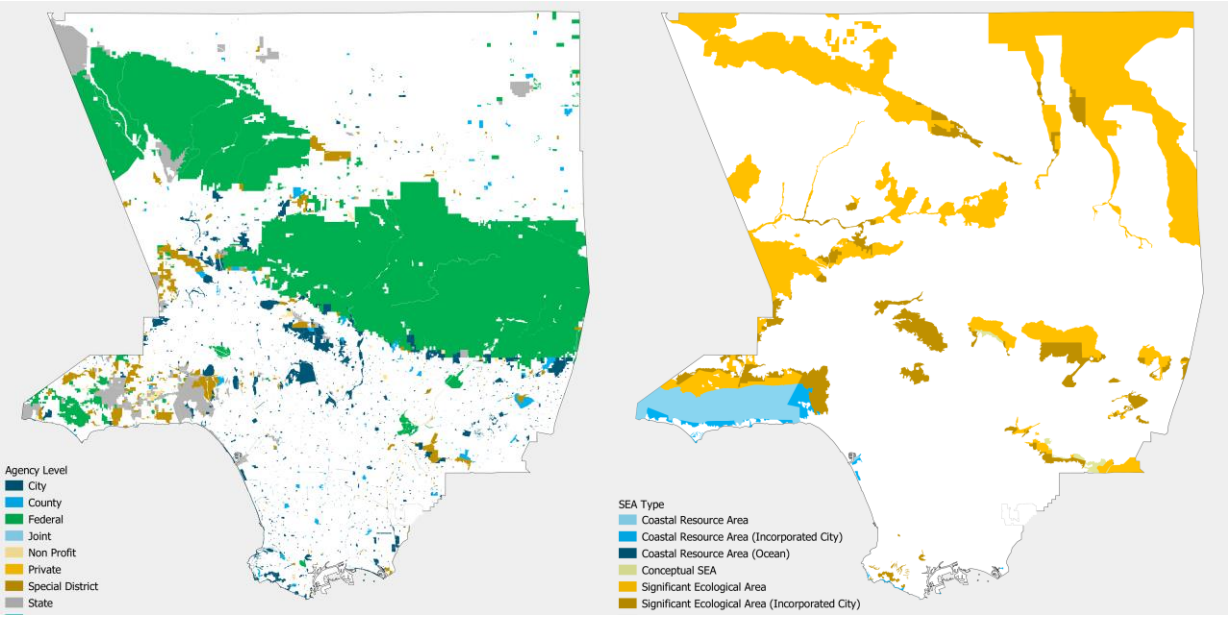


Figure 26 California Protected Areas by Agency (left) and Significant Ecological Areas by Type (right) (2018)

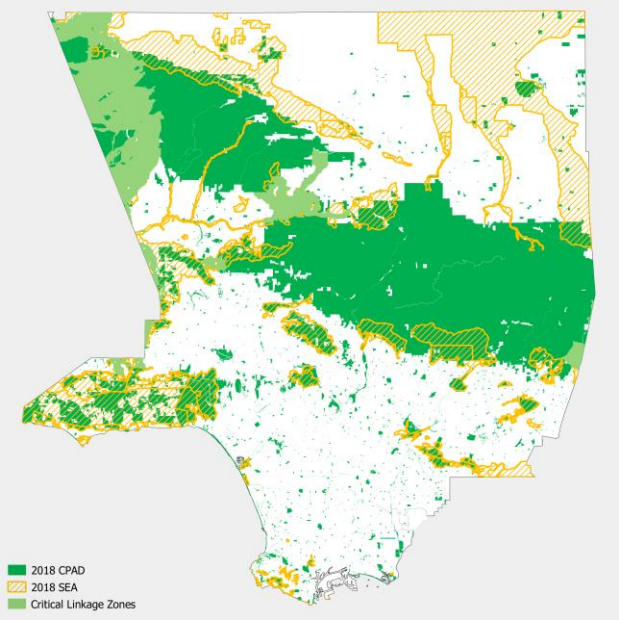


Figure 27. Protected Areas in Critical Linkage Zones (2018)

4. Wetlands

Indicator Name:	Wetlands
Data Source:	CRAM, EcoAtlas, National Wetlands Inventory
Analysis File:	20190314_Wetlands_Analysis.xlsx
Metadata File:	20190226_Landscapes&Ecosystems_Indicators.xlsx
Methods:	• Wetland habitat (data was downloaded from the National Wetlands Inventory after sorting for data from California as a shapefile and then was clipped to LA County. To show higher spatial resolution for a select number of critical wetlands in the County, spatial imagery was used to zoom in and then the wetlands inventory habitat type layer was overlaid and each habitat type was given a distinct color. • California Rapid Assessment Method (CRAM; an assessment method for monitoring the condition of wetlands) spatial data was sorted from the EcoAtlas and was then downloaded to ArcGIS where it was clipped to LA County and a color gradient depicting the CRAM scores was created for each point. • CRAM data was sorted to only include sites within LA County. These sites were then sorted by watershed and by land use and presented as a percentage of sites per score.
Findings:	• Wetland habitat is dispersed throughout the county, however all of our most critical wetland habitats have been degraded significantly by development. • In LA County, o 26.3% of sites sampled received a score of 1 (most intact), o 22.4 % received a score of 2 (slightly degraded), o 11.8% received a score of 3 (significantly degraded), and o 39.5% received a score of 4 (most disturbed) • Out of the four watersheds present in LA County, the Los Angeles Watershed had the highest percentage of most disturbed sites (49.2%) • Out of the 3 land use types categorized, Urban had the highest percentage of most disturbed sites (89.6%)

Figure:

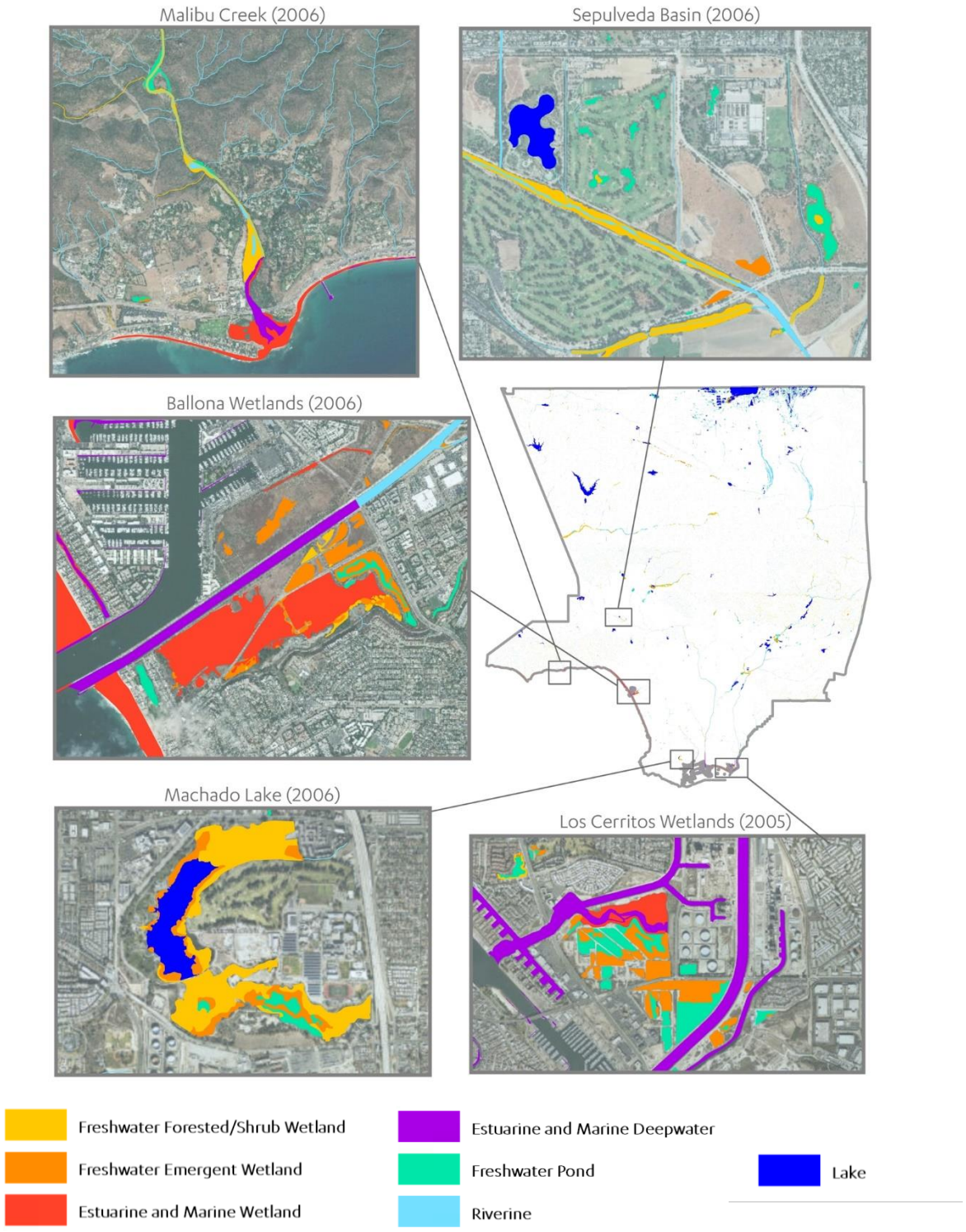


Figure 28. Critical Wetland Habitats within LA County (2005-2006)

Table 18. Wetland Habitat Types

Wetland Type	Map Code	Cowardin Classification	Description
Freshwater - Forested and Shrub wetland	PFO, PSS	Palustrine forested and/or Palustrine shrub	Woody wetlands; forested swamp, shrub bog
Freshwater Emergent wetland	PEM	Palustrine emergent	Herbaceous march, fen, swale or wet meadow
Freshwater pond	PUB, PAB	Palustrine unconsolidated bottom, Palustrine aquatic bed	Pond
Estuarine and Marine wetland	E2, M2	Estuarine and Marine intertidal wetlands	Vegetated and non-vegetated brackish and saltwater marsh, shrubs, beach, bar, shoal or flat
Riverine	R	Riverine deep water and associated wetlands	River or stream channel
Lakes	L	Lacustrine deep water and associated wetlands	Lake or reservoir basin
Estuarine and Marine Deepwater	E1, M1	Estuarine and Marine subtidal water	Open water estuary, bay, sound or open ocean
Other Freshwater wetland	Other	Palustrine wetland	Farmed wetland, saline seep and other miscellaneous wetlands

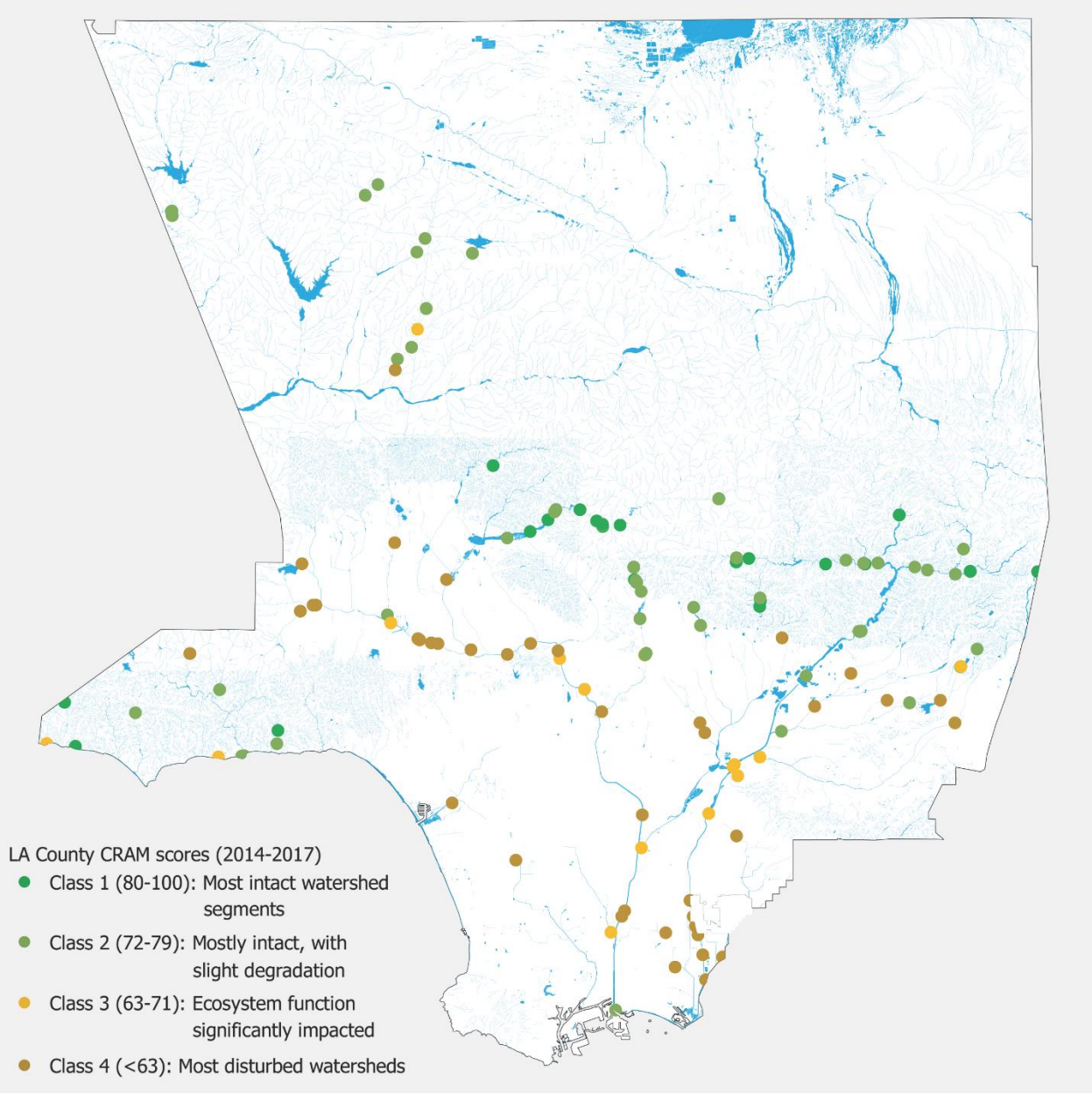
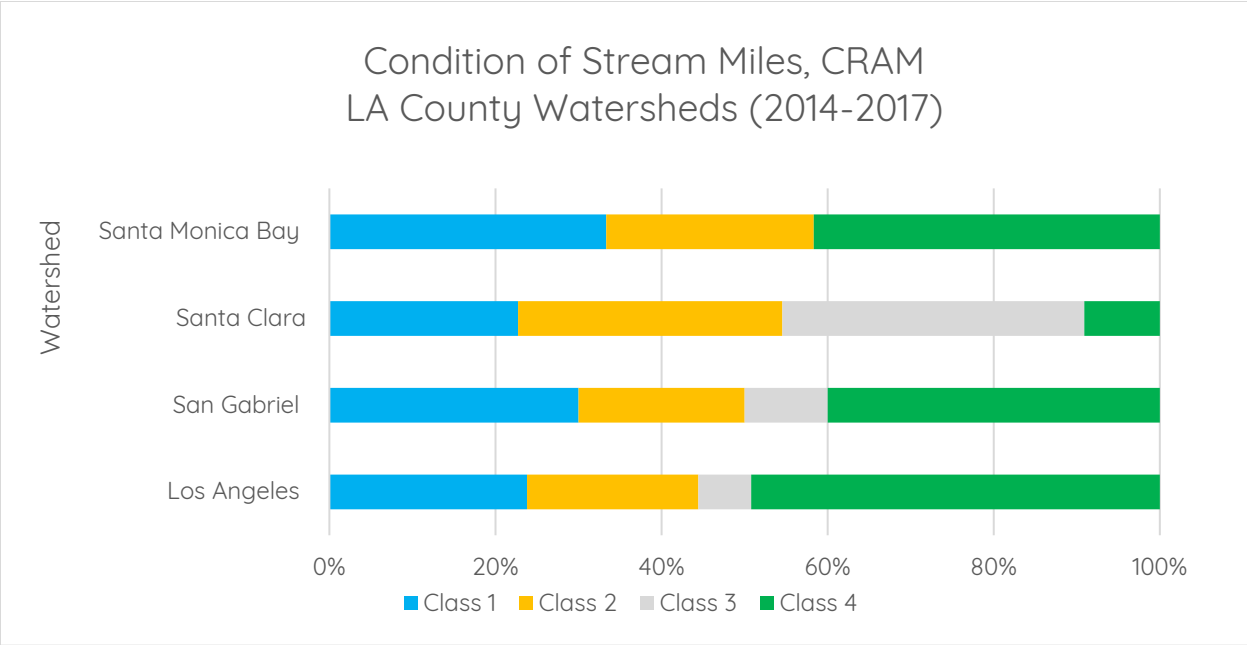


Figure 29. LA County CRAM Scores (2014-2017).
For more details on how these are calculated please reference the CRAM manual



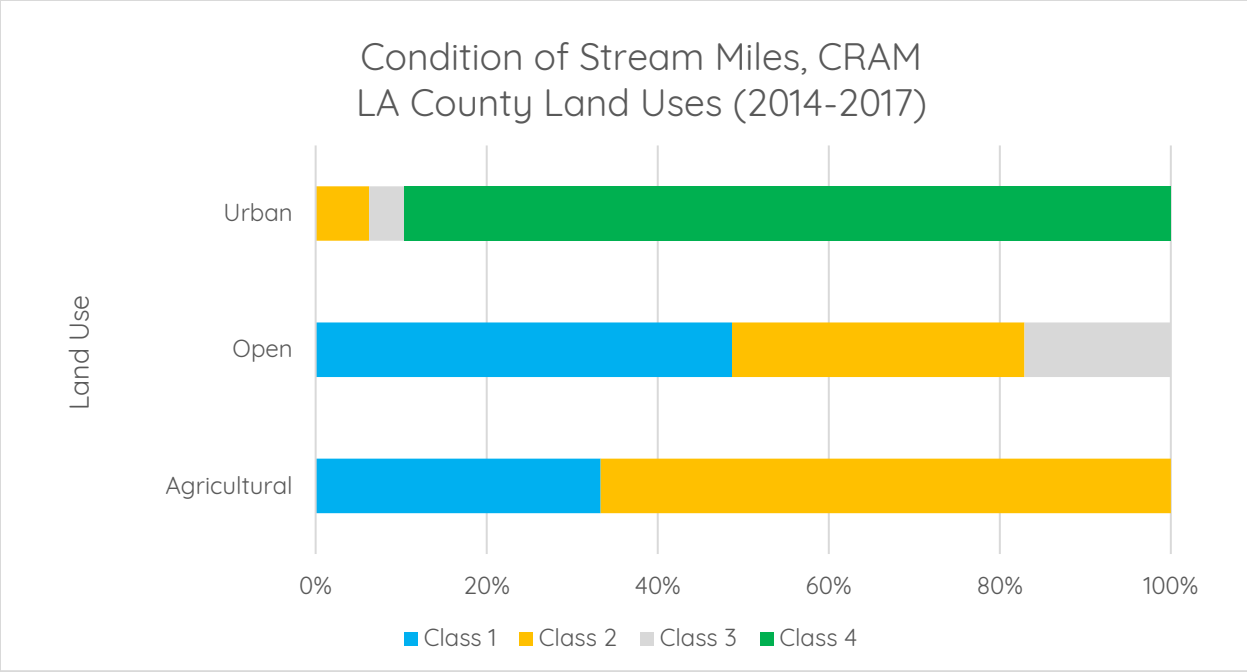


Figure 30. Condition of Stream Miles, CRAM Watersheds (top) Land Uses (bottom) LA County (2014-2017).

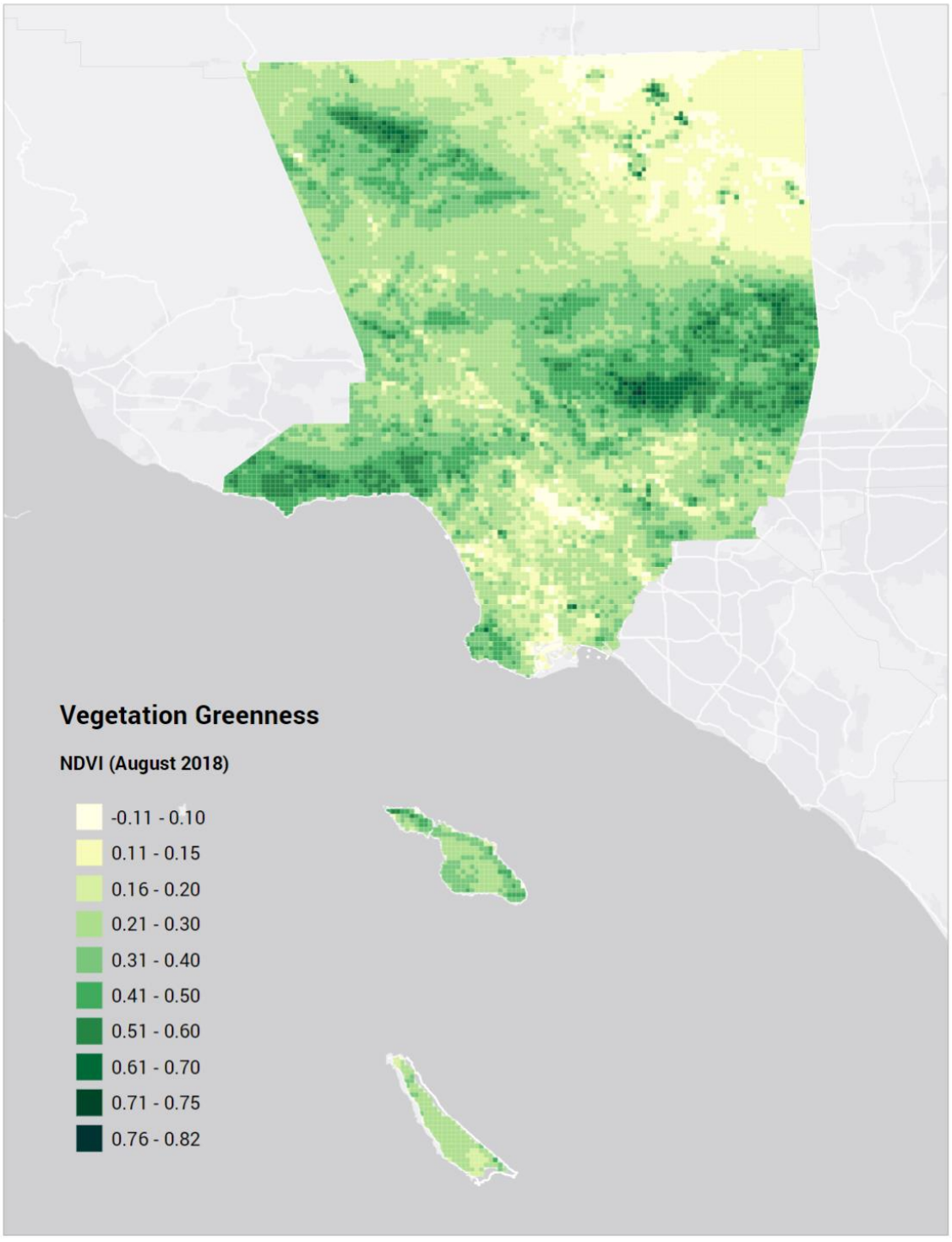
Class 1: Most intact watershed segments; **Class 2:** Mostly intact, with slight degradation; **Class 3:** Ecosystem function significantly impacted; **Class 4:** Most disturbed watersheds. *For more details on how these are calculated please reference the CRAM manual*

5. Drought Stress (Greenness)

Indicator Name:	Drought Stress (Greenness)
Data Source:	MODIS Vegetation Indices 16-Day L3 Global 250m MOD13Q1 (NDVI)
Analysis File:	This indicator is comprised of spatial data only.
Metadata File:	20190226_Landscapes&Ecosystems_Indicators.xlsx
Methods:	• Used 250-meter resolution NDVI data, which was resampled to 1-kilometer resolution using bilinear interpolation for the digital Atlas. The data are produced in 16-day intervals and can be accessed at https://modis-land.gsfc.nasa.gov/vi.html or https://earthdata.nasa.gov/. Data are downloaded as HDF files, which can be converted to GeoTIFFs (and merged together, if necessary) using the MODIS Reprojection Tool. The Change in Greenness layer was calculated using the Raster Calculator in ArcMap. This indicator is comprised of spatial data only. • Dry-season (June, July, August) NDVI data were downloaded for the years 2000 and 2017. A seasonal average was calculated for each year before finding the difference between them. • All data analyzed and produced for this indicator was done through the work of the UCLA Biodiversity Atlas project led by UCLA professor Dr. Thomas Gillespie. This will be a publicly accessible data platform that will be updated as data become available. We do not have access to the spatial data because it has not been published. Gillespie, T.W., Ostermann-Kelm, S., Dong, C., Willis, K.S., Okin, G.S. and MacDonald, G.M. 2018. Monitoring changes of NDVI in protected areas of southern California. *Ecological*
Findings:	• NDVI values inform us about the density of vegetation (how much plant life is in an area) and how productive the plants are (more productive vegetation is actively photosynthesizing). The higher a region's NDVI value, the more photosynthesis is occurring in that region. • LA's vegetation is affected by warmer temperatures and lower precipitation. Because plant health is closely linked to water availability, a decrease in NDVI can reveal the effects of drought on

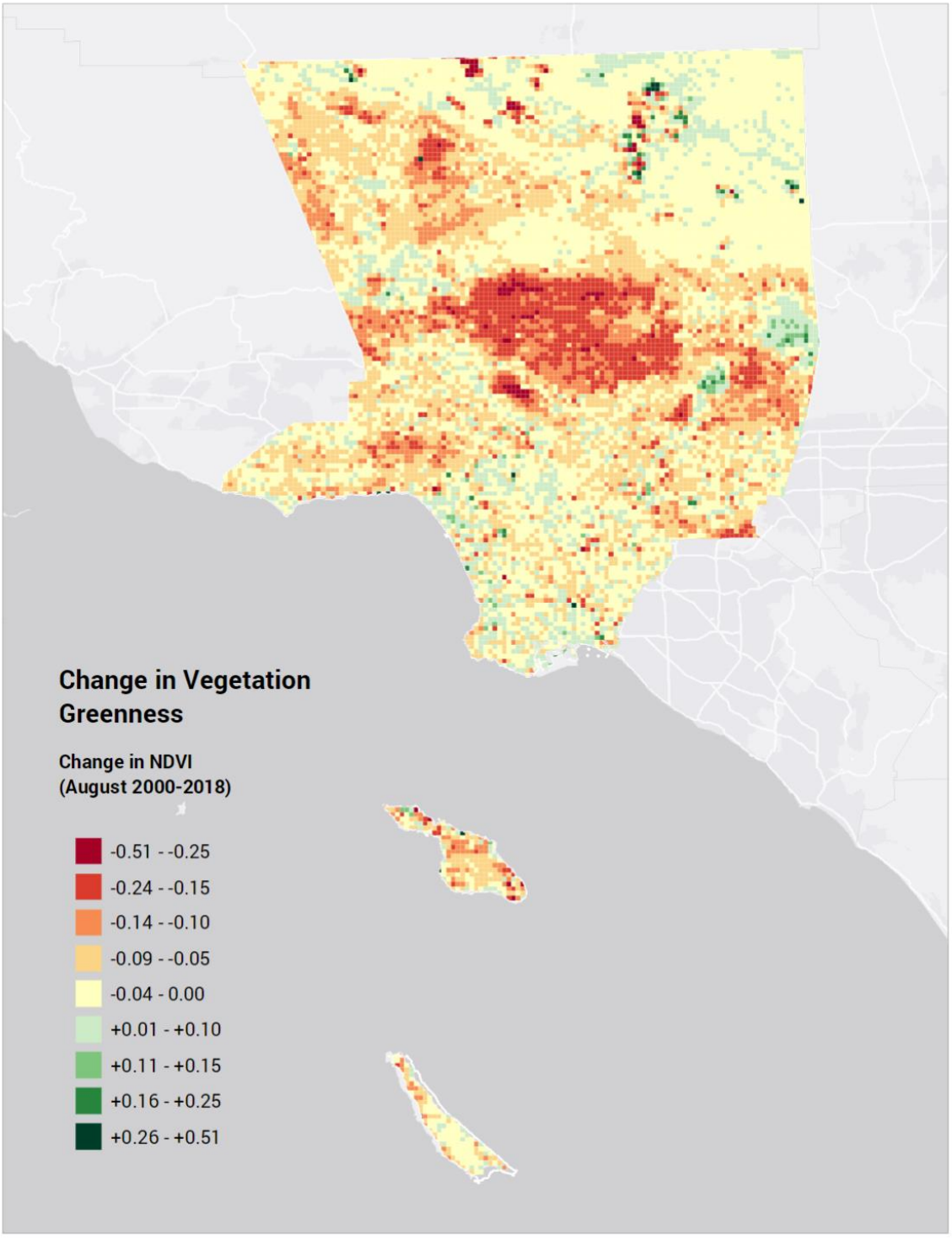
	a landscape. • There are many sharp contrasts between high (Angeles National Forest) and low (Downtown LA) NDVI areas in Los Angeles. • The entire region has decreased in greenness from 2000 to 2018. In particular, the Angeles National Forest has seen the greatest decline in greenness from 2000 to 2018.

Figure:



NDVI data (MOD13A2 MODIS/Terra Vegetation Indices 16-Day L3 Global 1km SIN Grid V006) retrieved from USGS EarthExplorer, courtesy of the NASA EOSDIS Land Processes Distributed Active Archive Center (LP DAAC), USGS/Earth Resources Observation and Science (EROS) Center, Sioux Falls, South Dakota.

Figure 31. Greenness in LA County (August 2018)



NDVI data (MOD13A2 MODIS/Terra Vegetation Indices 16-Day L3 Global 1km SIN Grid V006) retrieved from USGS EarthExplorer, courtesy of the NASA EOSDIS Land Processes Distributed Active Archive Center (LP DAAC), USGS/Earth Resources Observation and Science (EROS) Center, Sioux Falls, South Dakota.

Figure 32. Change in Greenness in LA County (2000-2018)

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6. Community Science Initiatives

Indicator Name:	Community Science Initiatives
Data Source:	Natural History Museum of LA County
Analysis File:	20181126_CommunityScienceInitiatives_Analysis
Metadata File:	20190226_Landscapes&Ecosystems_Indicators
Methods:	• All data used for this indicator were reported by Lila Higgins, Community Science Senior Manager for the LA County Natural History Museum (NHM). • Data on current ongoing programs were reported for January 1st, 2018 – November 15th, 2018. • Data on specific challenge projects were reported for all years they occurred (2016, 2017, 2018), but each project has a different timescale. The El Nino SnailBlitz was 3 months, but all other SnailBlitzes and RASCalsBlitz were only 2 months long. The City Nature Challenge was the shortest project lasting only 3-5 days. • Challenge data was graphed by observations, species recorded and number of observers. • 1-day programming events were also reported and then sorted by year and program type.
Findings:	• In 2016 the LA County Natural History Museum conducted only one, 1-day program. In 2017, they held six 1-day programs and in 2018, they held thirteen 1-day programs. • All of LA County NHM's community science driven projects significantly increased in observations and species recorded from 2016 to 2017, with most continuing to increase from 2017 to 2018. • LA County NHM's ongoing projects have recorded 48,746 observations, 3,493 species from 3,022 participants. • Los Angeles' rank in the City Nature Challenge has decreased from the first challenge in 2016 when the region achieved first in all categories (# observations, # species, # observers/participants) to 2017 where LA County only received first place for the number of observers/participants and finally in 2018 LA County placed fifth to ninth across all three categories. However, Los Angeles increased the number of observations made, increased the number of species recorded for all years and increased the number of

	observers/participants from 2016 to 2017.

Figure:

Table 19. LA County Natural History Museum Community Science On-going Projects (Jan. 1, 2018 – November 15, 2018)

LA County Natural History Museum Community Science Ongoing Projects - January 1st 2018 - November 15th 2018					
Date Range	**Project Name**	**Observations**	**Species**	**Participants**	**Link to project**
Ongoing	SLIME	2,707	72	544	https://www.inaturalist.org/projects/slime
Ongoing	RASCals	7,467	183	1,631	https://www.inaturalist.org/projects/rascals
Ongoing	Southern California Squirrel Survey	974	16	159	https://www.inaturalist.org/projects/southern-california-squirrel-survey
Ongoing	L.A. Nature Map	37,598	3,222	688	https://www.inaturalist.org/projects/l-a-nature-map

Table 20. City Natural Challenge (2016-2018)

CITY NATURE CHALLENGE																		
Rank	**2016 (2 Cities)**						**2017 (16 Cities)**						**2018 (68 Cities)**					
	Observations		**Species**		**Participants**		**Observations**		**Species**		**Participants**		**Observations**		**Species**		**Participants**	
	City	#	City	#	City	#	City	#	City	#	City	#	City	#	City	#	City	#
1st	LA	10,353	LA	1,601	LA	574	Dallas	23,957	Houston	2,419	LA	1,034	SF	41,737	SF	3,211	SF	1,532
2nd	SF	9,389	SF	1,551	SF	444	SF	23,024	Austin	2,401	SF	651	Dallas	34,218	Houston	3,088	SD	1,211
3rd	N/A	N/A	N/A	N/A	N/A	N/A	LA	18,152	SF	2,313	Dallas	495	SD	33,448	SD	2,946	Boston	992
4th	N/A	N/A	N/A	N/A	N/A	N/A	Austin	15,807	Dallas	2,299	Houston	417	Malaysia	25,287	Hong Kong	2,932	D.C.	872
5th	N/A	N/A	N/A	N/A	N/A	N/A	Houston	15,276	LA	2,017	Austin	373	D.C.	22,800	Dallas	2,560	LA	855
6th	N/A	N/A	N/A	N/A	N/A	N/A	Raleigh	7,441	Raleigh	1,310	Boston	250	Houston	22,490	LA	2,356	Dallas	815
7th	N/A	N/A	N/A	N/A	N/A	N/A	D.C.	4,843	D.C.	901	Raleigh	186	NY	22,003	Austin	2,324	Hong Kong	755
8th	N/A	N/A	N/A	N/A	N/A	N/A	Boston	3,909	Boston	743	Salt Lake	178	Hong Kong	20,268	D.C.	1,856	Houston	699
9th	N/A	N/A	N/A	N/A	N/A	N/A	NY	3,792	NY	657	D.C.	167	LA	19,423	Malaysia	1,775	Malaysia	682
10th	N/A	N/A	N/A	N/A	N/A	N/A	Chicago	2,511	Chicago	527	NY	146	Austin	17,416	Rio Grande, TX	1,660	St. Louis	642

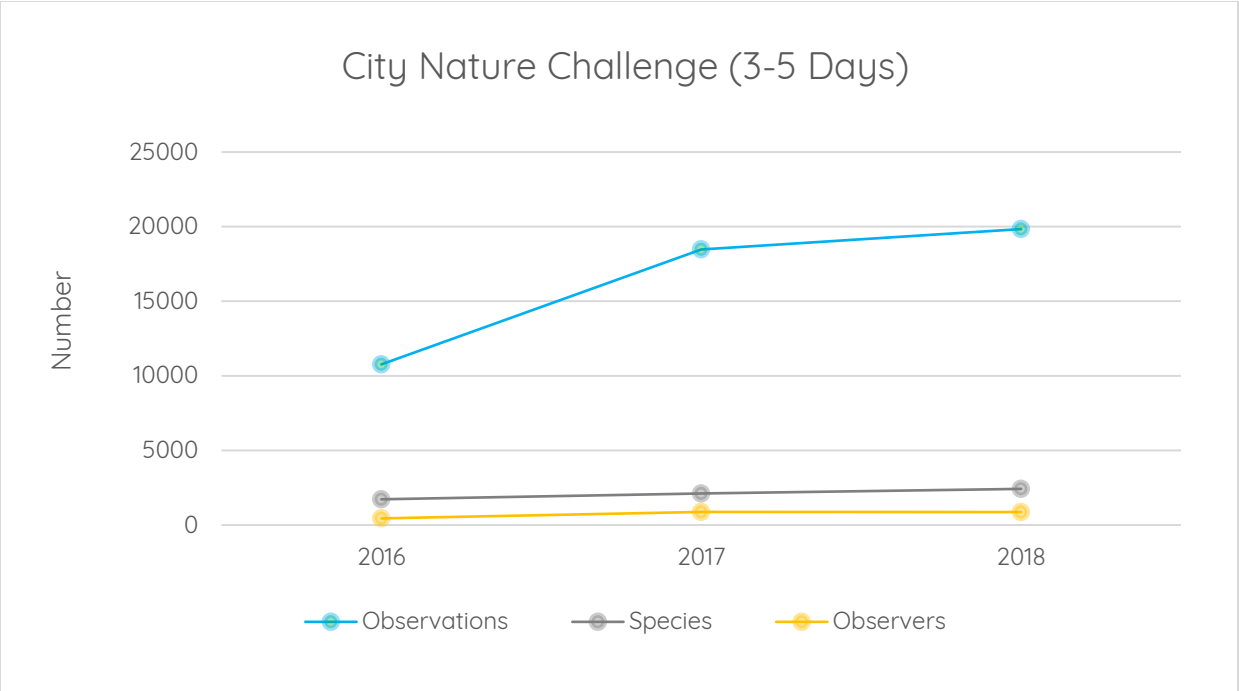


Figure 33. City Nature Challenge (3-5 day period) (2016-2018)

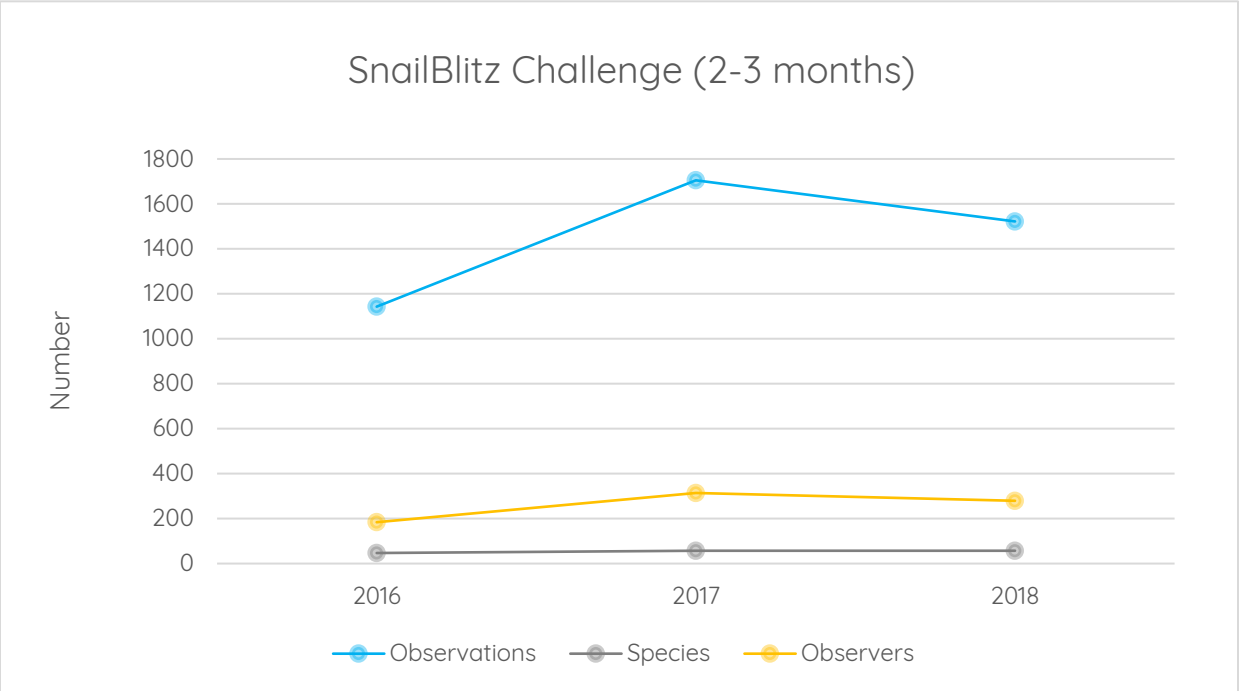


Figure 34. SnailBlitz Challenge (2-3 months) (2016-2018)

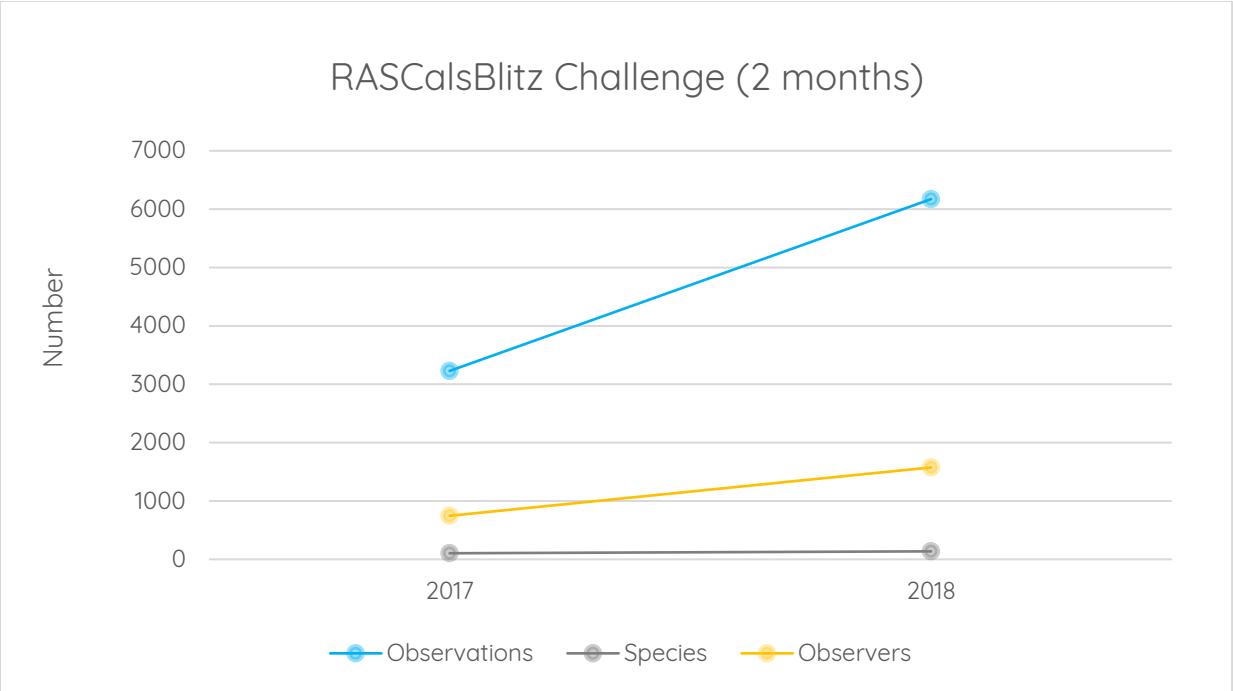


Figure 35. RASCalsBlitz Challenge (2 months) (2017-2018)

OurCounty

Housing

1. Affordable Housing Need and Availability

Indicator Name:	Affordable Housing Need and Availability
Data Source:	Affordable Housing Gap Analysis data produced by California Housing Partnership Corporation as part of Annual Affordable Housing Report
Analysis File:	20190217_Affordable Housing_Analysis.xlsx
Metadata File:	20190214_Housing_Indicators.xlsx

Methods:	• A gap analysis to determine the shortage or surplus of affordable housing by income group was done by CHPC for renter households for years 2014-2016.
	• Income groups are defined as follows:
	  ○ Deeply Low Income (DLI) is 0-15% of Area Median Income (AMI)
	  ○ Extremely Low Income (ELI) is 16-30% of AMI
	  ○ Very Low Income (VLI) is 31-50% of AMI
	  ○ Low Income is 50-80% of AMI
	  ○ Moderate Income is 80-100% of AMI
	• The CHPC data shows the gap between the need for affordable housing for renter households and the supply at different income levels. We used this data to create charts to present the data over time.
	• The first chart shows the *cumulative* deficit of affordable housing for each income group for years 2014-2016. Note, there is a larger deficit of housing for low income households compared to very low income households because there are a greater number of low income households. For example, housing that is affordable for deeply low income households is also counted as affordable to other income groups.
	• The second chart shows the percentage of low income households (excludes moderate income group) for which there is no available affordable housing (housing shortage). In this data presentation, a lower percentage is better.

Findings:	• There is less available affordable housing for lower income groups.
	• The deficit in housing increased dramatically between low income households and very low income households. In 2016, affordable rental housing was not available for:
	  ○ 1% of moderate income households,
	  ○ 21% of low income households,
	  ○ 69% of very low income households,
	  ○ 80% of extremely low income households, and
	  ○ 91% of deeply low income households.
	• Available housing shortages for VLI, ELI, and DLI households increased slightly from 2014-2015, and decreased slightly from 2015-2016. The shortage of affordable housing for deeply low income households has the greatest percentage improvement from 2014-2016, decreasing from 97% to 91%.

Figure:

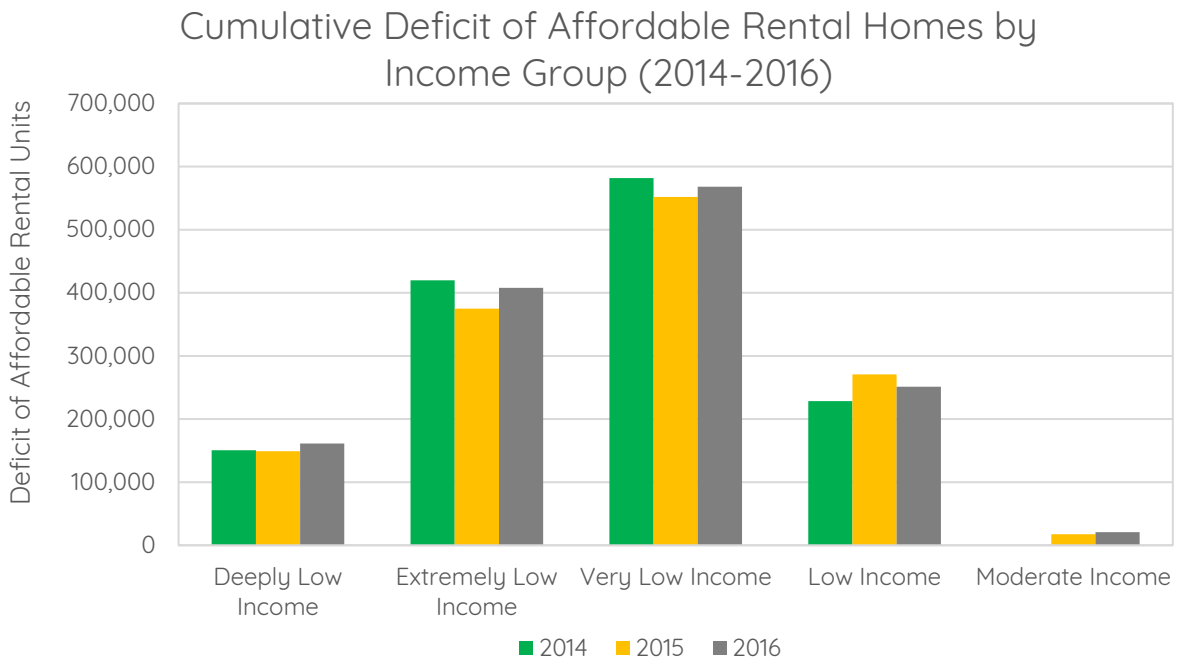


Figure 36. Cumulative Deficit of Affordable Rental Homes by Income Group (2014-2016).
Note: There was a surplus of moderate income housing in 2016.

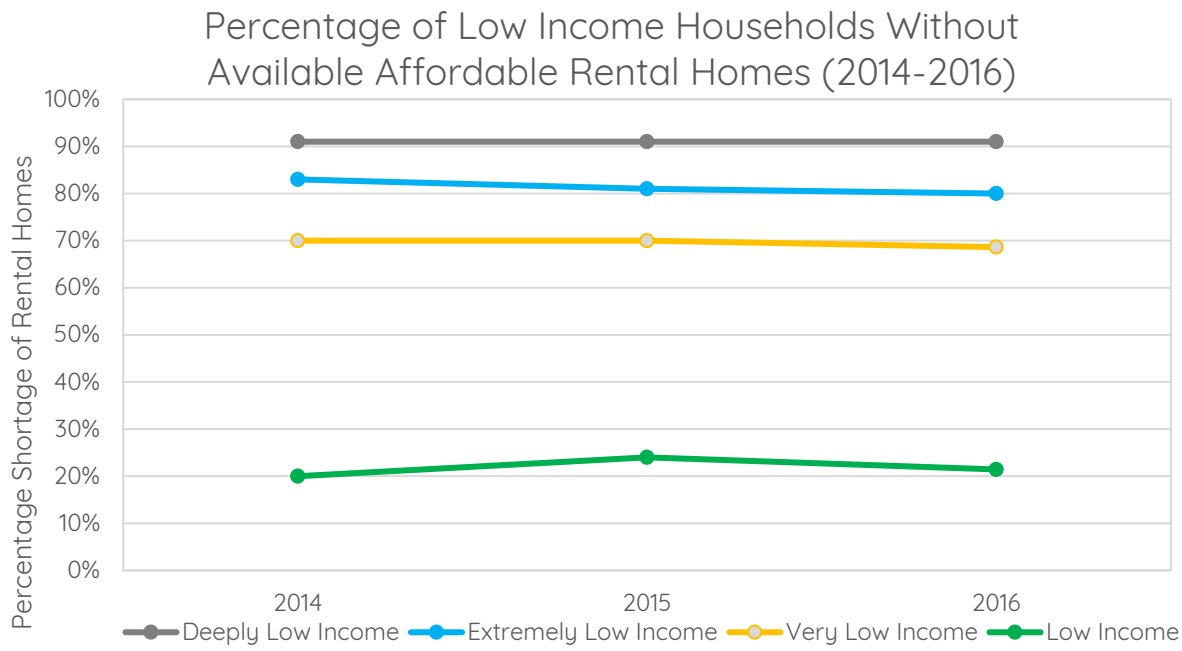


Figure 37. Percentage of Low Income Households without Available Affordable Rental Homes (2014-2016).

2. At-Risk Affordable Housing

Indicator Name:	At-Risk Affordable Housing
Data Source:	At-Risk Affordable Housing data and analysis from California Housing Partnership Corporation (CHPC) as was summarized in the Annual Affordable Housing Report
Analysis File:	20190304_At Risk Affordable Housing_Data.xlsx
Metadata File:	20190214_Housing_Indicators.xlsx
Methods:	• At-risk affordable housing data and analyses were acquired from the California Housing Partnership Corporation. • Their analyses show the number of government-administered affordable housing developments and total rental units within the developments at-risk of being converted to market rate units within the next five years as of April 2018. The charts show at-risk rental homes at the County and Supervisorial District level.
Findings:	• 10% of government-subsidized rental homes in 182 developments are at risk. • 87% of at-risk affordable rental homes are located in planned High Quality Transit Areas (HQTAs) (based on SCAG's 2040 plan). • 34% of at-risk affordable rental homes are within ½ mile of a gentrified census tract. • 33% of at-risk affordable rental homes are both within a planned HQTA and within ½ mile of a gentrified census tract.

Figure:

Table 21. Summary of Federal, State and County-Administered Affordable Housing and At-Risk Rental Housing (April 2018)

Summary of Federal, State, and County-Administered Affordable Housing and At-Risk Rental Homes (April 2018)				
Geography	Developments	Affordable Homes	At-Risk Developments	At-Risk Rental Homes
SD 1	433	31,488	42	2,603
SD 2	476	29,255	50	3,101
SD 3	369	21,697	52	3,423
SD 4	153	14,585	14	1,022
SD 5	198	14,326	24	1,290
County	**1,629**	**111,351**	**182**	**11,439**

Source: CHPC Preservation Database, HUD, HACoLA, HACLA, CDC, DRP, and DMH.

Table 22. Proximity of At-Risk Affordable Rental Homes to Transit and Gentrification (2018)

Proximity of At-Risk Affordable Rental Homes to Transit and Gentrification							
	Total At-Risk Homes	Within a HQTA*		Within or less than ½-mile from a Gentrified Tract**		Both HQTA + Gentrified Tract	
	#	#	%	#	%	#	%
SD 1	2,603	2,354	**90%**	1,245	**48%**	1,197	**46%**
SD 2	3,101	3,096	**100%**	1,300	**42%**	1,300	**42%**
SD 3	3,423	3,275	**96%**	1,054	**31%**	1,054	**31%**
SD 4	1,022	633	**62%**	245	**24%**	245	**24%**
SD 5	1,290	651	**50%**	25	**2%**	0	**0%**
County	**11,439**	**10,009**	87%	**3,869**	34%	**3,796**	33%

Source: CHPC Preservation Database and analysis.
**SCAG defines High Quality Transit Areas as being within 1/2-mile of stations with service every 15 minutes or less during peak commute times, including both fixed guideway transit ad bus rapid transit.*
***See the California Tax Credit Allocation Committee's website for the opportunity mapping methodology, as well as PDFs of each regional map and a downloadable file with scores and designations for each tract.*

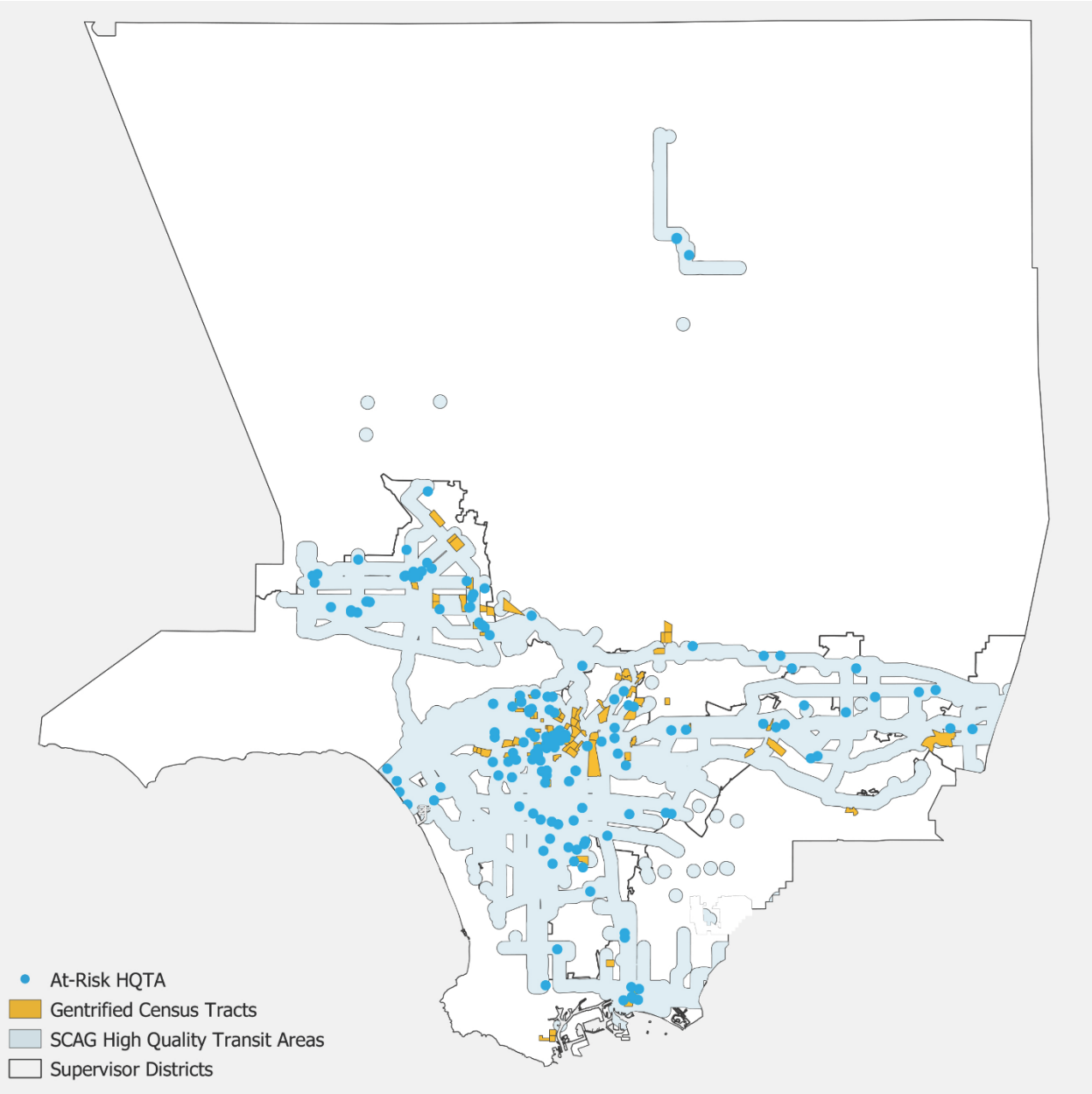


Figure 38. Proximity of At-Risk Affordable Housing to Transit and Gentrification (2018)

3. Regional Housing Needs Assessment

Indicator Name:	Regional Housing Needs Assessment
Data Source:	5th Cycle Annual Progress Report Permit Summary published by the California Department of Housing and Community Development. http://www.hcd.ca.gov/community-development/housing-element/index.shtml
Analysis File:	20190315_RHNA_analysis.xls
Metadata File:	20190214_Housing_Indicators.xlsx
Methods:	• Regional Housing Needs Assessment (RHNA) allocation sets goals for every jurisdiction to produce its share of regional housing needs at various income levels. LA County is currently in its 5th RHNA cycle. The allocation was set in 2012 with the goal of completing the required housing production by 2021. • RHNA allocation and progress data was downloaded from the 5th Cycle Annual Progress Report Permit Summary published by the California Department of Housing and Community Development. The summary reports the RHNA allocation and the number of units permitted for Very Low Income, Low Income, Moderate Income, and Above Moderate Income levels for each city and the unincorporated area as of 12/4/2018. Using this data the percent of units built (completed) and the units remaining to be built at each income level and for the LA County was calculated, and the information is presented in tabular format. • The percent of the total RHNA allocation (aggregated across all income groups) built for each jurisdiction was calculated. This data was joined with a shapefile of LA County jurisdiction using the field "city_name", and the percentage of total RHNA allocation built for each jurisdiction was mapped.

Findings:	• Jurisdictions in LA County have completed 35% of the overall housing production required by RHNA. The completion percentage varies by income level:
	  ○ 12% for Very Low Income
	  ○ 13% for Low Income
	  ○ 4% for Moderate Income and
	  ○ 68% for Above Moderate Income
	• In the unincorporated areas, the County has completed 14% of the

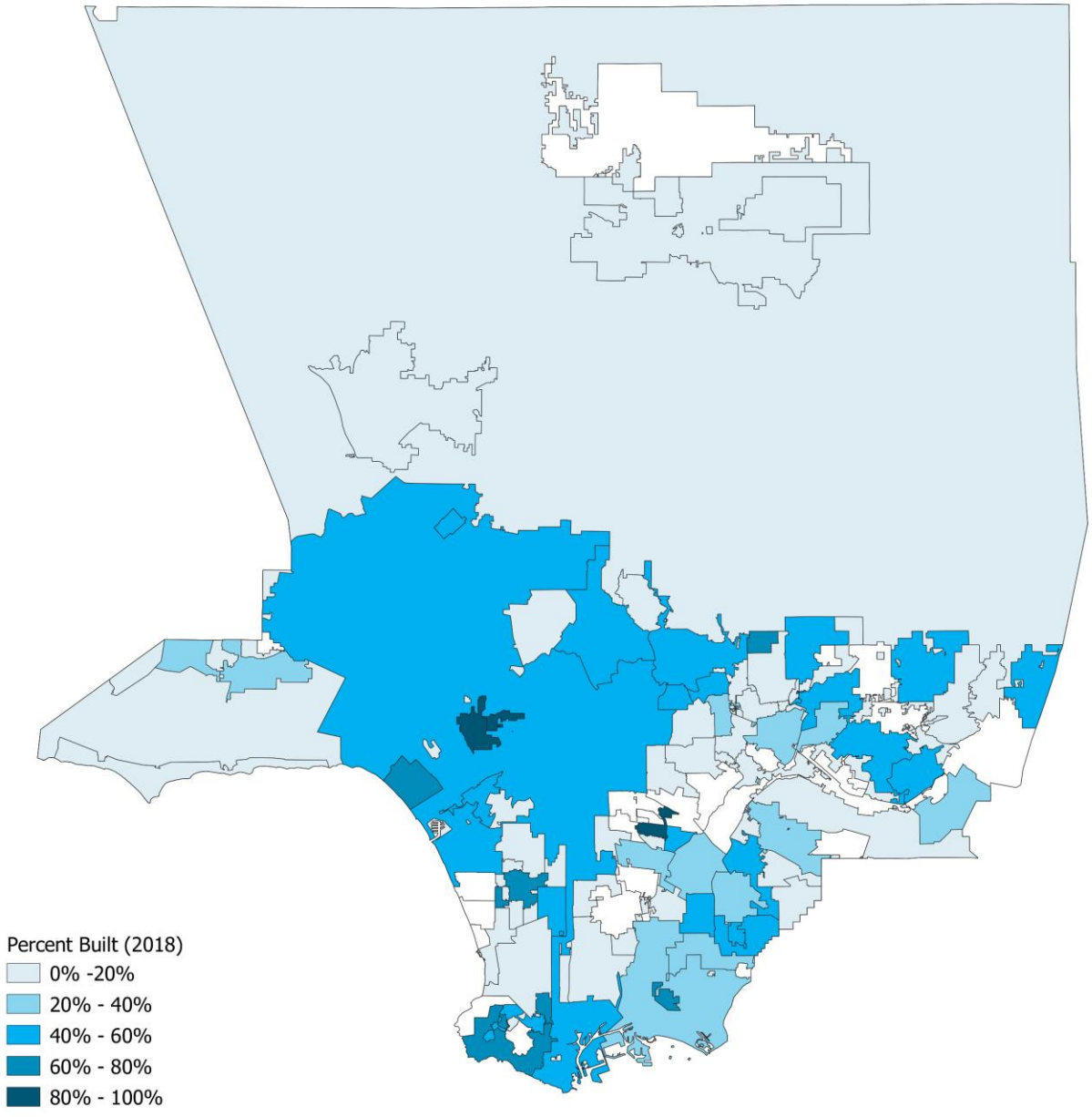
	targeted production of affordable housing under the 5th RHNA cycle: ○ 7.4% of Very Low Income ○ 2.3% of Low Income ○ 0.0% of Moderate Income and ○ 28.5% of Above Moderate Income • The percent of total RHNA allocation completed varies across jurisdictions. • Overall, the greatest completion rate is occurring for above moderate income levels

Figure:

Table 23. Regional Housing Needs Assessment Allocation and Progress for all Jurisdictions in LA County (2018)

Regional Housing Needs Assessment Allocation and Progress for all Jurisdictions in LA County (2018)				
	RHNA Allocation	Units Built	Units Remaining	Percent Units Built
Very Low Income	42,964	5,356	37,608	12%
Low Income	25,866	3,353	22,513	13%
Moderate Income	28,293	1,182	27,111	4%
Above Moderate Income	72,081	48,838	23,243	68%
Total	**169,204**	**58,729**	**110,475**	**35%**

** Allocation was set in 2012 with the goal of completing the required housing production by 2021*



Note: jurisdictions in white did not have a RHNA allocation

Figure 39. Percent of Total Regional Housing Needs Assessment Allocation Built by Jurisdiction Aggregated across all Income Levels (2018)

OurCounty

4. Renter Cost Burden

Indicator Name:	Renter Cost Burden
Data Source:	Renter Cost Burden Data from California Housing Partnership Corporation (CHPC), used as part of Annual Affordable Housing Report
Analysis File:	20190305_Renter Cost Burden_Analysis.xlsx
Metadata File:	20190214_Housing_Indicators.xlsx

Methods:	• This data was acquired from the California Housing Partnership Corporation. The data was provided in separate files for each year for the LA County and broken down by Supervisor district.
	• The Renter Cost Burden Analysis is based on the percentage of income paid for housing by households at different income levels. A household that spends between 30-50% of its income on rent is considered "moderately cost burdened." A household that spends more than 50% of their income on rent is considered "severely cost burdened."
	• Income groups are defined as follows:
	  ○ Deeply Low Income is 0-15% of Area Median Income (AMI)
	  ○ Extremely Low Income is 16-30% of AMI
	  ○ Very Low Income is 31-50% of AMI
	  ○ Low Income is 50-80% of AMI
	  ○ Moderate Income is 80-100% of AMI
	• The countywide data was used and created a table that compares Percentage Cost-Burdened Renter Households by Income Group for both moderate and severe cost burdened households from 2014-2016. *Moderately cost burdened* and *severely cost burdened* households was aggregated into a single "cost burdened" statistic for the county for years 2014-2016 and reported this in a table, and graphically.

Findings:	• In 2016, approximately 58% of all renter households in LA County are rent-burdened (spend more than 30% of their income on rent). • There has been a slight decrease in the number of cost burdened renter households for Deeply Low Income, Extremely Low Income,

	Low Income, and Moderate Income groups from 2014-2016. • There was a slight increase in the number of cost burdened renter households for Very Low Income and Above Moderate Income groups from 2014-2016. • The tables/ figures show rent burden at the County-level, but raw data tables are available by Supervisor District.

Figures

Table 24. Percentage Cost-Burdened Renter Households by Income Group (2014-2016)

Percentage Cost-Burdened Renter Households by Income Group (2014-2016)

	2014			2015			2016		
	Moderately Cost Burdened (30-50% of income)	Severely Cost Burdened (more than 50% of income)	Total Cost Burdened	Moderately Cost Burdened (30-50% of income)	Severely Cost Burdened (more than 50% of income)	Total Cost Burdened	Moderately Cost Burdened (30-50% of income)	Severely Cost Burdened (more than 50% of income)	Total Cost Burdened
Deeply Low Income	3%	93%	96%	4%	92%	96%	4%	93%	96%
Extremely Low Income	17%	74%	91%	18%	73%	91%	17%	72%	89%
Very Low Income	44%	42%	86%	46%	41%	86%	43%	43%	86%
Low Income	46%	12%	58%	46%	14%	60%	45%	12%	57%
Moderate Income	28%	2%	31%	27%	3%	30%	25%	4%	29%
Above Moderate Income	6%	1%	7%	7%	0%	8%	8%	0%	8%
All Income Groups	**26%**	**33%**	**59%**	**26%**	**31%**	**58%**	**25%**	**33%**	**58%**

Percentage Cost-Burdened Renter Households by Income Group (2014-2016)

	2014	2015	2016
Deeply Low Income	96.5%	95.7%	96.3%
Extremely Low Income	91.2%	90.7%	89.2%
Very Low Income	86.0%	86.2%	86.5%
Low Income	57.7%	60.5%	56.8%
Moderate Income	30.6%	30.2%	29.1%
Above Moderate Income	6.9%	7.8%	8.4%
All Income Groups	58.8%	57.7%	57.6%

** Cost-burdened renter households are households that pay greater than 30% of their income for rent*

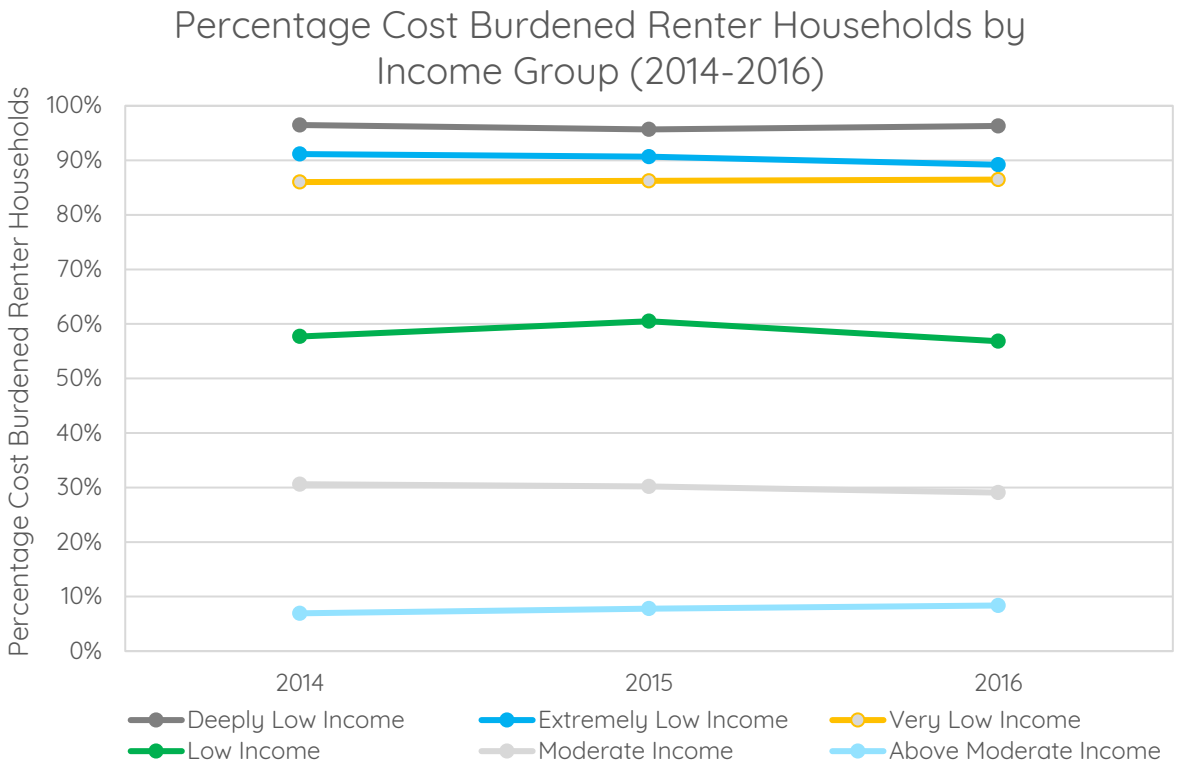


Figure 40. Percentage Cost-Burdened Renter Households by Income Group (2014-2016)

Transportation

1. Vehicle Miles Traveled

Indicator Name:	Vehicle Miles Traveled
Data Source:	VMT Data: California Public Road Data, Published by the Highway Performance Monitoring System (Caltrans). http://dot.ca.gov/hq/tsip/hpms/datalibrary.php Population data from the ACS 1yr, table B01003.
Analysis File:	20190225_VMT_Analysis.xls
Metadata File:	20190217_Transportation_Indicators.xlsx
Methods:	• Total VMT: VMT data for LA County was from the California Public Road Data annual report, published by Caltrans using data from the Highway Performance Monitoring System from years 2005-2017. • VMT per capita: one-year census data was used to calculate the average daily VMT per capita for LA County over the same period (2005-2017).
Findings:	Total VMT decreased from 2005 to a low point in 2010, and has increased every year since. One reason for this may be that car ownership rates in LA County have steadily increased since 2010. Average daily VMT per capita generally decreased from 2007 through 2014, increased in 2015 and 2016, and remained steady in 2017.

Figure:

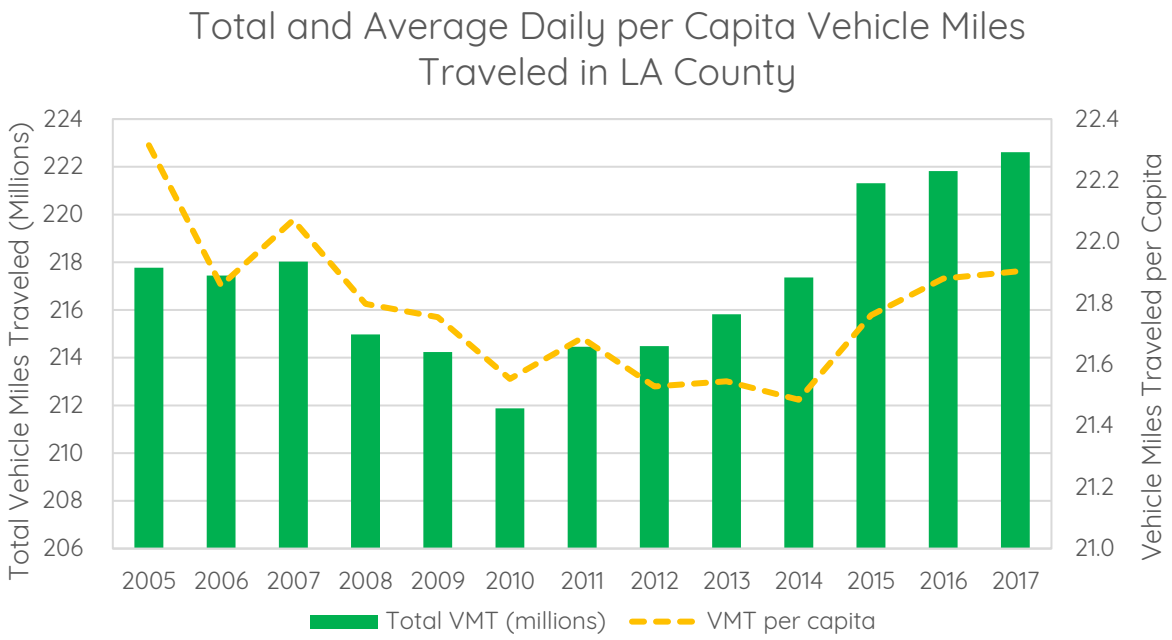


Figure 41. Total and Average Daily Per Capita VMT (2005-2017)

2. Housing and Transportation Affordability Index

Indicator Name:	Housing and Transportation Affordability Index
Data Source:	Housing and Transportation (H+T®) Affordability Index, proprietary database published by the Center for Neighborhood Technology at https://htaindex.cnt.org/map/
Analysis File:	Data taken directly from CNT website. Screenshots of CNT website used for data is located in the Data subfolder in the Housing and Transportation Cost Index folder. Analysis: 20190201_H&TAffordIndex_analysis.xls
Metadata File:	20190217_Transportation_Indicators.xlsx
Methods:	• Data was from the CNT website (taken on February 1, 2019). The underlying data was unavailable. Analyses were performed by CNT and published in 2017 using underlying data from the 2015 American Community Survey and the 2014 Longitudinal Employer-Household Dynamics database. • CNT maps the total costs of transportation and housing as a percentage of income for each census tract in LA County (H&T index). A map of this analysis is presented below from their interface. • CNT recommends a combined housing and transportation costs consume no more than 45% of household income • CNT data was taken from their website for selected geographies in the county to compare the distribution of housing and transportation costs combined at different income levels among the selected regions. Total percentage of income for housing and transportation and for housing and transportation independently was reported for each selected region. Note: CNT only provides data at the city, county, and regional level, but not for larger geographies (for example, statewide).
Findings:	The total cost of housing and transportation as a percentage of income varies across the county, with residents in the Northern portion of the county and Malibu consistently devoting a higher percentage of their income to housing and transportation compared to the rest of the county, while residents of Downtown Los Angeles and Long Beach pay a smaller percentage of their income.

	LA County residents on average pay 57% of their income on combined housing and transportation costs, which is on par with the City of Los Angeles, the Los Angeles region (Metropolitan Statistical Area), and San Diego County. Residents of the San Francisco region pay on average 48% of their income. The chart compares the distribution of housing and transportation costs as a percentage of income across several regions. A larger portion of the population devotes a greater percentage of their income to housing and transportation in the County compared to City of Los Angeles.

Figures

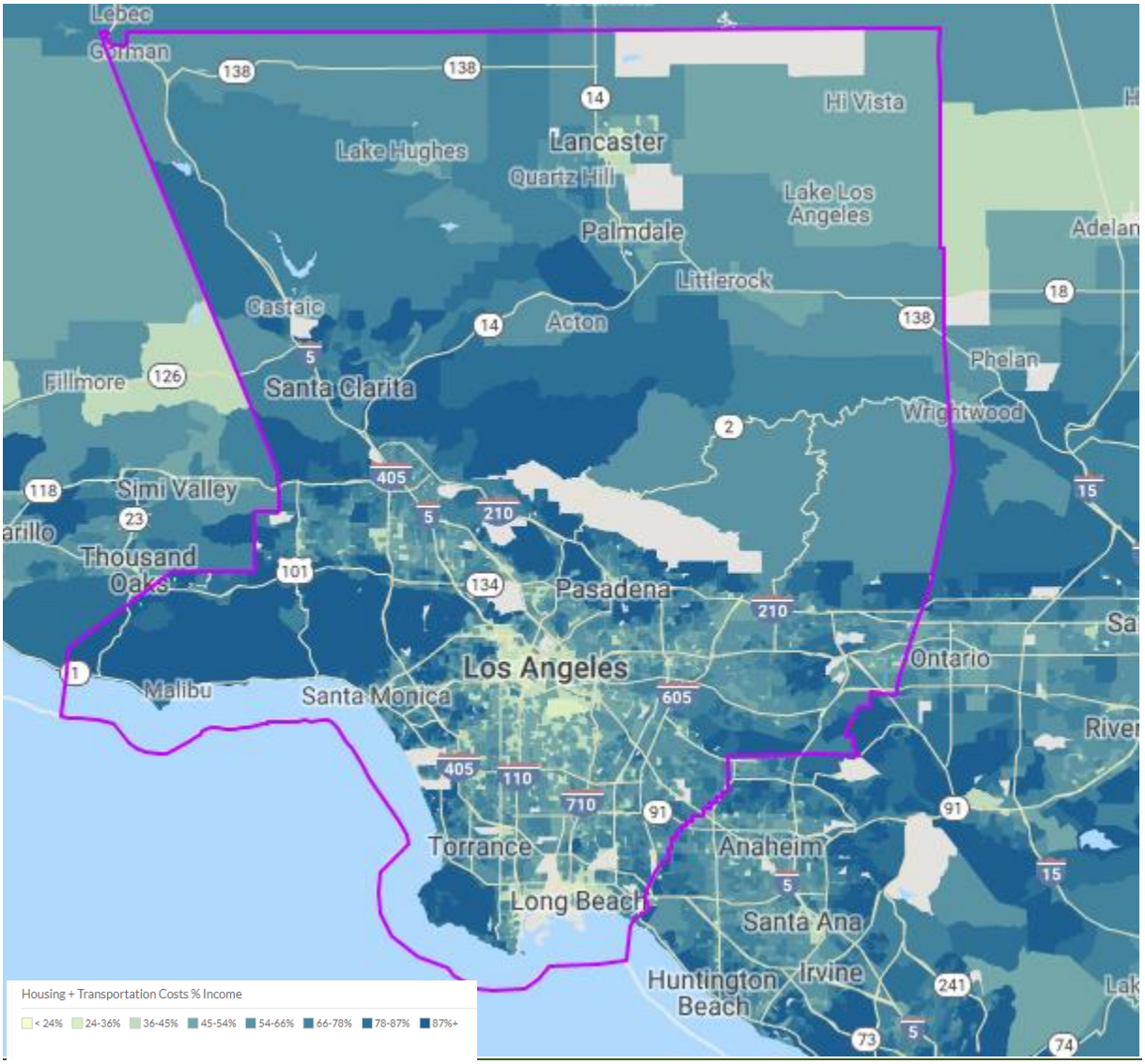


Figure 42. Housing and Transportation Costs as a Percentage of Income (2017).
Note: This snapshot was taken from CNT on February 1, 2019. Their analyses were published in 2017 using underlying data from the 2015 American Community Survey and the 2014 Longitudinal Employer-Household Dynamics database.

Table 25. Housing and Transportation Costs as a Percentage of Income for Selected Regions (2017)

Distribution of Housing and Transportation Costs as a Percentage of Income for Selected Geographies (2017)					
% of Income	Los Angeles County	City of Los Angeles	Los Angeles Region	San Diego County	San Francisco Region
Less than 24%	0.2%	0.3%	0.1%	0.1%	1.6%
24-36%	4.6%	9.2%	3.6%	3.6%	15.1%
36-45%	19.5%	23.4%	16.0%	18.4%	26.3%
45-54%	26.1%	25.8%	25.1%	20.5%	23.7%
54-66%	25.7%	19.9%	26.6%	30.2%	21.4%
66-78%	13.9%	11.3%	15.8%	16.5%	9.6%
78-87%	4.6%	4.5%	6.1%	6.4%	2.4%
87%+	5.5%	5.5%	6.7%	4.1%	0.0%
Total	**57.0%**	**54.0%**	**59.0%**	**57.0%**	**48.0%**
Housing	**35.0%**	**34.0%**	**37.0%**	**35.0%**	**32.0%**
Transportation	**22.0%**	**20.0%**	**22.0%**	**22.0%**	**16.0%**

Note: These calculations used underlying data from the 2015 American Community Survey and the 2014 Longitudinal Employer-Household Dynamics database. The % of Income value of 45% is considered the threshold for combined affordability by CNT.

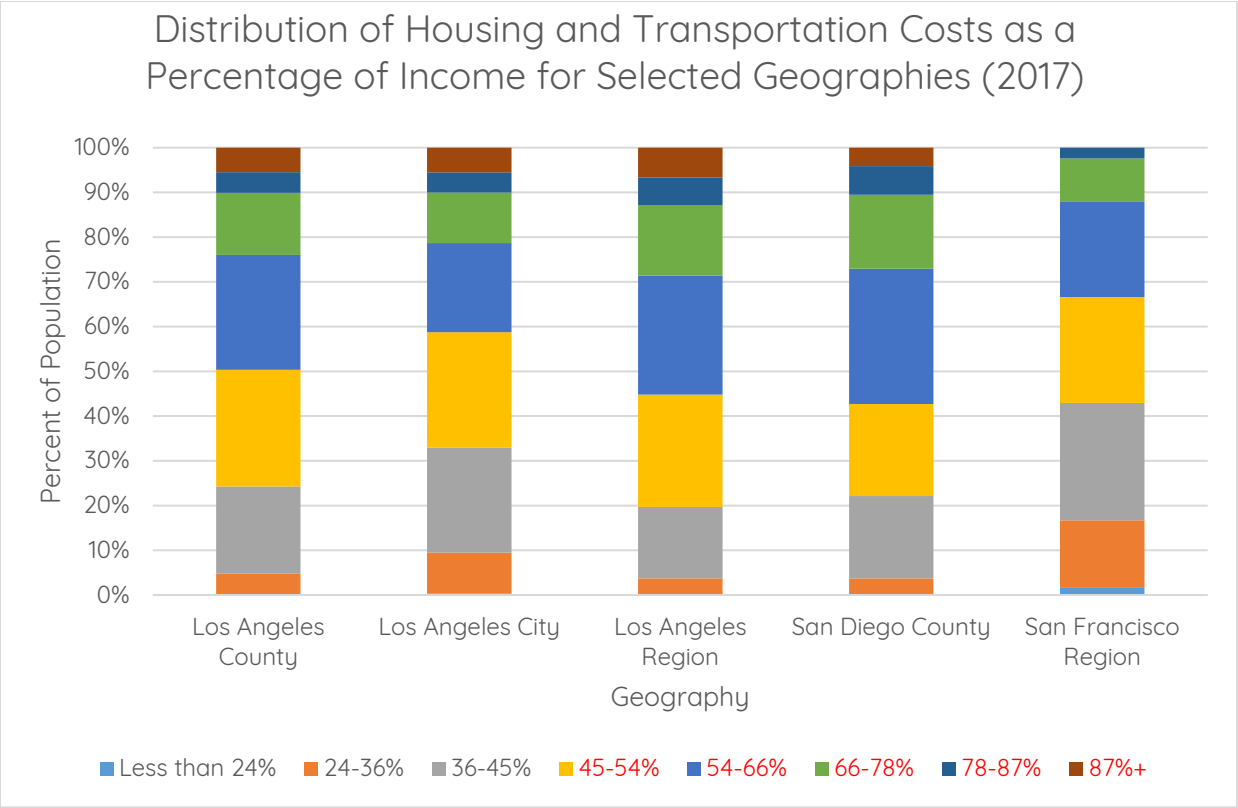


Figure 43. Housing and Transportation Costs as a Percentage of Income for Selected Regions (2017). Note: Data was taken from CNT on February 1, 2019. These calculations were published in 2017 using underlying data from the 2015 American Community Survey and the 2014 Longitudinal Employer-Household Dynamics database. Ranges in red are over the 45% threshold recommended by CNT.

OurCounty

3. Commute Mode Share and Average Commute Time

Indicator Name:	Commute Mode Share and Average Commute Time
Data Source:	Mode Share: Table B08134 American Community Survey 1yr Commute Travel time: Table S0802 American Community Survey 1yr https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
Analysis File:	20190323_Mode Share and Commute Time_Analysis.xls
Metadata File:	20190217_Transportation_Indicators.xlsx
Methods:	• Commute Mode Share: The U.S. Census American Community Survey (ACS) 1yr Table B08134 for the years 2005 to 2017 was used to calculate the mode share for commute trips for these years. The ACS gives total number for the following categories: drove alone, carpooled, public transit, walk, and other. These numbers were divided by the total number of survey respondents to calculate the percent of commuters utilizing each of these modes of transportation and presented the information graphically and in tabular form. • Average Commute Time: Data from the U.S. Census American Community Survey 1yr Table S0802 for the years 2005 to 2017 was used for average commute time and presented this data for those years in a table with the commute mode share.
Findings:	• Among survey respondents in 2017, 79% drove alone, 9.8% carpooled, 6.1% took public transportation, 2.7% walked, and 2.4% took a bike, motorcycle, or taxi to work. • Since a low of 74.8% in 2008, the percentage of respondents who drove alone has steadily increased. The percentage of respondents who carpooled or took public transit decreased over the same period. • The mean commute time in 2017 was 31.7 minutes, which was a 5.6% increase from the 2013 mean commute of 30.0 minutes. • In 2017, 5.6% of people worked from home (see ACS B08130).

Figures

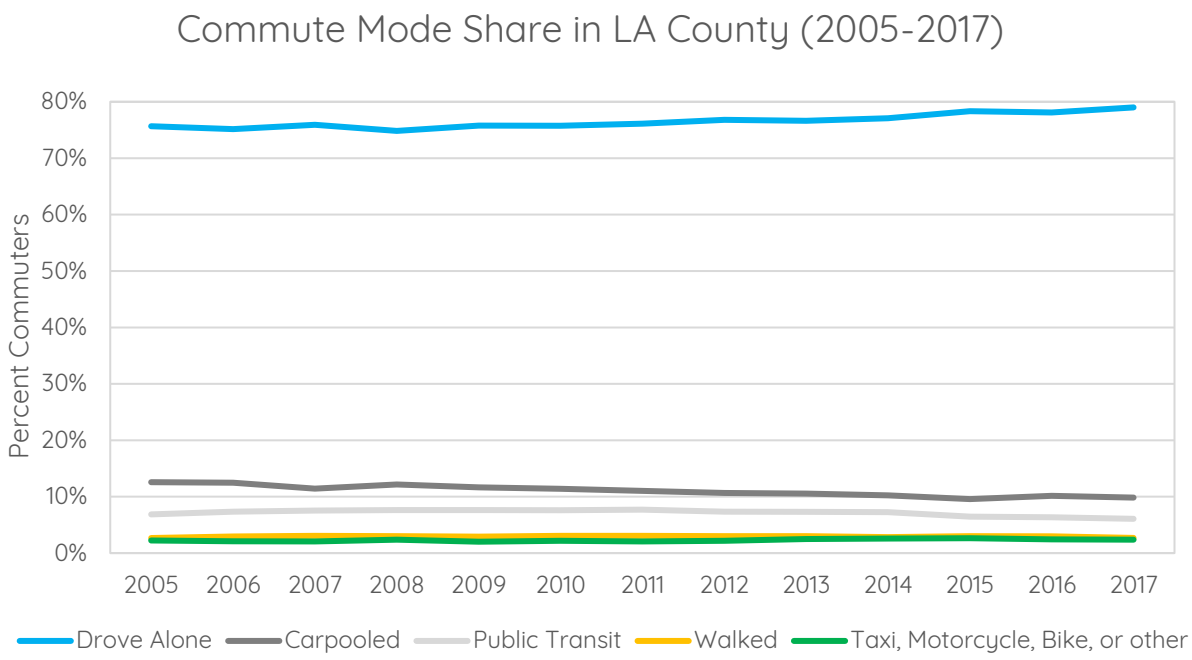


Figure 44. Commute mode share (2005-2017)

Table 26. Commute Mode Share and Average Commute Time (2005-2017)

Mode	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Drove Alone	75.7%	75.1%	75.9%	74.8%	75.8%	75.8%	76.1%	76.8%	76.6%	77.1%	78.3%	78.1%	79.0%
Carpooled	12.6%	12.5%	11.4%	12.2%	11.7%	11.4%	11.0%	10.7%	10.6%	10.2%	9.6%	10.1%	9.8%
Public Transit	6.9%	7.3%	7.5%	7.6%	7.6%	7.6%	7.7%	7.4%	7.3%	7.3%	6.5%	6.4%	6.1%
Walked	2.7%	3.0%	3.1%	3.0%	2.9%	3.1%	3.1%	3.0%	3.0%	2.8%	3.0%	3.0%	2.7%
Taxi, Motorcycle, Bike, or other	2.2%	2.1%	2.1%	2.4%	2.0%	2.2%	2.1%	2.2%	2.5%	2.6%	2.6%	2.4%	2.4%
Average Commute Time (min)	29.0	28.7	29.5	29.3	28.6	28.8	29.4	29.6	30.0	30.1	30.9	31.6	31.7
Total Responses	**4,077,604**	**4,237,760**	**4,234,170**	**4,330,146**	**4,178,868**	**4,068,250**	**4,087,760**	**4,176,864**	**4,259,959**	**4,387,152**	**4,454,851**	**4,514,268**	**4,585,727**

Source: Commute Mode: Table B081340 ACS 1yr

Mean Travel Time: Table S0802 ACS 1yr

4. County Employee Average Vehicle Ridership (AVR)

Indicator Name:	Commute Mode Share and Average Commute Time
Data Source:	County AVR data requested through CSO, maintained by County Department of Human Resources.
Analysis File:	20190228_County AVR_Analysis.xlsx
Metadata File:	20190217_Transportation_Indicators.xlsx
Methods:	• Average Vehicle Ridership (AVR) is the figure derived by dividing the employee population at a given worksite that reports to work weekdays between 6:00 a.m. and 10:00 a.m. by the number of vehicles driven by these employees commuting from home to the worksite during these hours. The AVR is calculated using a weekly averaging period. The applicable employee population is multiplied by the number of weekdays in the selected averaging period, then divided by the total number of vehicles driven by these employees to the worksite during the same period. • The survey is administered to each county department by location. The calculated AVR for each responding location was included in the data from the CSO (who received the data from the Department of Human Resources) for years 2012-2018, except 2017. An AVR of "1" means that every employee drove alone; therefore a greater AVR is a better outcome. The target AVR is set for each county department, and targets range mostly from 1.5-1.75. • For each year, a weighted average for the total AVR across county departments was calculated to account for the varied number of employees at each location and graphically presented the data.
Findings:	• The AVR was consistent between 2012 and 2018, with a low of 1.36 in 2013 to 1.374 in 2014. This falls short of the target AVRs. There was no data for 2017. Caveat: not all County department worksites reported AVR survey results every year. The number of worksites reporting ranged from a low of 139 in 2016 to 158 in 2012. While this could introduce bias in the data, the result has been consistent.

Figures

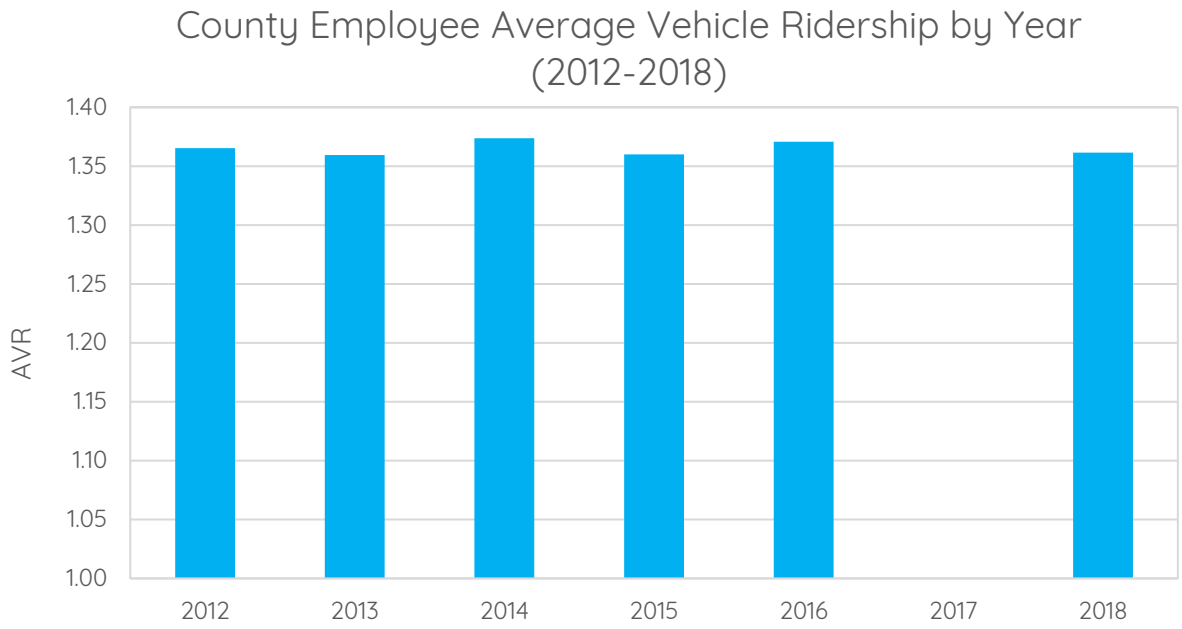


Figure 45. County Employee Average Vehicle Ridership by Year (2012-2018).

5. Population Located within High Quality Transit Areas

Indicator Name:	Population Located within High Quality Transit Areas
Data Source:	Population figures: Hispanic or Latino Origin by Race - Table B03002 ACS 5yr for 2017 https://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml HQTA shapefiles: Southern California Association of Governments shapefiles of High Quality Transit Areas (HQTA) in 2012 and planned for 2040 http://gisdata-scag.opendata.arcgis.com/datasets/43e6fef395d041c09deaeb369a513ca1_1 Gentrified Census Tracts: Shapefile from California Housing Partnership Corporation (2016)
Analysis File:	20190324_Population HQTA_Analysis.xls, TODPeople.mxd
Metadata File:	20190217_Transportation_Indicators.xlsx
Methods:	High Quality Transit Areas (HQTAs) are defined as being within 1/2-mile of fixed guideway transit and/ or bus rapid transit stations with service every 15 minutes or less during peak commute times. SCAG published two shapefiles of (HQTAs): one for actual HQTAs in 2012, and one for planned HQTAs in 2040. <u>Population Living in High Quality Transit Areas by Race and Ethnicity</u> • The demographic breakdown by race and ethnicity of all people living within HQTAs was calculated using ArcGIS in both 2012 and 2040 based on 2017 population figures. • Race and ethnicity data at the block group resolution for LA County was downloaded from the U.S. Census 5yr ACS 2017 (Table B03002). The census data was joined to a shapefile of LA County, and population density was mapped. The census data was clipped using the HQTA shapefiles, and included every census block group for which any portion was within an HQTA. The underlying race/ethnicity data in excel was exported, the total population within an HQTA for each race/ethnicity was aggregated, and

	presented it in tabular form. Note: For race/ethnicity the total value for an entire census block group was used (which vary in population between 600 and 3,000 people). This overestimates the number of people living within a HQTA. The alternative method is to allocate the population in proportion to the percentage of block group area within the HQTA. This method assumes that population is distributed evenly throughout the block group. It would underestimate the number of people living within a HQTA as population is typically denser closer to transit access and major streets with express bus lines. The discrepancy between the two methods would increase as policy incentives guide development toward HQTAs. <u>Proximity of Gentrified Census Tracts to HQTAs</u> • The proximity of gentrified census tracts to 2012 HQTAs was mapped. California Housing Partnership identified tracts that gentrified between 2000 and 2013, defining gentrification as socioeconomically disadvantaged neighborhoods that experienced faster changes in the following areas relative to County-level trends during the same period: 1) the percentage point increase in college educated population; 2) the percentage point increase non-Hispanic white population; 3) absolute value increase in median household income; and 4) the absolute value increase in gross rent. The gentrified census tract layer was added to a map of 2012 HQTAs within LA County. Note: The 2040 plan for HQTA expansion is based on the 2016 Regional Transportation Plan. Due to the passage of Measure M and the 20 by 28 plan, these projects will be accelerated and expanded.
Findings:	• As of 2017, 57% of the population lives within HQTAs. If we use current population geography with 2040 planning HQTAs, 75% of the total population will live in HQTAs. While this projection is based on 2017 data, current policies encourage development within HQTAs. • Currently the percent of each race/ethnicity that lives in a HQTA is between 47% and 54%, except Black or African Americans, of which 68% live in an HQTA, and Hispanics, of which 62% live in an HQTA. • Of people who live in HQTAs, the racial/ethnic proportions largely match the proportions of each race or ethnic group in the county. Whites and Asians have a slightly lower percentage of people living in an HQTA compared to the entire county, while Hispanic

	and Blacks or African Americans have a slightly larger proportion of residents in HQTA's than their proportion of the county population. • Planned expansion of 2040 HQTAs maintains the current proportions of residents within an HQTA by race/ethnicity. • Planned expansion of rail and express bus service to dense areas that are currently lacking HQTA include the foothills east from Pasadena, northern San Fernando Valley, and expansions in Long Beach. • Planned expansion will not serve some dense areas in South Los Angeles and South of Pasadena. • As of 2016, the majority of gentrified census tracts are located at least partially within an HQTA.

Figures

Table 27. 2017 Population Living in High Quality Transit Areas by Race and Ethnicity (2012 and 2040)

		2017		2012			2040		
		Total Population	% of Total Population	Population within HQTA	% of Total Race/ Ethnic Group Living in an HQTA	Race/ Ethnic Group as % of Total Population in an HQTA	Population within HQTA	% of Total Race/ Ethnic Group Living in an HQTA	Race/ Ethnic Group as % of Total Population in an HQTA
	Countywide	10,105,722	n/a	5,719,065	56.6%	n/a	7,583,815	75.0%	n/a
Non-Hispanic	White	2,676,982	26.5%	1,276,032	47.7%	22.3%	1,748,882	65.3%	23.1%
	Black or African American	799,579	7.9%	547,534	68.5%	9.6%	655,942	82.0%	8.6%
	American Indian and Alaska Native	19,915	0.2%	9,268	46.5%	0.2%	14,011	70.4%	0.2%
	Asian	1,442,577	14.3%	719,361	49.9%	12.6%	1,014,327	70.3%	13.4%
	Native Pacific Islander	24,950	0.2%	13,514	54.2%	0.2%	19,066	76.4%	0.3%
	Other Non-Hispanic	467,320	4.6%	238,110	51.0%	4.2%	323,651	69.3%	4.3%
	Non-Hispanic Total	5,212,143	51.6%	2,693,628	51.7%	47.1%	3,625,047	69.6%	47.8%
	Hispanic Total	4,893,579	48.4%	3,025,437	61.8%	52.9%	3,958,768	80.9%	52.2%

Note: All figures based on 2017 population and demographics

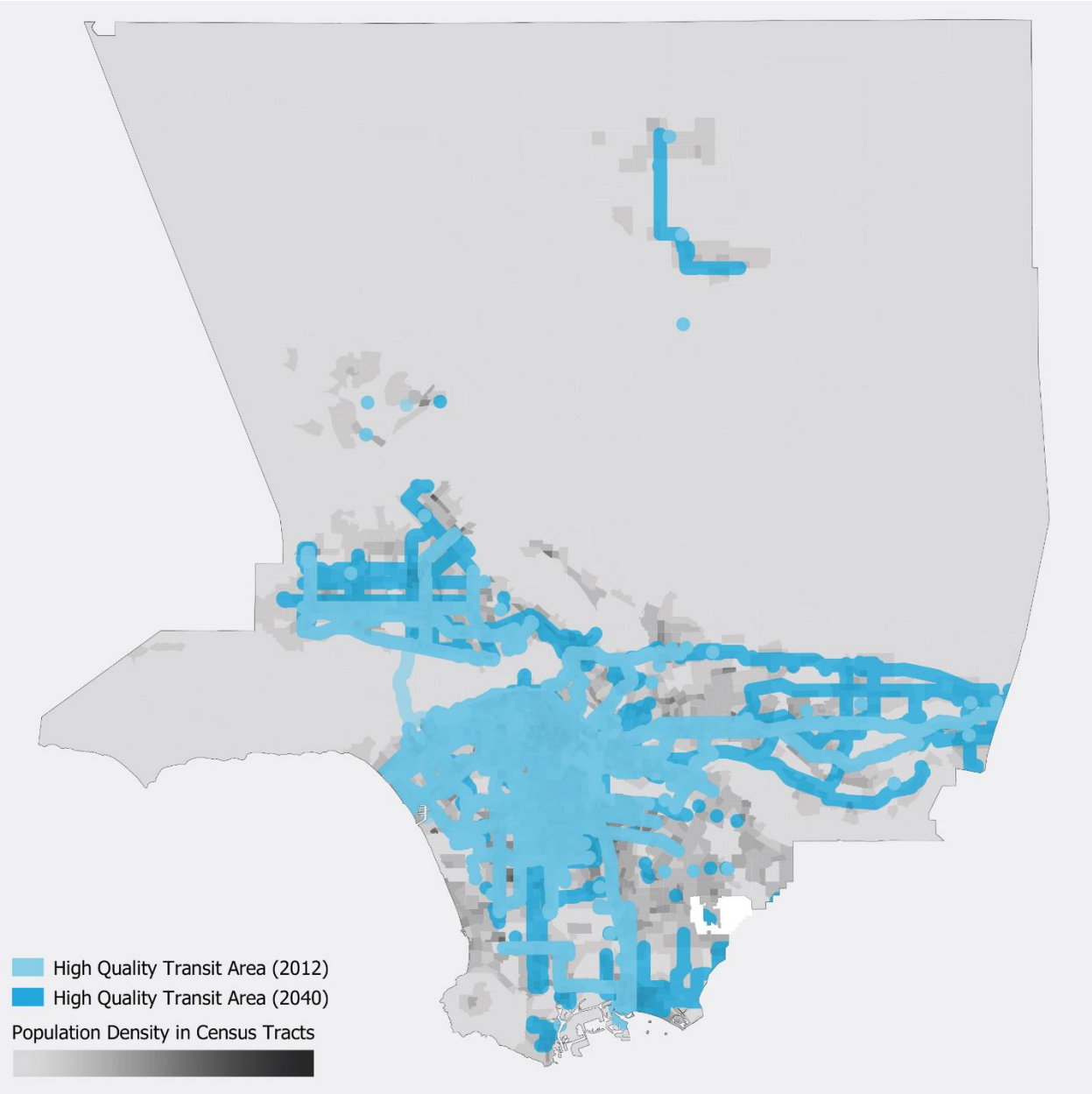


Figure 46. High Quality Transit Areas (2012 and 2040) and Population Density (2017) (darker is denser)

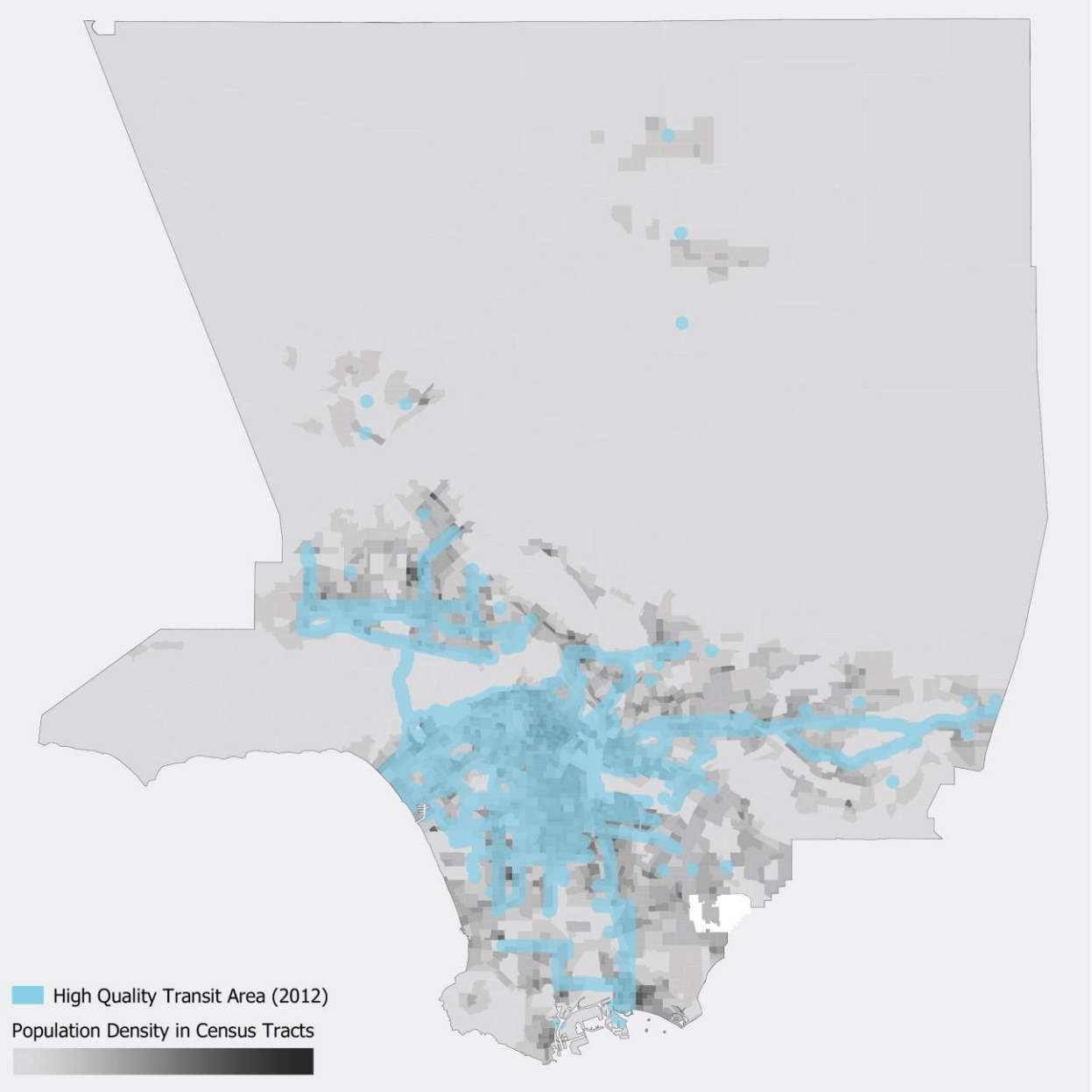


Figure 47. High Quality Transit Areas (2012) and Population Density (2017) (darker is denser)

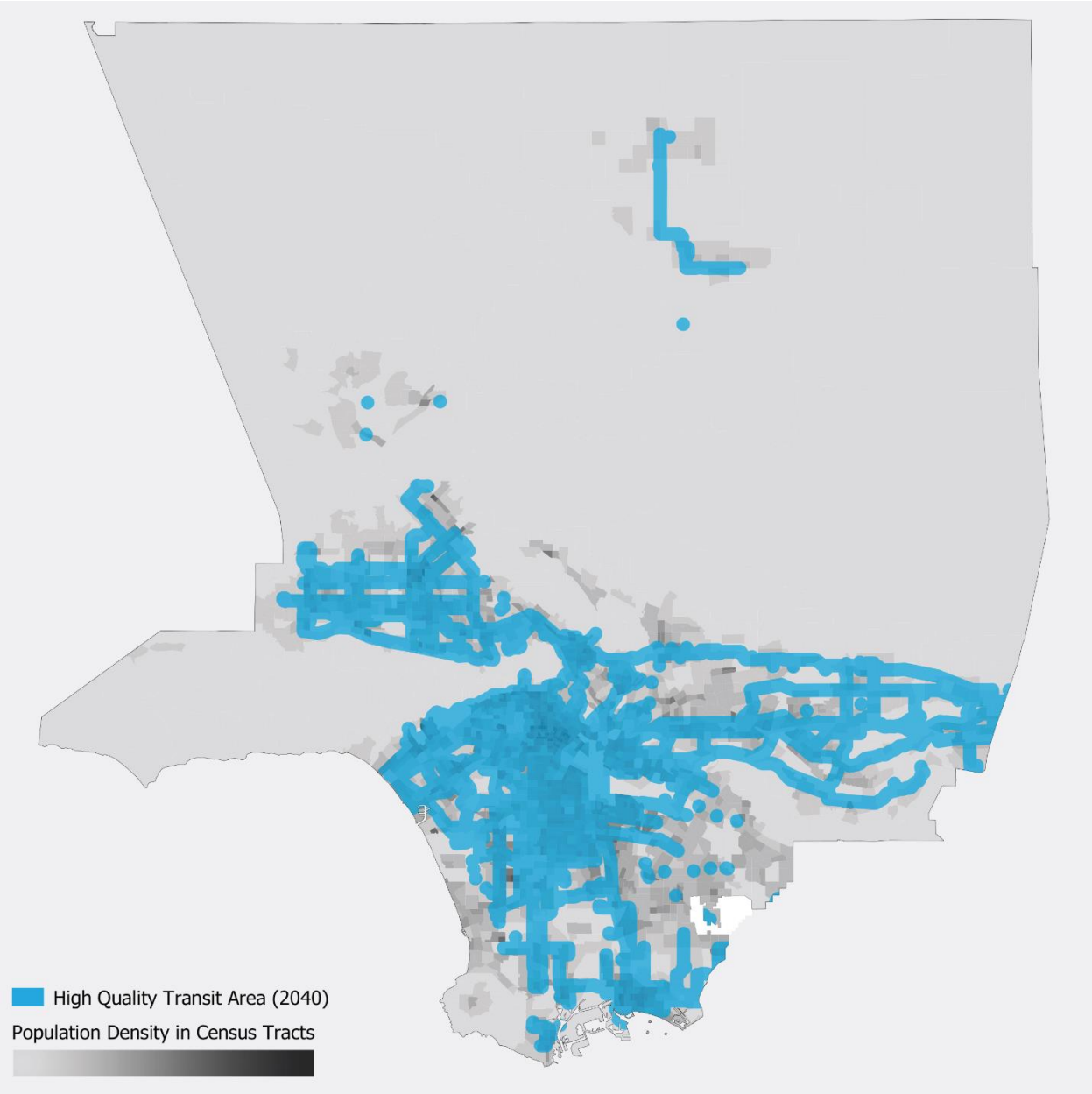


Figure 48. High Quality Transit Areas (2040) and Population Density (2017) (darker is denser)

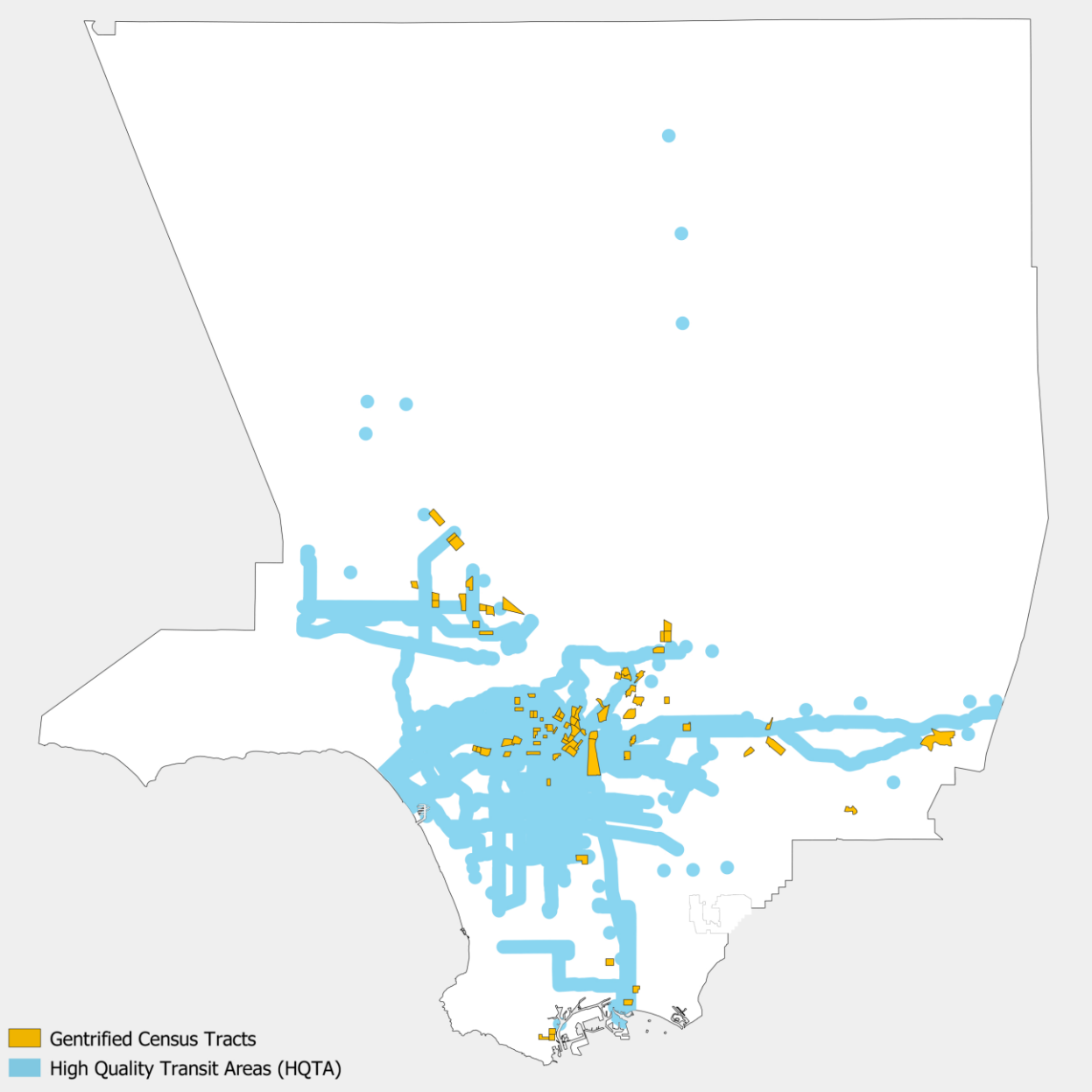


Figure 49. Gentrified Census Tracts (2016) and Proximity to HQTAs (2012)

OurCounty

6. Jobs Located within High Quality Transit Areas

Indicator Name:	Jobs Located within High Quality Transit Areas
Data Source:	High Quality Transit Areas Shapefiles for 2012 and 2040 from Southern California Association of Governments GIS Data Portal. http://gisdata-scag.opendata.arcgis.com/datasets/43e6fef395d041c09deaeb369a513ca1_1 Jobs data: Longitudinal-Employer Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES; 2015). Washington, DC: U.S. Census Bureau, Longitudinal-Employer Household Dynamics Program, accessed on March 4, 2019 at https://onthemap.ces.census.gov. LODES 7.3. (Dataset: Work Area Profile Analysis in 2015 by All Jobs)
Analysis File:	TODJobs.mxd is the GIS work file.
Metadata File:	20190217_Transportation_Indicators.xlsx
Methods:	• High Quality Transit Areas (HQTAs) are defined as being within 1/2-mile of fixed guideway transit and/ or bus rapid transit stations with service every 15 minutes or less during peak commute times. SCAG published two shapefiles of (HQTAs): one for actual HQTAs in 2012, and one for planned HQTAs in 2040. HQTAs were mapped for the county, along with population density. • 2015 jobs data (selected as Work Area Profile Analysis in 2015 by all) was downloaded from the Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics (LODES) for LA County (most recent year available is 2015). LODES data exports a shapefile, using one point for each census block in which there is at least one job. Each point is then assigned a value equal to the number of jobs in the entire census block. • ArcGIS was used to determine the total number of 2015 jobs located in both 2012 HQTAs and planned 2040 HQTAs. For 2012 and 2040, the jobs shapefile was clipped by the HQTA shapefile, exported an excel file, and calculated the total number of jobs within an HQTA. Notes: LODES uses the most recent data, so 2015 jobs locations and a 2012 map of HQTA was used. Since HQTA includes express bus as well as

	rail, the opening of the Expo line did not expand HQTAs. • The 2040 plan for HQTA expansion is based on the 2016 Regional Transportation Plan. Due to the passage of Measure M and the 20 by 28 plan, these projects will be accelerated and expanded.
Findings:	• 56.7% of all 2015 jobs are located within ½ mile of High Quality Transit as mapped in 2012. • 72.7% of all current 2015 jobs will be located within ½ mile of High Quality Transit by 2040. The percent of jobs accessible by High Quality Transit in 2040 will likely increase if current policies to increase density in proximity to transit are successful. • Note: When interpreting spatial presentations, census blocks are determined by population and are ideally about 1500 people, so denser areas have geographically smaller census blocks. Darker colors represent a greater proportion of jobs/residents. Most of LA County, and most census blocks within HQTAs have a consistent number of jobs (for example, strip malls) and population, and only a few places have many jobs. For example, the area surrounding LAX is dark blue because there are many jobs but few residents.

Figures

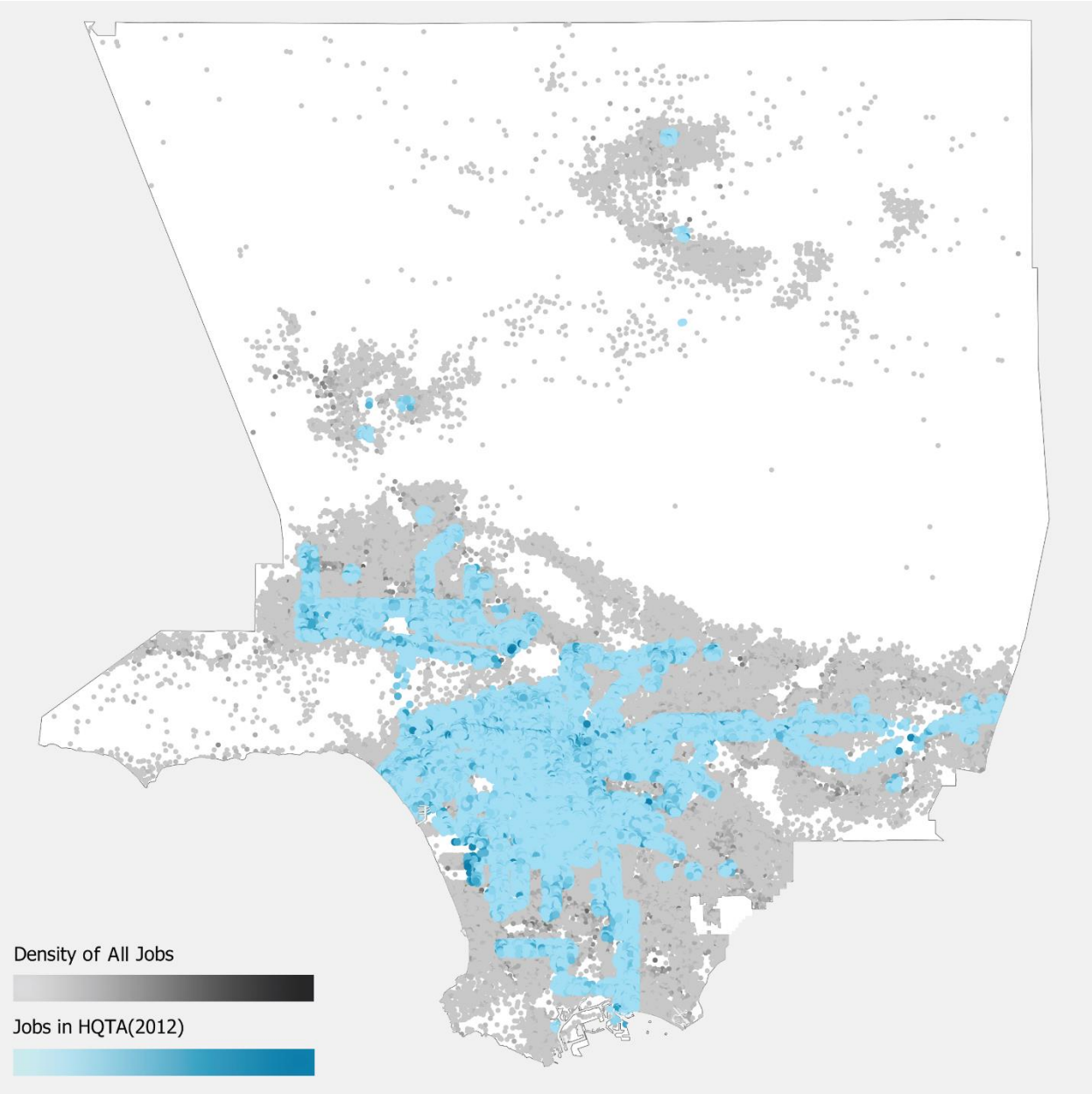


Figure 50. 2015 Jobs Within 2012 HQTAs Compared to All 2015 Jobs.
Note: Catalina Island does not have any HQTAs

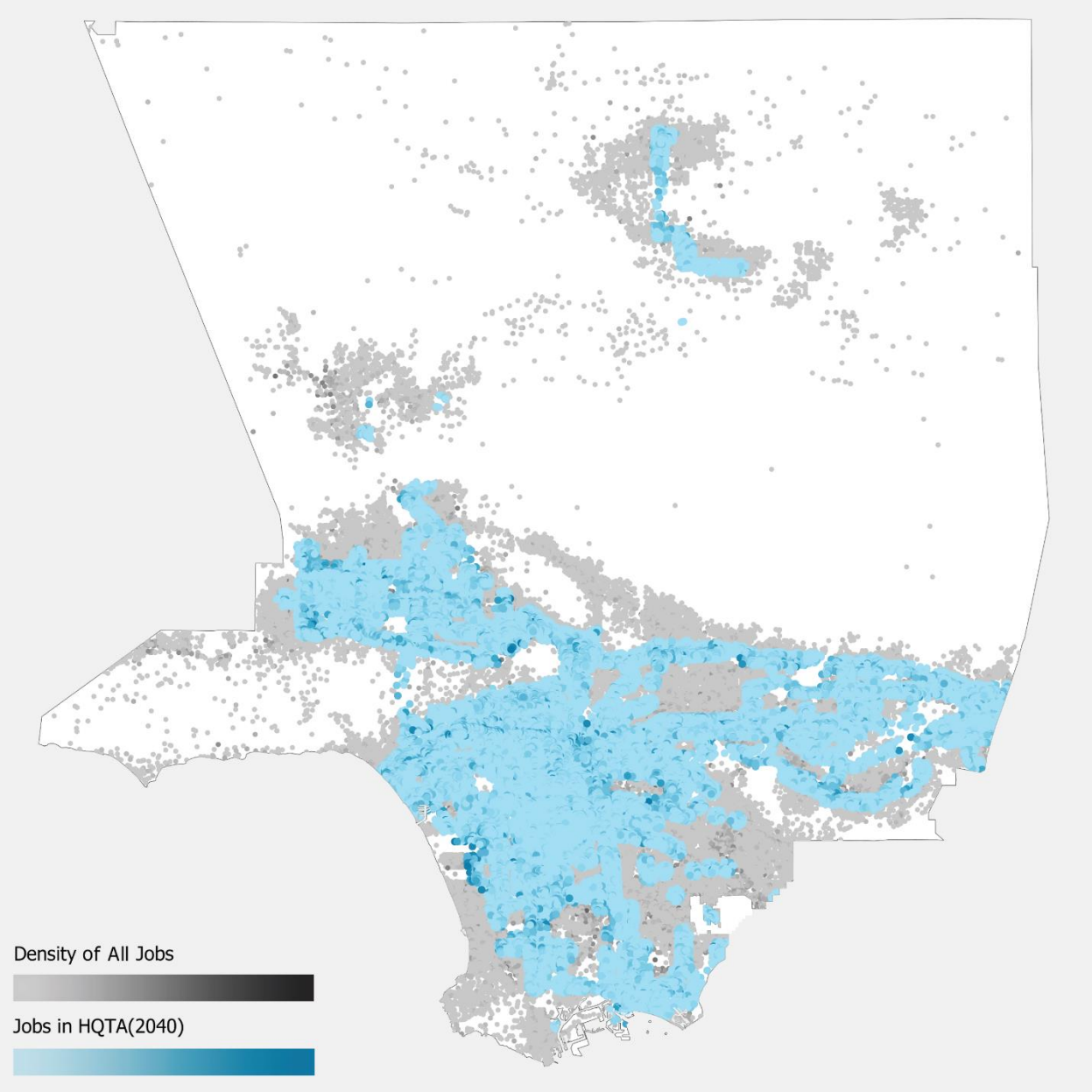


Figure 51. 2015 Jobs Within 2040 HQTAs Compared to All 2015 Jobs.
Note: Catalina Island does not have any HQTAs

OurCounty

7. Walk Score

Indicator Name:	Walk Score
Data Source:	Taken from Walk Score website on March 22, 2019. Available at https://www.walkscore.com/
Analysis File:	20190322_Walk Score_Analysis.xlsx
Metadata File:	20190217_Transportation_Indicators.xlsx
Methods:	• Walk Score is a service that grades the "walkability" of select geographies. Their methodology is proprietary, and historical information is only available with a subscription. The website interface was used to gather the individual Walk Score for each available city and unincorporated community within LA County. The Walk Score for each city/ community was gathered one at a time from the web interface and then entered into a spreadsheet. • From this data, a bar chart of the average Walk Score of each city and neighborhood was created – from most walkable to least (highest score to lowest score). • The median Walk Score for all geographies was calculated and added a line to the bar chart to indicate the median for the County. • The straight average (not weighted) Walk Score was calculated for incorporated cities and for unincorporated communities and added two lines to the bar chart to indicate these averages.
Findings:	• The median walk score for all cities and communities in LA County is 60.5 (where data is available) (March 2019). • The average walk score for incorporated cities within LA County is 59 (March 2019) • The average walk score for unincorporated communities within LA County is 47 (March 2019).

Figures

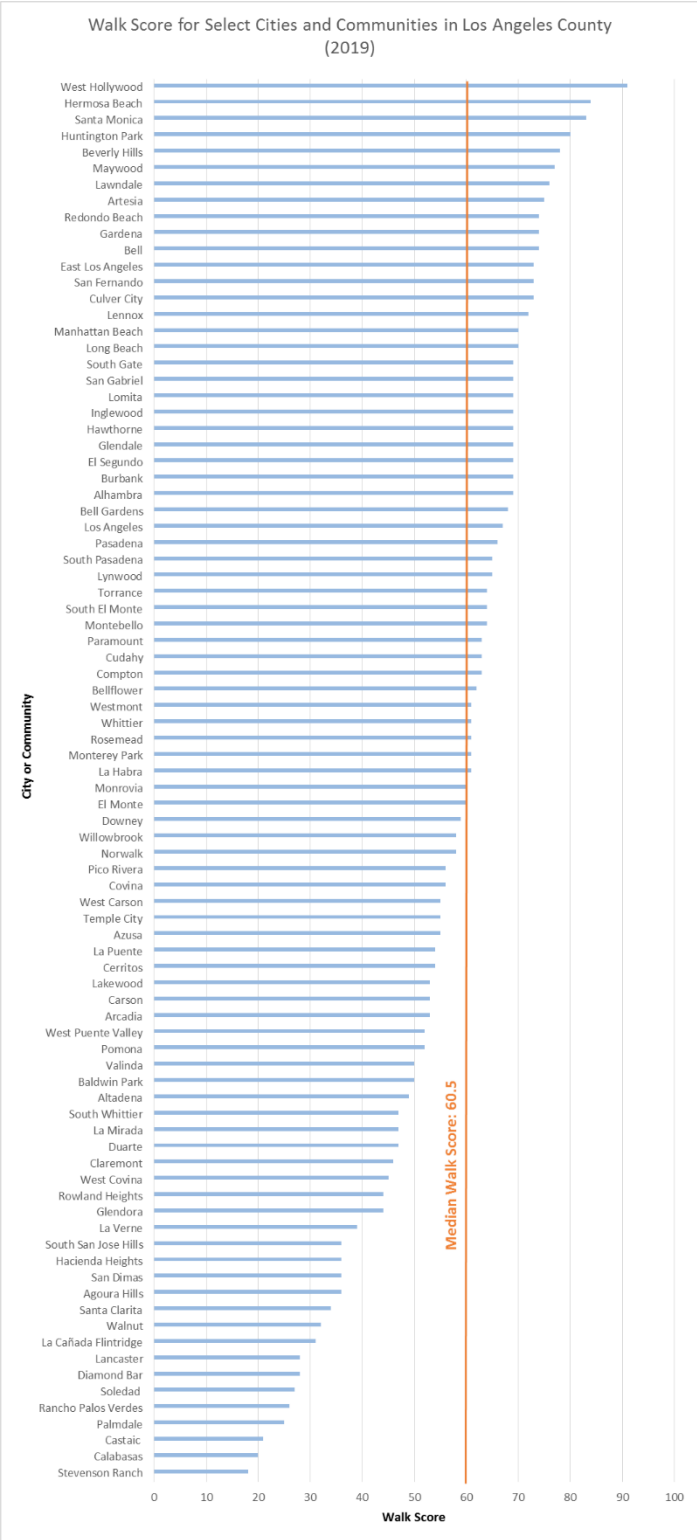


Figure 52. Walk Scores for Select Cities and Communities in LA County with Median Walk Score

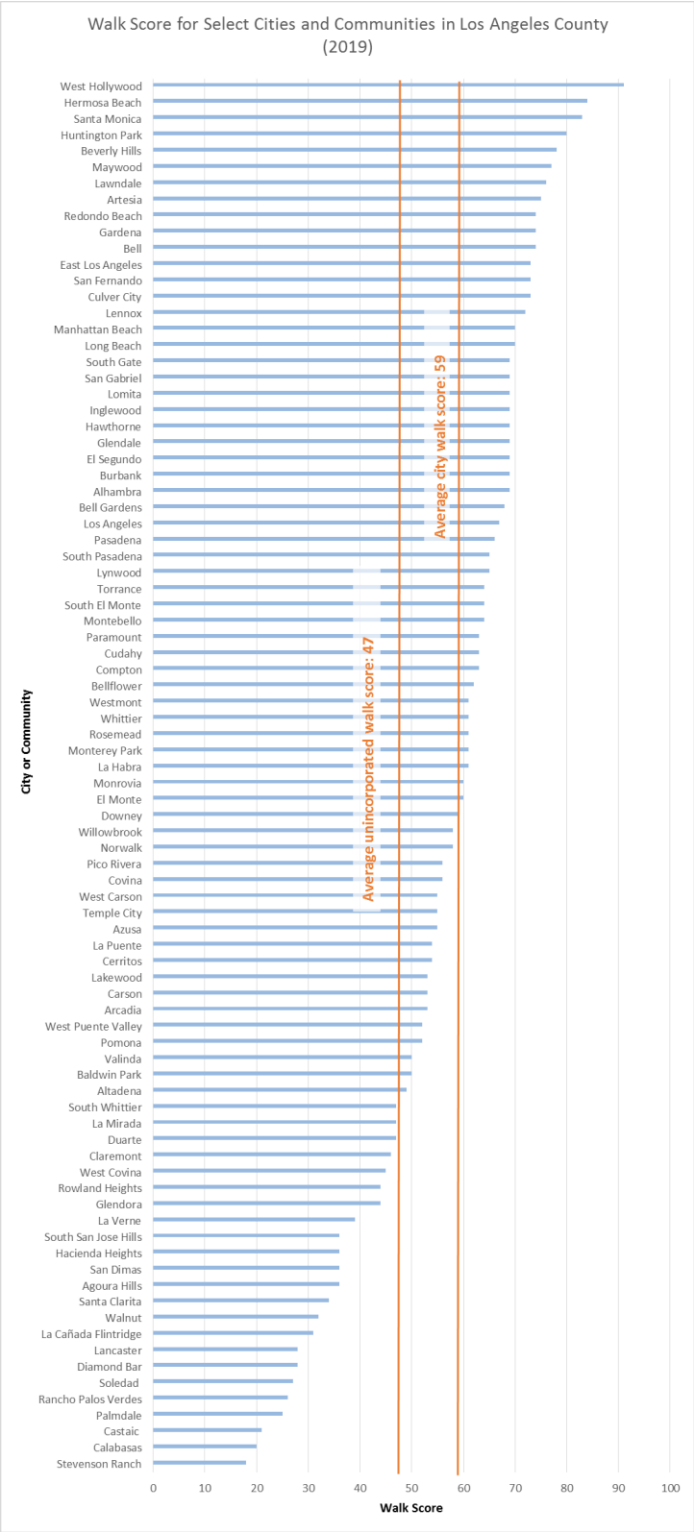


Figure 53. Walk Scores for Select Cities and Communities in LA County with Average Unincorporated and Average City Walk Score

OurCounty

8. Bicycle and Pedestrian Collisions

Indicator Name:	Bicycle and Pedestrian Collisions
Data Source:	Transportation Injury Mapping System (TIMS). Maintained by Safe Transportation Research and Education Center at University of California, Berkeley Number of Fatalities of Severe Injuries from Bicycling Collisions (2006-2015) Number of Fatalities of Severe Injuries from Pedestrian Collisions (2006-2015) https://tims.berkeley.edu/
Analysis File:	20190311_BikePedCollisions_Analysis.xls
Metadata File:	20190217_Transportation_Indicators.xlsx
Methods:	• Geocoded point data from the Transportation Injury Mapping System (TIMS) for all collisions in LA County from 2006-2015 (the latest year available) was downloaded. The data set was narrowed to collisions in which bicyclists or pedestrians were the victims. The data set was further narrowed to fatalities and severe injuries for two reasons. First, this best addresses the goals of the County's Vision Zero Plan. Vision Zero Plans, in the County and elsewhere, aim to prevent fatalities by reducing vehicle speed to minimize the risk of severe injury from collisions. Second, TIMS data is less reliable for minor injuries and does not represent frequently unreported collisions. • A pivot table was used to calculate the number of bicyclist and pedestrian fatalities and severe injuries from 2006-2015 and presented this data graphically. • The TIMS data was loaded into GIS and overlaid it on a map of LA County. Transparent points were used to convey what areas have had the highest number of collisions between 2006-2015.
Findings:	**Bicyclists** • The number of bicyclists killed remained relatively steady from 2006-2015, even though the County population and the number of bike commuters increased. The lowest number of fatalities was 22

	in 2009, and the greatest was 36 in 2013. • The number of bicyclists injured increased from 2007 to 2011, peaking at 277. The number of bicyclists severely injured decreased every year since 2011, to 216 bicyclists in 2015. • The per capita rate of fatality or severe injury for bicyclists increased slightly from 2006-2015, from 23.4 per million to 24.5 per million, although the overall number of bicycle commuters increased. **Pedestrians** • The number of pedestrians killed remained relatively steady from 2006-2015, even though the County population increased. The lowest number of fatalities was 171 in 2011, and the greatest was 222 in 2014. • The number of pedestrians severely injured peaked in 2007 at 750 and decreased to a low of 554 in 2011. Injuries increased to 620 in 2015. • The per capita rate of fatality or severe injury for pedestrians decreased slightly from 2006-2015, from 62.6 per million to 60.9 per million.

Figures

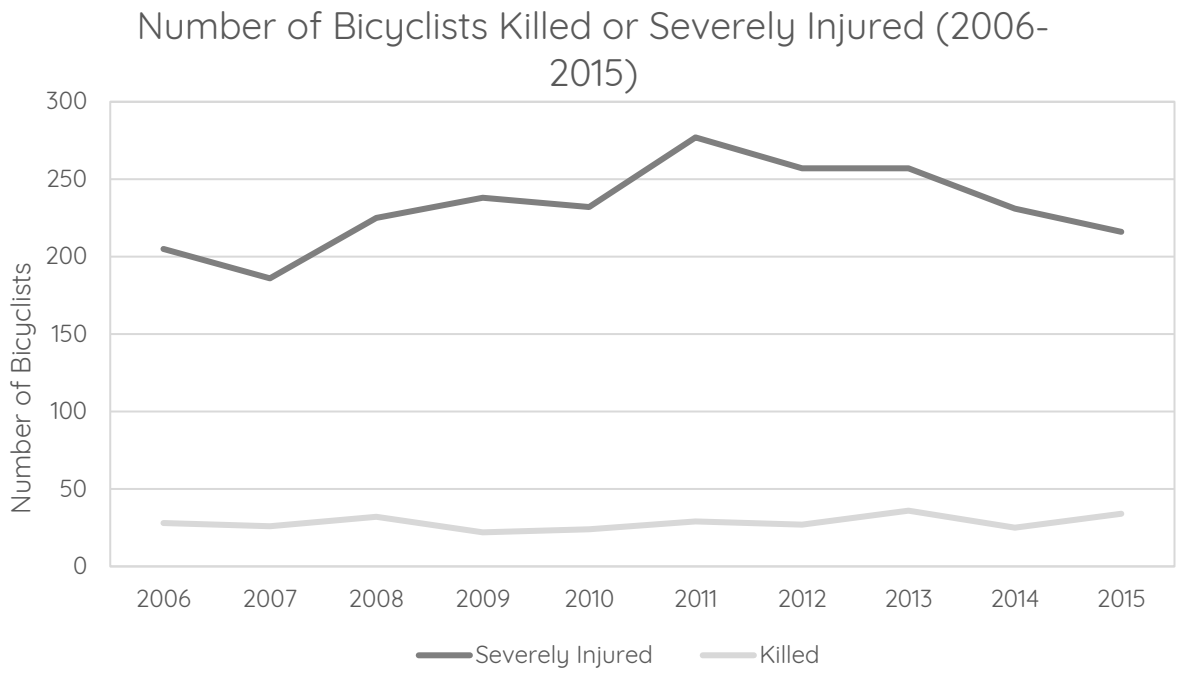


Figure 54. Number of Bicyclists Killed and Severely Injured in LA County (2006-2015)

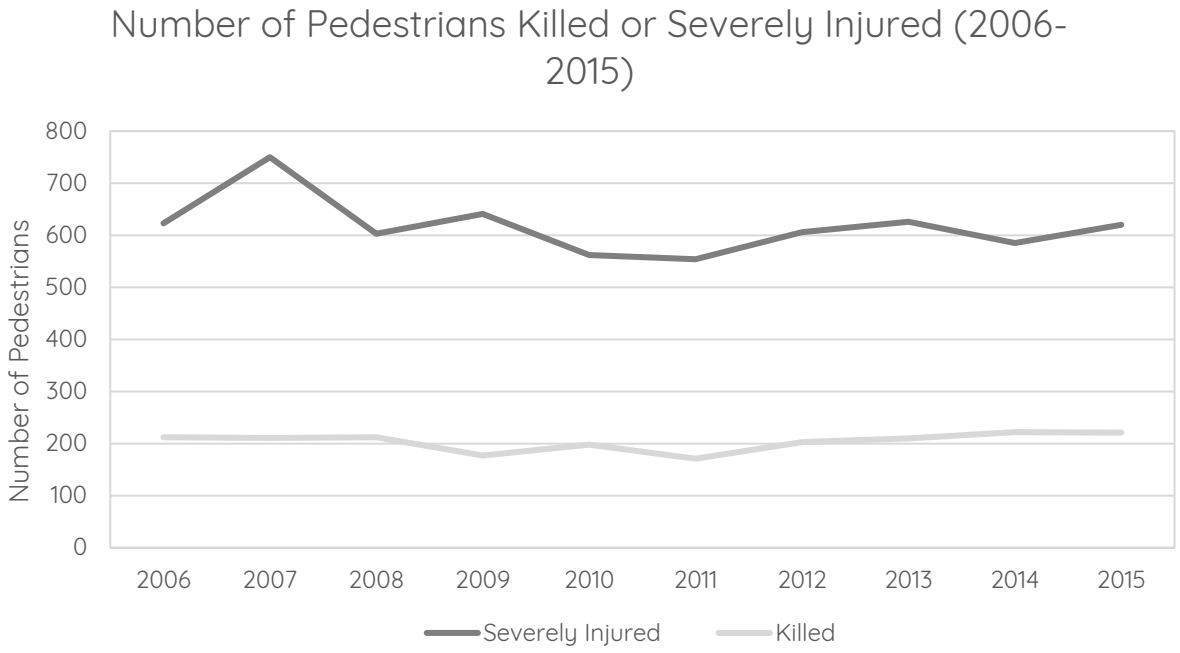


Figure 55. Number of Pedestrians Killed and Severely Injured in LA County (2006-2015)

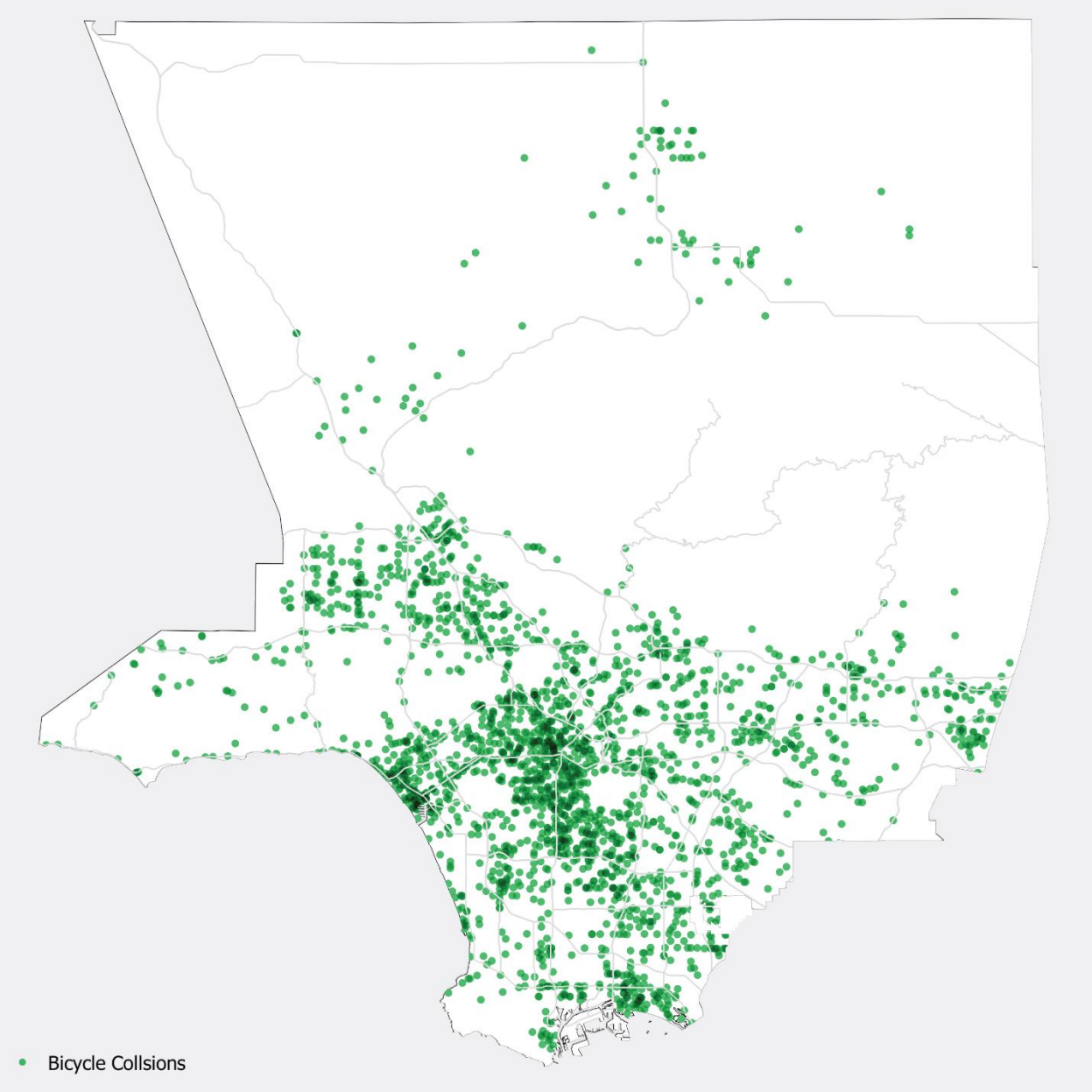


Figure 56. Bicyclist Fatalities and Severe Injuries in LA County (2006-2015).
Each dot represents one collision.

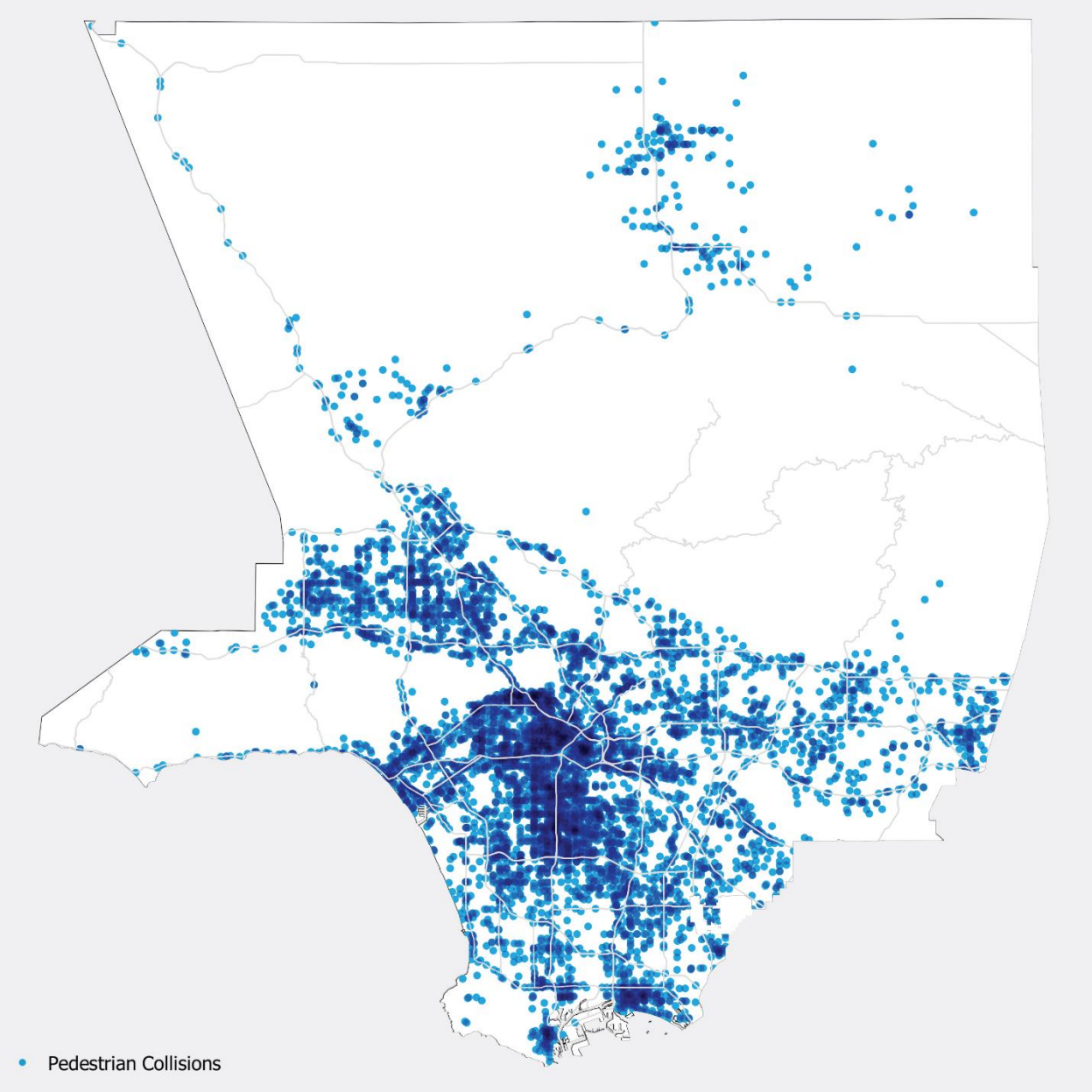


Figure 57. Pedestrian Fatalities and Severe Injuries in LA County (2006-2015).
Each dot represents one collision.

OurCounty

Water

1. Percent Local Water

Indicator Name:	Percent Local Water
Data Source:	Metropolitan Water District (MWD) – data request, LA County sources of water
Analysis File:	20180910_PercentLocalWater_analysis.xlsx
Metadata File:	20190226-WATER_Indicators.xlsx
Methods:	• Water is supplied across LA County by approximately 100 different suppliers, many of which source their water through Metropolitan Water District (MWD), the regional wholesale water agency. MWD imports water from the Bay-Delta via the State Water Project (SWP) and from the Colorado River via the Colorado River Aqueduct (CRA). • Since it was infeasible to compile data from all suppliers, MWD data for LA County (provided through a data request) was used to understand water sources for the entire county. • MWD identifies four main sources for LA County's water: imported water, local groundwater and surface water, the Los Angeles Aqueduct (LAA, which supplies the City of Los Angeles only), and local recycled water. • For evaluation purposes, LAA supplies was considered to be imported water. • How much water came from each source was examined. • The most recent (2017) values to historical data (2000-2017) was compared. Note: Although City of LA counts conservation as part of their local water supply, this definition was not included in this analysis.
Findings:	• Just under 1.5 million acre-feet of water was supplied to LA County in 2017. This is close to half a million acre-feet less than in the year 2000. • In 2017, approximately 59% of the water used in LA County was sourced from outside the region. This breaks down as: 33% from MWD service water and 26% from the LAA. While the percentage of water sourced from outside the region was similar in 2016 and 2017

	(55% and 59%, respectively), the percentage of water provided through the LAA increased by from 6% in 2016 to 26% in 2017, while the percentage from MWD imports decreased from 49% in 2016 to 33% in 2017. • Groundwater resources provided 32% of total Countywide demand, and local recycled water contributed 9%. Together, these sources provided 41% of the total supply. However, because the MWD category "groundwater" includes both runoff from local watersheds as well as an unspecified amount of imported water used for groundwater replenishment, it is not currently possible to accurately answer the question of how much of LA County's supply is truly local.

Figure:

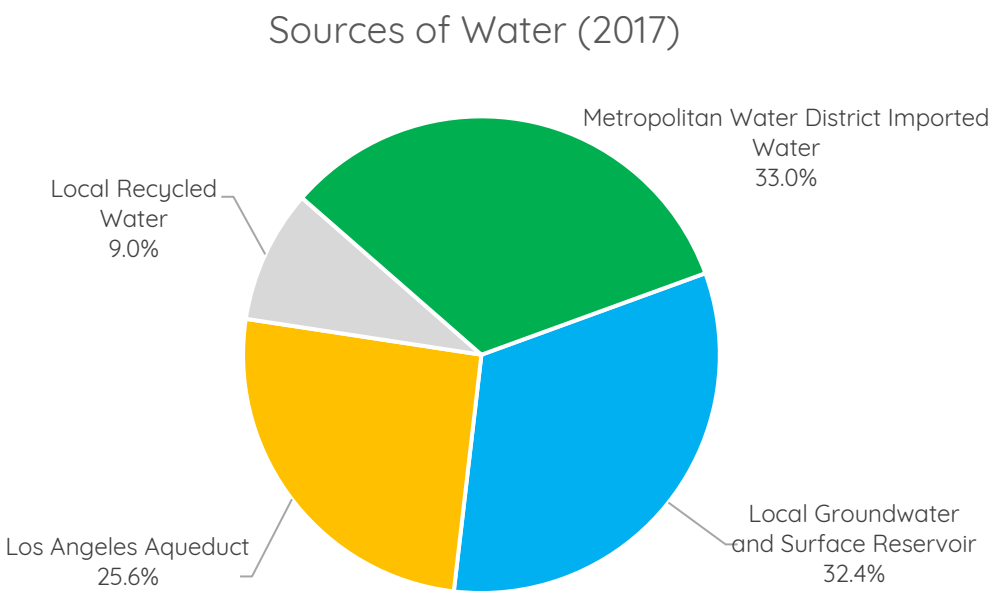


Figure 58. LA County Sources of Water (2017)

OurCounty

Table 28. LA County Water Sources (2000-2017)

LA County Total Water Use, 2000-2017					
Year	Local Groundwater and Surface Reservoir	Los Angeles Aqueduct	Local Recycled Water	MWD Imported Water	Total Water Use (acre-feet)
2000	643,843	255,182	94,137	947,078	1,940,240
2001	616,474	266,923	94,243	841,954	1,819,594
2002	613,366	179,338	132,124	990,229	1,915,057
2003	620,111	251,942	95,700	873,461	1,841,214
2004	610,182	202,547	90,972	990,286	1,893,987
2005	594,349	368,839	84,145	703,064	1,750,397
2006	632,423	378,922	105,793	752,105	1,869,243
2007	668,040	129,400	116,076	954,506	1,868,022
2008	614,999	147,365	110,482	883,693	1,756,539
2009	607,889	137,084	116,571	750,643	1,612,187
2010	577,538	251,090	117,395	637,754	1,583,777
2011	540,002	355,127	94,573	560,326	1,550,028
2012	605,320	166,858	128,391	708,627	1,609,196
2013	609,559	72,173	133,512	853,172	1,668,416
2014	616,487	74,493	141,131	802,740	1,634,851
2015	526,868	34,683	119,649	790,181	1,471,381
2016	522,655	95,477	141,262	734,689	1,494,083
2017	482,688	380,711	134,451	491,714	1,489,564

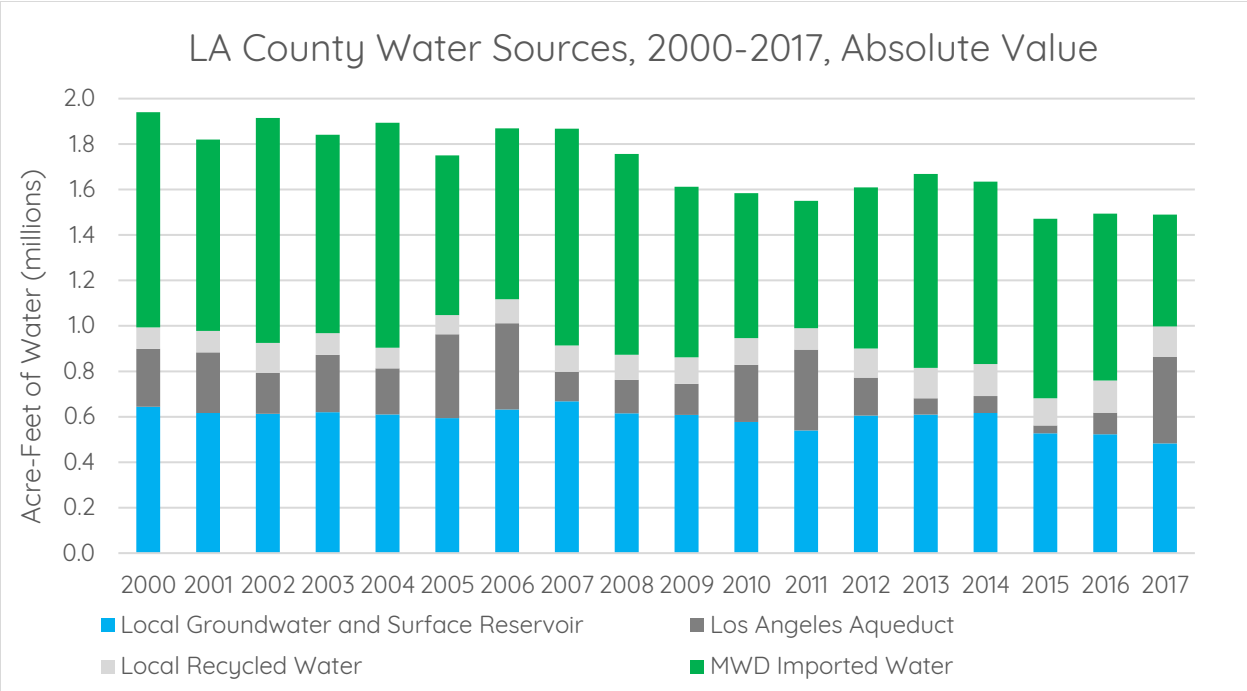


Figure 59. LA County Water Sources (Absolute) (2000-2017)

OurCounty

2. Per Capita Water Consumption

Indicator Name:	Per Capita Water Consumption
Data Source:	MWD Consumption Data
Analysis File:	20180910_PerCapitaWaterConsumption_analysis.xlsx
Metadata File:	20190226-WATER_Indicators.xlsx
Methods:	• County-wide water consumption was reviewed using data from the Metropolitan Water District (MWD) for LA County, provided through a data request. • The three categories of water use are: "Total Municipal and Industrial (MI) Demand" which is self-explanatory; "Potable Consumptive Demand" which is MI Demand minus recycled water – this is the value used to calculate gallons per capita per day (GPCD) water use for compliance with SBX7-7; and "Total Demand" which includes MI, agricultural, seawater barrier and groundwater replenishment. • Data for 2000-2017 was reviewed, with particular interest in changes since 2013, in response to the Governor's January 2014 drought declaration.
Findings:	• Between 2000 and 2017, there was a decrease of over 27% in total countywide water demand. • More recently, there was a 12% decrease in total countywide demand between 2013 and 2017, from 163 to 143 gallons per capita per day (GPCD). • Both potable consumptive demand and total MI demand increased between 2016 and 2017, by 3-4%; however, total demand remained below the 2016 level.

Figure:

Table 29. Water Demand in LA County Sourced by Metropolitan Water District (2000-2017)

Water Demand in LA County Sourced by Metropolitan Water District (2000-2017)			
GPCD	Total Municipal and Industrial Demand	Potable Consumptive Demand (20x2020)	Total Demand
2000	177	167	197
2001	168	158	183
2002	173	160	191
2003	170	161	183
2004	173	164	187
2005	163	155	173
2006	170	160	185
2007	175	164	186
2008	168	157	175
2009	152	141	160
2010	142	131	157
2011	139	130	153
2012	148	135	158
2013	150	137	163
2014	148	134	159
2015	127	116	142
2016	124	111	144
2017	128	116	143

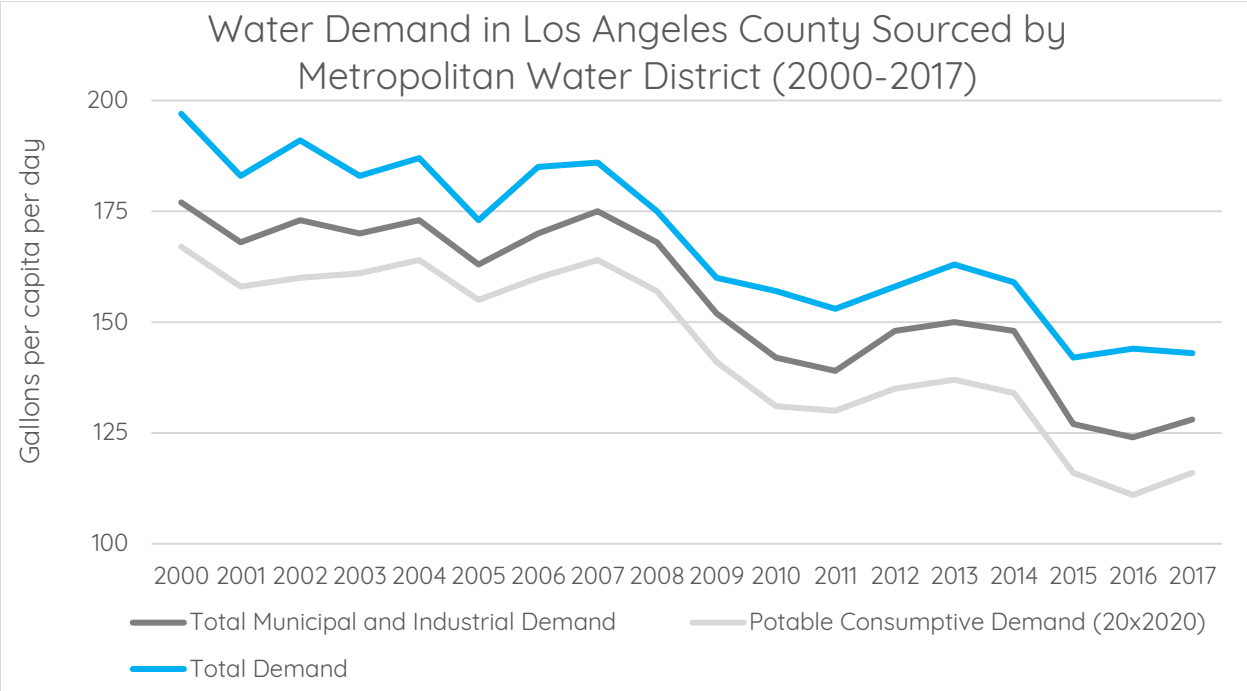


Figure 60. Water Demand in LA County Sourced by Metropolitan Water District (2000-2017)

OurCounty

3. Exceedances of Primary Maximum Contaminant Levels (MCLs) by Public Drinking Water Systems

Indicator Name:	Exceedances of Primary Maximum Contaminant Levels (MCLs) by Public Drinking Water Systems
Data Source:	State Water Resources Control Board (SWRCB) - Annual Compliance Reports https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Publications.html
Analysis File:	20190314_ExceedancesofMCLsDrinkingWater_analysis.xlsx
Metadata File:	20190226-WATER_Indicators.xls
Methods:	Violations of maximum contaminant levels (MCLs) for primary drinking water contaminants in public water systems in LA County were reviewed, as listed in the Annual Compliance Reports published by the SWRCB, or, for 2012 and 2013, published by the DPH. Reports from 2012-2017 were used. Note that data on secondary MCL violations is not contained in the reports. In some cases, the same violation is listed multiple times on the ACR due to responsive actions being reported via separate listings; the number of violations were identified using the unique violation identification number and compliance period dates to avoid duplicative counting.
Findings:	• In 2017, seven public water systems in LA County, serving a total of over 60,000 residents, had a combined total of 10 violations of primary MCLs. • Overall, 50 water systems had violations of at least one MCL from 2012 through 2017. • There is no clear trend in the number of violations and in the number of systems in violation over the six-year review period. • All violations for the last 6 years were for arsenic, nitrate, or total coliform bacteria, with the exception of one TTHM (Total Trihalomethane) violation in 2017. • The population served by systems with MCL violations was significantly higher in 2012 (74,931 people) and 2017 (61,641 people) than for the intervening years (when it ranged between 3,850 and 2,909), due to larger water systems having violations in those

	years only. In 2012, the City of Beverly Hills and the El Monte City Water Department had violations; in 2017, the City of La Verne Water Division and California State Polytechnic University – Pomona had violations. • Annual Compliance Reports from the SWRCB do not contain information on secondary MCL violations – this is a significant data gap that needs to be filled.

Figure:

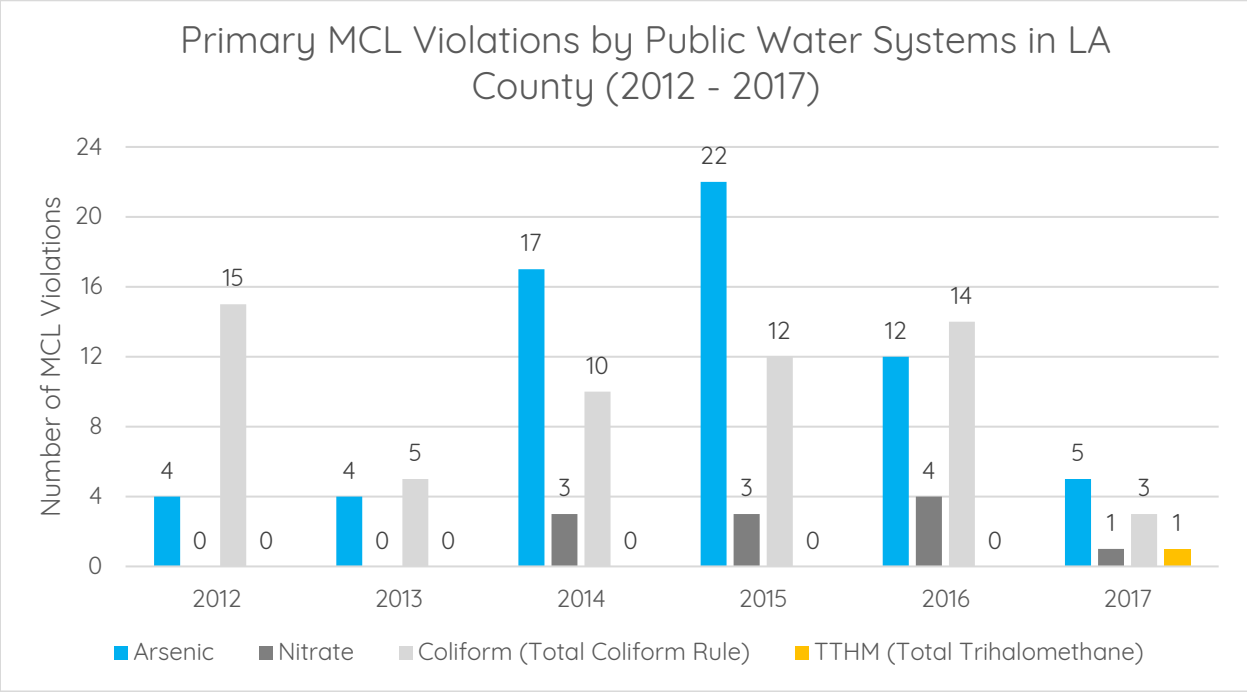


Figure 61. Primary MCL Violations by Public Water Systems in LA County (2012-2017)

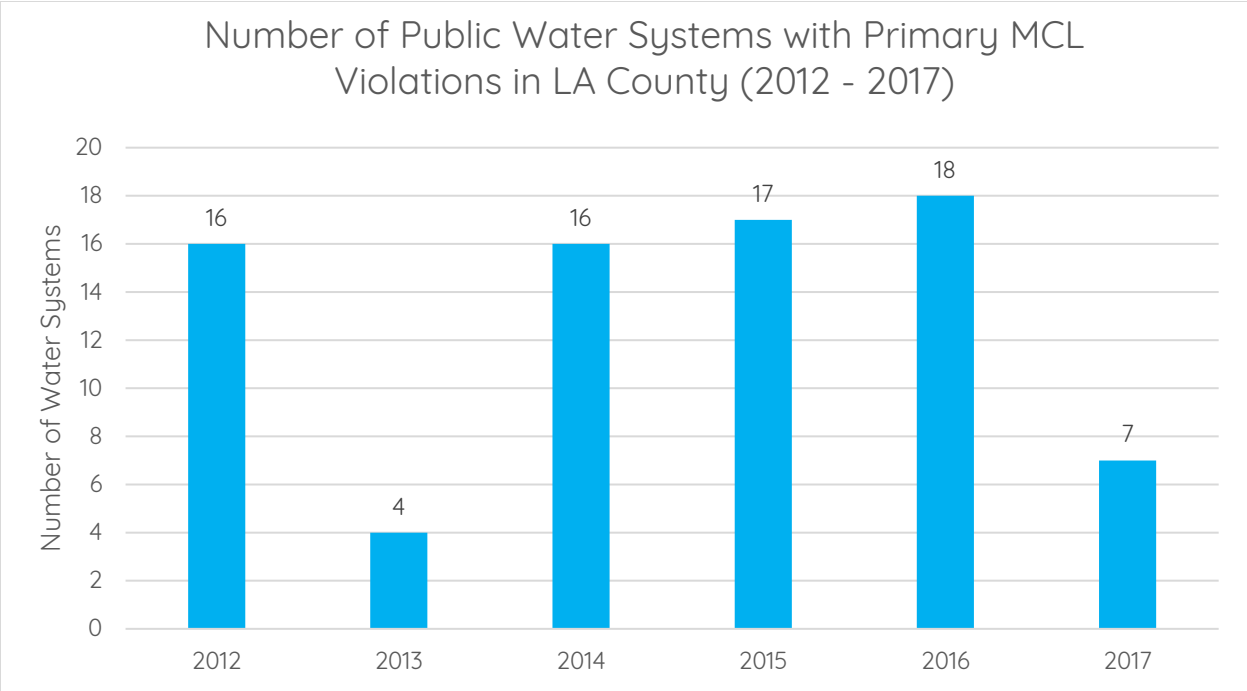


Figure 62. Number of Public Water Systems with Primary MCL Violations in LA County (2012-2017)

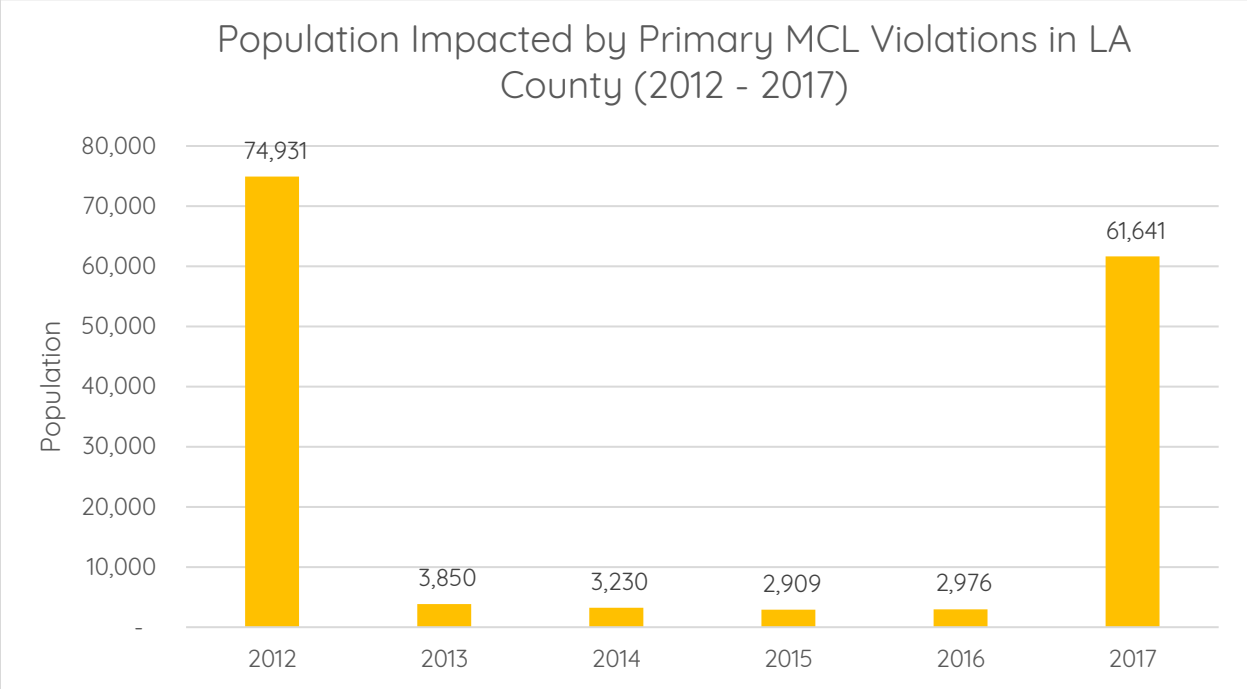


Figure 63. Population Impacted by Primary MCL Violations in LA County (2012-2017)

OurCounty

4. Exceedances of MCLs in Groundwater

Indicator Name:	Exceedances of Maximum Contaminant Levels in Groundwater
Data Source:	GeoTracker GAMA (Groundwater Ambient Monitoring & Assessment) Database http://geotracker.waterboards.ca.gov/gama/
Analysis File:	20190326_GroundwaterExceedancesofMCLs_analysis_all.xlsx
Metadata File:	20190226-WATER_Indicators.xls
Methods:	• Groundwater contamination was evaluated using reports generated by the GeoTracker GAMA (Groundwater Ambient Monitoring & Assessment) database. • Concentrations of 39 historically-prevalent groundwater pollutants in public water system wells were reviewed. • The percent of wells with concentrations above maximum contaminant levels (MCLs) or comparison concentrations (health-based target values from other sources used where no Federal or State MCLs have been promulgated) were reviewed. • The most recent year of data, 2018/19 (based on 2019 MCLs) were reviewed, and these results were compared to two previous analyses conducted for 2013/14 and 2017 (both based on 2017 MCLs). Note that the previous two analyses did not include 1,2,3-TCP, so there are no data for comparison. Due to the nature of the request function of the GAMA database tool, 2013/14 data covers Sept 2013 – July 2014; 2017 data covers Jan-Nov 2017; and 2019 data covers approximately Apr 2018 through Mar 2019. Information on MCL or Comparison Concentration type is from the State Water Board website.
Findings:	• In 2018/19, 23 of 39 pollutants exceeded their MCLs or comparison concentrations in one or more wells. • The pollutants that exceeded the most frequently in 2018/19 were 1,4-dioxane, in 36% of monitored wells, and manganese, in 20% of monitored wells. Exceedances occurred in less than 13% of monitored wells for all other pollutants. There were no exceedances for 16 pollutants.

	• Although there were 13 pollutants that had increases in percentage of wells above the threshold from the previous period, the changes were minor. • For three pollutants (Manganese, N-Nitrosodimethylamine (NDMA), and Chromium hexavalent (Cr6)) changes from the previous period could not be assessed due to recent changes in the MCL or comparison concentration.

Figure:

Table 30. Groundwater Quality for Selected Pollutants in Public Water System Wells in LA County (2013-2019)

Groundwater Quality for Selected Pollutants in Public Water System Wells in LA County (2013-2019)												
#.	Pollutant	Comparison Concentration Type**		MCL or Comparison Concentration			Total no. of Public Water System Wells			% of Public Water System Wells with Concentration > MCL or Comparison Concentration		
		2017	2019	2013/14	2017	2018/19	2013/14	2017	2018/19	2013/14††	2017	2018/19
1	1,4-Dioxane	NL	NL	1 ug/L	1 ug/L	1 ug/L	213	213	208	25.5%	46.0%	35.6%
2	Manganese	HAL-US	SMCL		300 ug/L	50 ug/L	468	394	336	0.6%	1.8%	19.9%
3	Trichloroethene (TCE)	MCL-US	MCL-US	5 ug/L	5 ug/L	5 ug/L	806	712	676	12.7%	12.1%	13.8%
4	Perchloroethene/Tetrachloroethylene or PCE	MCL-US	MCL-US	5 ug/L	5 ug/L	5 ug/L	823	715	687	9.0%	10.5%	11.5%
5	Arsenic	MCL-US	MCL-US		10 ug/L	10 ug/L	422	360	301	9.2%	7.8%	10.6%
6	Perchlorate	MCL-CA	MCL-CA	6 ug/L	6 ug/L	6 ug/L	637	615	542	9.1%	8.5%	9.8%
7	N-Nitrosodimethylamine (NDMA)	CA-CPF	NL		0.0022 ug/L	0.01 ug/L	106	123	109	22.6%	13.0%	9.2%
8	Iron	SMCL	SMCL		300 ug/L	300 ug/L	447	377	321	9.6%	10.6%	8.7%
9	Nitrate as N	MCL-US	MCL-US	45 mg/L (applied to results reported as NO3)	10 mg/L	10 ug/L	871	815	773	8.8%	7.1%	8.4%
10	Boron	NL	NL		1 mg/L	1 mg/L	193	156	133	0.5%	0.6%	8.3%
11	Carbon Tetrachloride	MCL-CA	MCL-CA		0.5 ug/L	0.5 ug/L	771	682	669	6.1%	6.0%	5.7%
12	1,2,3-Trichloropropane (1,2,3-TCP)		MCL-CA			0.005 ug/L	NA	NA	888	NA	NA	5.0%
13	Total Dissolved Solids	SMCL	SMCL		1000 mg/L	1000 mg/L	411	415	392	3.4%	2.9%	4.6%
14	Chromium, hexavalent (Cr6)	NL	HBSL	10 ug/L	See note below***	20 ug/L	223	332	234	12.8%	10.8%***	3.0%

15	Fluoride	MCL-CA	MCL-CA		2 mg/L	2 mg/L	456	409	332	2.2%	2.9%	2.7%
16	Uranium	MCL-CA	MCL-CA		20 pCi/L	20 pCi/L	199	146	194	0.5%	1.4%	2.6%
17	Gross Alpha	MCL-US	MCL-US		15 pCi/L	15 pCi/L	221	105	169	3.2%	4.8%	2.4%
18	1,1-Dichloroethene	MCL-CA	MCL-CA		6 ug/L	6 ug/L	772	680	667	2.6%	2.2%	2.3%
19	Aluminum	MCL-CA	MCL-CA		1000 ug/L	1000 ug/L	362	303	260	0.3%	0.3%	1.5%
20	Chloride	SMCL	SMCL		500 mg/L	500 mg/L	409	344	299	0.7%	0.6%	1.3%
21	Sulfate	MCL	SMCL		500 mg/L	500 mg/L	420	355	314	1.2%	1.7%	1.3%
22	Cis-1,2-Dichloroethene	MCL-CA	MCL-CA		6 ug/L	6 ug/L	766	673	661	0.7%	0.9%	0.5%
23	Benzene	MCL-CA	MCL-CA	1 ug/L	1 ug/L	1 ug/L	759	671	659	0.0%	0.1%	0.2%
24	Nickel	MCL-CA	MCL-CA		100 ug/L	100 ug/L	355	291	256	0.0%	0.3%	0.0%
25	1,1-Dichloroethane	MCL-CA	MCL-CA		5 ug/L	5 ug/L	761	672	659	0.0%	0.0%	0.0%
26	Antimony	MCL-US	MCL-US		6 ug/L	6 ug/L	354	292	256	0.0%	0.0%	0.0%
27	Cadmium	MCL-US	MCL-US		5 ug/L	5 ug/L	355	292	256	0.0%	0.0%	0.0%
28	Chloroform	MCL	MCL		80 ug/L	80 ug/L	696	564	582	0.0%	0.0%	0.0%
29	Copper	AL	AL		1.3 mg/L	1.3 mg/L	378	323	258	0.3%	0.0%	0.0%
30	Dichloromethane (Methylene Chloride)	MCL-US	MCL US	5 ug/L	5 ug/L	5 ug/L	759	671	659	0.0%	0.0%	0.0%
31	Lead	AL	AL		15 ug/L	15 ug/L	516	219	215	0.0%	0.0%	0.0%
32	Mercury	MCL-US	MCL-US		2 ug/L	2 ug/L	350	286	259	0.0%	0.0%	0.0%
33	MTBE	MCL-CA	MCL-CA	5 ug/L (SMCL)	13 ug/L	13 ug/L	775	707	670	0.0%	0.0%	0.0%

34	Radium-228	MCL-US	MCL-US		5 pCi/L	5 pCi/L	169	85	161	0.0%	0.0%	0.0%
35	Thallium	MCL-US	MCL-US		2 ug/L	2 ug/L	354	291	256	0.0%	0.0%	0.0%
36	Trichlorofluoromethane	MCL-CA	MCL-CA		150 ug/L	150 ug/L	760	672	659	0.0%	0.0%	0.0%
37	Vanadium	RfD	NL		63 ug/L	50 ug/L	140	88	73	0.0%	0.0%	0.0%
38	Vinyl Chloride	MCL-CA	MCL-CA	0.5 ug/L	0.5 ug/L	0.5 ug/L	761	706	660	0.0%	0.0%	0.0%
39	Zinc	MCL	SMCL		5 mg/L	5 mg/L	376	321	248	0.0%	0.0%	0.0%

**Pollutants presented in order of the highest % of wells with concentrations above the MCL or comparison concentration in 2019.*
****Hexavalent Chromium (Cr6) - for the period of 2017, we continued to use the 10ug/L MCL as a comparison concentration, although it was invalidated for administrative reasons in May 2017. For further information, see https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Chromium6.html*
†2018/19 reflects values for the period of April 2018 to March 2019; 2017 reflects values for the period of January 2017 through November 2017. 2013/14 reflects values for the period of September 2013 through July 2014.
††The percent of public water system wells with concentrations greater than the MCL or comparison concentration is based on 2017 MCL/Comparison Concentration values for 2013-2014 and 2017, and on the 2019 MCL/Comparison Concentration for 2019.

OurCounty

5. Beach Report Card Scores

Indicator Name:	Beach Report Card Scores
Data Source:	Heal the Bay Beach Report Card https://healthebay.org/beach-report-card-2018/
Analysis File:	20180731_BRC_BeachReportCardScores_analysis.xlsx
Metadata File:	20190226-WATER_Indicators.xls
Methods:	• Grades and analysis from Heal the Bay's Beach Report Card was used, which uses a 12-month grading period from April to March. • Seasonal patterns of the most recent year's grades (2017-2018), as well as trends over the last five years were reviewed. • As defined in Assembly Bill 411 in California, the summer dry grading period is from April through October. The winter dry weather grading period is from November through March. The year-round wet weather conditions are graded from April through March. Values may not add up to exactly 100% due to rounding.
Findings:	• Summer 2017 dry weather water quality in LA County was excellent with 97% A or B grades and zero F grades, better than the average over the last 5 years. • Winter dry weather grades for the most recent year were slightly better than the average over the previous five years. • Wet weather water quality continues to be an area of concern, with only 60% A or B grades, and with 26% receiving F grades in 2017-2018. However, this is an improvement over 2016-2017, and better than the average over the previous 5 years. • There has been an overall upward trend from 78% to 91%, in the percentage of beaches with summer dry A grades in the past five years, with a corresponding reduction in the number of B and C grades over that period. Less than 5% of beaches received F's each year since 2013, with the last two years receiving no F grades at all.

Figure:

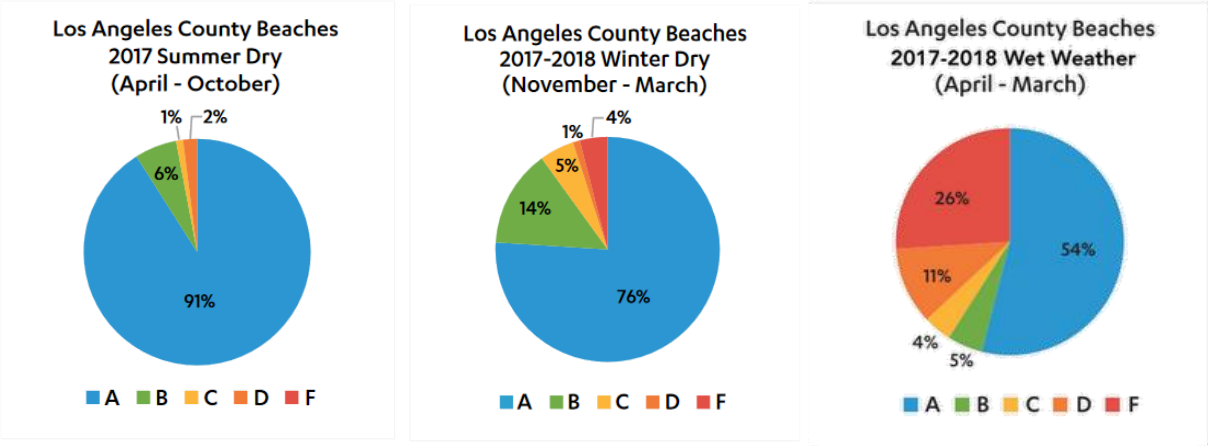


Figure 64. LA County Beaches Summer Weather (left), Winter Weather (middle) and Wet Weather (right) (2017-2018)

Table 31. Summer Dry Beach Grades in LA County

Summer Dry Beach Grades in LA County (2013-2017)					
	A	B	C	D	F
2013 - 2014	78%	12%	5%	2%	2%
2014 - 2015	87%	7%	1%	1%	4%
2015 - 2016	86%	6%	3%	1%	3%
2016 - 2017	93%	4%	1%	2%	0%
2017 - 2018	91%	6%	1%	2%	0%

6. Number and Volume of Sewage Spills to Water

Indicator Name:	Number and Volume of Sewage Spills to Water
Data Source:	California Integrated Water Quality System (CIWQS) Sanitary Sewer Overflow (SSO) Database, Interactive SSO Reports tool https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportSSOServlet?reportAction=criteria&reportId=sso_main
Analysis File:	20180407_SewageSpills_analysis.xlsx
Metadata File:	20190226-WATER_Indicators.xls
Methods:	• Reports from the California Integrated Water Quality System (CIWQS) sanitary sewer overflow (SSO) database were generated using the Interactive SSO Reports tool from the State Water Resources Control Board (SWRCB) Sanitary Sewer Overflow Reduction Program. • Data on Category 1, 2 and 3 SSOs in LA County for the years 2013 to 2017 was used. • The number and volume of spills was analyzed. For some spills, only a portion of the spill volume may have reached a waterbody. • Spills were categorized as small (<1,000 gallons), minor (between 1,000 and 10,000 gallons), or major (>10,000 gallons).
Findings:	• In 2017 there were 302 reported sewage spills, of which 92 (31%) reached waterbodies. This represented almost 600,000 gallons of sewage spilled in total, with approximately 380,000 gallons (65%) of that volume reaching waterbodies. • Within the period reviewed, 2013 had the highest total number of spills that reached a waterbody; however, the number of major spills has progressively increased from 4 in 2013 to 12 in 2017. • The volume of sewage reaching waterbodies in 2017 was less than 2015 and 2016, but higher than 2013 and 2014. • The peak in volume of sewage spills reaching water in 2016 was primarily due to one very large spill of 2.6 million gallons, of which 1.7 million gallons entered storm drains leading to the Los Angeles River

Figure:

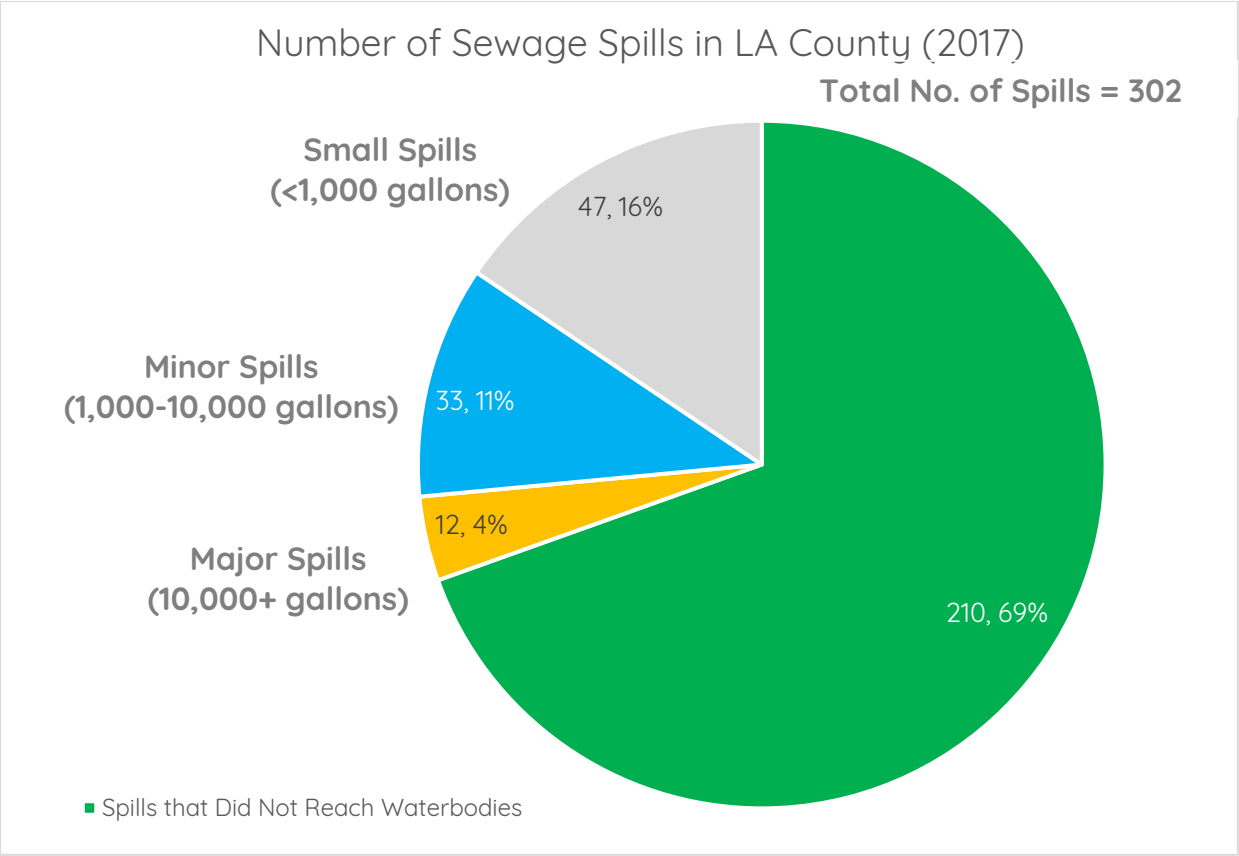


Figure 65. Number of Sewage Spills in LA County

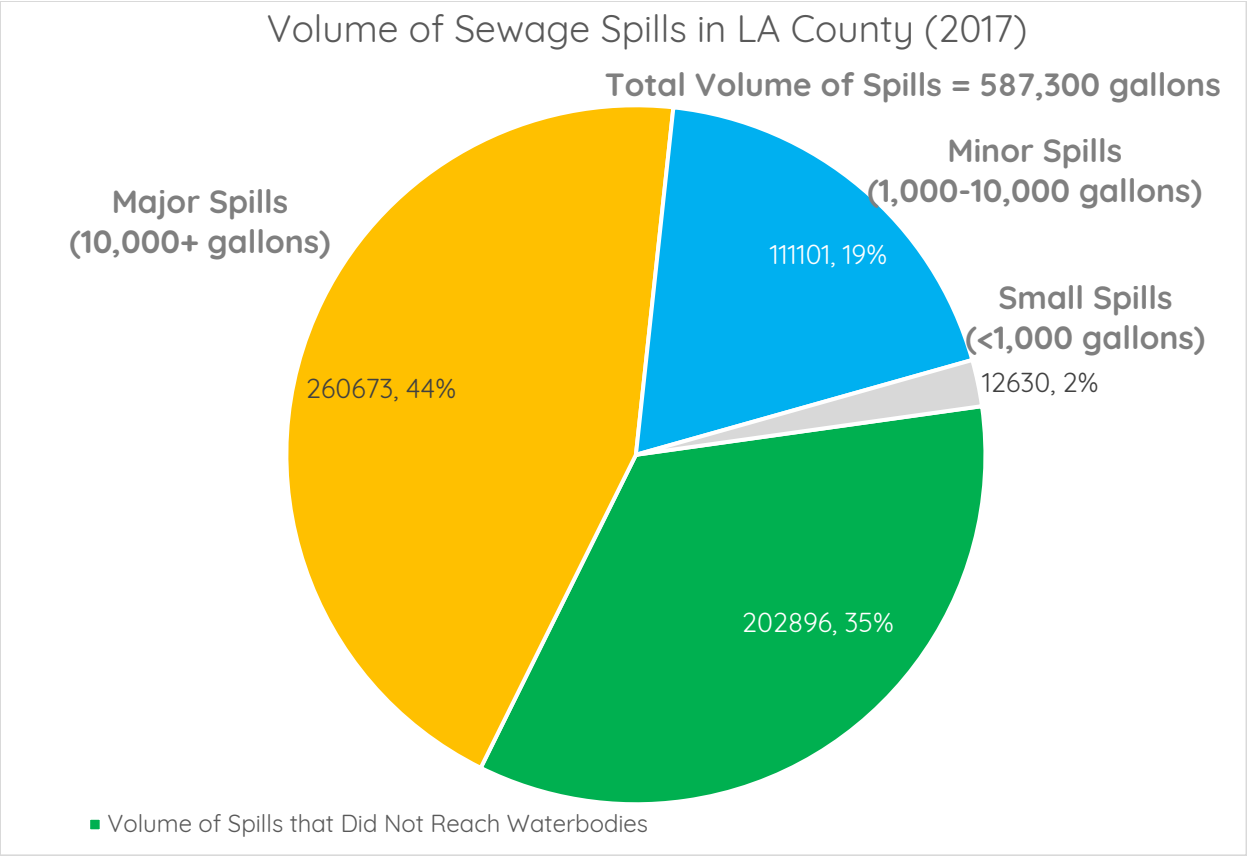


Figure 66. Volume of Sewage Spills in LA County

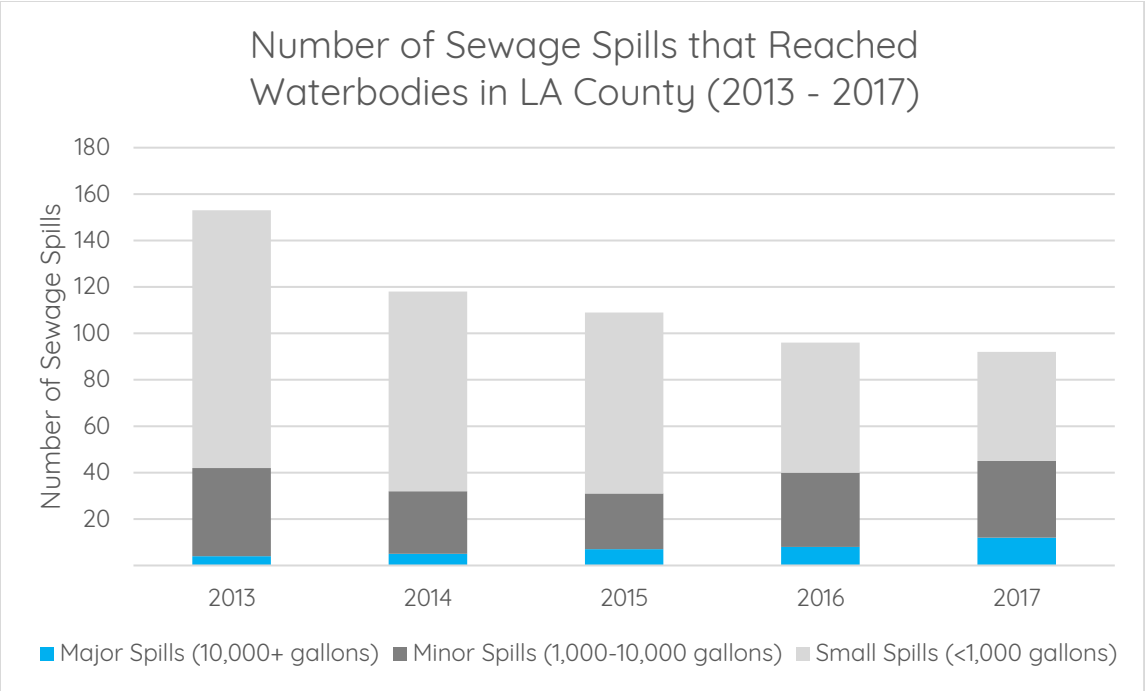


Figure 67. Number of Sewage Spills that Reached Waterbodies in LA County

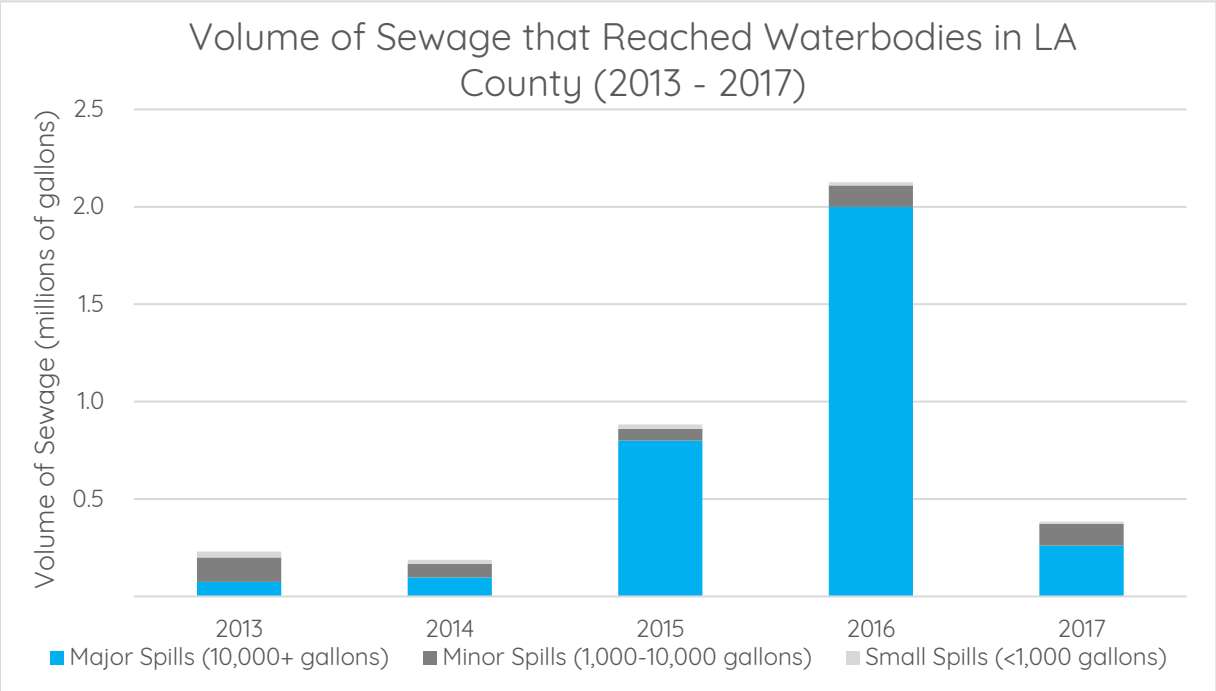


Figure 68. Volume of Sewage that Reached Waterbodies in LA County

OurCounty

Public Health and Wellness

1. Prevalence of Diabetes, Heart Disease, and Related Risk Factors

Indicator Name:	Prevalence of Heart Disease and Diabetes
Data Source:	Los Angeles County Public Health Survey (2005, 2007, 2011, 2015) http://www.publichealth.lacounty.gov/ha/LACHSDataTopics2015.htm
Analysis File:	20190402_Heart_Disease_Diabetes_Prevalence_analysis.xlsx
Metadata File:	20190312_HealthWellbeingSafety_Indicators
Methods:	• Downloaded relevant data tables from LACDPH Health Survey website for the survey years 2005-2015. • Combined diabetes prevalence estimates into a single table, accounting for the different racial/ethnic categories between survey years. • Combined prevalence percentages for heart disease and risk factors accounting for different racial/ethnic categories between survey years.
Findings:	Countywide prevalence of diabetes increased 1.7% between 2005 and 2015. The prevalence of diabetes is highest for African Americans, among all racial/ethnic groups. There are few statistically stable estimates for prevalence of conditions among American Indian and Native Hawaiian and other Pacific Islander populations. More year-to-year consistency in the content of survey questions would support analyses of changes in population health over time. Additionally, over-sampling of specific sub-populations such as Native Americans may facilitate more statistically stable estimates of health status among those groups.

Table 32. Prevalence of Diabetes

Prevalence of Diabetes (2005, 2007, 2011, 2015)				
Diagnosed with Diabetes	**2005**	**2007**	**2011**	**2015**
LA County	8.09%	8.7%	9.5%	9.8%
Gender				
Male	7.85%	8.6%	9.8%	9.7%
Female	8.32%	8.9%	9.2%	10.0%
Age Group				
18-24	--	*1%	*1.1%	*1.2%
25-29	*2.0%	*1.5%	*2.4%	*2.0%
30-39	3.3%	3.6%	3.7%	3.0%
40-49	7.0%	7.0%	7.9%	8.3%
50-59	14.0%	16.0%	13.4%	15.6%
60-64	18.4%	18.5%	18.9%	21.7%
65 or over	18.3%	19.2%	24.1%	21.2%
Race/Ethnicity				
Latino	9.18%	9.6%	9.5%	10.7%
White	6.52%	6.9%	8.5%	8.2%
African American	11.42%	11.3%	12.6%	13.7%
Asian	--	--	--	8.2%
Asian/Pacific Islander	6.99%	9.0%	9.3%	--
†American Indian	*10.3%	--	--	*15.2%
†American Indian & White/ †American Indian	--	*8.3%	--	--
Native Hawaiian or Other Pacific Islander	--	--	--	*29.9%

*Statistically Unstable (RSE >= 23% in 2005, 2007, and 2011; RSE >=30% in 2015)

† Estimate includes Alaskan Native population

Table 33. Prevalence of Heart Disease and Pre-conditions

Prevalence of Heart Disease (2005, 2007) and Pre-Conditions (2011, 2015)						
	2005 Heart Disease (ever diagnosed)	2007 Heart Disease (ever diagnosed)	2011 High Cholesterol (ever diagnosed)	2011 Hypertension (ever diagnosed)	2015 High Cholesterol (ever diagnosed)	2015 Hypertension (ever diagnosed)
LA County	6.8%	7.7%	25.6%	24.0%	25.2%	23.5%
Gender						
Male	7.2%	7.8%	26.0%	23.8%	26.6%	24.5%
Female	6.5%	7.7%	25.2%	24.2%	23.9%	22.5%
Age Group						
18-24	*1.2%	*2.8%	4.3%	*4.1%	5.6%	6.2%
25-29	--	*4.4%	6.8%	*5.0%	11.8%	7.9%
30-39	2.1%	2.9%	15.9%	10.0%	15.0%	11.4%
40-49	4.8%	4.3%	27.2%	22.9%	24.8%	17.6%
50-59	9.5%	8.3%	37.2%	34.5%	34.5%	31.1%
60-64	13.3%	13.9%	43.9%	42.9%	41.2%	42.5%
65 or over	22.1%	23.7%	50.2%	57.7%	47.5%	54.2%
Race/Ethnicity						
Latino	5.3%	6.4%	22.2%	18.0%	22.4%	19.7%
White	9.0%	8.8%	29.7%	27.4%	29.8%	27.5%
African American	9.3%	8.5%	26.9%	39.2%	23.5%	33.3%
Asian	--	7.4%	26.3%	25.3%	24.5%	20.4%
Asian/Pacific Islander	4.0%	8.5%	--	--	--	--
†American Indian	*13.6%	--	*38.6%	43.3%	23.9%	24.2%
†American Indian & White/†American Indian	--	*13.8%	--	--	--	--
Native Hawaiian and other Pacific Islander	--	--	--	--	*33.3%	*36.8%

*Statistically Unstable (RSE >= 23% in 2005, 2007, and 2011; RSE >=30% in 2015)
† Estimate includes Alaskan Native population

OurCounty

2. Percent of Children (0-17) w/ Current Prevalence of Asthma

Indicator Name:	Percent of Children (0-17) w/ Current Prevalence of Asthma
Data Source:	LADPH Health Survey 2005, 2007, 2011, 2015 http://www.publichealth.lacounty.gov/ha/LACHSDataTopics2015.htm
Analysis File:	20190302_CurrentPrevalenceChildAsthma_analysis.xlsx
Metadata File:	20190312_HealthWellbeingSafety_Indicators
Methods:	• Graphed county-wide prevalence with 95% Confidence Interval (provided in health survey data) • Created line graph of prevalence by SPA • Created table with statistics by race / ethnicity
Findings:	• Childhood asthma prevalence slightly decreased from 2005 to 2015, hovering around 7-9% of children (0-17 years old). • Antelope Valley had the highest prevalence out of the eight SPAs every year; the 2015 prevalence rate of 14.2% is almost twice as high as the countywide average. • African Americans had the highest asthma rates among the racial / ethnic groups surveyed; the 2015 prevalence rate of 17.3% is more than twice as high as the countywide average.

Figure:

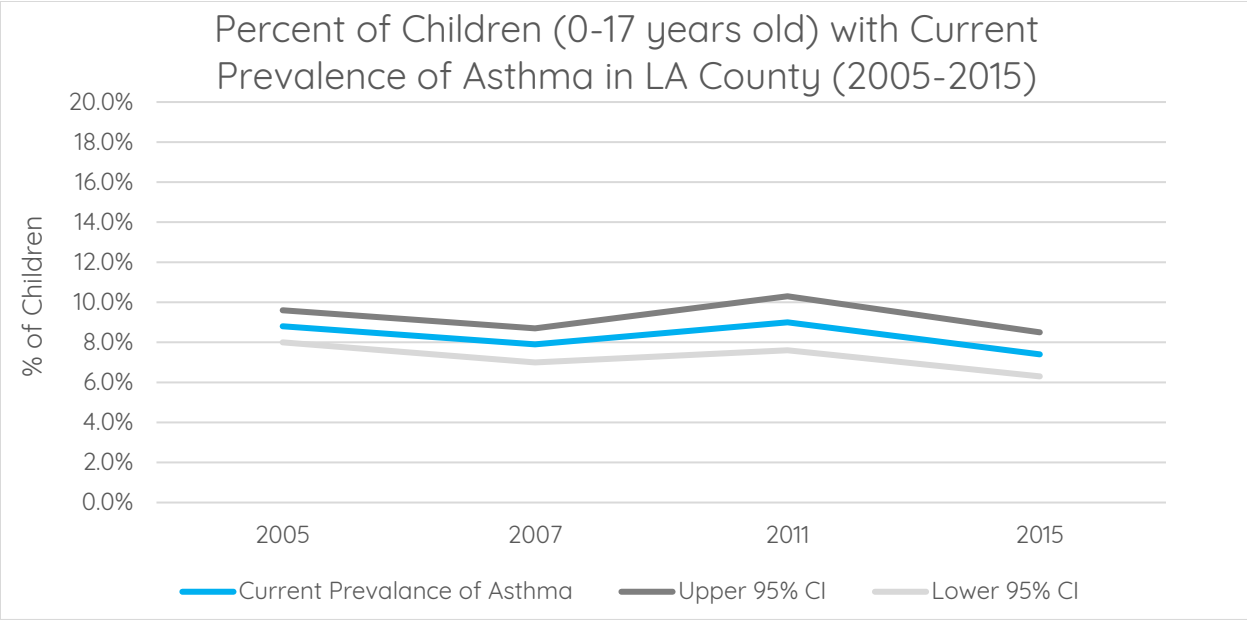


Figure 69. Percent of Children (0-17 years old) with Current Prevalence of Asthma in LA County (2005-2015)

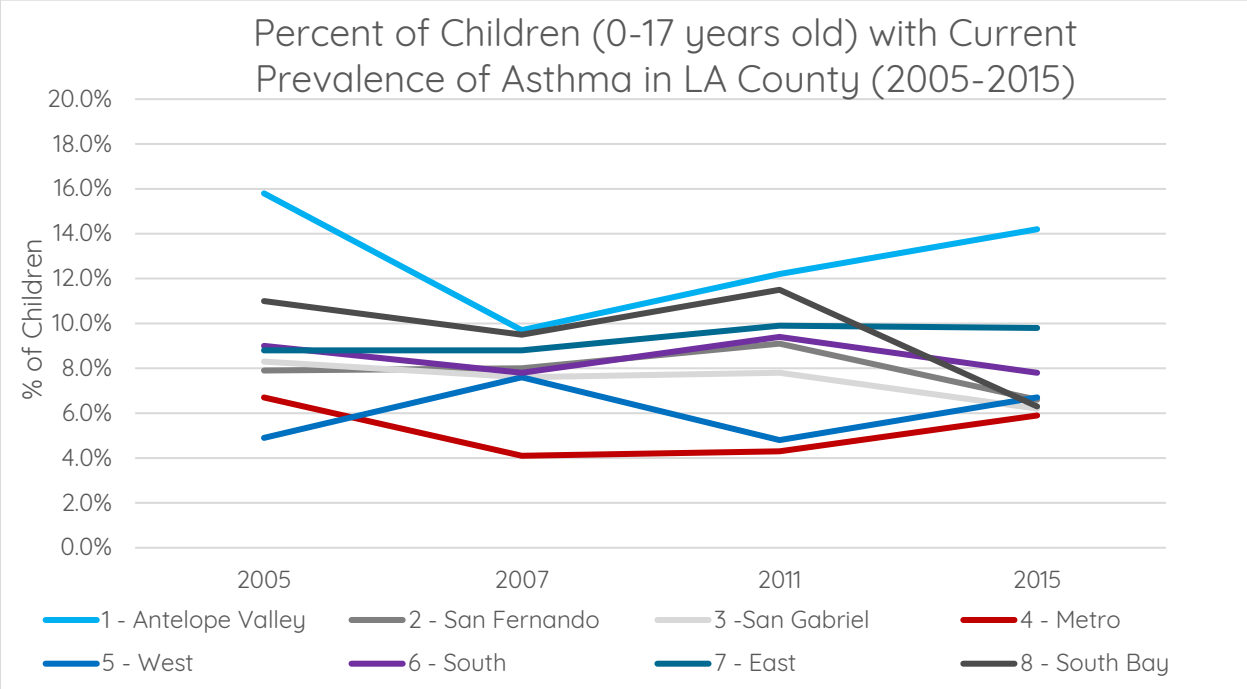


Figure 70. Percent of Children (0-17 years old) with Current Prevalence of Asthma by Service Planning Area (2005-2017)

Table 34. Prevalence of Childhood Asthma by Race/Ethnicity (% of children with asthma diagnoses in each racial/ ethnic group)

Prevalence of Childhood Asthma by Race/Ethnicity (% of children with asthma diagnoses in each racial/ ethnic group)				
Race/ Ethnic Group	**2005**	**2007**	**2011**	**2015**
Latino	7.30%	5.90%	8.00%	6.60%
White	8.40%	8.90%	7.20%	6.10%
African American	18.50%	17.70%	24.90%	17.30%
Asian/ Pacific Islander	7.90%	7.90%	4.00%	6.10%
American Indian	--	*36.6%	--	--
*unstable; RSE >= 23% in 2005, 2007, and 2011; RSE >=30% in 2015				

OurCounty

3. Counts and Locations of Oil & Gas Wells in LA County

Indicator Name:	Counts and Locations of Oil & Gas Wells in LA County
Data Source:	Division of Oil, Gas, and Geothermal Resources, Oil & Gas Well Shapefile for California https://www.conservation.ca.gov/dog/maps
Analysis File:	20190302_CountyOilWells_analysis
Metadata File:	20190312_HealthWellbeingSafety_Indicators
Methods:	• Selected wells in LA County using 'CountyName' attribute • Spatial Joined to Department of Public Works City Boundaries shapefile • Exported resulting feature class's attribute table to excel • Filtered active/ inactive wells using excel pivot table • Generated table of active/ inactive wells for all cities and unincorporated county with one or more active well
Findings:	• As of April 2019, there are approximately 24,000 wells in LA County, of which 3,781 are active (15%). • As of April 2019, approximately 62% of all wells are in either Long Beach (21.8%), Los Angeles (21.7%), or Unincorporated LA County (18.4%). • As of April 2019, over 27% of active wells are in unincorporated areas. DOGGR data was used. Any limitations of the well location / status information in the database is unknown.

Figure:

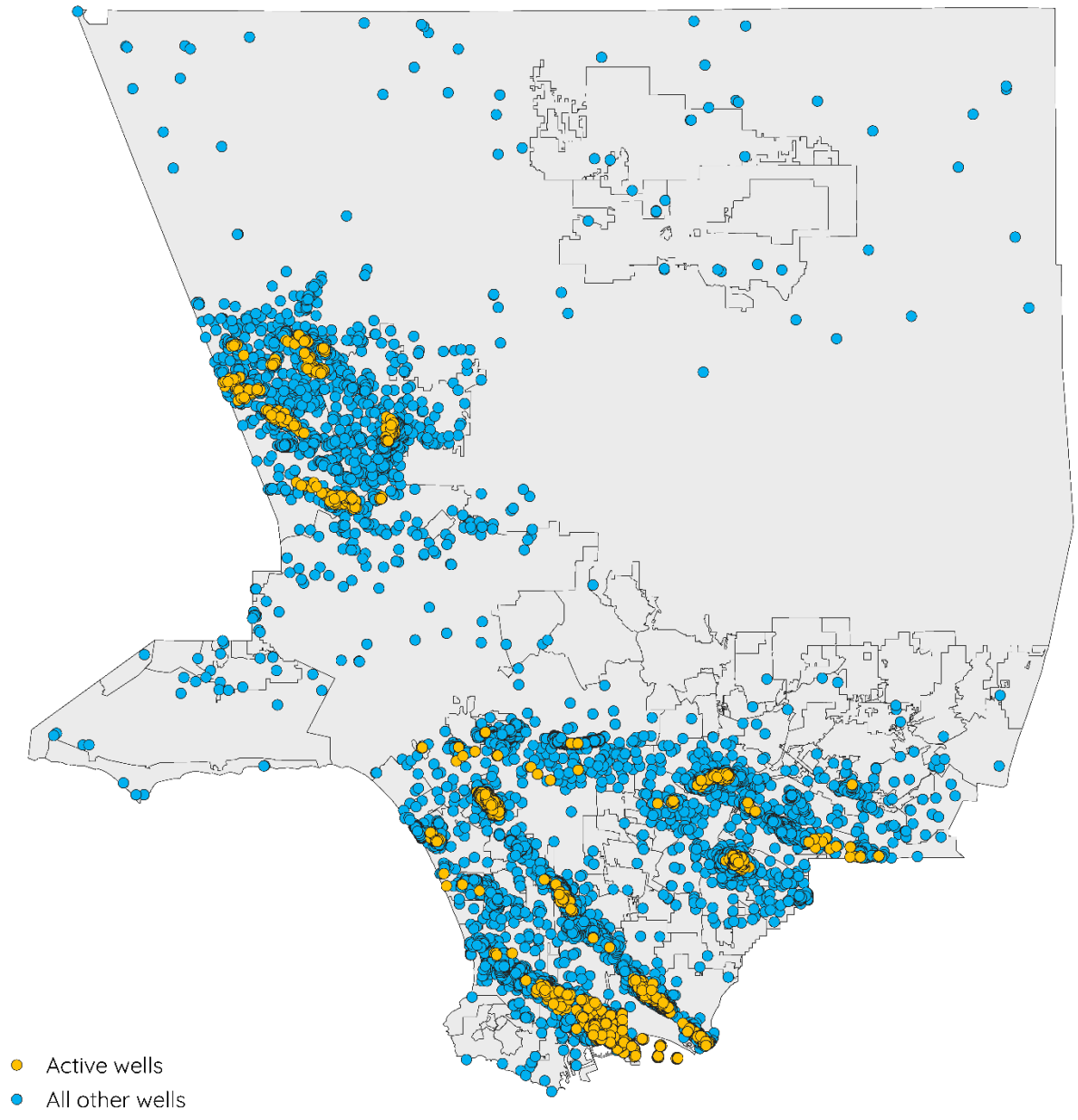


Figure 71. All Recorded Wells and Active Wells in in LA County (April 2019)

Table 35. Oil & Gas Well Counts and Percentages for Areas with One or More Total Wells (April 2019)

Oil and Gas Wells in LA County					
City	**Total Wells**	**% of Total County Wells**	**Active Wells**	**% of Active County Wells**	**% of Active City Wells**
LA County Total	24,071	-	3,781	-	15.7%
Long Beach	5,251	21.8%	944	3.92%	18.0%
Los Angeles	5,218	21.7%	713	2.96%	13.7%
Unincorporated	4,421	18.4%	1,046	4.35%	23.7%
Signal Hill	1,792	7.44%	245	1.02%	13.7%
Santa Fe Springs	1,408	5.85%	228	0.947%	16.2%
Santa Clarita	1,270	5.28%	200	0.831%	15.7%
Torrance	1,156	4.80%	8	0.0332%	0.692%
Montebello	717	2.98%	181	0.752%	25.2%
Whittier	698	2.90%	16	0.0665%	2.29%
Carson	595	2.47%	59	0.245%	9.92%
La Habra Heights	210	0.872%	80	0.332%	38.1%
Redondo Beach	173	0.719%	0	-	-
Culver City	140	0.582%	30	0.125%	21.4%
Inglewood	128	0.532%	0	-	-
La Mirada	119	0.494%	0	-	-
El Segundo	109	0.453%	0	-	-
Commerce	99	0.411%	11	0.0457%	11.1%
Compton	86	0.357%	0	-	-
Hawthorne	66	0.274%	0	-	-
Industry	37	0.154%	5	0.0208%	13.5%
Beverly Hills	35	0.145%	14	0.0582%	40.0%
Monterey Park	31	0.129%	0	-	-
Pico Rivera	30	0.125%	0	-	-
Lawndale	29	0.120%	0	-	-
Norwalk	26	0.108%	0	-	-
Downey	24	0.100%	0	-	-
Lomita	16	0.0665%	1	0.004%	6.25%

4. Cooling Centers in LA County

Indicator Name:	Cooling Centers in Los Angeles County
Data Source:	LAC Cooling Centers LA City Recreation Centers and Year-Round Pools https://www.lacounty.gov/heat/ ; https://emergency.lacity.org/heat
Analysis File:	20190312_CountyCoolingCenters_cooling_centers_list_result_data.csv, 20190312_CountyCoolingCenters_la_city_recreation_centers_result_data.csv, 20190312_CountyCoolingCenters_la_city_year-round_pools_result_data.csv
Metadata File:	20190312_HealthWellbeingSafety_Indicators
Methods:	• Scraped addresses from LAC and LA City websites for county cooling centers, LA city recreation centers, and LA city year-round pools (2019 data) • Geocoded addresses with Google Geocoding API • Added point data for lists to create context map in ArcMap
Findings:	• There are 267 cooling centers total; 256 are south of Santa Clarita. • There are only 8 county cooling centers north of Acton.

Figure:

Table 36. Cooling Centers (2019)

Cooling Centers in LA County (2019)			
City	**Facilities Located in Disadvantaged Communities (CalEnviroscreen 75th Percentile)**	**Total County Facilities**	**Percentage in DACs**
County Cooling Centers	50	113	44.2%
LA City Recreation Centers	78	138	56.5%
LA City Public Pools	8	17	47.1%

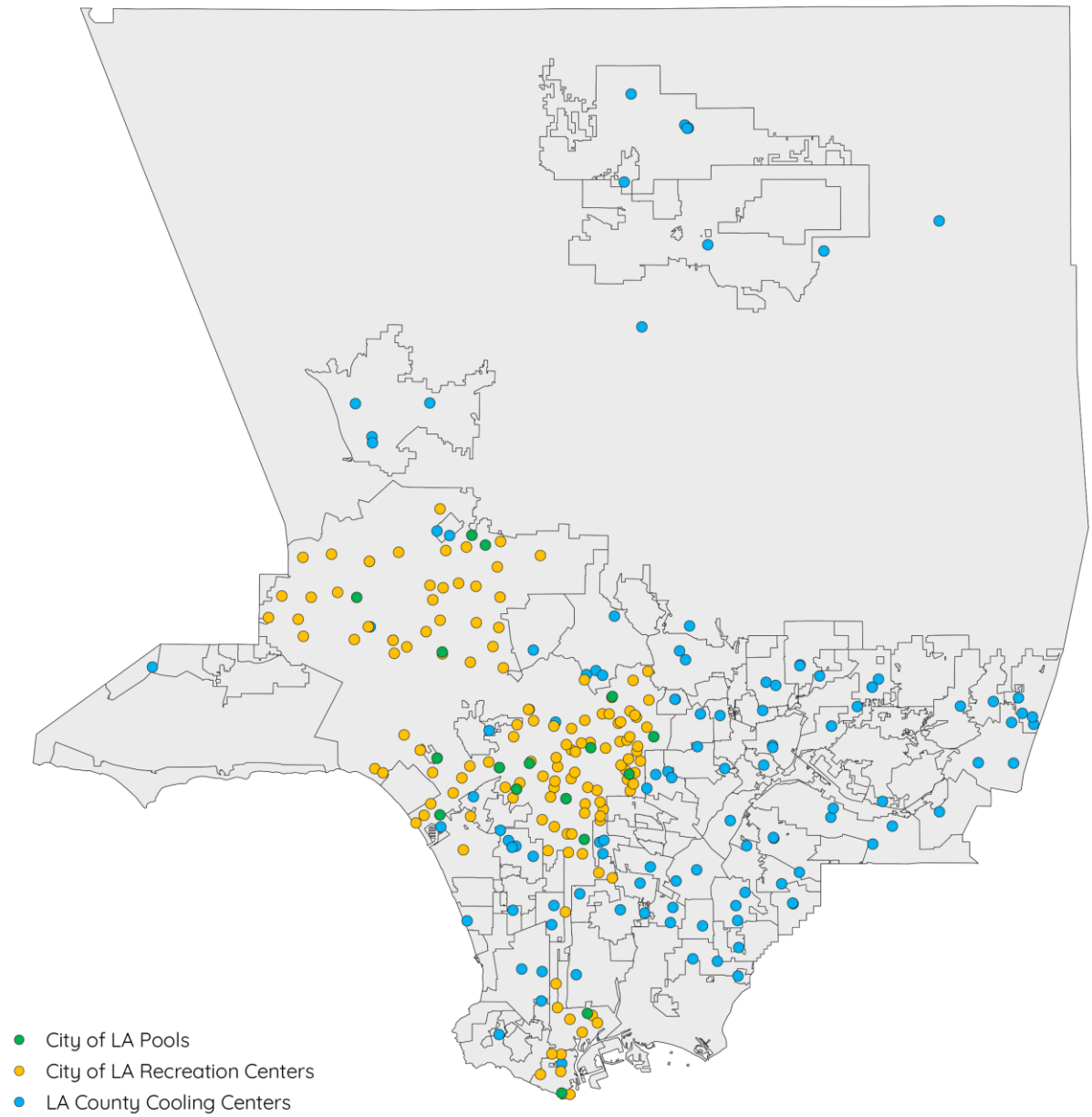


Figure 72. LA County Cooling Centers, City of LA Recreation Centers and City of LA Pools (2019)

5. Number of Heat Stress Emergency Department Visits

Indicator Name:	Number of Heat Stress Emergency Department Visits
Data Source:	LA County Public Health/ OSHPD https://dqs.ph.lacounty.gov/queries.aspx
Analysis File:	20190221_HeatStressEDVisits_data.xlsx
Metadata File:	20190312_HealthWellbeingSafety_Indicators
Methods:	• Requested and received estimates of population by SPA from LA County Public Health for the purposes of normalizing counts of ED visits • Requested and received counts of heat stress ED visits by Special Planning Area from LACDPH • Normalized raw counts by population. • Generated line graphs of county total heat stress ED visits per 100,000 residents. • Generated line graphs of heat stress ED visits by SPA. • Omitted SPA 5 and 6 for all years except 2008 because the counts were too small.
Findings:	• Total heat stress ED visits are trending upwards, from under 300 ED visits in 2005, to approximately 700 ED visits in 2014. • Total heat stress ED visits per 100,000 increased approximately 2.5 times from 2005 to 2014. • The Antelope Valley had the greatest number of heat stress ED visits per 100,000 residents between 2010 and 2014.

Figure:

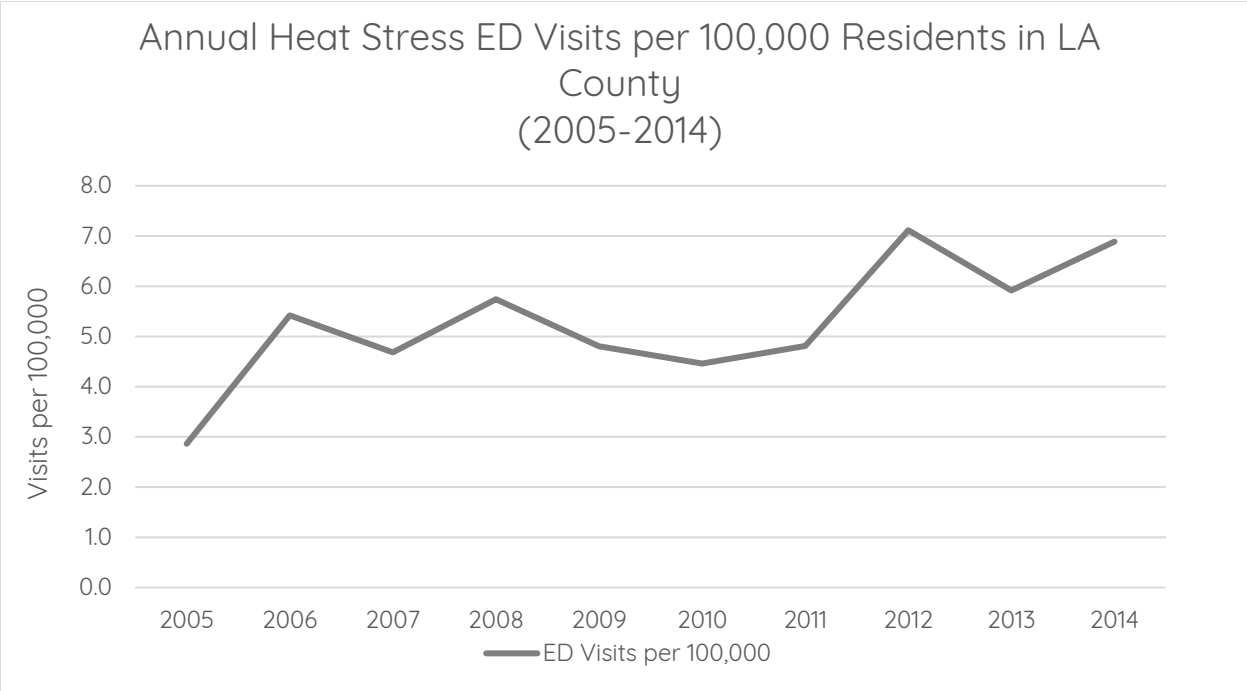


Figure 73. Heat Stress ED Visits per 100,000 Residents in LA County (2005-2014)

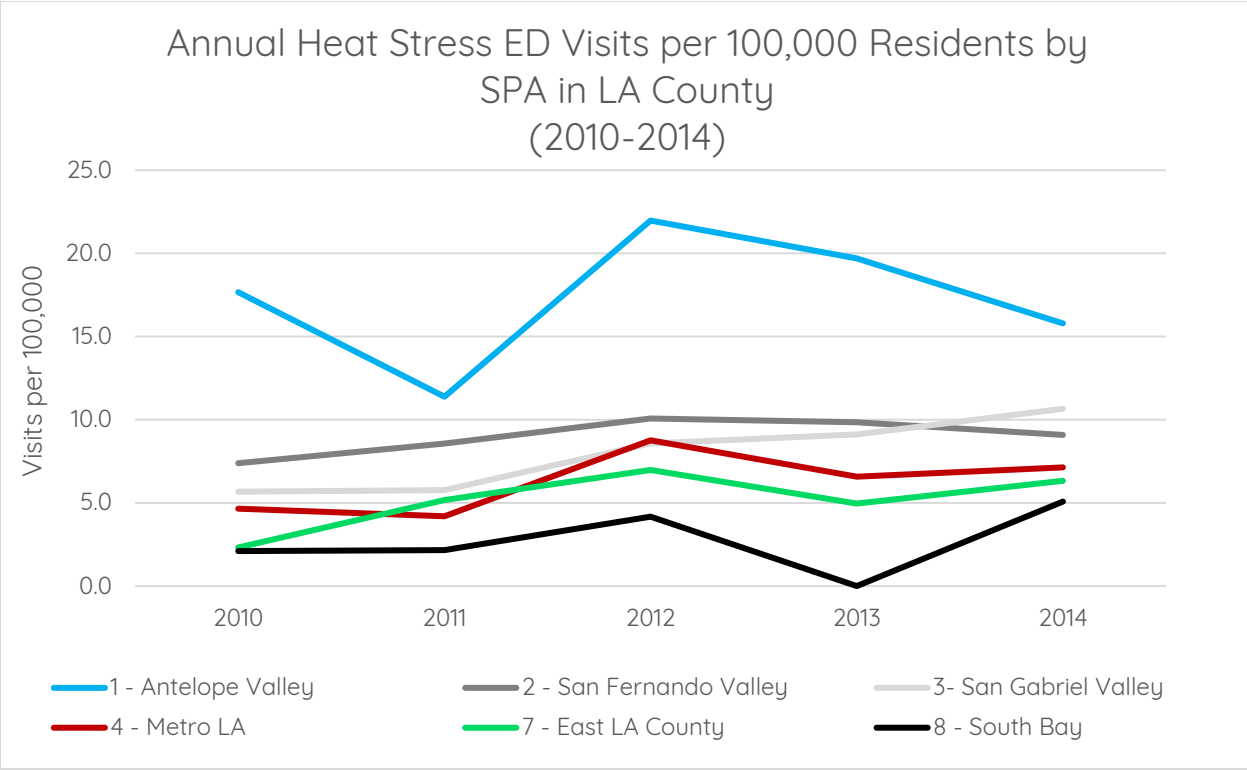


Figure 74. Heat Stress ED Visits per 100,000 Residents by SPA (2010-2014)
Removed SPA 5 and SPA 6 because the counts were too low.

6. CalFresh Program Reach Index

Indicator Name:	CalFresh Program Reach Index
Data Source:	CDSS CalFresh Program Data (http://www.cdss.ca.gov/inforesources/Data-Portal/Research-and-Data/CalFresh-Data-Dashboard)
Analysis File:	20190311_CalfreshPRI_data.xlsx
Metadata File:	20190312_HealthWellbeingSafety_Indicators
Methods:	• Downloaded interactive Excel spreadsheet from CalFresh • Created line graph of annual Program Reach Index (PRI) for LA County, and histograms of average annual CalFresh households and persons for LA County. Note: Due to data interface, certain graphs and tables are constrained in formatting and content.
Findings:	• The CalFresh Program Reach Index is a measure of the number of people enrolled in CalFresh compared to an estimate of the total number of people eligible. • CalFresh is a state program that provides financial aid for the purchase of groceries for income-qualified individuals who are not enrolled in Supplemental Security Income. • Enrollment of individuals and households has decreased from 2010 to 2017. • The annual program reach index has increased over the past 2010 to 2017.

Figure:

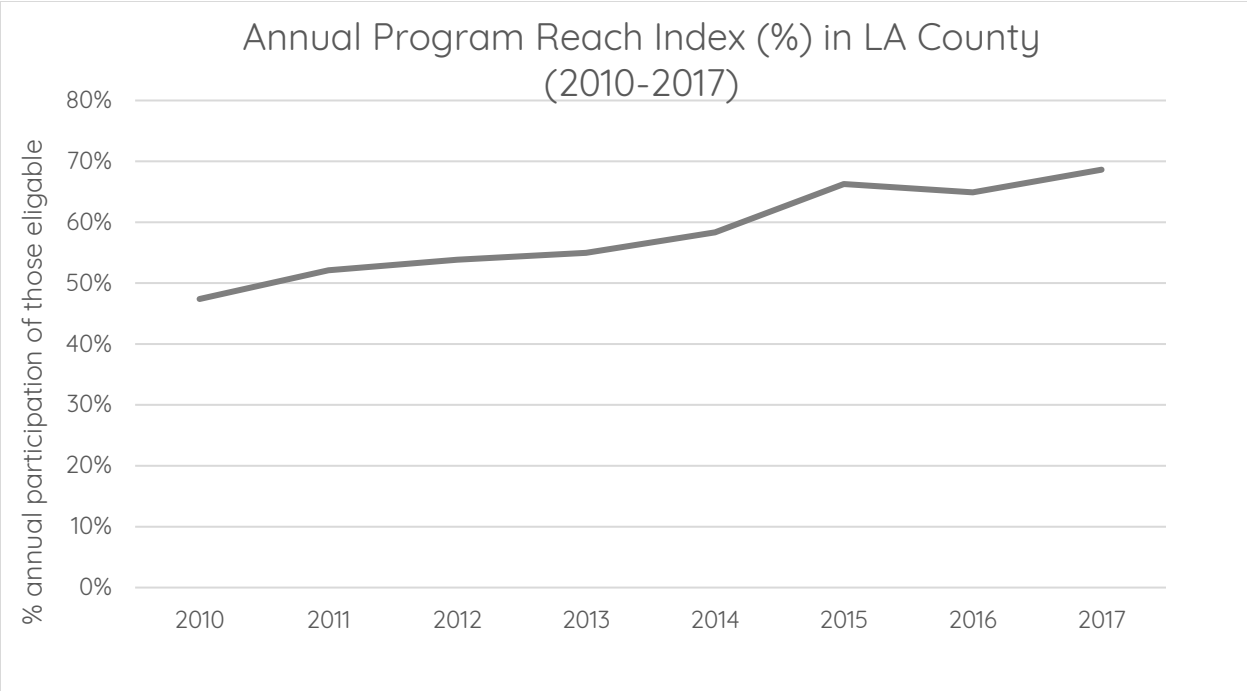


Figure 75. LA County CalFresh PRI

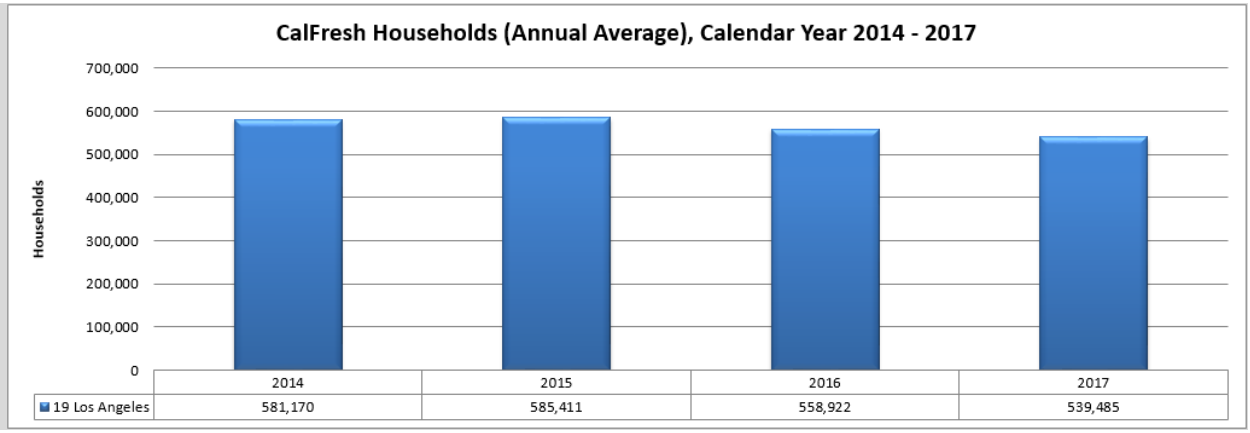


Figure 76. CalFresh Households (Annual Average) (2014-2017)

OurCounty

7. Urban Tree Canopy

Indicator Name:	Urban Tree Canopy
Data Source:	Los Angeles Regional Imagery Acquisition Consortium/ TreePeople https://egis3.lacounty.gov/dataportal/lariac/
Analysis File:	20190221_UrbanTreeCanopy_analysis.xlsx
Metadata File:	20190420_HealthWellBeingSafety_Indicators.xlsx

Methods:	• Obtained LA County tree canopy and land cover statistics calculated from LARIAC Land Cover Model from Tree People/University of Vermont team. LARIAC Imagery is captured roughly every 3). LARIAC4 (2014 imagery) is the iteration used in the analysis.
	• Loaded City Outlines shapefile, and joined with corresponding 2010 City Outlines – Tree Canopy attribute table.
	• Exported joined attribute table.
	• Urban areas are defined as those census block groups whose centroids are within the Census's "Urban Areas" shapefile.
	• Urban and rural tree canopy areas and percentages were calculated using the following:
	  ○ 2010 CA Urban Areas were loaded into ArcMap and re-projected. The LA County 2010 census block group polygon layer from the Tree People /LMU geodatabase was loaded into ArcMap. Block groups were designated "urban" if their centroids fell within the 2010 CA Adjusted Urban Areas (from the FHWA and Census Bureau) polygons.
	  ○ Urban and non-urban block groups were exported into a separate shapefiles, and the tree canopy and land cover stats tables were joined to them.

Findings:	Tree canopy is greater in wealthy residential areas and lower in poorer/ disadvantaged areas. Approximately 20% of urban LA County is covered by tree canopy (2014 data). Approximately 16% of non-urban LA County is covered by tree canopy.

Figure:

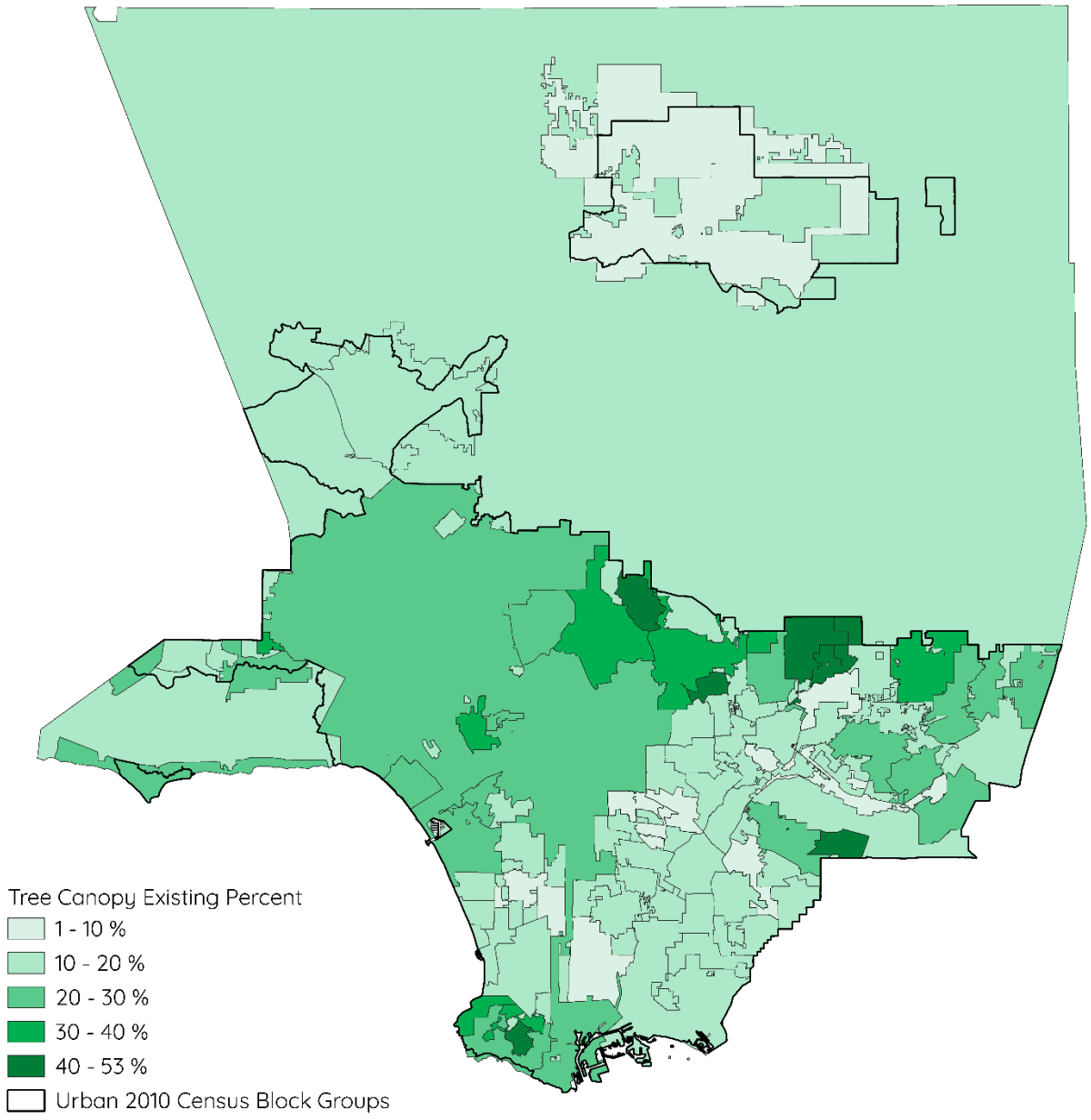


Figure 77. Tree Canopy Percentage in Urban and Non-Urban LA County Cities and Unincorporated Areas (2014)

Table 37. Tree Canopy in Urban and Non-Urban LA County (2014)

Tree Canopy in Urban and Non-Urban LA County (2014)			
	Tree Canopy Area (million ft2)	**Total Land Area (million ft2)**	**Tree Canopy Percent (within region)**
Urban LA County	8,991 (323 mi2)	45,173 (1,620 mi2)	19.9%
Non-Urban LA County	10,584 (379 mi2)	64,289 (2,306 mi2)	16.5%

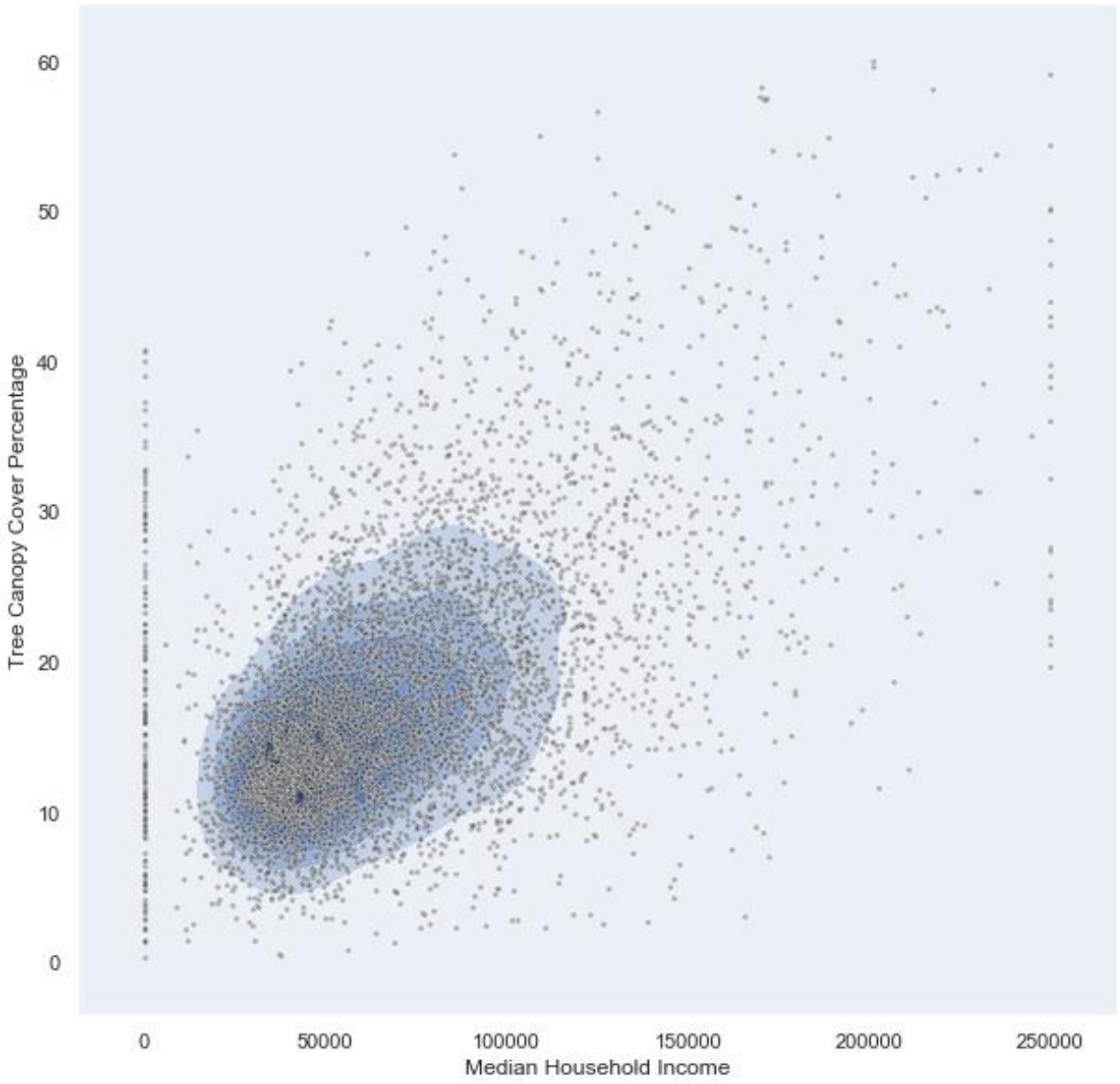


Figure 78. Tree Canopy Percentage vs. Median Household Income (2014).
Note r-squared = 0.812

Table 38. Tree Canopy in Urban, Non-Urban, and Disadvantaged Communities in LA County (2014)

Tree Canopy in Urban, Non-Urban, and Disadvantaged Communities in LA County (2014)			
	Tree Canopy Area (million ft²)	**Total Land Area (million ft²)**	**Tree Canopy Percent (within region)**
Urban LA County	8,991 (323 mi2)	45,173 (1,620 mi2)	19.9%
Non-Urban LA County	10,584 (379 mi2)	64,289 (2,306 mi2)	16.5%
Disadvantaged Communities (Census Block Groups w/ CalEnviro Screen Percentile >= 75%)	3,441 (123 mi²)	20,714 (743 mi²)	16.6%

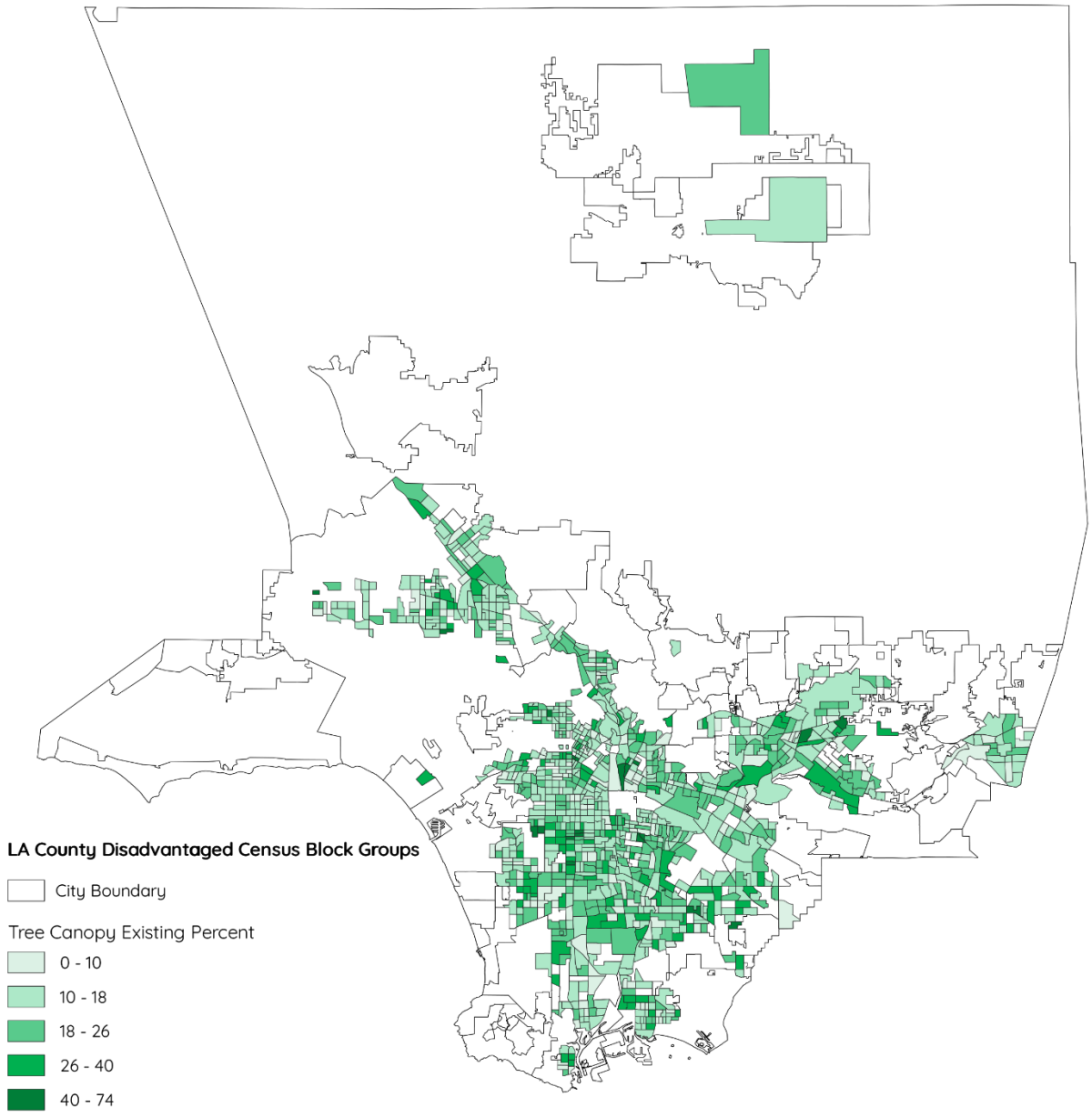


Figure 79. Tree Canopy Percentages of Census Block Groups with CalEnviro Screen Percentile >= 75%) in LA County (2014 LARIAC)

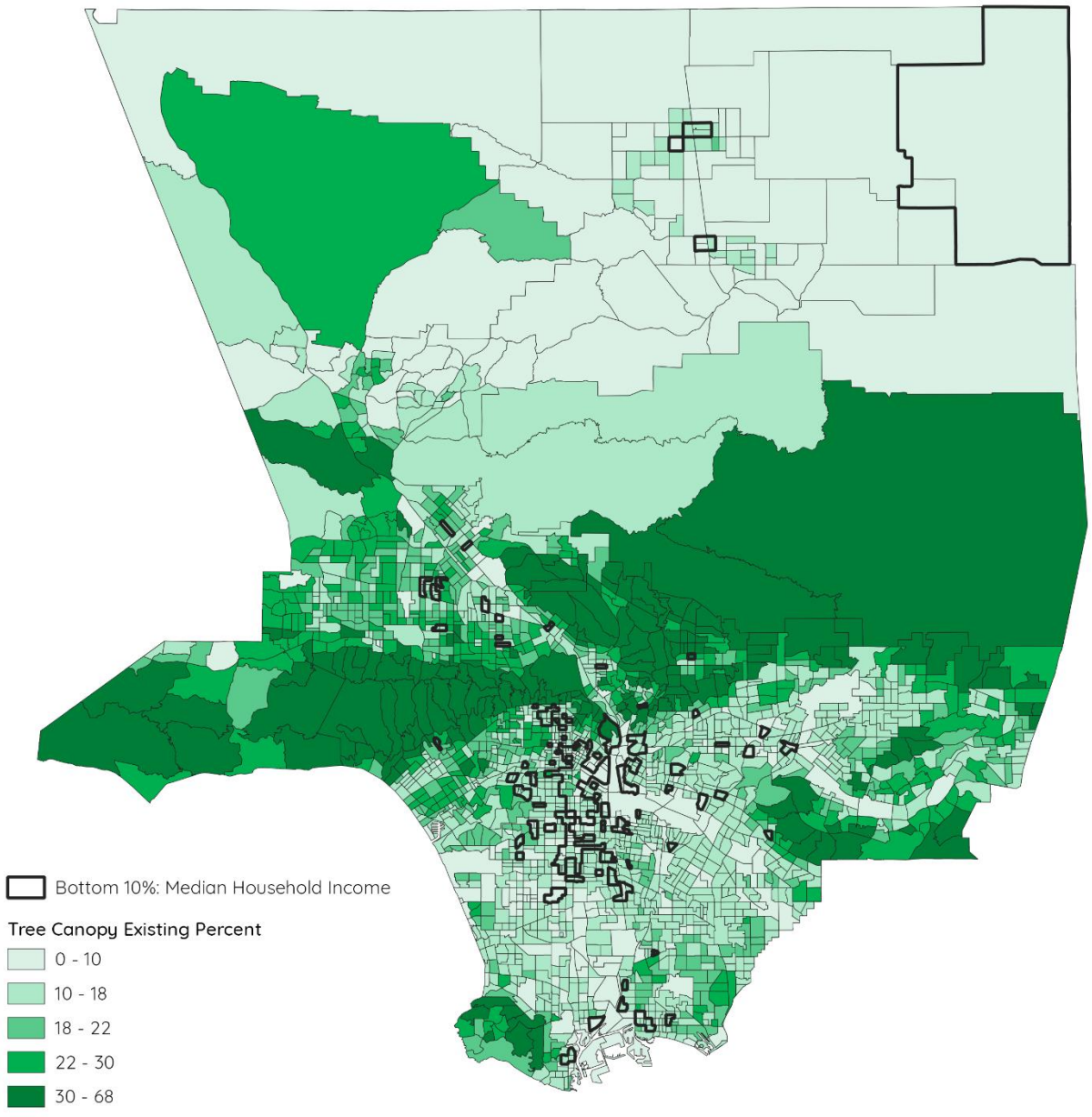


Figure 80. Tree Canopy Percentages in Low Income Areas in LA County (2014 LARIAC)

OurCounty

Air Quality

1. Daily Exceedances of Ozone, PM 10, and PM 2.5

Indicator Name:	Daily Exceedances of Ozone, PM 10, and PM 2.5
Data Source:	SCAQMD Historical Air Quality Data, CARB iADAM (Antelope Valley) http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year https://arb.ca.gov/adam/select8/sc8start.php
Analysis File:	20190302_O3&PM DailyExceedances_analysis.xlsx
Metadata File:	20181206 AIR QUALITY_Indicators.xlsx
Methods:	• Extracted raw data from SCAQMD annual air quality summary tables and CARB iADAM query tables. • Cleaned and calculated percentages based on the days of data for the three pollutants – PM10, PM2.5 and Ozone.
Findings:	• Drier, arid inland areas of LA County have higher exceedances. • Both PM10 and PM2.5 exceedances decreased from 2008-2010. • Over the past 13 years, ozone exceedances have fluctuated from year-to-year across LA County. • East San Gabriel Valley and East San Fernando Valley have had the greatest increases in Ozone exceedances from 2005-2013.

Figure:

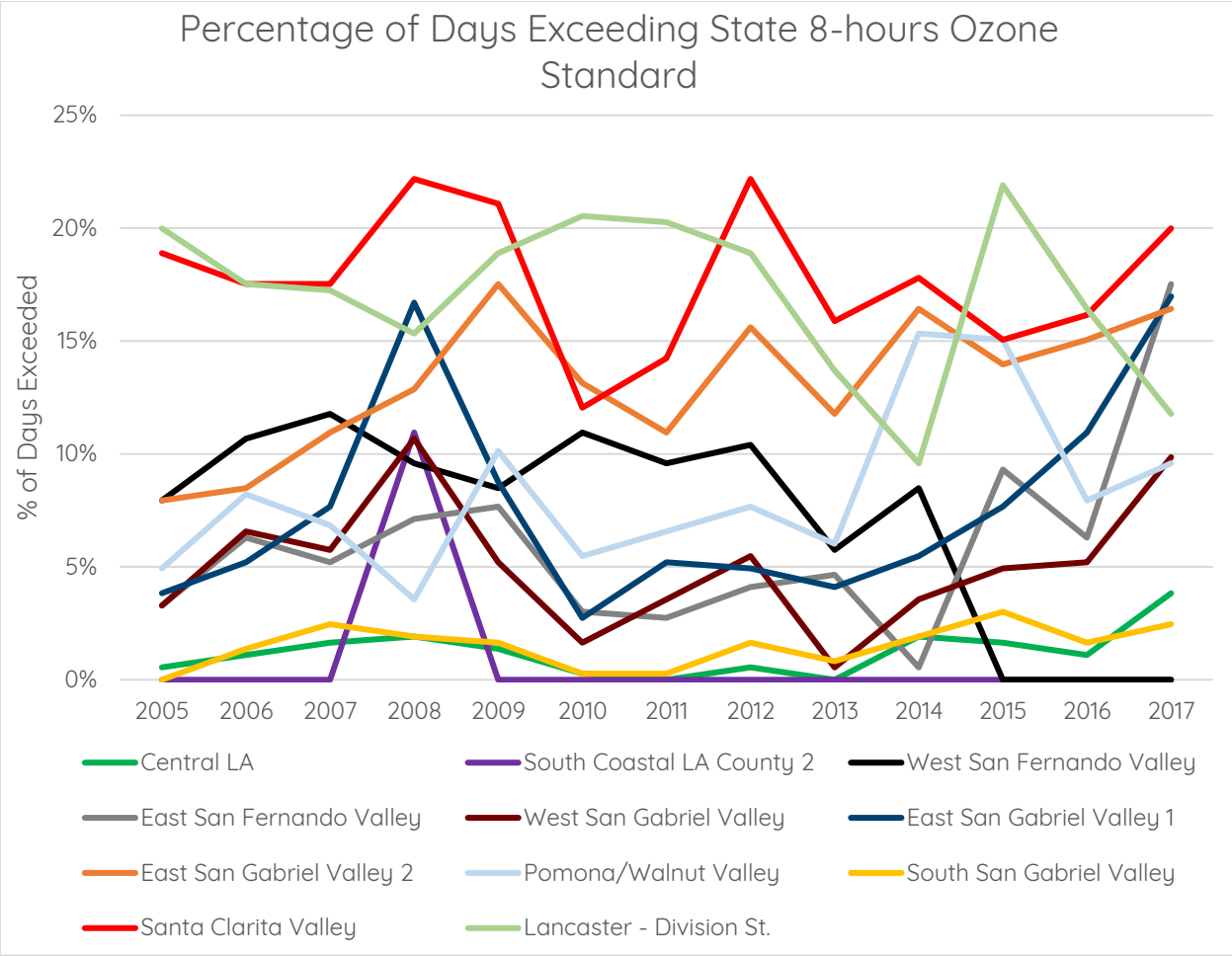


Figure 81. Percentage of Days Exceeding State 8-hours Ozone Standard.

The following sub-regions had less than 3% of days exceeding the State 8-Hours Ozone Standard and were therefore excluded from the above figure: Northwest Coastal LA County, Southwest Coastal LA County, South Coastal LA County 1 and 3 and South Central LA County.

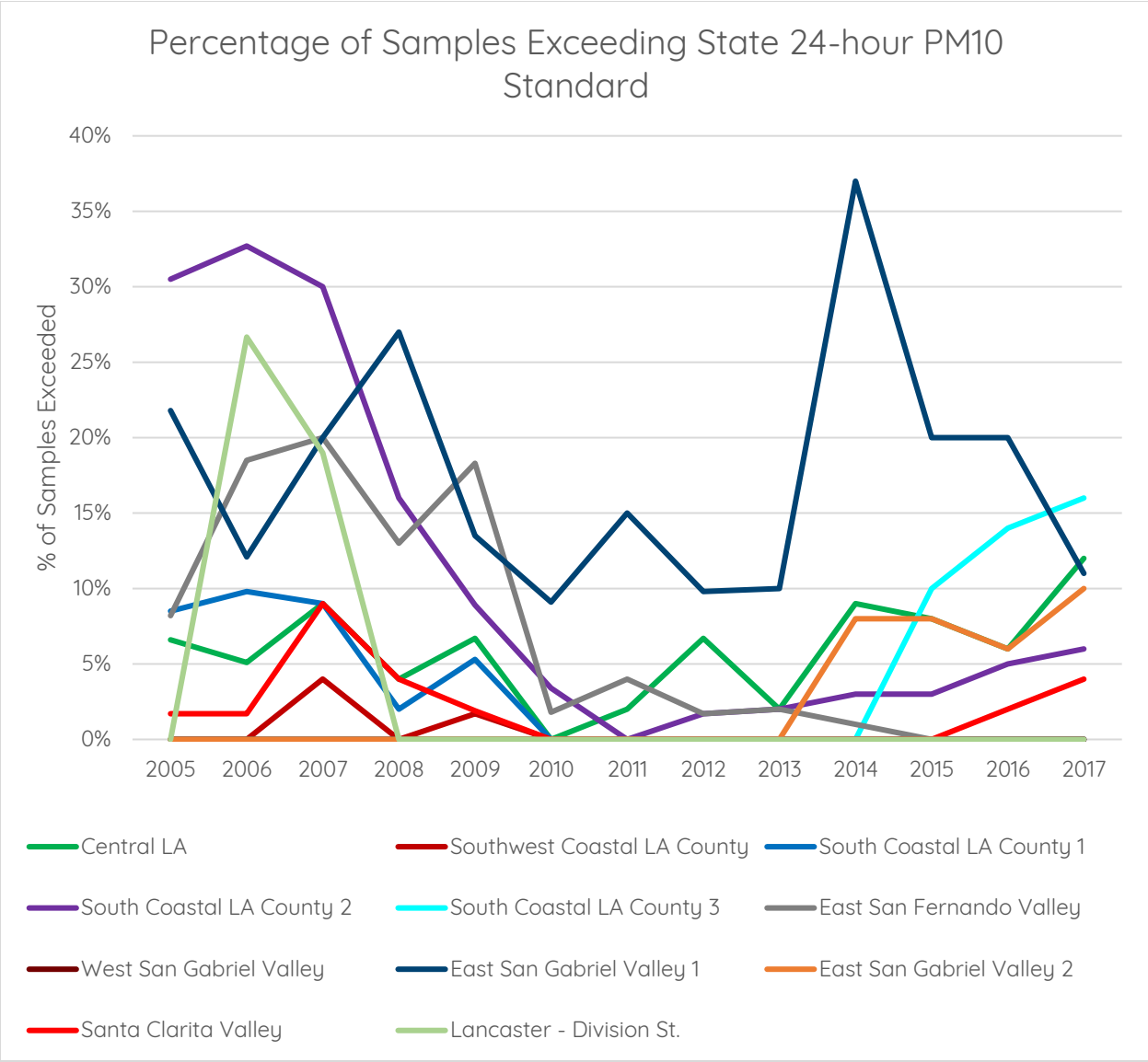


Figure 82. Percentage of Samples Exceeding State 24-hour PM10 Standard.
Data unavailable for Northwest Coastal LA County, West San Fernando Valley, Pomona/Walnut Valley, South San Gabriel Valley and South Central LA County.

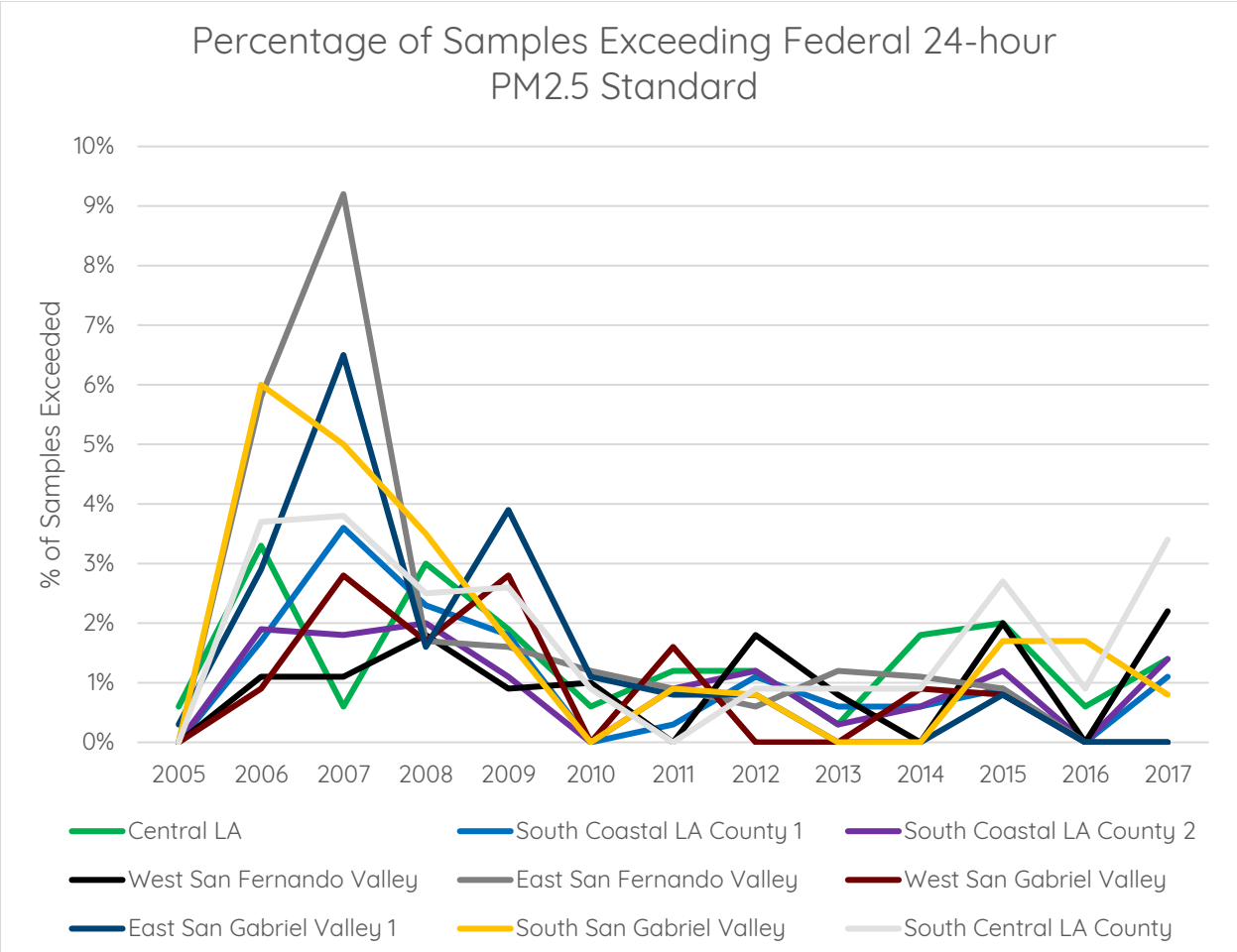


Figure 83. Percentage of Samples Exceeding Federal 24-hour PM2.5 Standard.
Data unavailable for Northwest Coastal LA County, Southwest Coastal LA County 2, South Coastal LA County 3, East San Gabriel Valley 2, Pomona/Walnut Valley, Santa Clarita Valley and Lancaster - Division St.

OurCounty

2. Stationary Source Metal Emissions

Indicator Name:	Stationary Source Metal Emissions
Data Source:	EPA TRI Explorer, 2013-2017 5-year ACS https://www.epa.gov/toxics-release-inventory-tri-program/basics-tri-reporting
Analysis File:	20190401_StationaryMetals_analysis.xls
Metadata File:	20181206 AIR QUALITY_Indicators.xlsx
Methods:	• Downloaded annual reports of HAP metal emissions from TRI Explorer for LA County. • Cleaned data and totaled masses of point source and fugitive air emissions for each of the pollutants for each year. • Generated line graphs showing the emitted masses per year for the HAP metals included in the TRI report list. • Three separate plots were required to show the changes in emitted masses over time since they range over four orders of magnitude. • Created heat maps of median household income and created proportional marker symbols for each emitter address location (2017).
Findings:	• The amounts (mass) of point source and fugitive air emissions for a number of metals (copper, lead, nickel, chromium, and antimony) all decreased markedly around 2008-2009. Nickel and copper emissions began increasing again around 2015-2016. • The mass of manganese and manganese compounds emitted in 2014 was revised due to an error in TRI data for the year (originally reported ~46,000 pounds of point source and fugitive air emissions). • Antimony and selenium emissions decreased after 2008 and have not rebounded since. • The most prolific emitters of lead are concentrated in south LA County near the Port of Los Angeles. The Tesoro Wilmington Calciner is the single most prolific emitter on the mainland (93.8 pounds). The Navy also reported emitting 97.8 pounds of lead off the coast of San Clemente Island. • Lockheed Martin is the most prolific producer of chromium air emissions in the County.

Figure:

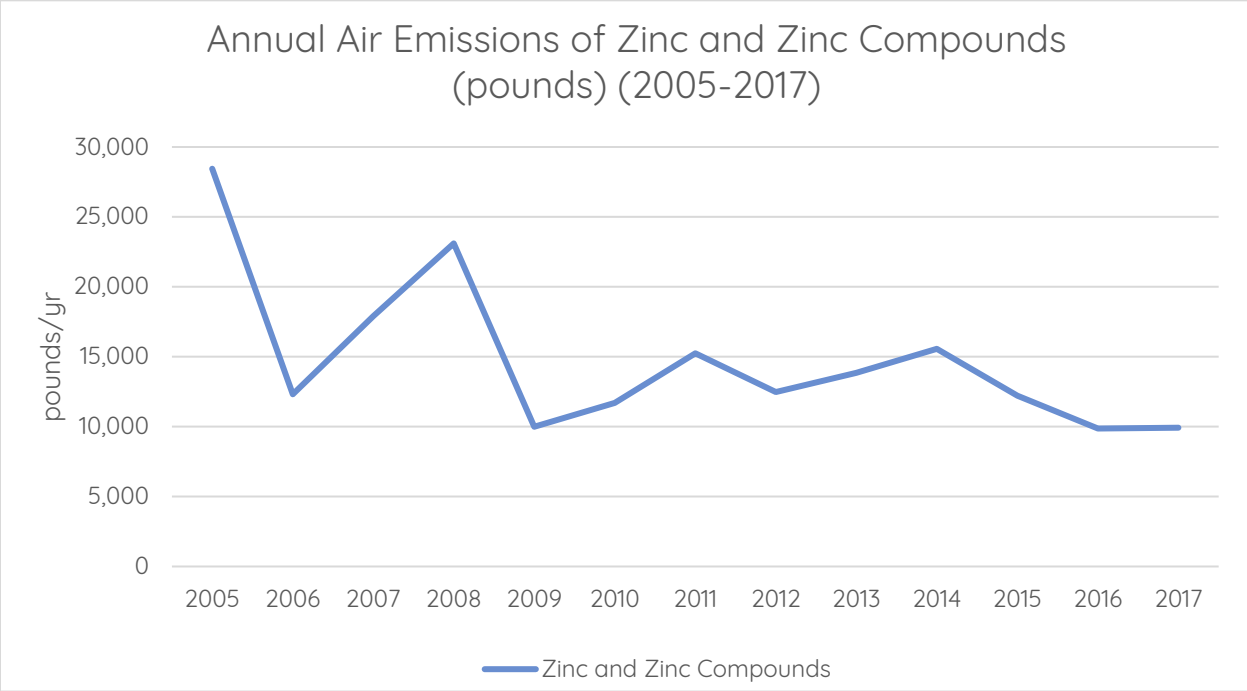


Figure 84. Air Emissions of Zinc and Zinc Compounds (2005-2017)

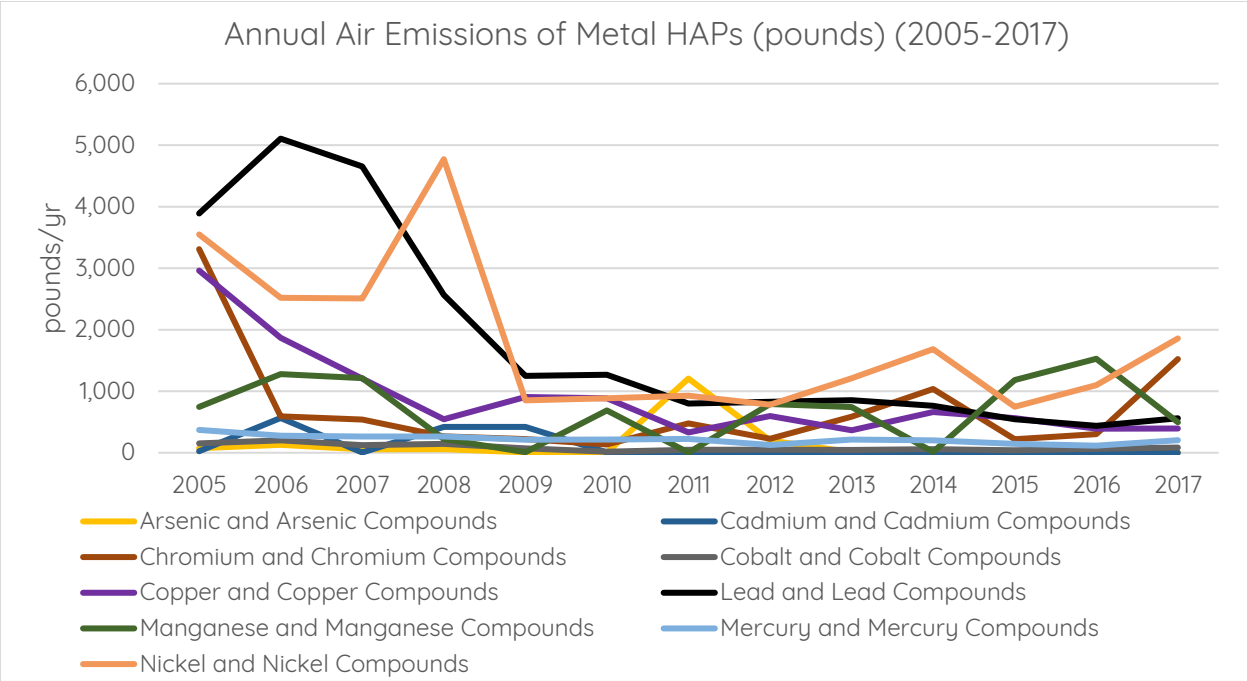


Figure 85. Air Emissions of Metal HAPs (2005-2017).

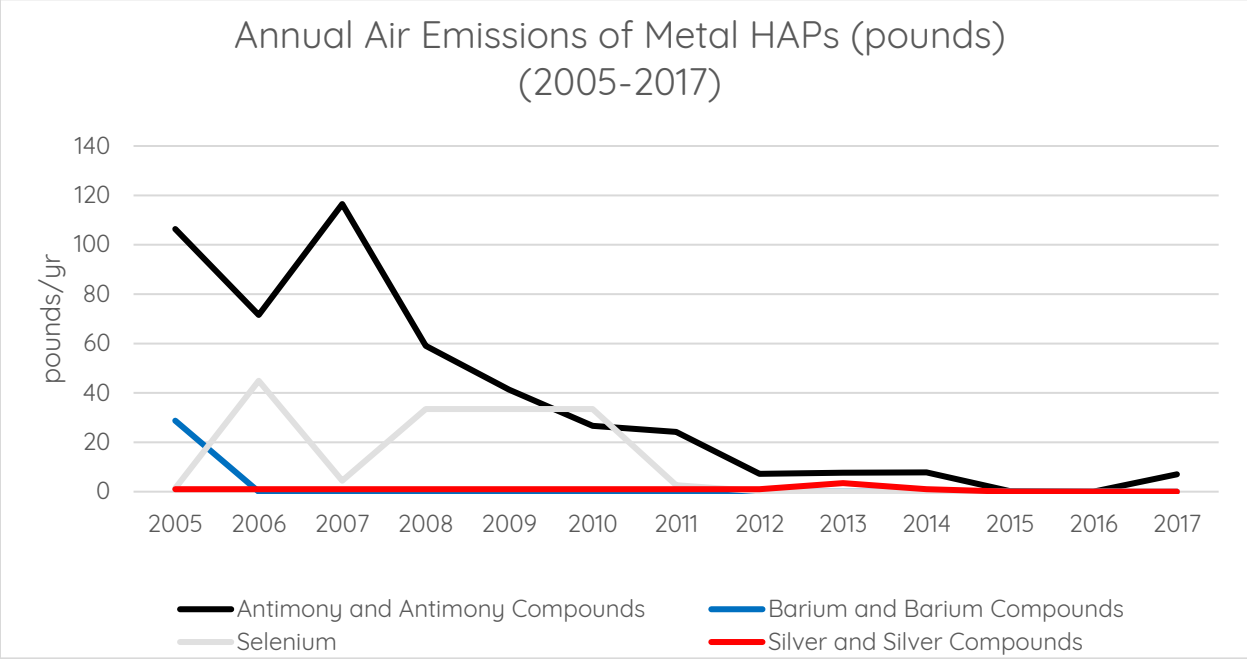


Figure 86. Air Emissions of Metal HAPs (2005-2017).
Beryllium and Beryllium Compounds Removed (Less than 1/1000th of a Pound).

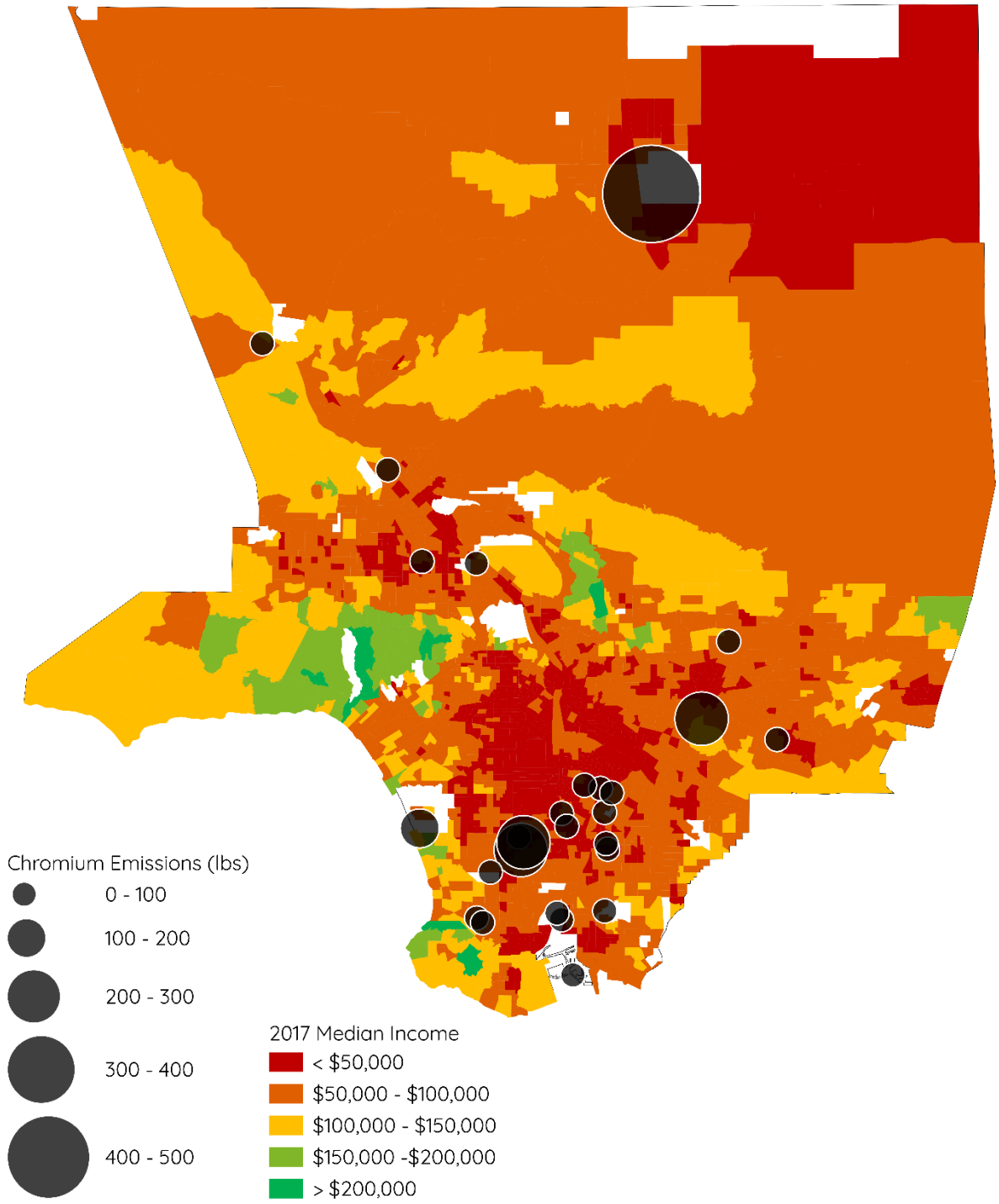


Figure 87. Chromium Emissions (pounds) in LA County against Census Tract and Median Household Income

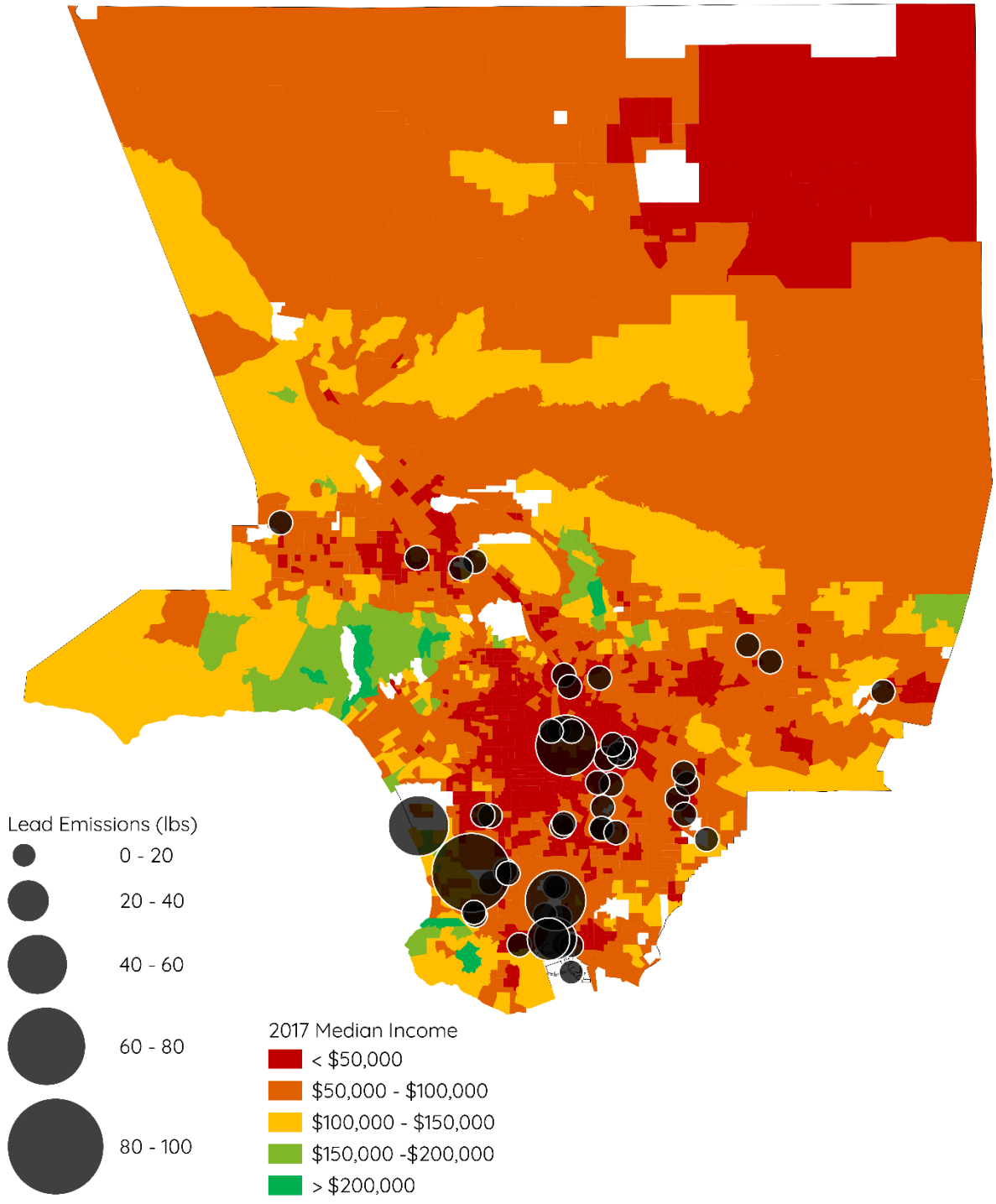


Figure 88. Lead Emissions (pounds) in LA County against Census Tract and Median Household Income

OurCounty

3. MATES IV Air Toxics Cancer Risk

Indicator Name:	MATES IV Air Toxics Cancer Risk
Data Source:	SCAQMD MATES IV Cancer Risk Data (2012-2013), 2017 5-year American Community Survey https://data-scaqmd-online.opendata.arcgis.com/datasets/mates-iv-feature
Analysis File:	20190224_MatesIV_data.shp, 20190401_MATESIV_census_tracts_data.shp
Metadata File:	20181206 AIR QUALITY_Indicators.xlsx
Methods:	• MATES IV 2012-2013 shapefile contains distribution of cancer risk per million residents (assuming a 70-year lifespan). • Loaded into ArcMap and re-projected along with an LA County outline. • Loaded set of census tracts within the bottom decile of Median Household Income (MHI <= $33,409/ year) according to 2017 5yr ACS. • Created a risk heatmap with risk classes matching SCAQMD MATES IV webmap.
Findings:	• MATES does not provide information about cancer risk from air pollution in the Antelope Valley. • Areas with the lowest calculated risk are in the Sandberg/ Gorman area, and on Catalina Island. • The areas with the highest calculated risk are near the Port of LA and Port of Long Beach. • MATES IV found average air toxics risk decrease of 65% relative to MATES III (conducted 2004-2006). • Lower income areas typically have medium to high risk of cancer.

Figure:

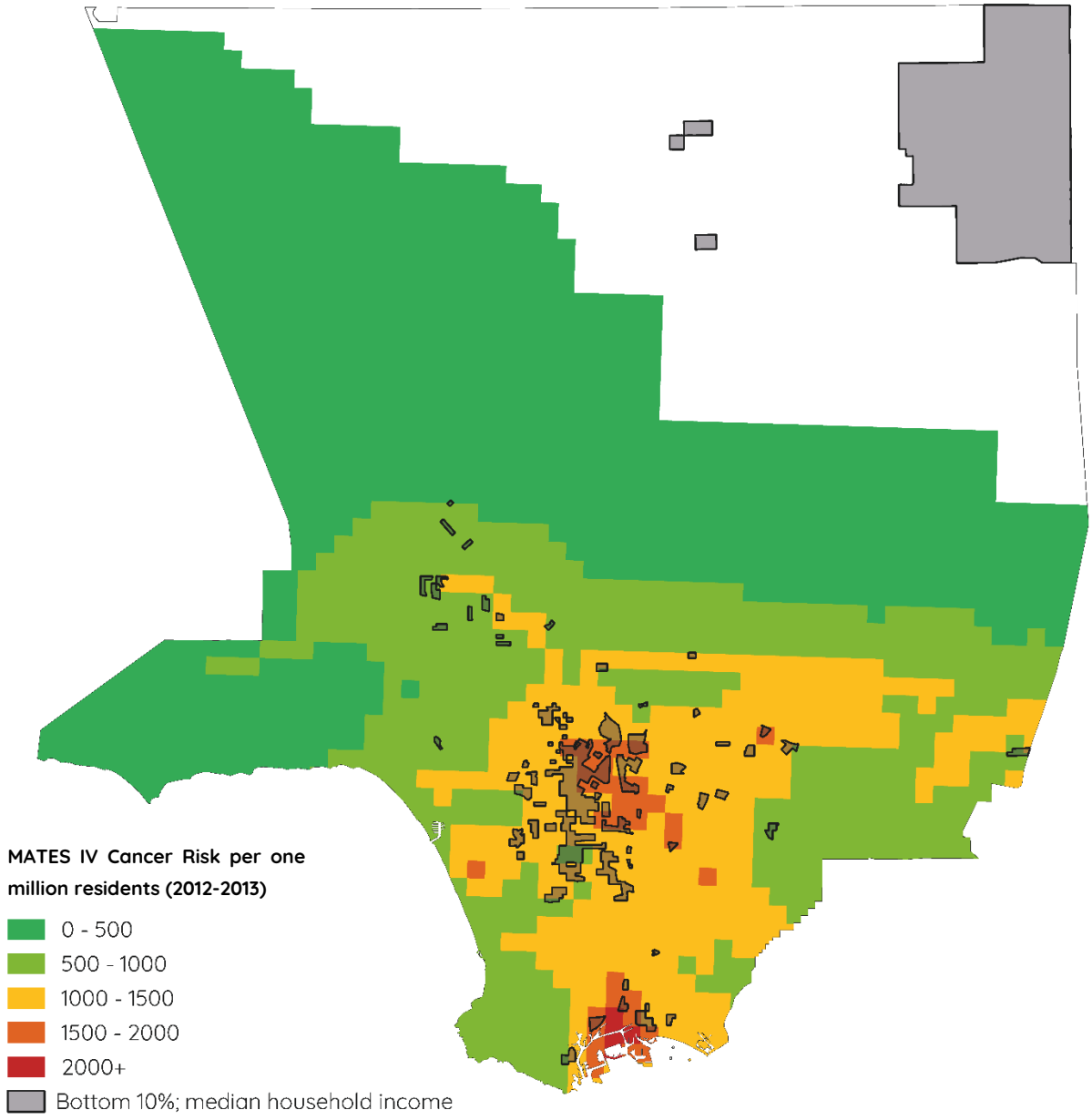


Figure 89. MATES IV Cancer Risk per One Million Residents (2012-2013).

Waste

1. Total Municipal Waste Disposed in LA County

Indicator Name:	Total Municipal Waste Disposed in LA County
Data Source:	CalRecycle Disposal Reporting System http://www.calrecycle.ca.gov/LGCentral/Reports/DRS/Origin/WFOrgin.aspx https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Origin/CountywideSummary
Analysis File:	Disposal_analysis.xlsx
Metadata File:	Waste_Indicators_20190131.xlxs
Methods:	• Displayed historical countywide waste disposal by category from 1995-2017, with total pounds per capita based on CA Department of Finance population estimates. • For per capita disposal at the city level, merged Artesia, Beverly Hills, Duarte, Hidden Hills, Los Angeles, Lynwood, Manhattan Beach, Pomona, Rancho Palos Verdes, Redondo Beach, Rosemead, Sierra Madre, South Gate, Torrance as all report via the Los Angeles Integrated Waste Management District.
Findings:	• Total waste disposed in LA County reached a high of 14.9 million tons in 2005, decreased steadily to a low of 9.5 million tons in 2012 and 2013, but then progressively increased to 11.3 million tons in 2017. • Per capita rates followed a very similar trend since 2005 and are just over 2,200 lbs/person in 2017, averaged over the entire county. • Cities with the highest waste disposal rates per capita are typically those with lower populations and primarily in commercial and industrial areas such as Vernon (1,952,790 lbs per capita per year or 5,350 lbs per capita per day) and the City of Industry (450,694 lbs per capita per year or 1,235 lbs per capita per day), as well as in more affluent areas including Malibu (9,221 lbs per capita per year or 25.3 lbs per capita per day), Calabasas (6,241 lbs per capita per year or 17.1 lbs per capita per day) and Rolling Hills (4,274 lbs per capita per year or 11.71 lbs per capita per day), which are 2-4 times as high as the countywide average.

Figure:

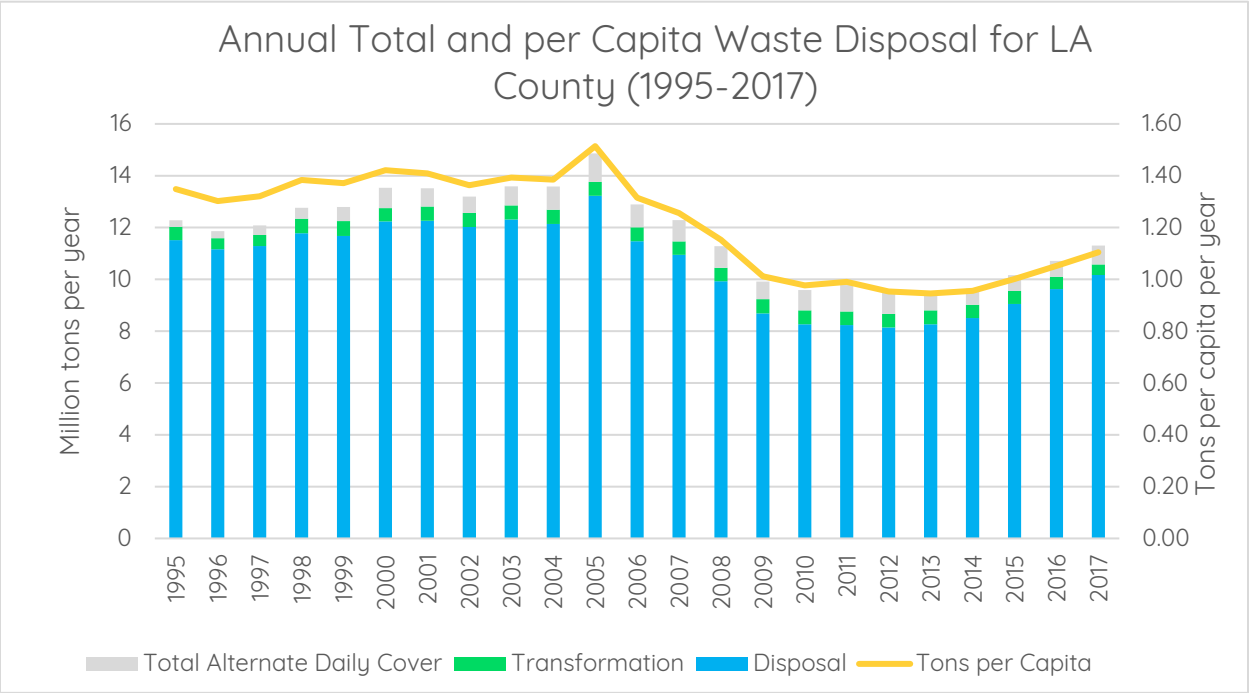


Figure 90. Total and per Capita Waste in LA County (1995-2017)

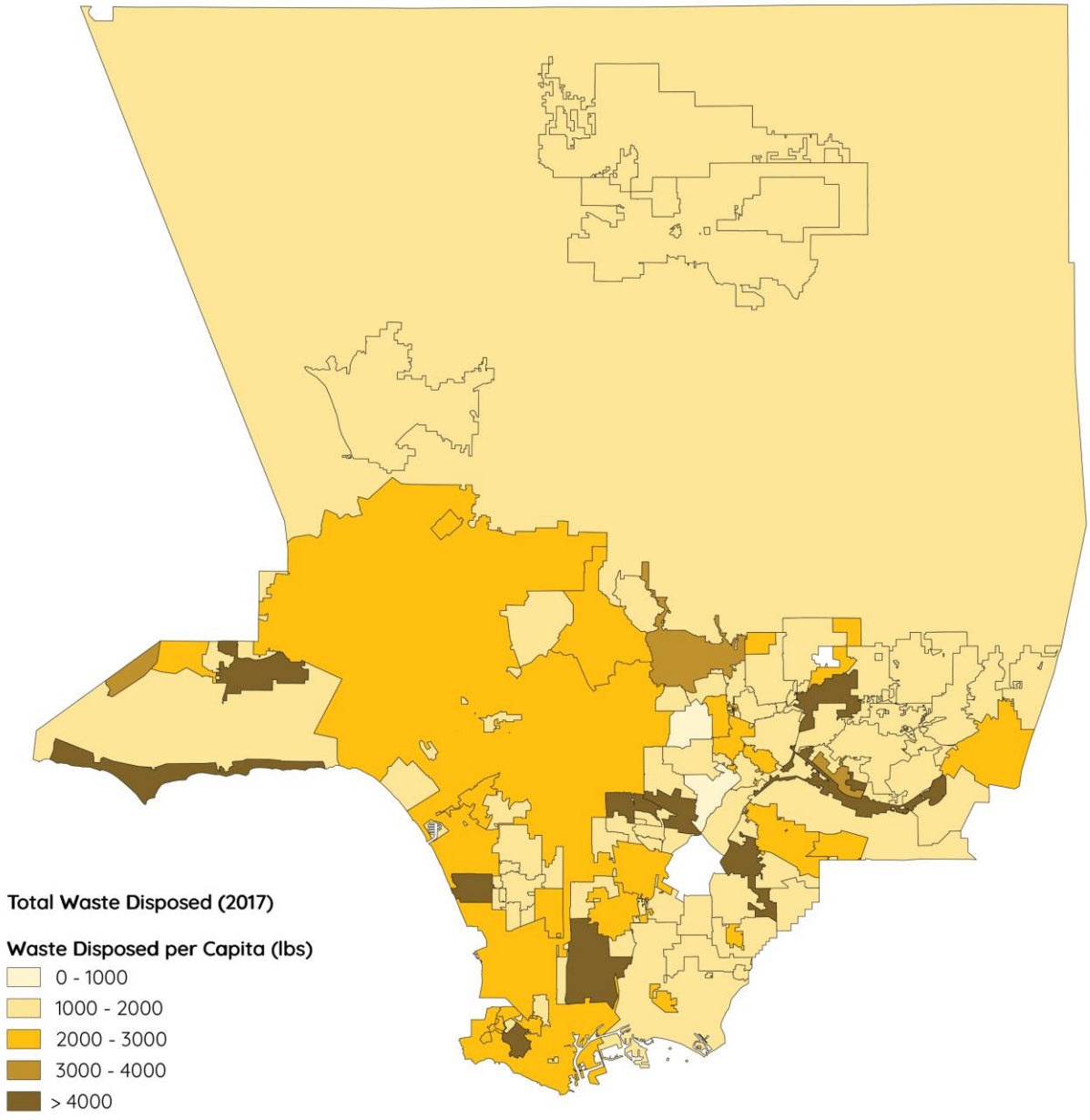


Figure 91. Total waste disposed per capita by jurisdiction (2017).

Values for the following cities are merged as they report via the Los Angeles Integrated Waste Management District: Artesia, Beverly Hills, Duarte, Hidden Hills, Los Angeles, Lynwood, Manhattan Beach, Pomona, Rancho Palos Verdes, Redondo Beach, Rosemead, Sierra Madre, South Gate, and Torrance.

2. Annual Quantity of Waste Treated Within and Outside of LA County

Indicator Name:	Annual Quantity of Waste Treated Within and Outside of LA County
Data Source:	CalRecycle Annual Countywide Disposal Destination Reports (2010-2017) https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/CountywideDisposal
Analysis File:	Countywide-Disposal-Destination.xlsx
Metadata File:	Waste_Indicators_20190131.xlxs
Methods:	• Combined annual countywide destination reports into single Excel sheet. Included county identifier column based on CalRecycle's Solid Waste Information System (SWIS) Facility/Site Search database to distinguish between in-county and out-of-county disposal destinations. • Summarized data as table of in-county generated waste by disposal destination (by county) and stacked bar chart depicting relative share of in-county and out-of-county waste disposal destinations for solid waste generated within LA.
Findings:	• The share of solid waste generated in LA County that was disposed within the county decreased from 77.1% in 2010 to 51.7% in 2017. • There was an increase of more than 50% in the tonnage out-of-County disposal between 2013 and 2014, with an increasing trend every year thereafter. • Riverside and Orange counties accounted for approximately 70% of all waste disposed outside LA County in 2017.

Figure:

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Table 39. LA County Solid Waste by Disposal Destination (2010-2017)

Annual Solid Waste Disposal in and out of LA County (tons) (2010-2017)								
Year	2010	2011	2012	2013	2014	2015	2016	2017
In Los Angeles County	6,368,225	6,329,985	6,292,831	6,195,855	4,811,431	4,922,473	5,414,361	5,261,098
In-County % of Total	77.1%	76.9%	77.3%	75.0%	56.6%	54.4%	56.3%	51.7%
Alameda	95.7	60.0	20.8	376			11.9	22.3
Contra Costa		5.3						
Fresno			29.98	54.56	58.10	27.67		7.22
Kern	926	4,759	29,850	44,468	77,434	90,023	81,854	96,633
Kings	15,188	13,819	9,536	5,854	4,863	3,657	3,727	2,800
Merced					9			
Monterey			7.00		5.00	39.0	7.00	3,135
Orange	624,800	613,780	654,976	747,123	1,514,574	1,609,550	1,639,807	1,706,556
Riverside	949,813	945,616	869,036	878,469	964,236	1,042,075	1,223,875	1,803,895
San Bernardino	36,447	41,430	40,576	152,921	793,957	911,149	767,131	723,441
San Diego	2,605	18,532	194	282	185	324	84.9	151
San Joaquin			1.18				3.83	
San Luis Obispo		3,686	5,864	5,251	5,405	5,716	5,145	5,279
Santa Clara	1.90	0.50	0.13	2.28	5.95		4.30	3.95
Shasta						3.02	0.54	0.42
Solano	1.18	-	3.03	-	27.69	2.02	15.2	20.6
Stanislaus	-	-	-	-	-	-	-	-
Ventura	266,166	261,951	238,786	235,760	334,457	465,095	489,158	567,163
Outside Los Angeles County	1,896,044	1,903,638	1,848,882	2,070,560	3,695,217	4,127,662	4,210,823	4,909,107
Outside County % of Total	22.9%	23.1%	22.7%	25.0%	43.4%	45.6%	43.7%	48.3%
Total	8,264,269	8,233,623	8,141,712	8,266,415	8,506,649	9,050,135	9,625,184	10,170,205

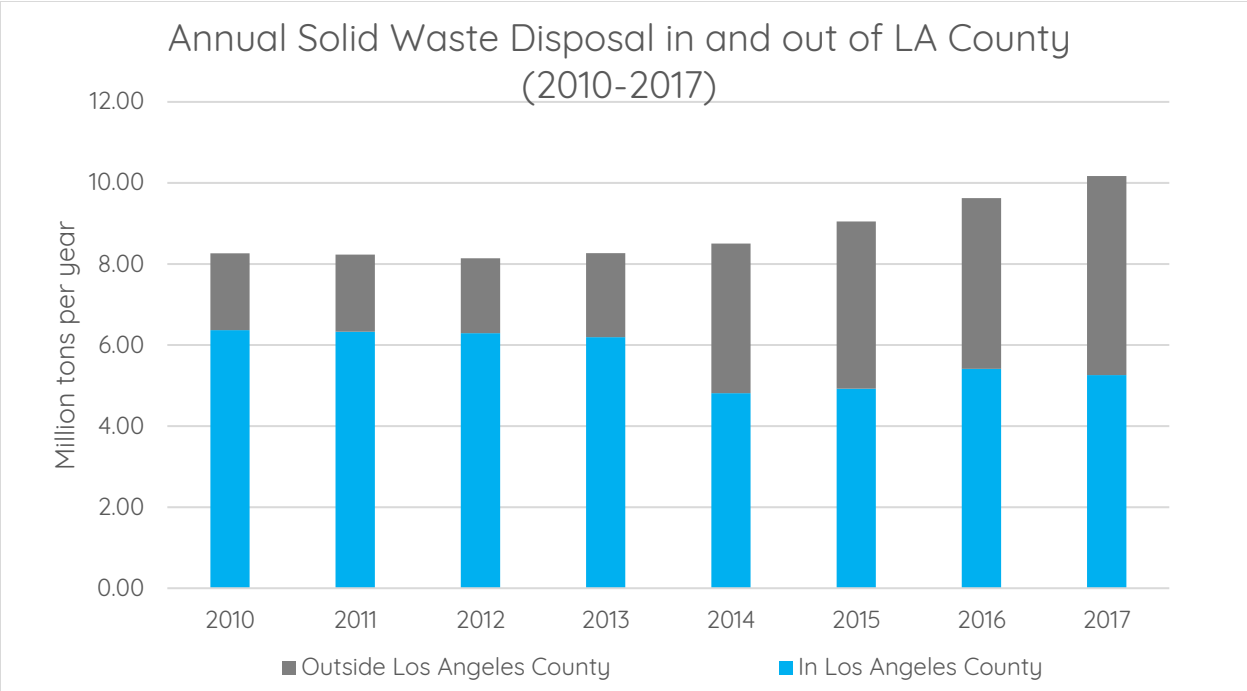

Figure 92. LA County Solid Waste by Disposal Destination (2010-2017)

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3. Heavy metal-containing hazardous waste volumes

Indicator Name:	Heavy metal-containing hazardous waste volumes
Data Source:	EPA Toxics Release Inventory (TRI) Program https://iaspub.epa.gov/triexplorer/tri_release.chemical
Analysis File:	HazWaste.xlsx
Metadata File:	Waste_Indicators_20190131.xlxs
Methods:	• Downloaded annual (2005-2017) reports of HAP metal emissions from TRI Explorer for LA County. • Cleaned data and totaled masses of off-site disposal for each of the pollutants for each year. • Generated table and line graph showing the disposed masses per year for the HAP metals included in the TRI report list.
Findings:	• The total volume of metals-containing hazardous waste disposed off-site decreased from 4 million tons in 2005 to 2.9 million tons in 2017, representing an overall decrease of 28%. • Volumes were in decline up to 2010, but have been increasing in a fluctuating trend since then. • In 2017, the top five categories by volume were lead, antimony, zinc, nickel, and chromium.

Figure:

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Table 40. Off-site Disposal of Hazardous Waste in LA County (2005-2017)

2005-2017 Off-site Disposal of Hazardous Waste in LA County (in tons)

Chemical	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	% Change 2005-2017
Aluminum (fume or dust)	819	1,022	0	0	0	0	0	0	NR	0	0	0	0	-100%
Aluminum oxide (fibrous forms)	0	0	0	0	NR	NR	NR	NR	NR	NR	0	NR	NR	
Asbestos (friable)	NR	NR	NR	NR	161,948	28,000	278,930	130,000	149,760	31,000	NR	NR	NR	
Beryllium and beryllium compounds	0	280	1,440	NR	NR	NR	NR	0	0	0	0	0	0	
Lithium carbonate	0	0	0	0	0	0	0	0	0	0	0	0	0	
Silver and silver compounds	0	0	0	0	0	0	0	0	34	42	0	0	0	
Sodium nitrite	414	229	410	0	0	0	0	0	0	0	0	0	0	-100%
Selenium	18,530	3,762	3,374	214	541	1,813	1,698	1,378	0	0	0	1	0	-100%
Mercury and mercury compounds	116	28	3	2	0	2	2	13	1	61	8	8	7	-94%
Mercury compounds	624	294	477	510	486	513	629	161	1,268	158	235	175	154	-75%
Manganese and manganese compounds	428	1,808	568	644	12,262	532	559	582	3,495	849	516	207	341	-20%
Molybdenum trioxide	60,308	114,950	5,720	7,159	48,712	2,132	2,134	647	1,043	3,542	6,181	2,056	1,798	-97%
Cobalt and cobalt compounds	3,216	2,339	1,386	2,996	16,143	6,688	1,624	1,235	3,459	1,552	5,117	1,974	2,086	-35%
Manganese compounds	2,529	41	1,436	3,700	1,600	45,194	1,200	7,615	12,119	2,100	20,064	17,325	3,249	28%
Barium and barium compounds	18,294	42,463	18,587	16,293	7,603	5,615	11,882	4,916	9,122	11,207	10,050	11,279	8,030	-56%
Cadmium and cadmium compounds	8,469	19,637	12,194	13,574	324	502	11,402	1,045	645	250	0	0	10,946	29%
Vanadium and vanadium compounds	14,480	7,835	9,016	46,566	18,244	1,610	2,725	15,038	4,429	15,026	11,784	11,854	11,481	-21%
Copper and copper compounds	140,154	225,846	211,936	263,964	188,333	63,284	300,957	79,927	44,891	145,212	197,234	117,761	66,163	-53%
Arsenic and arsenic compounds	71,584	68,078	64,114	30,200	56,490	17,461	15,096	559,718	190,088	236,469	109,307	104,776	77,718	9%
Chromium and chromium compounds	341,854	305,840	208,634	162,092	105,499	130,230	104,557	165,778	177,544	160,892	129,748	152,394	129,485	-62%
Nickel nickel compounds	230,581	176,900	157,590	112,261	121,740	139,677	80,914	65,474	153,922	94,277	168,220	135,190	208,502	-10%
Zinc and zinc compounds	512,661	380,408	389,409	430,363	414,490	293,330	434,906	250,959	521,979	859,959	425,943	577,541	318,741	-38%
Antimony and antimony compounds	533,666	420,023	379,920	271,792	271,299	129,643	220,579	393,589	171,033	337,303	336,135	338,601	412,406	-23%
Lead and lead compounds	2,040,118	2,148,176	2,161,600	1,683,698	1,414,340	579,344	1,466,491	2,057,521	1,011,286	882,224	794,671	1,190,766	1,630,229	-20%
Grand Total	**3,998,843**	**3,919,962**	**3,627,815**	**3,046,029**	**2,840,053**	**1,445,569**	**2,936,283**	**3,735,594**	**2,456,120**	**2,782,122**	**2,215,213**	**2,661,906**	**2,881,335**	**-28%**

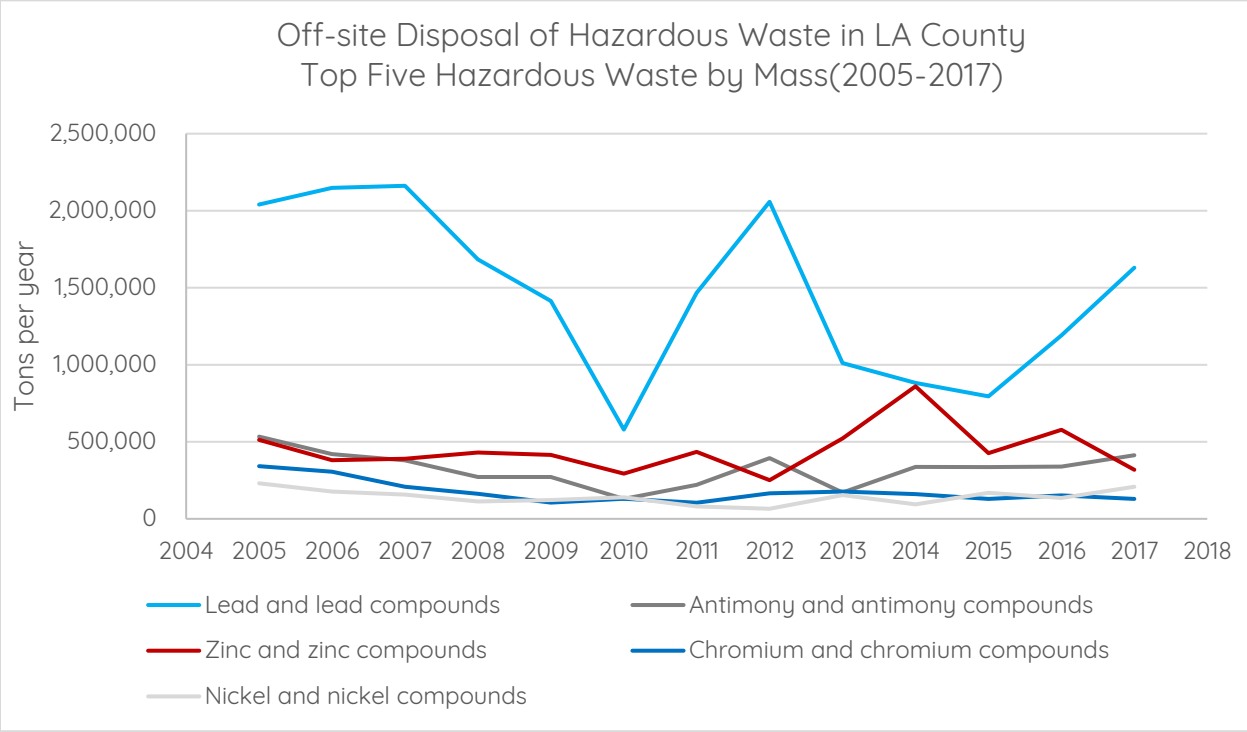

Figure 93. Off-site Disposal of Hazardous Waste in LA County (Top Five by Mass) (2005-2017)

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4. Illegal Dumping Complaints

Indicator Name:	Illegal Dumping Complaints
Data Source:	Los Angeles County Department of Public Works Annual Summaries 2015-2017 for unincorporated LA County.
Analysis File:	190403_Illegal_dumping.xlsx
Metadata File:	Waste_Indicators_20190131.xlxs
Methods:	• Raw data contains poorly formatted list of illegal dumping reports for County unincorporated areas from 2015-17. • Raw data had major formatting issues including no separate city or zip code field, as well as a large number of merged cells that prohibited analysis using a pivot table. Deleted 'No', 'Location', 'Referred To', and 'Comments' columns. Deleted rows including blank cells. • Calculated processing time for entries as the difference in days between date received and date picked up. • Added column for year received based on date received. • Used pivot table to calculate number of reports, average response time, and maximum response time by year.
Findings:	The number of illegal dumping reports within LA County unincorporated areas have more than doubled from 1,684 in 2015 to 4,391 in 2017. Average pick up time dropped between 2015 and 2016, but increased in 2017 to 8.5 days which is 50% greater than in 2015. Maximum pick up time decreased each year; in 2017 it was 391 days, which is 50% less than in 2015. The number of illegal dumping reports are higher in areas of low- to medium-income.

Figure:

Table 41. Illegal Dumping Reports and Pick-up Times for LA County Unincorporated Areas (2015-2017)

Year	Number of Reports	Average Pick Up Time (Days)	Max Pick Up Time (Days)
2015	1,684	6	788
2016	2,702	3	573
2017	4,391	9	391

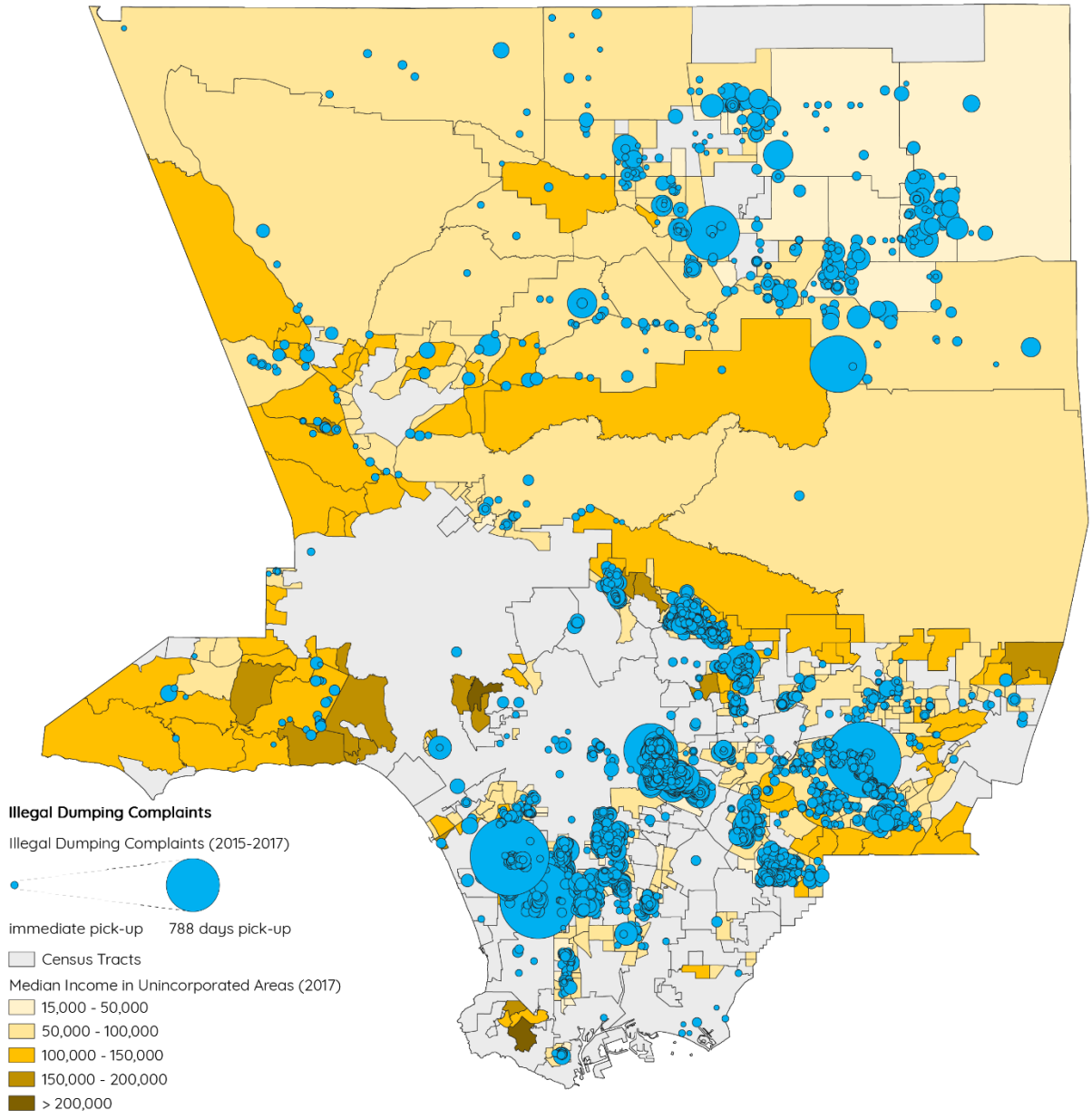

Figure 94. Illegal Dumping Complaints in Unincorporated LA County (2015 – 2017)

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5a. Solid Waste Diversion Programs

Indicator Name:	Solid Waste Diversion Programs
Data Source:	CalRecycle Diversion Program Counts by Status, Year, and Jurisdiction
Analysis File:	Waste_management_programs.xlsx
Metadata File:	Waste_Indicators_20190131.xlxs
Methods:	• Raw data obtained as PDF. Programs categorized by Program Codes (the glossary is accessible here: https://www.calrecycle.ca.gov/lgcentral/paris/Codes). • We used 2016 data because the 2017 data appeared incomplete. Converted PDF to a text file and used REGEX to clean the data. • Generated chart indicating number and type of program by city. • Please note that the figure in Excel is far more legible than that represented in this document, although the sheer volume of data presents significant challenges for visual representation.
Findings:	• Recycling programs are the most prevalent form of diversion program across the county, totaling 1,084 individual programs in 2016. • The Los Angeles Area Integrated Waste Management Authority – which includes 14 cities including the City of Los Angeles – had the highest number of diversion programs (57) in 2016. The top three individual cities by number of diversion programs include Carson (51), Santa Monica (48) and Lakewood (47). • The three cities with the lowest numbers of diversion programs in 2016 were the City of Industry (23), Irwindale (27) and Vernon (27).

Figure:

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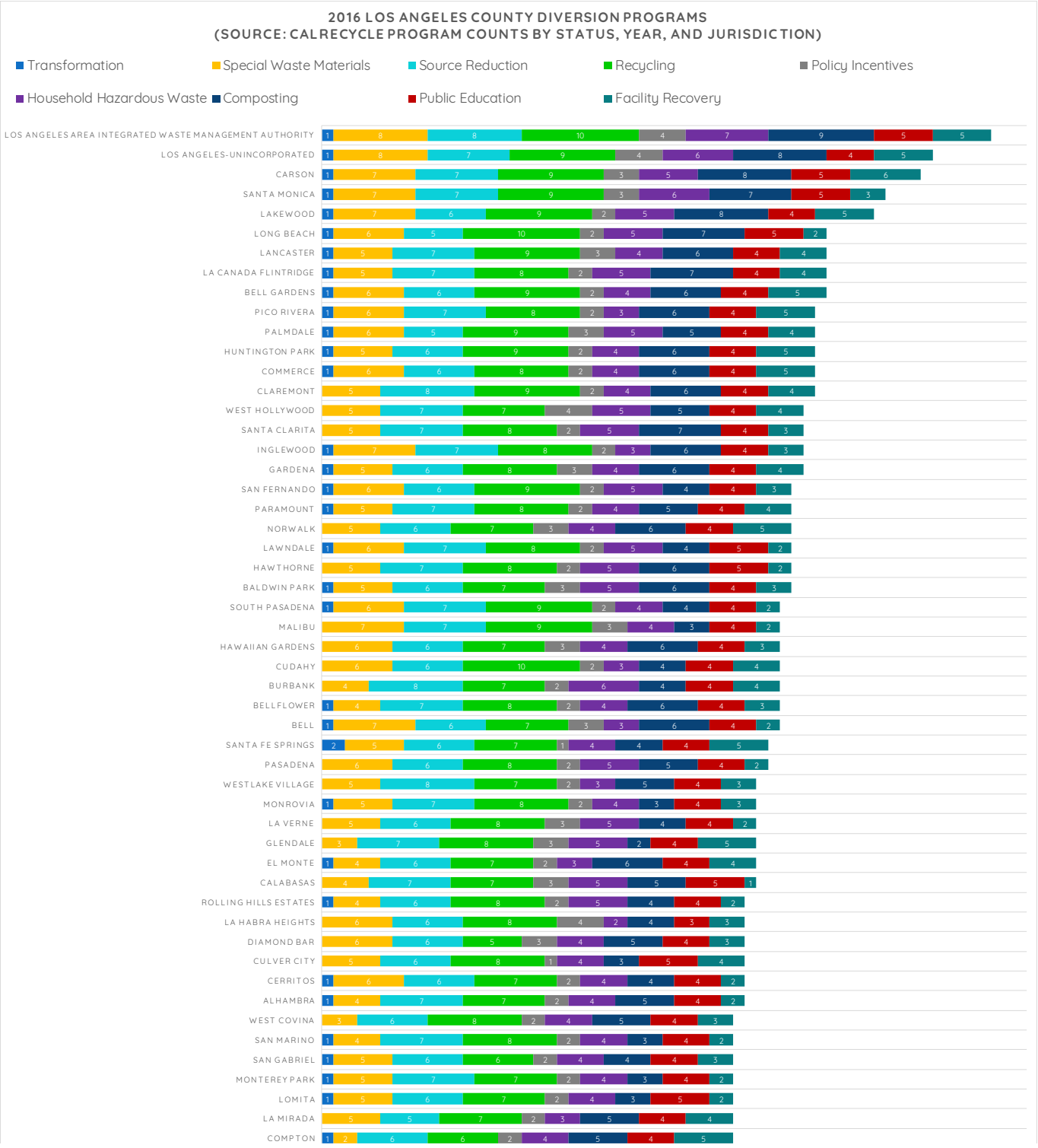
2016 LOS ANGELES COUNTY DIVERSION PROGRAMS
(SOURCE: CALRECYCLE PROGRAM COUNTS BY STATUS, YEAR, AND JURISDICTION)
Transformation
Special Waste Materials
Source Reduction
Recycling
Policy Incentives
Household Hazardous Waste
Composting
Public Education
Facility Recovery
LOS ANGELES AREA INTEGRATED WASTE MANAGEMENT AUTHORITY 1 8 8 10 4 7 9 5 5
LOS ANGELES-UNINCORPORATED 1 8 7 9 4 6 8 4 5
CARSON 1 7 7 9 3 5 8 5 6
SANTA MONICA 1 7 7 9 3 6 7 5 3
LAKEWOOD 1 7 6 9 2 5 8 4 5
LONG BEACH 1 6 5 10 2 5 7 5 2
LANCASTER 1 5 7 9 3 4 6 4 4
LA CANADA FLINTRIDGE 1 5 7 8 2 5 7 4 4
BELL GARDENS 1 6 6 9 2 4 6 4 5
PICO RIVERA 1 6 7 8 2 3 6 4 5
PALMDALE 1 6 5 9 3 5 5 4 4
HUNTINGTON PARK 1 5 6 9 2 4 6 4 5
COMMERCE 1 6 6 8 2 4 6 4 5
CLAREMONT 5 8 9 2 4 6 4 4
WEST HOLLYWOOD 5 7 7 4 5 5 4 4
SANTA CLARITA 5 7 8 2 5 7 4 3
INGLEWOOD 1 7 7 8 2 3 6 4 3
GARDENA 1 5 6 8 3 4 6 4 4
SAN FERNANDO 1 6 6 9 2 5 4 4 3
PARAMOUNT 1 5 7 8 2 4 5 4 4
NORWALK 5 6 7 3 4 6 4 5
LAWNDALE 1 6 7 8 2 5 4 5 2
HAWTHORNE 5 7 8 2 5 6 5 2
BALDWIN PARK 1 5 6 7 3 5 6 4 3
SOUTH PASADENA 1 6 7 9 2 4 4 4 2
MALIBU 7 7 9 3 4 3 4 2
HAWAIIAN GARDENS 6 6 7 3 4 6 4 3
CUDAHY 6 6 10 2 3 4 4 4
BURBANK 4 8 7 2 6 4 4 4
BELLFLOWER 1 4 7 8 2 4 6 4 3
BELL 1 7 6 7 3 3 6 4 2
SANTA FE SPRINGS 2 5 6 7 1 4 4 4 5
PASADENA 6 6 8 2 5 5 4 2
WESTLAKE VILLAGE 5 8 7 2 3 5 4 3
MONROVIA 1 5 7 8 2 4 3 4 3
LA VERNE 5 6 8 3 5 4 4 2
GLENDALE 3 7 8 3 5 2 4 5
EL MONTE 1 4 6 7 2 3 6 4 4
CALABASAS 4 7 7 3 5 5 5 1
ROLLING HILLS ESTATES 1 4 6 8 2 5 4 4 2
LA HABRA HEIGHTS 6 6 8 4 2 4 3 3
DIAMOND BAR 6 6 5 3 4 5 4 3
CULVER CITY 5 6 8 1 4 3 5 4
CERRITOS 1 6 6 7 2 4 4 4 2
ALHAMBRA 1 4 7 7 2 4 5 4 2
WEST COVINA 3 6 8 2 4 5 4 3
SAN MARINO 1 4 7 8 2 4 3 4 2
SAN GABRIEL 1 5 6 6 2 4 4 4 3
MONTEREY PARK 1 5 7 7 2 4 3 4 2
LOMITA 1 5 6 7 2 4 3 5 2
LA MIRADA 5 5 7 2 3 5 4 4
COMPTON 1 2 6 6 2 4 5 4 5

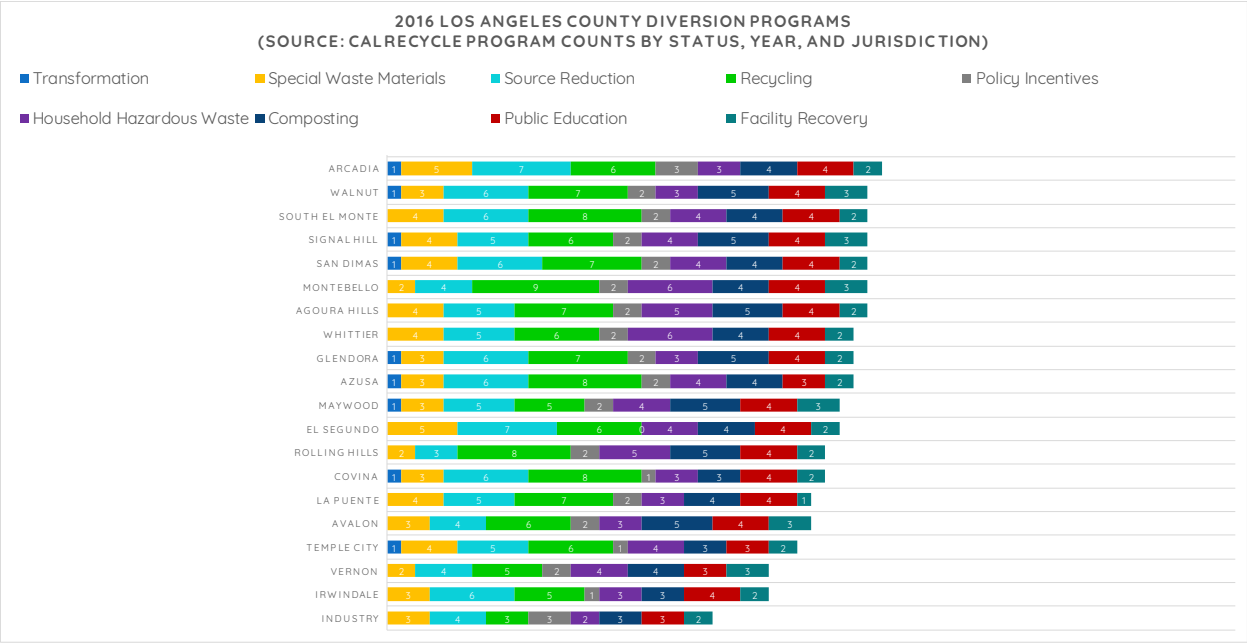

Figure 95. Solid Waste Diversion Programs by City (2016)

5b. Solid Waste Diversion Programs – Takeback Programs

Indicator Name:	Number of takeback programs countywide and per city
Data Source:	California Department of Public Health Medical Waste Management Program https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/ProgramCountSummary; https://www.cdph.ca.gov/Programs/CEH/DRSEM/CDPH%20Document%20Library/EMB/MedicalWaste/101018%20Home%20Generated%20Sharps%20Consolidation%20Points.pdf
Analysis File:	190403_Sharps Consolidation_ANALYSIS.xlsx
Metadata File:	Waste_Indicators_20190131.xlxs
Methods:	• The most recent report was obtained October 10, 2018 and the raw data was converted to excel. • Limited dataset to facilities within LA County. • Cleaned city names to reflect only those officially-designated cities or unincorporated areas within LA County. • Added columns for full facility type. • Generated tables representing number of facilities by city, countywide facilities by type, and the number of facilities by type by city.
Findings:	• Fewer than half of all cities within LA County contain an officially designated medical waste management facility. • The City of Los Angeles has the highest number of facilities, with 65 facilities as of October 2018.

Figure:

Table 42. Facility Types in LA County (2018)

Facility type	Count
Clinic	16
Events for Collection	1
Hospital	1
Household Hazardous Waste	12
Kiosk	26
Other	55
Pharmaceutical	1
Pharmacy	18
Police Station	2
Transfer Station	1
Total	**133**

Table 43. Jurisdictions within LA County with at least one officially-designated medical waste facility or program (2018)

City	Clinic	Events for Collection	Hospital	Household Hazardous Waste	Kiosk	Other	Pharma-ceutical	Pharmacy	Police Station	Transfer Station	Total
Agoura Hills				1		1					2
Alhambra		1									1
Arcadia						1					1
Artesia						1					1
Avalon								1			1
Calabasas				1	1	1					3
Carson					1						1
Claremont						3					3
Compton					1	1					2
Culver City								1			1
Downey								4			4
Duarte			1								1
El Monte				1							1
Gardena									1		1
Glendale	1					3					4
Huntington Park								1			1
Industry					1						1
Inglewood	1					1			1		3
La Mirada						1					1
La Verne						1					1
Lakewood					1						1
Lancaster	1				1						2
Lomita					1						1
Long Beach							1				1
Los Angeles	9			8	5	37		6			65
Lynwood					1						1
Malibu						1					1
Manhattan Beach					1						1
Monrovia	1										1
Norwalk					1						1
Palmdale					1	1					2
Pico Rivera					1						1
Pomona	1										1
San Dimas					1			1			2
Santa Clarita					1						1
Signal Hill				1							1
Temple City					1						1
Torrance	1										1
Unincorporated					4					1	5
Walnut					1						1
West Covina						2					2
West Hollywood					1			4			5
Whittier	1										1
Total	**16**	**1**	**1**	**12**	**26**	**55**	**1**	**18**	**2**	**1**	**133**

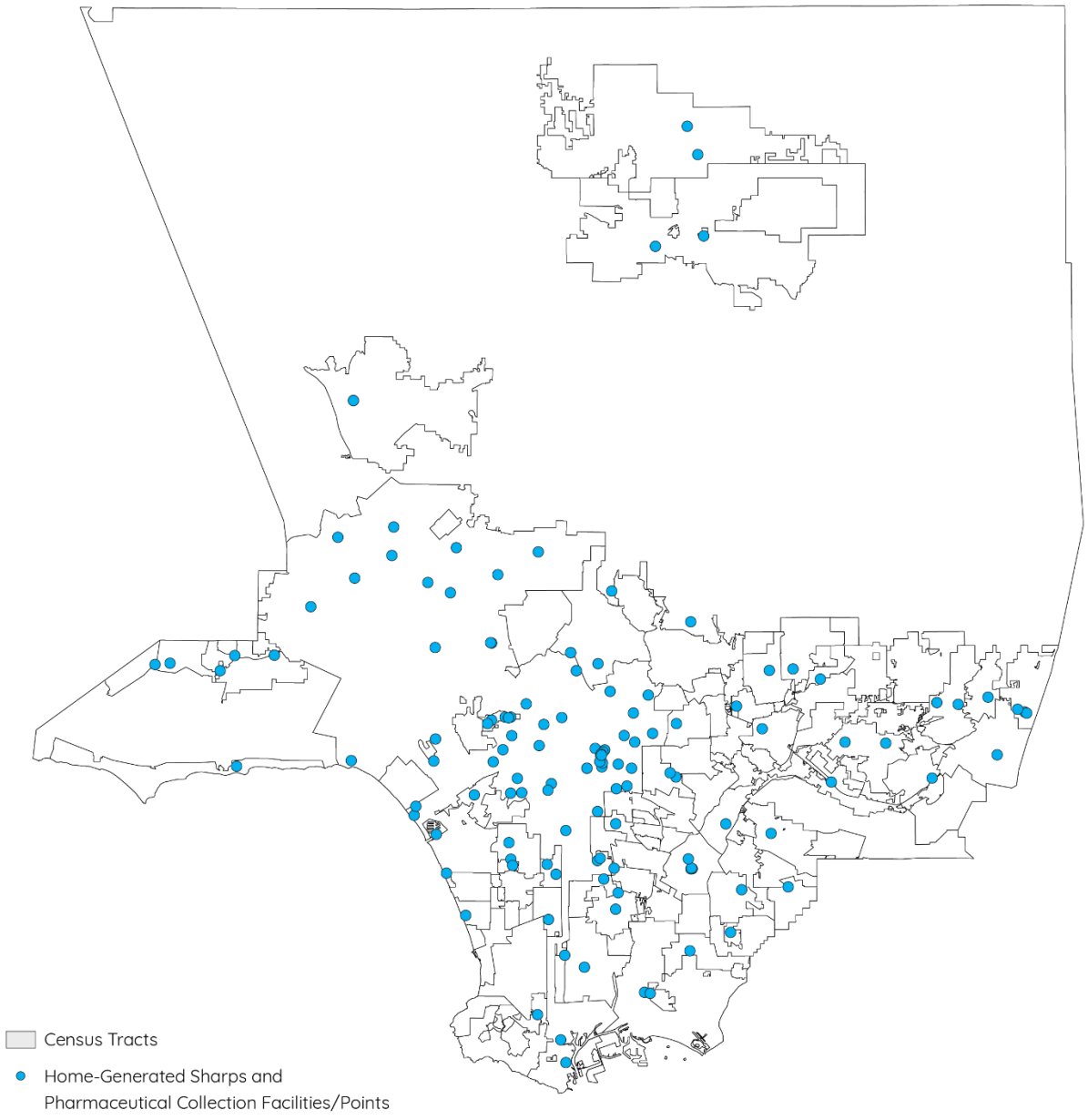

Figure 96. Home-Generated Sharps and Pharmaceutical Consolidation Points (2018)

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6. Number of RMDZ businesses in the Recycling Market Development Zone (RMDZ)

Indicator Name:	CalRecycle Recycling Market Development Zones (RMDZ) Business Search
Data Source:	CalRecycle Recycling Market Development Zones (RMDZ) Business Search https://www2.calrecycle.ca.gov/BizAssistance/RMDZ/Businesses
Analysis File:	Businesses_RMDZ.xlsx
Metadata File:	Waste_Indicators_20190131.xlxs
Methods:	• Recycling Market Development Zones (RMDZs) combine recycling with economic development. The program provides loans, technical assistance, and free product marketing to businesses that use materials from the waste stream to manufacture their products and are located in a zone. • Raw data was downloaded on April 3, 2019. Raw data includes the following columns: Business; Website; Phone; Zone; County; Zip Code. Filtered raw data to include only LA County businesses. • As the raw data contained no street address information, approximate location of RMDZ businesses were mapped using centroids of associated zip codes, overlaid on a map of LA County city boundaries
Findings:	• While there are six recycling market development zones within the County, only three – City of Los Angeles, Long Beach, and Unincorporated LA County – contain active RMDZ businesses. • As of April 2019, there are 45 businesses enrolled in a Recycling Market Development Zone (RMDZ) within the County. • The vast majority (27) are located with the LA County RMDZ.

Figure:

Table 44. Number of Businesses by Recycling Market Development Zone (2019)

Recycling Market Development Zone	No. of Businesses
City of Los Angeles	9
Long Beach	9
Los Angeles County	27
TOTAL	**45**

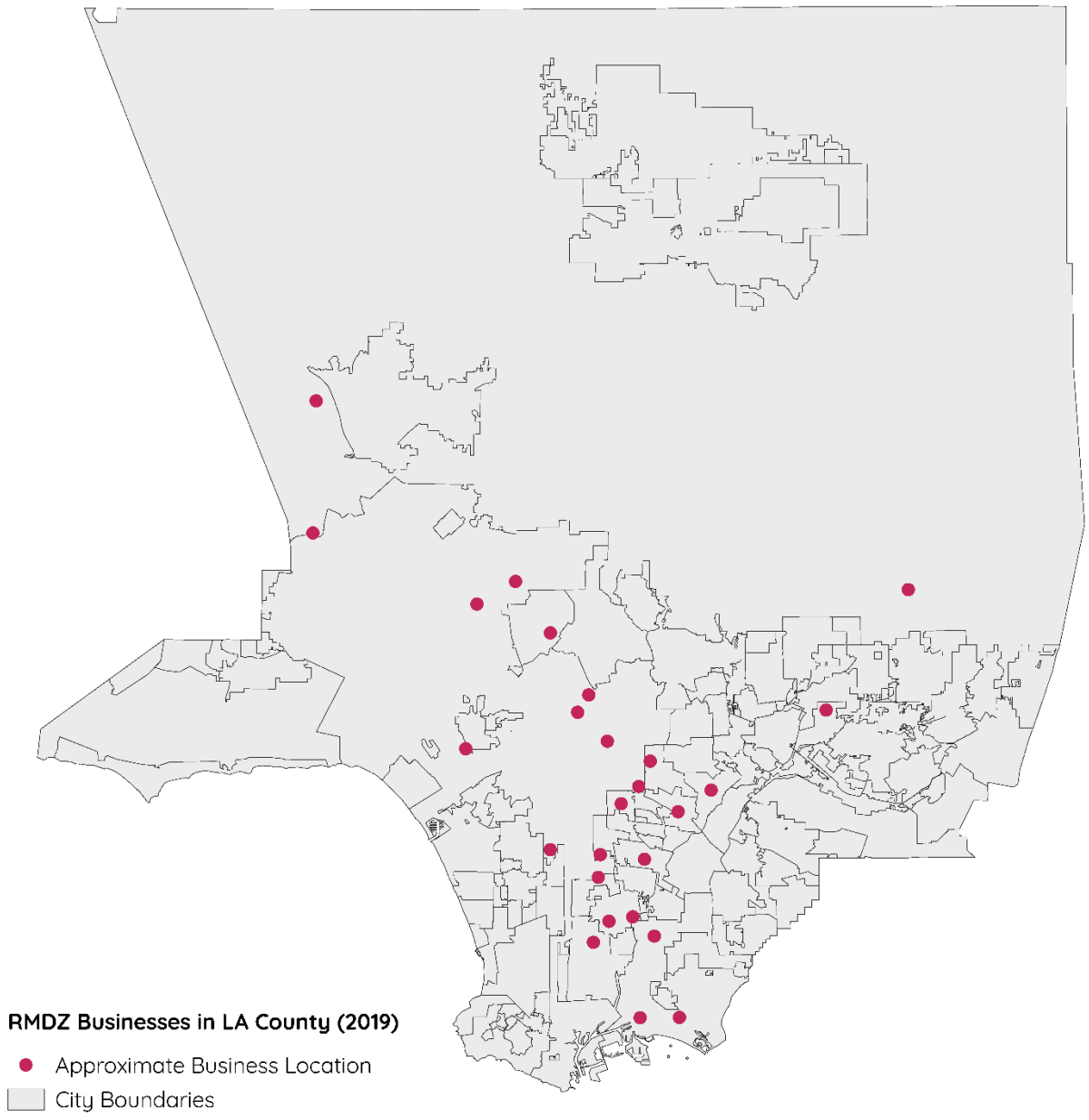

Figure 97. Approximate location of Recycling Market Development Zone businesses in LA County (2019)

Climate

1. Coastal Vulnerability Planning for Sea Level Rise

Indicator Name:	Coastal Vulnerability Planning for Sea Level Rise
Data Source:	California Coastal Commission SLR Vulnerability Synthesis - LA County
Analysis File:	190301_CoastalAdapt_Analysis.xlsx
Metadata File:	Climate_Indicators_20190301.xlxs
Methods:	• Copied summary table (Table 1. LCP Planning in LA County (as of Dec. 2016) from 2016 California Coastal Commission Statewide Sea Level Rise Vulnerability Synthesis.
Findings:	• Fourteen entities – 12 cities, the Unincorporated Areas of LA County, and the category of "Federal Lands and Ports" – have jurisdiction along the LA County coastline. Of these, only nine have certified Local Coastal Programs in place. • The majority of LCPs were established pre-2000, and to date, none have been fully updated to account for potential impacts of sea level rise. • Seven entities have conducted vulnerability assessments, and one entity has a vulnerability assessment currently in progress.

Figure:

Table 45. Local Coastal Programs (2016)

Jurisdiction/Segment	Certified Local Coastal Program	Grant	Vulnerability Assessments	Updated for Sea Level Rise	Shoreline by Jurisdiction
City of Malibu	2002	No	No	In Part	23%
Los Angeles County	No	No	Yes	No	
Malibu Santa Monica Mountains Segment	2014	No	No	In Part	
Marina del Ray Segment	1990	No	No	In Part	3%
Playa Vista Segment	No	No	No	No	
Santa Catalina Island Segment	1990	No	No	No	
City of Los Angeles	No	Yes	Yes	No	
Pacific Palisades Segment	No	No	Yes	No	
Venice Segment	No	CCC	Yes	In Progress	
Playa Vista Segment	No	No	No	No	14%
Del Rey Lagoon Segment	No	No	No	No	
Airport/Dunes Segment	No	No	No	No	
San Pedro Segment	No	No	Yes	No	
City of Santa Monica	No	CCC,OPC	Yes	In Progress	3%
City of El Segundo	1982	No	No	No	1%
City of Manhattan Beach	1994	No	No	No	2%
City of Hermosa Beach	No	CCC	In Progress	In Progress	2%
City of Redondo Beach	2010	No	No	In Part	2%
City of Torrance	No	No	No	No	1%
City of Palos Verdes Estates	1991	No	No	No	5%
City of Rancho Palos Verdes	1983	No	No	No	8%
City of Long Beach	1980	No	Yes	No	6%
City of Avalon	1981	No	No	No	*
Federal Lands and Ports					30%