LONG RANGE TRANSPORTATION PLAN DRAFT - BASELINE UNDERSTANDING

FRAMEWORK

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Homeless Count

The Point-in-Time (PIT) count is a count of sheltered and unsheltered homeless persons. Housing and Urban Development (HUD) requires that Continuums of Care (CoCs) must conduct a count of unsheltered homeless persons as well as an annual count of homeless persons who are sheltered in emergency shelter, transitional housing, and Safe Havens. HUD's PIT count does not include persons or beds in permanent supportive housing as currently homeless.

A CoC is defined by Los Angeles Homeless Services Authority (LAHSA) as an integrated system of care that guides and tracks homeless individuals & families through a comprehensive array of housing and services designed to prevent and end homelessness. They are the planning body that coordinates housing and services funding for homeless families and individuals.

The Housing Inventory Count (HIC) contains data regarding homeless shelters. This includes emergency shelters, transitional housing, and safe havens. The inventory also includes housing projects for formerly homeless persons, including permanent supportive housing, rapid-rehousing, and other forms of permanent housing.

Figure 3A-1

2018 Total Population Experiencing Homelessness in Los Angeles County

Figure 3A-1 shows the population experiencing homelessness in Los Angeles County in 2018. The map doesn't show Census Tract information for Long Beach, Glendale, and Pasadena CoC. The map shows high counts for areas near downtown Los Angeles, northeast count, low-income neighborhoods, and tracts near freeways/major thoroughfares. Other CoCs do not publish homeless counts at the Census tract level.

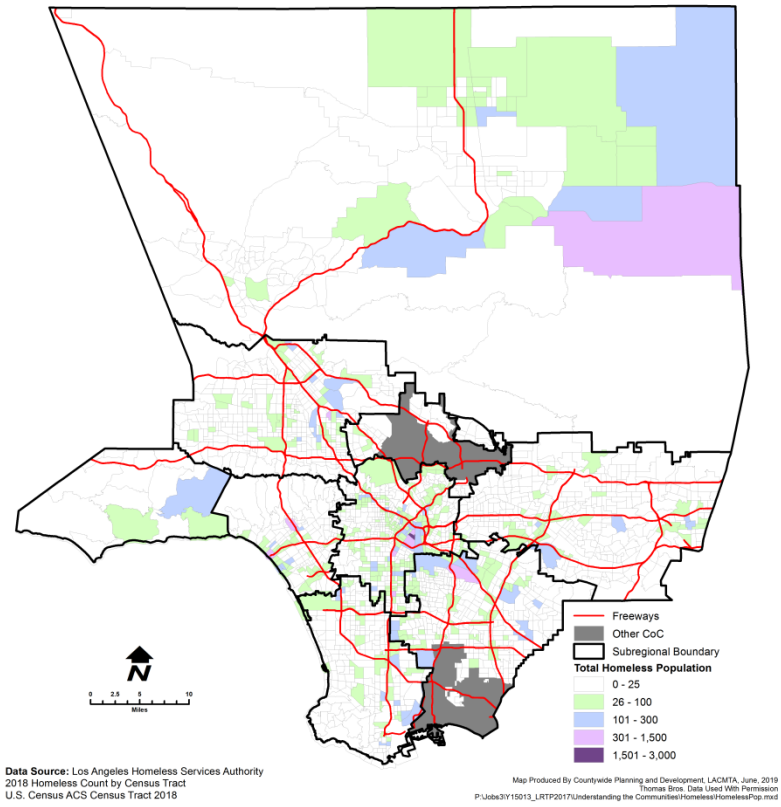
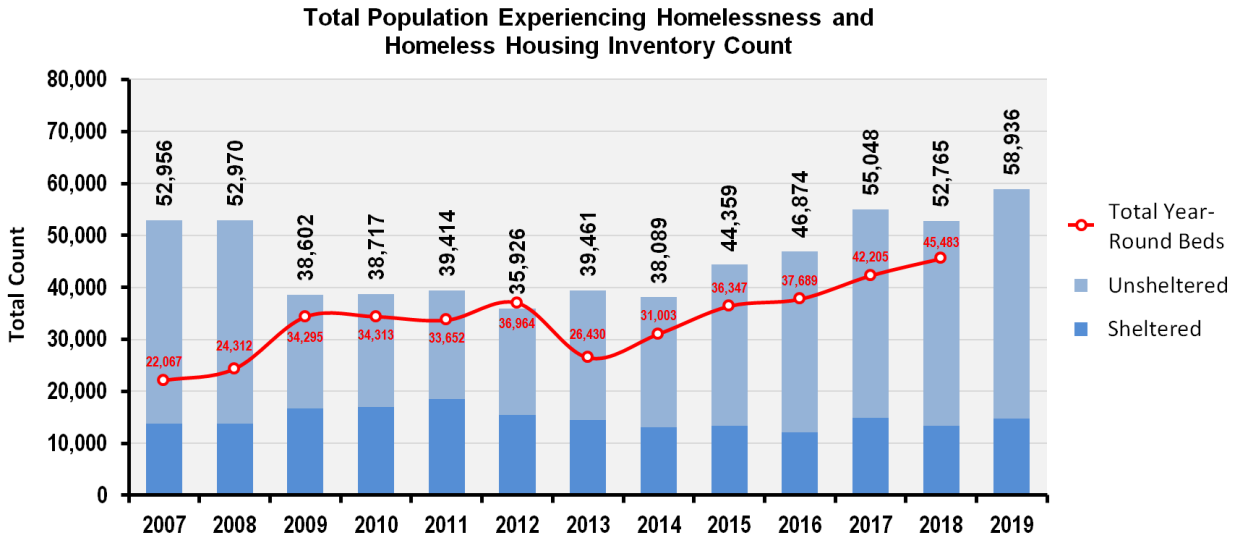


Figure 3A-2 shows the Los Angeles County total homeless population. This is the summation of all CoC's homeless count. It includes the Los Angeles City & County, Long Beach, Glendale, and Pasadena CoC. We can see from the chart an increasing trend of homeless population from 2012-2019. The homeless population has increased 11.7% from 52,765 in 2018 to 58,936 in 2019. The total number of year-round beds available in shelters has been increasing since 2013 and has more than doubled since 2007.

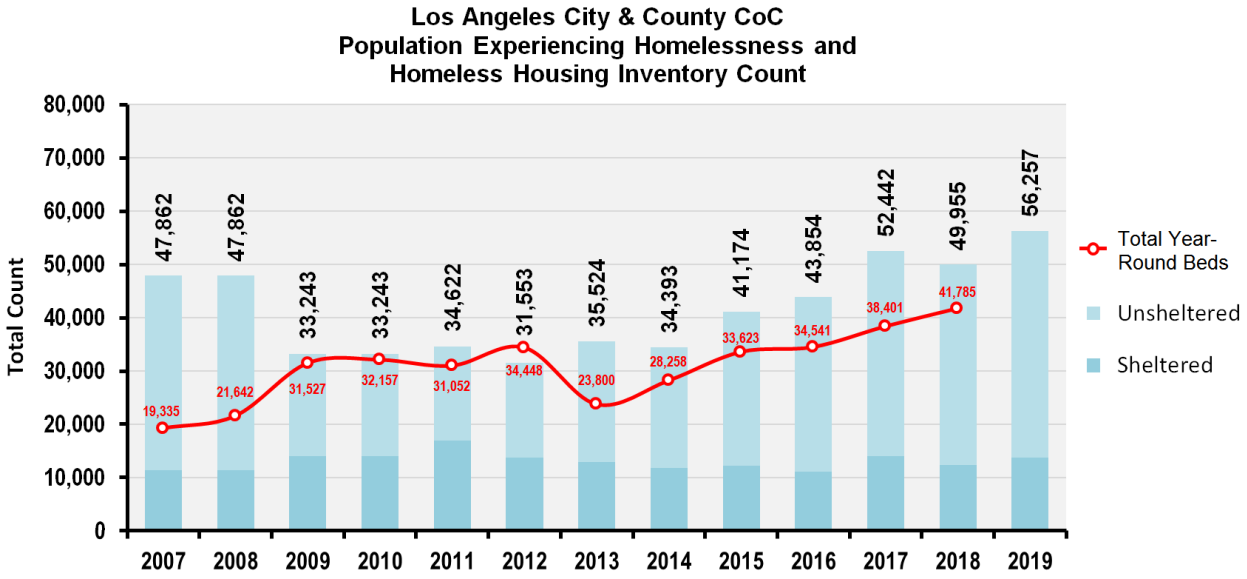
Figure 3A-2



Source: U.S. Department of HUD. PIT and HIC Data Since 2007. Los Angeles Homeless Services Authority (LAHSA)

Figure 3A-3 shows the homeless population and HIC for the City of Los Angeles and county areas other than Glendale, Long Beach, and Pasadena. We can see the homeless population has been increasing since 2012. The homeless population has increased 12.6% from 49,955 in 2018 to 56,257 in 2019. The total number of year-round beds available in shelters has been increasing since 2013 and has more than doubled since 2007.

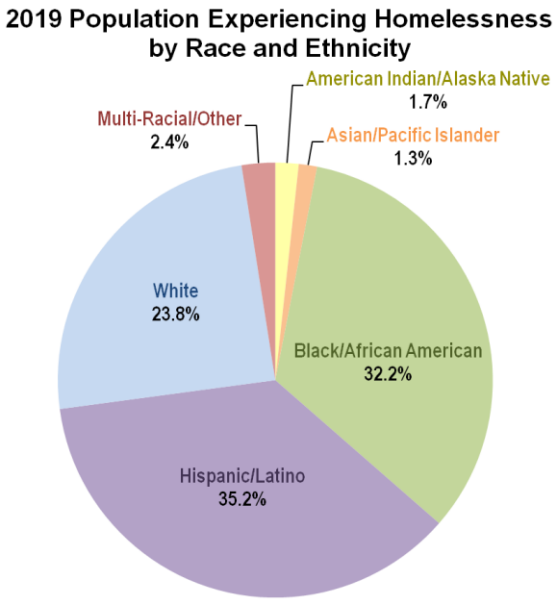
Figure 3A-3



Source: U.S. Department of HUD. PIT and HIC Data Since 2007. Los Angeles Homeless Services Authority (LAHSA)

Figure 3A-4

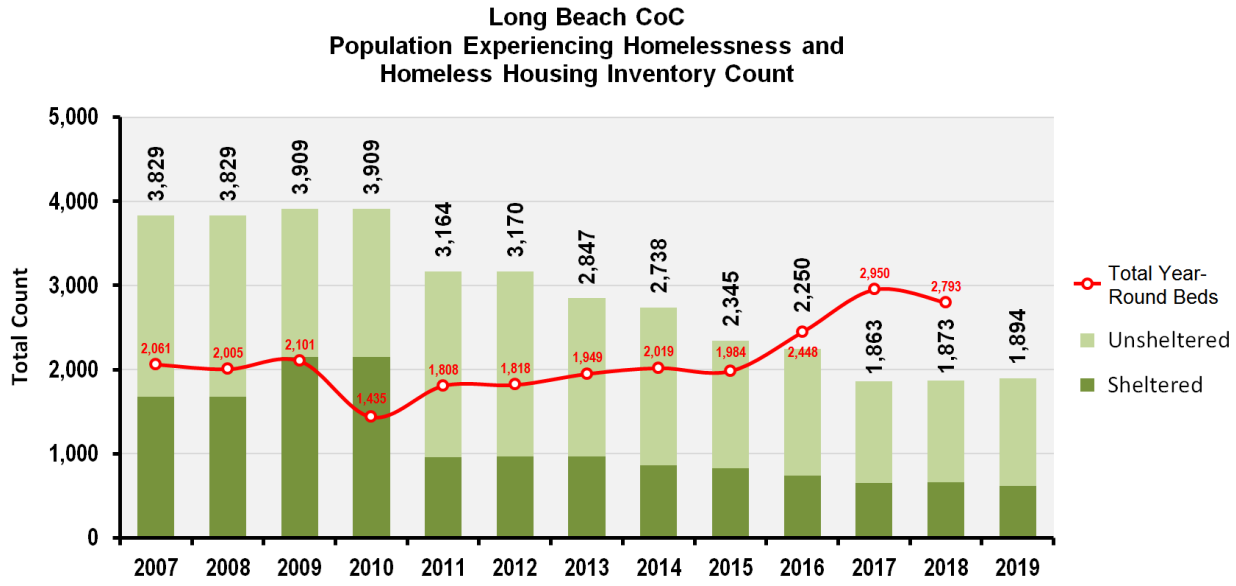
Figure 3A-4 shows the breakdown of the homeless population for 2019. Majority of the homeless in Los Angeles identify as Hispanic/Latino (35%), followed by Black/African American (32%), and White (24%). The Black/African American community constitutes 8% of LA CoC but account for 32% of the homeless population.



Source: Los Angeles Homeless Services Authority (LAHSA). Data from 2019 Greater Los Angeles Point-In-Time Count conducted in January 2019

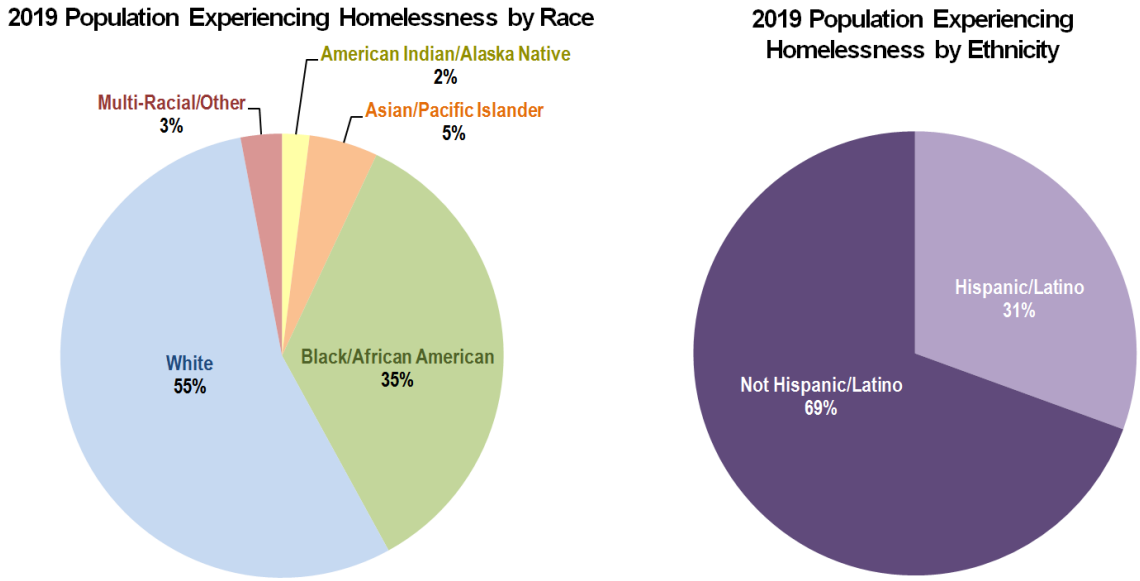
Figure 3A-5 shows the homeless population and HIC for Long Beach CoC. The homeless population decreased 41% from 3,170 in 2012 to 1,863 in 2017. The population seems to reach a bottom in 2017. Since then the population have increased by 31 people in the last 3 years. The total number of year-round beds available in shelters has been increasing from 2010 to 2017, with a slight dip in 2015. The total number of beds has exceeded the number of homeless population from 2016 to 2018. Figure 3A-6 shows the breaks down of the 2019 homeless count by race and ethnicity. Majority of the homeless in Long Beach identify as White (55%) and Black/African American (35%). The Black/African American communities constitute 13% of Long Beach CoC but account for 1/3 of the homeless population.

Figure 3A-5



Source: U.S. Department of HUD. PIT and HIC Data Since 2007. Los Angeles Homeless Services Authority (LAHSA)

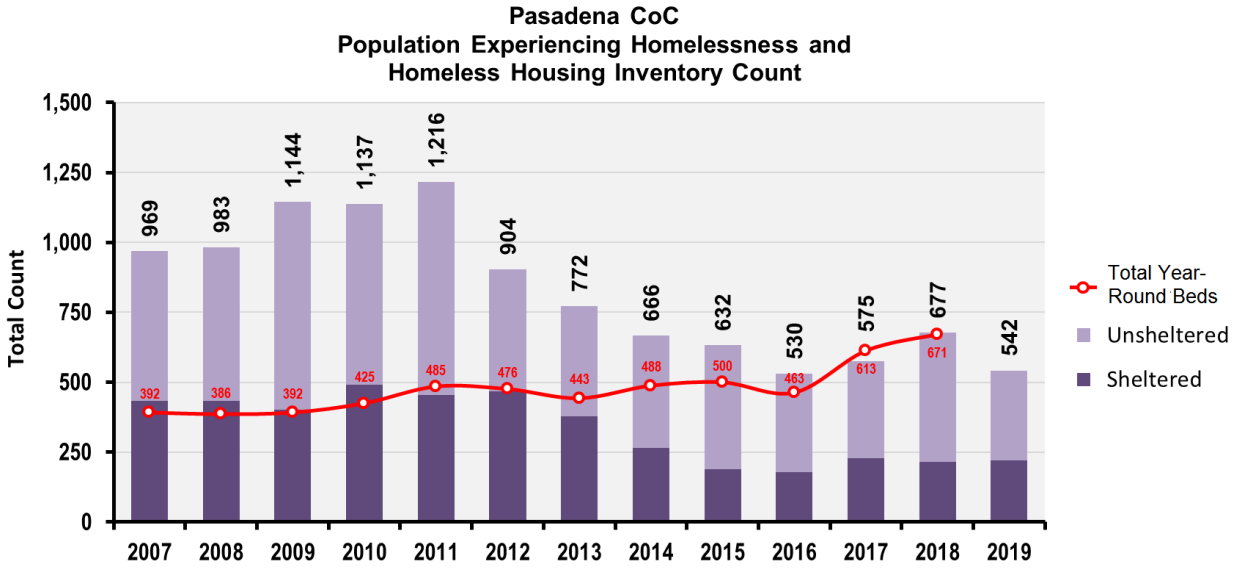
Figure 3A-6



Source: City of Long Beach, Department of Health & Human Services, 2019 Homeless Point-In-Time Count Summary

Figure 3A-7 shows the homeless population and HIC for Pasadena CoC. The homeless population has been decreasing from 2011 to 2016. After 5 consecutive years of decreases, the homeless population has seen a rebound and increased 28% from 530 in 2016 to 677 in 2018. But the population seems to normalize, decreasing 20% from 677 in 2018 to 542 in 2019. The total number of year-round beds available in shelters has been increasing since 2016 to meet the growing homeless population. The total number of year-round beds has increased 45% from 463 in 2016 to 671 in 2018.

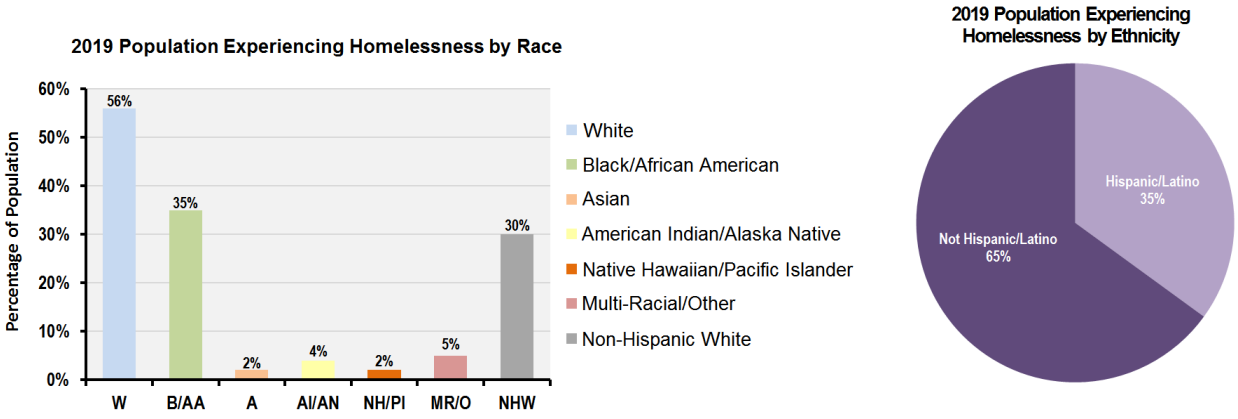
Figure 3A-7



Source: U.S. Department of HUD. PIT and HIC Data Since 2007. Los Angeles Homeless Services Authority (LAHSA)

Figure 3A-8 shows the population experiencing homelessness by race and ethnicity. The percentages for the Race breakdown do not add up to 100% because those that were surveyed some selected multiple races and some did not respond at all. Majority of the homeless in Pasadena identify as White (56%) and Black/African American (35%). The Black/African American communities constitute 8.3% of Pasadena's general population but account for 35% of the homeless population.

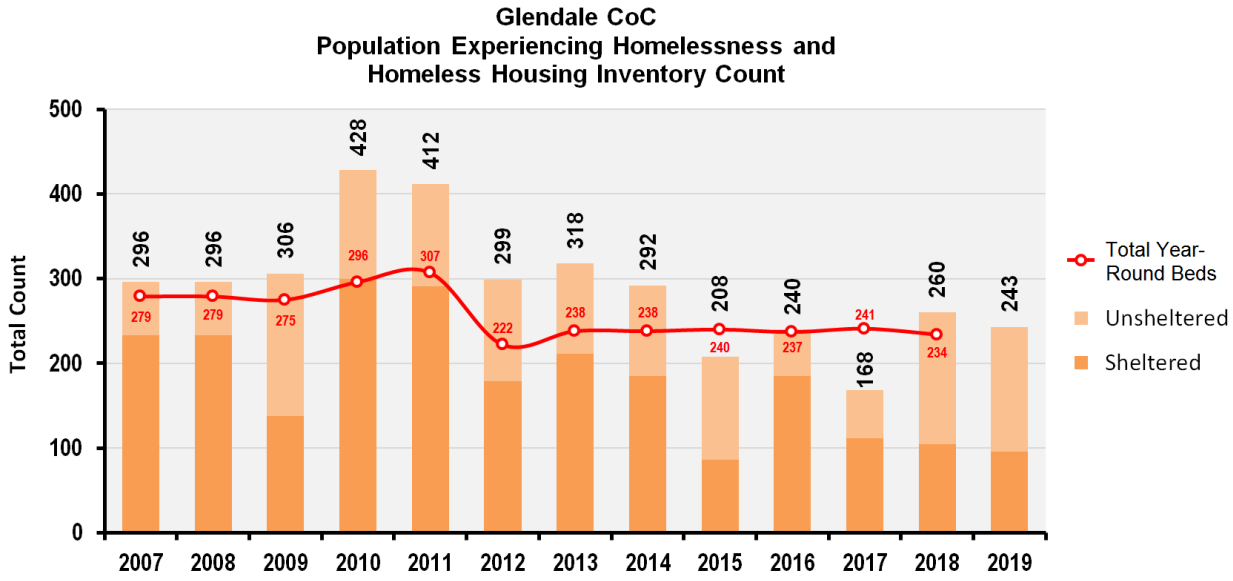
Figure 3A-8



Note: Race percentages don't add up to 100% because some people indicated multiple races. Source: City of Pasadena 2019 Homeless Count & Subpopulation Survey

Figure 3A-9 shows the homeless population and HIC for Glendale CoC. The homeless population has a decreasing trend starting 2010. We can see a possible rebound between 2014 and 2018. The homeless population has decreased 6.5% from 260 in 2018 to 243 in 2019. The total number of year-round beds available in shelters has stayed steady, averaging around 235 beds in the last 6 years.

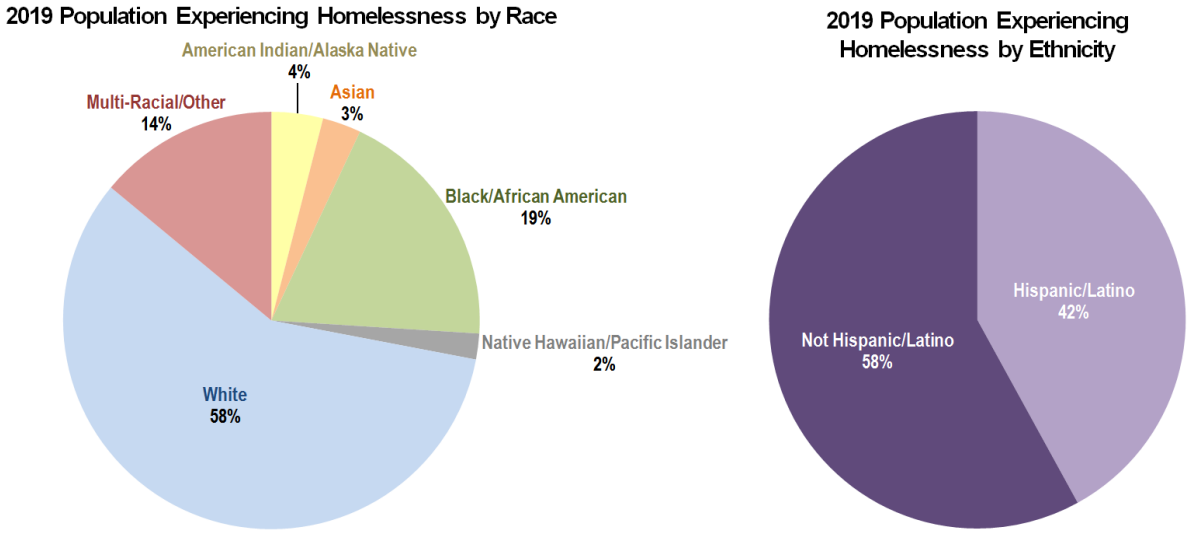
Figure 3A-9



Source: U.S. Department of HUD. PIT and HIC Data Since 2007. Los Angeles Homeless Services Authority (LAHSA)

Figure 3A-8 shows the population experiencing homelessness by race and ethnicity. Majority of the homeless in Pasadena identify as White (58%) and Black/African American (19%). The Black/African American communities constitute 2.3% of Glendale's general population but account for 19% of the homeless population.

Figure 3A-10

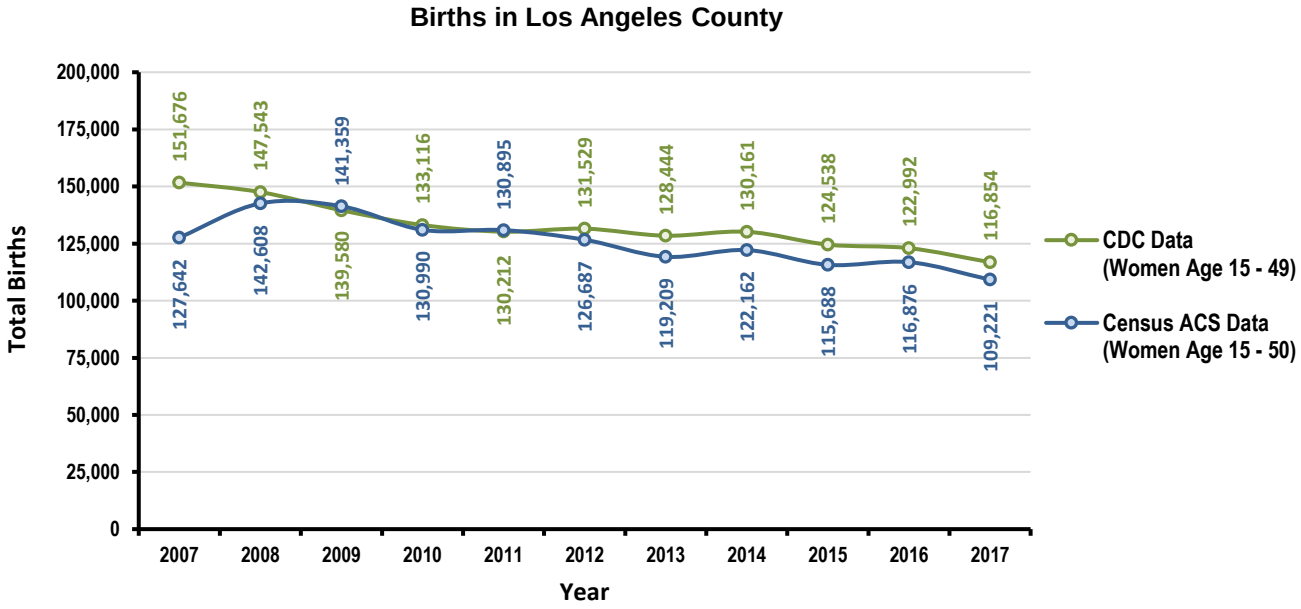


Source: City of Glendale, 2019 Homeless Count Report, May 2019

Fertility Rate

The U.S. Census Bureau publishes fertility information, but it is not the primary source for data on births and deaths. The primary source is the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention. Figure 3A-11 compares yearly birth data from U.S. Census American Community Survey (ACS) 2017, ages 15-50, and Centers for Disease Control (CDC) 2017, ages 15-49. Looking at the CDC data, we can see a general decrease in the number of childbirths, from 151,676 in 2007 to 116,854 in 2017. This is a 23% decrease in total childbirths. CDC data generally has the higher estimate, includes data for other age groups, and a longer history of data collected.

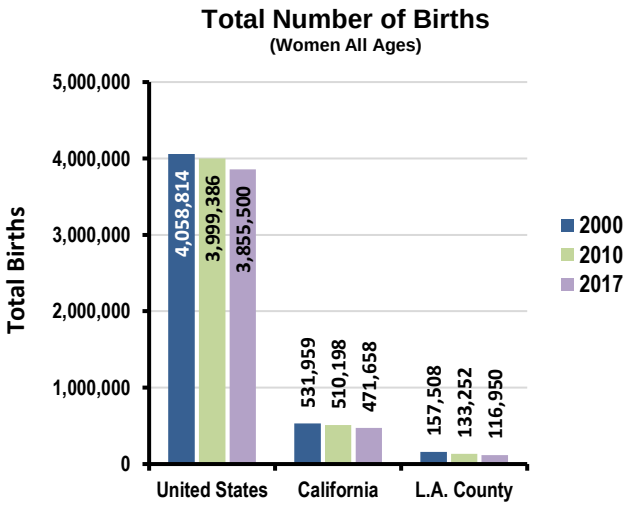
Figure 3A-11



Source: United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics, Natality public-use data 2007-2017.
U.S. Census American Community Survey 1-Year Estimates, Table S1301, 2007-2017

Figure 3A-12

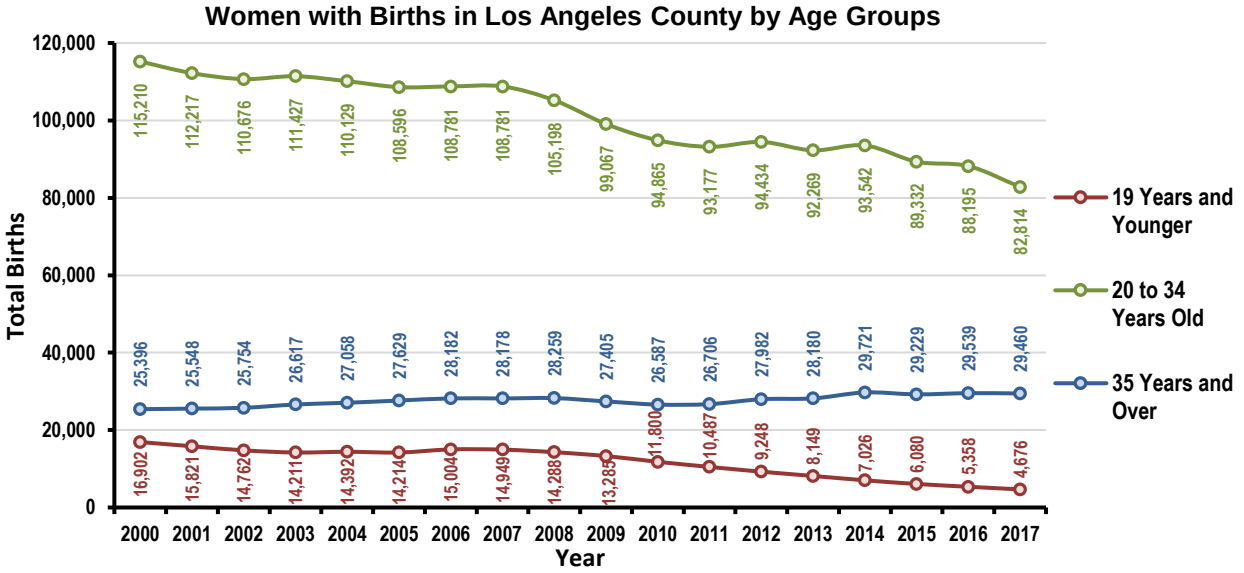
The decreasing trend in childbirths can be seen at all levels, national, state, and county. Comparing 2000 and 2017, there was a decrease of 5.0% at the national level, a decrease of 11.3% at the state level, and a decrease of 25.7% at the county level.



Source: CDC Source: 2007 – 2017 United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics, Natality public-use data 2007-2017

Figure 3A-13 shows the number of childbirths across age groups from 2000 to 2017. We can see a decreasing trend since 2000 for age groups “19 and under” (-72%) and for women ages “20 to 34 years old” (-28%). Only women in age group “35 years and over” increased since 2000 (+16%).

Figure 3A-13



Source: United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics, Natality public-use data 2000-2017

Figure 3A-14 shows the percentage of women with childbirths in the past 12-months at the Census track level. We can see high concentrations spread out sporadically throughout the county. Certain areas with high concentration of childbirths can be the result of low population density (i.e. high desert or rural areas).

Figure 3A-14
Percentage of Women with Childbirths in Los Angeles County
(2017 Census Tract 5-Year Estimate)

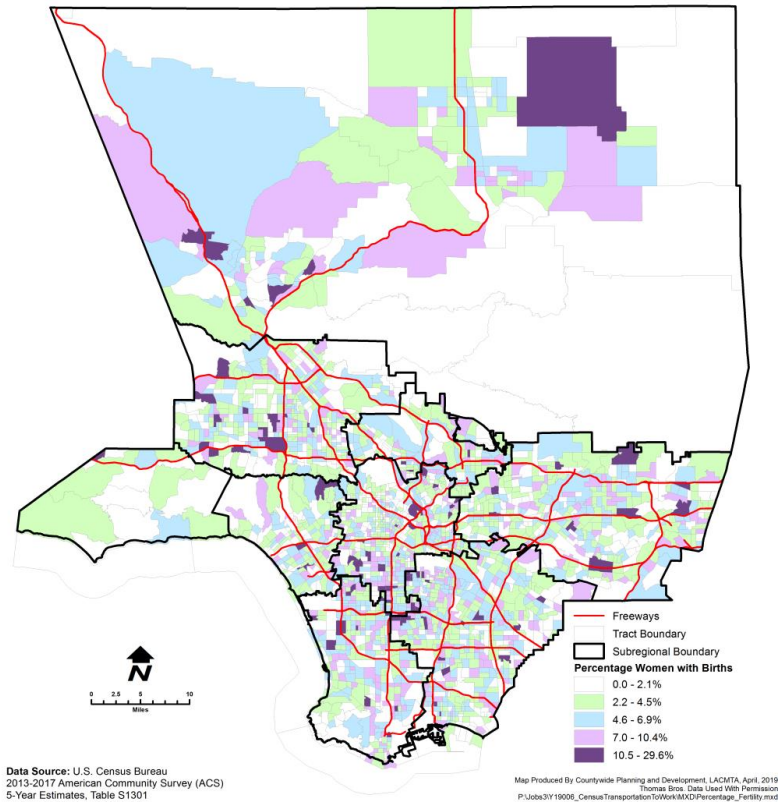
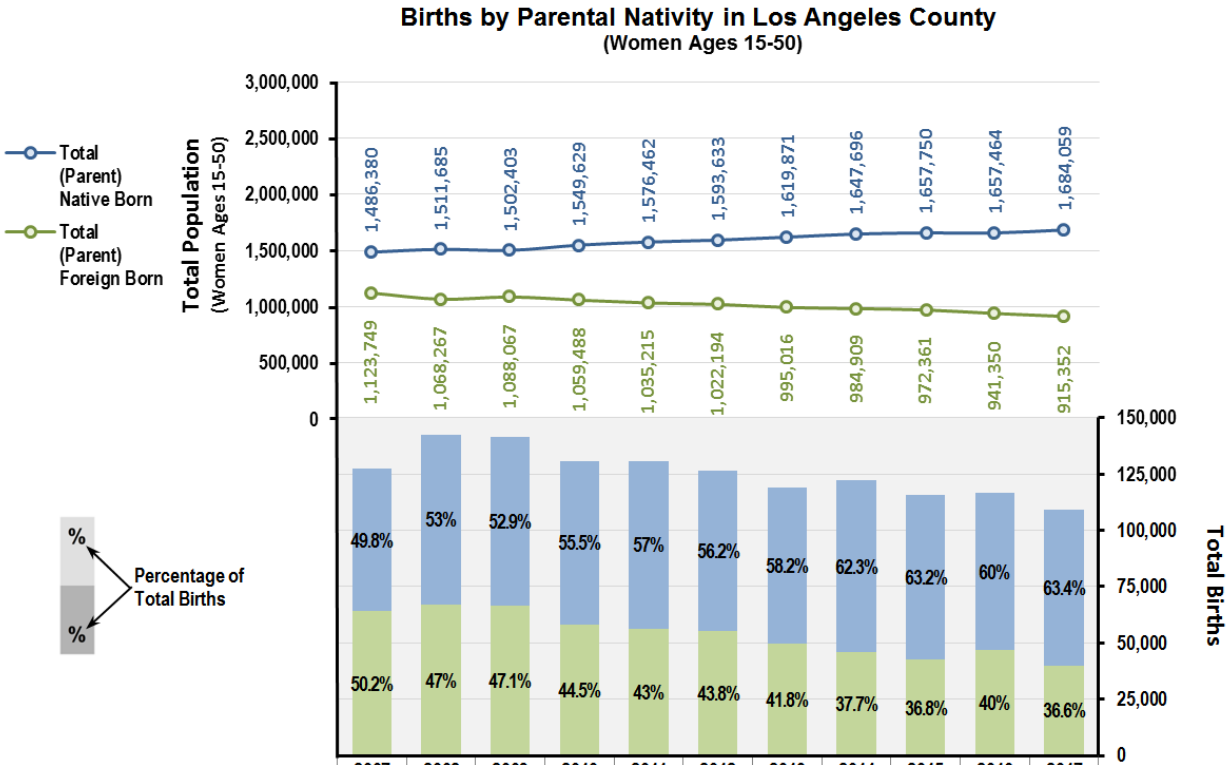


Figure 3A-15 shows the total number of women ages 15-50, differentiated by nativity of the parent. We can see a steady increase in the total number of native born parent and a decrease of those born outside of the U.S. The bar chart shows the total number of childbirths with regards to parent's nativity. The total number of childbirths from "Native born" parent has been fluctuating between 69,000 and 75,000 during the last 10 years. The total numbers of childbirths from "Foreign born" parent has been decreasing for the last 10 years from 67,079 in 2008 to 39,943 in 2017. The data does not include information regarding the legality of immigration.

Figure 3A-15

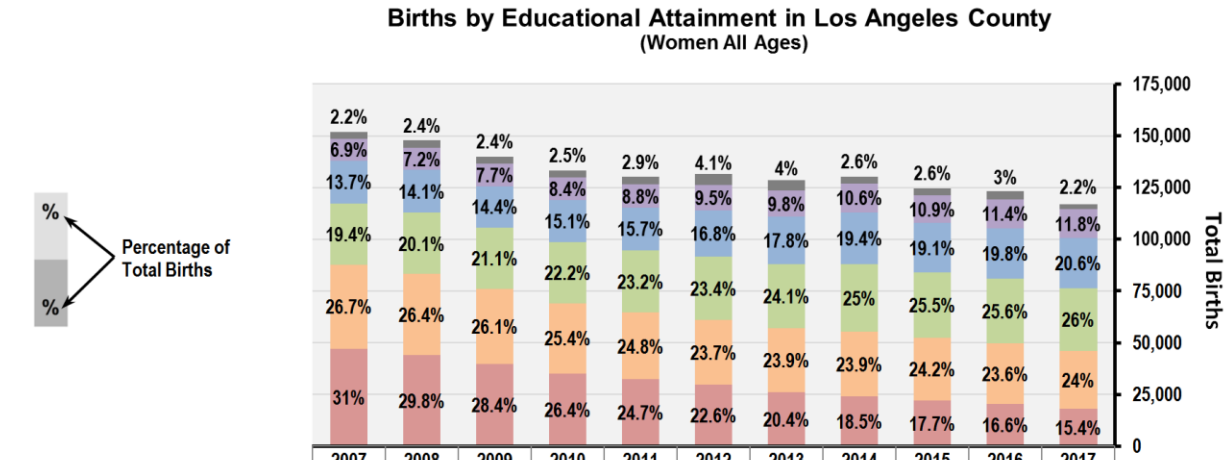


	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Native Born Parents with Births	63,624	75,529	74,753	72,726	74,545	71,167	69,411	76,084	73,146	70,139	69,278
Foreign Born Parents with Births	64,018	67,079	66,606	58,264	56,350	55,520	49,798	46,078	42,542	46,737	39,943

Source: 2007-2017 U.S. Census American Community Survey 1-Year Estimates, Table S1301

The birth data from CDC only publishes information for women with childbirths. No additional data regarding women population were provided. Figure 3A-16 shows the total number of childbirths for all women, differentiated by the highest level of education attained. We can see from the chart that the total number of women with childbirths and didn't graduate from high school have been decreasing for the last 10 years. We can see an increasing trend in the total number of childbirths from women with bachelor's degree or higher. Childbirths from women with some college have been steady, fluctuating between 29,000 and 32,500. Overall, total childbirths have been decreasing for the last 10 years. People with a bachelor's degree or higher are having more babies then those with H.S. diplomas or did not complete H.S.

Figure 3A-16

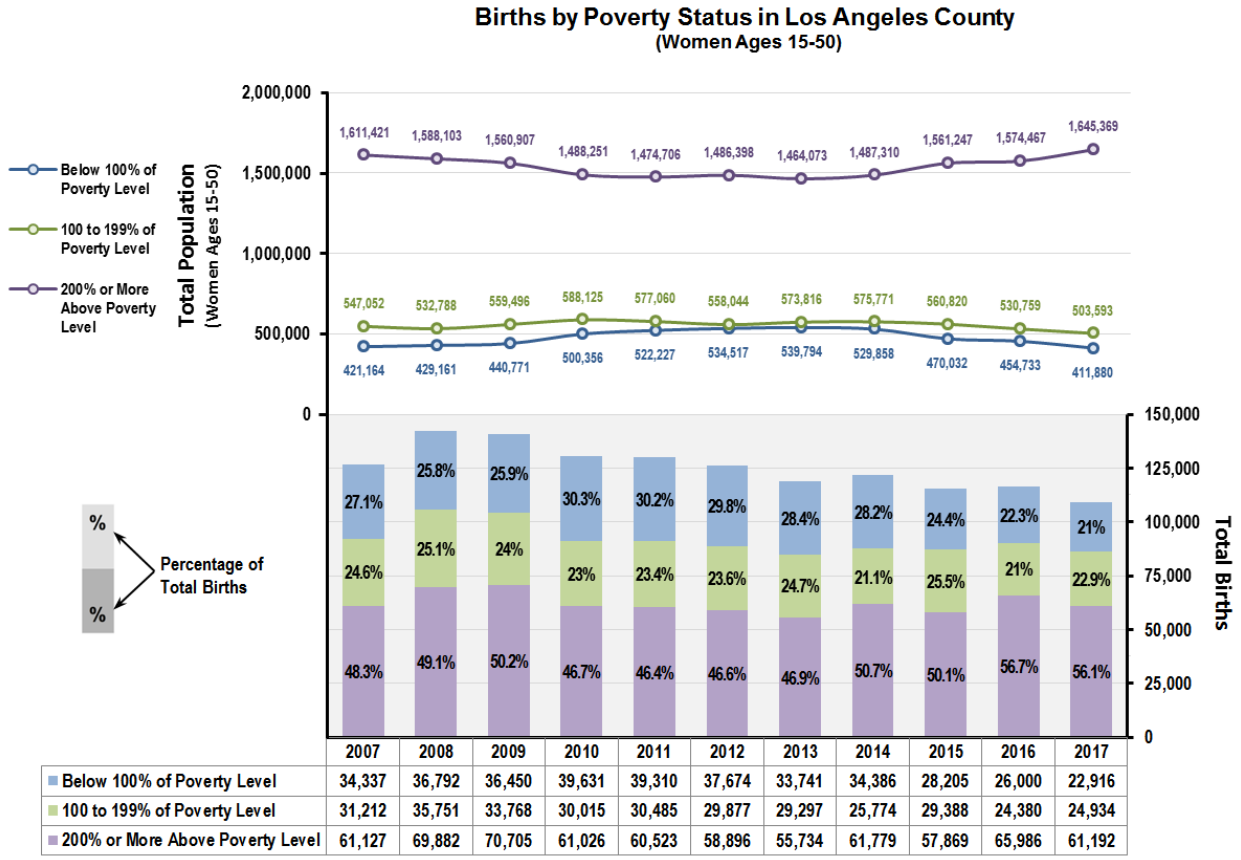


	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Unknown	3,390	3,579	3,295	3,338	3,749	5,335	5,185	3,394	3,294	3,734	2,520
Graduate or Professional Degree	10,490	10,621	10,784	11,165	11,414	12,492	12,640	13,858	13,539	14,019	13,827
Bachelor's Degree	20,838	20,761	20,101	20,058	20,454	22,163	22,909	25,252	23,762	24,325	24,148
Some College or Associate's Degree	29,498	29,660	29,452	29,595	30,248	30,761	30,951	32,596	31,818	31,454	30,381
High School Graduate	40,627	39,047	36,439	33,901	32,267	31,211	30,731	31,081	30,215	29,098	28,025
Less than High School Graduate	47,065	44,077	39,686	35,195	32,238	29,702	26,182	24,108	22,013	20,462	18,049

Source: United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics, Natality public-use data 2007-2017

Figure 3A-17 shows the total number of women ages 15-50, differentiated by poverty status in Los Angeles County. We can see from the line chart that the total number of women above the 200% poverty level has been increasing since 2013. At the same time, the total number of people below the 200% poverty level has been decreasing. This trend is similar in terms of total childbirths. People below the 200% poverty level are having less children while people above the 200% poverty level have been steady, fluctuating between 55,000 and 70,000 childbirths since 2007 to 2017.

Figure 3A-17

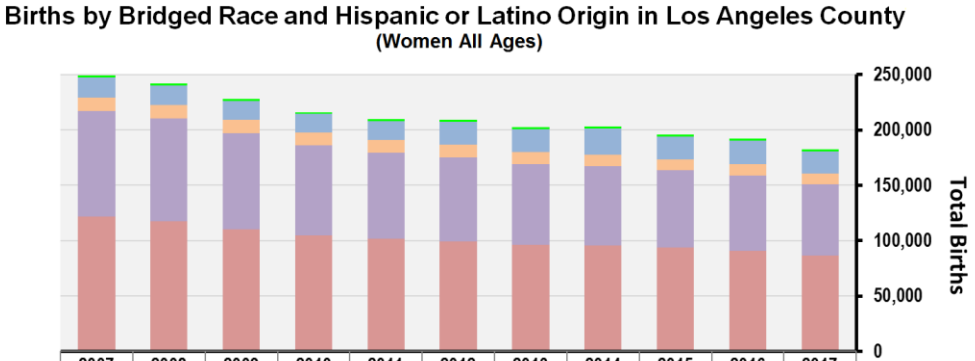


	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Below 100% of Poverty Level	34,337	36,792	36,450	39,631	39,310	37,674	33,741	34,386	28,205	26,000	22,916
100 to 199% of Poverty Level	31,212	35,751	33,768	30,015	30,485	29,877	29,297	25,774	29,388	24,380	24,934
200% or More Above Poverty Level	61,127	69,882	70,705	61,026	60,523	58,896	55,734	61,779	57,869	65,986	61,192

Source: U.S. Census American Community Survey 1-Year Estimates, Table S1301, 2007-2017.

Figure 3A-18 shows the total number of childbirths, differentiated by “Bridged Race” and “Hispanic or Latino Origin”. Because “Race” and “Hispanic or Latino Origin” data are from separate tables, we cannot calculate the percentages of total childbirths. Total childbirths are higher when compared to the other tables because the same population can be represented in both tables. African Americans, White, and Hispanic or Latino origin all have decreasing childbirths while Asians and Natives have a small increase in total childbirths and begins to level off starting around 2012-2013.

Figure 3A-18



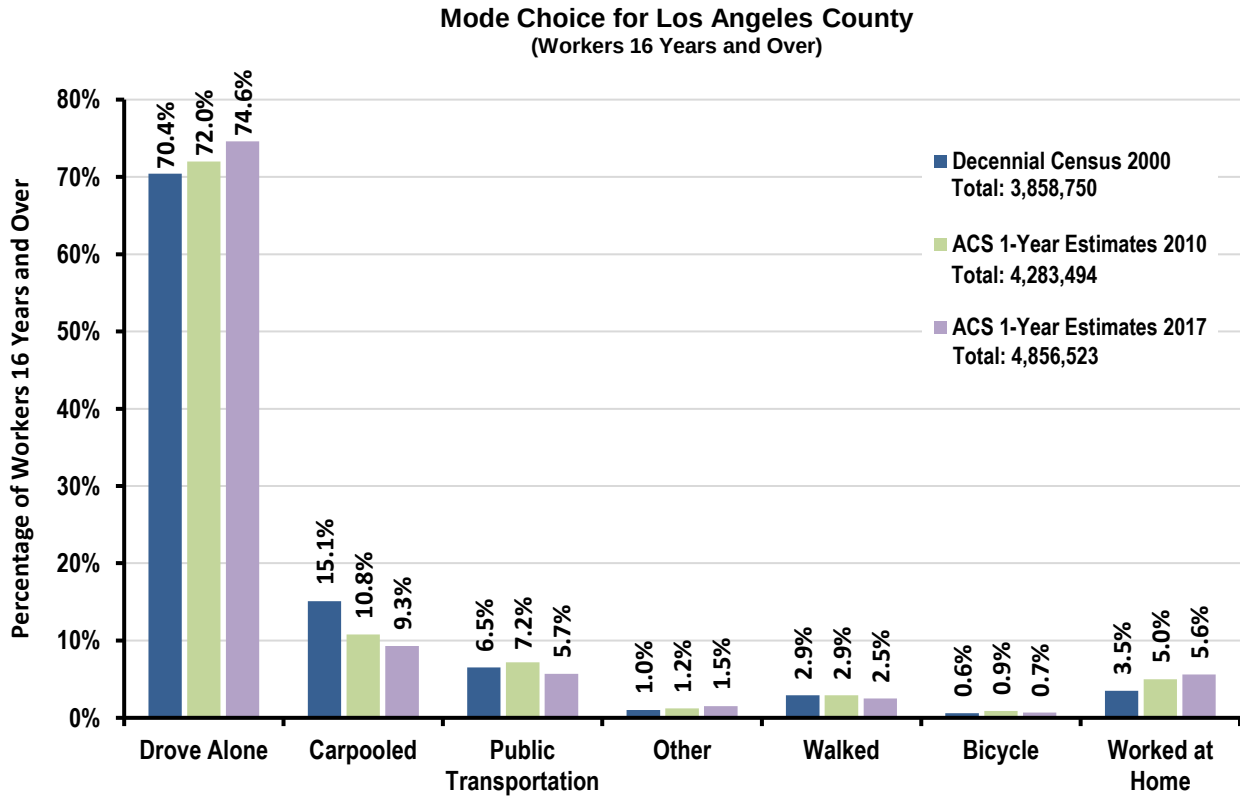
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
American Indian and Alaska Native	377	375	395	391	433	366	437	429	447	447	459
Asian & Pacific Islander	18,195	17,704	17,195	16,560	17,248	20,822	21,011	23,807	20,727	21,632	20,308
Black or African American	11,917	12,231	11,742	11,445	11,192	10,998	10,834	10,557	9,892	10,165	9,775
Hispanic or Latino Origin	95,742	92,684	86,708	81,435	78,071	75,938	72,703	71,655	69,829	67,767	64,163
White	121,419	117,435	110,425	104,856	101,497	99,478	96,316	95,496	93,575	90,848	86,408

Source: United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Division of Vital Statistics, Natality public-use data 2007-2017

Population Worked at Home

The American Community Survey (ACS) 2017 estimates Los Angeles County population around 10.1 million residents and is expected to grow at a moderate rate over the next few years. About 74.6% of the working population 16 years and over currently drive alone to work. This is a 4.2% increase since 2000. Populations that worked at home, bicycle, or used other modes to commute have also increased since 2000. We see a decrease in populations that commute by carpool, walk, or use public transportation.

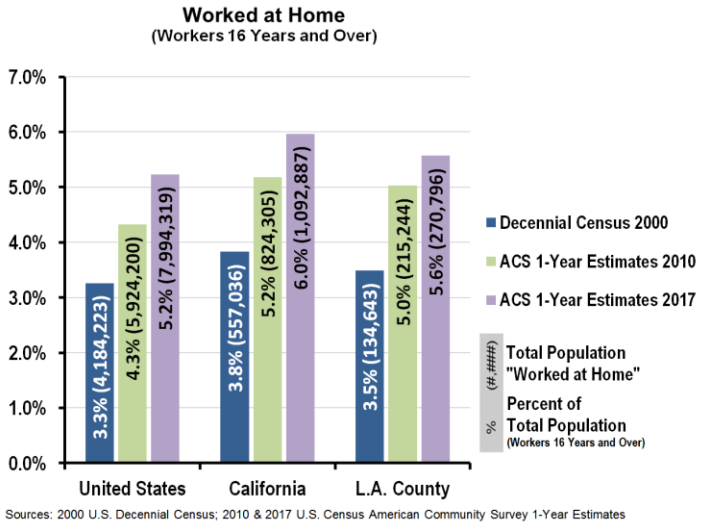
Figure 3A-19



Source: U.S. Decennial Census 2000; U.S. Census American Community Survey, 1-Year Estimates, 2010 and 2017.

Figure 3A-20

Since 2000, populations that "Worked at Home" have been increasing across all levels, national, state, and county. The biggest increase in "Percent of Total Population" between 2000 and 2017 was at the state level, with an increase of 2.13%. At the national level, the percentage increase was 1.97% and the county level increase was 2.09%.



Sources: 2000 U.S. Decennial Census; 2010 & 2017 U.S. Census American Community Survey 1-Year Estimates

Figure 3A-21

Percentage of Population Worked at Home in Los Angeles County
(2017 Census Tract 5-Year Estimate)

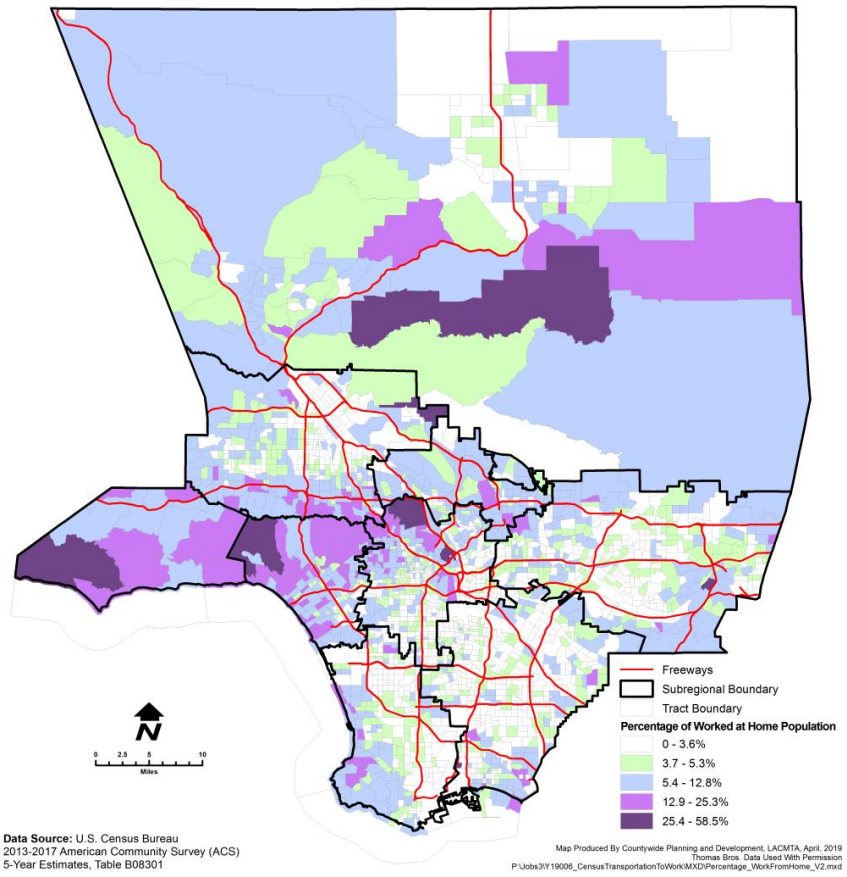
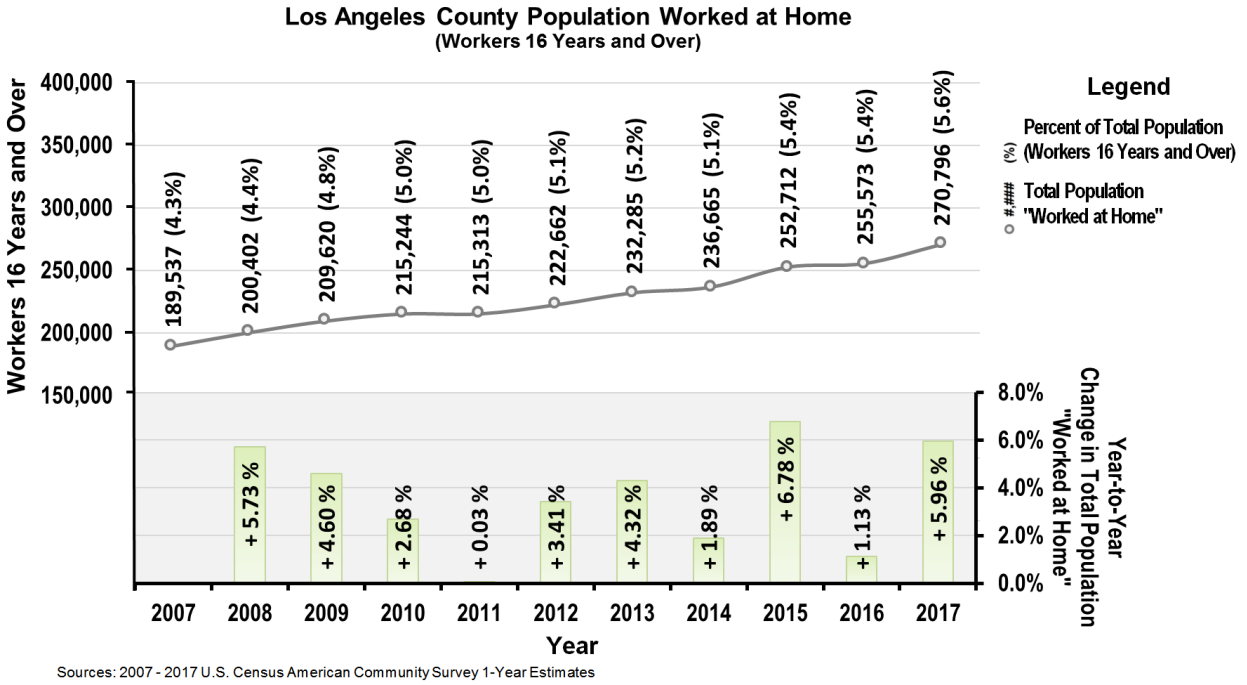


Figure 3A-21 shows Census tracts with the percentage of population that “Worked at Home”. The county average for populations that “Worked at Home” was 5.3% (5-year estimates). We can see some spatial correlation between the proximity to transportation centers and major thoroughfares with low concentrations of “Work at Home” populations. Figure 3A-22 shows populations that “Worked at Home” since 2007. The greatest percentage change from year-to-year occurred between 2014 and 2015 (+6.78%).

Figure 3A-22

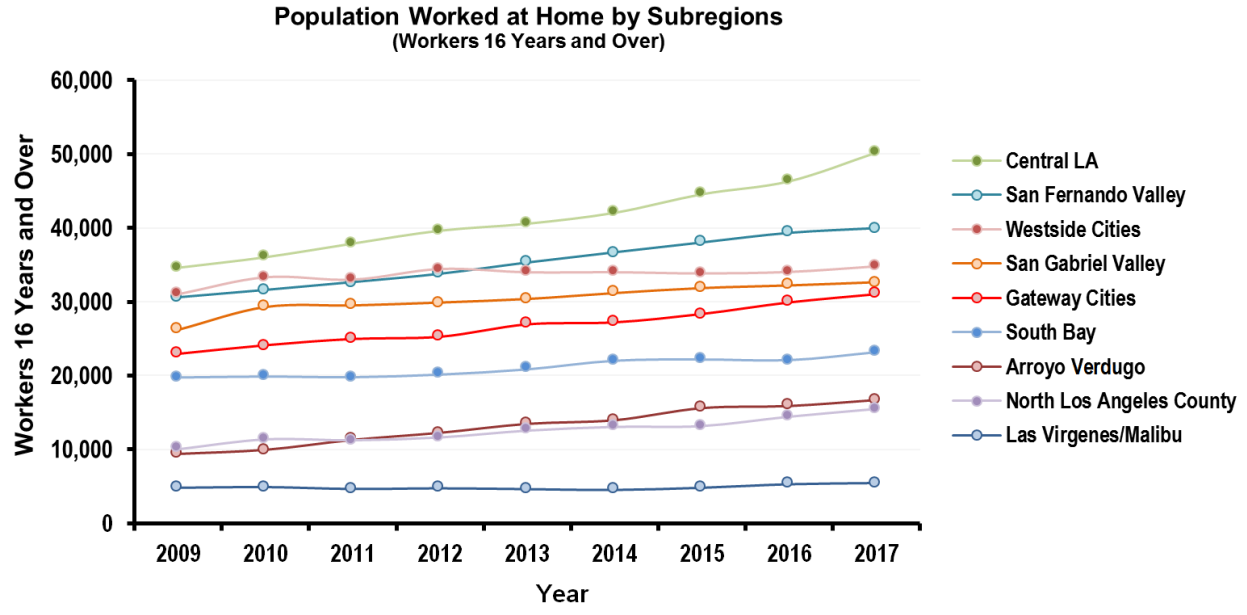


Sources: 2007 - 2017 U.S. Census American Community Survey 1-Year Estimates

Population Working at Home by Subregion

Central Los Angeles subregion has the highest total population that "Worked at Home", followed by San Fernando Valley and Westside Cities subregion. Las Virgenes/Malibu has the lowest total population that "Worked at Home", but has the highest percentage (13.3%) of all subregions. The subregion with the lowest percentage of total population is Gateway Cities (3.5%).

Figure 3A-23

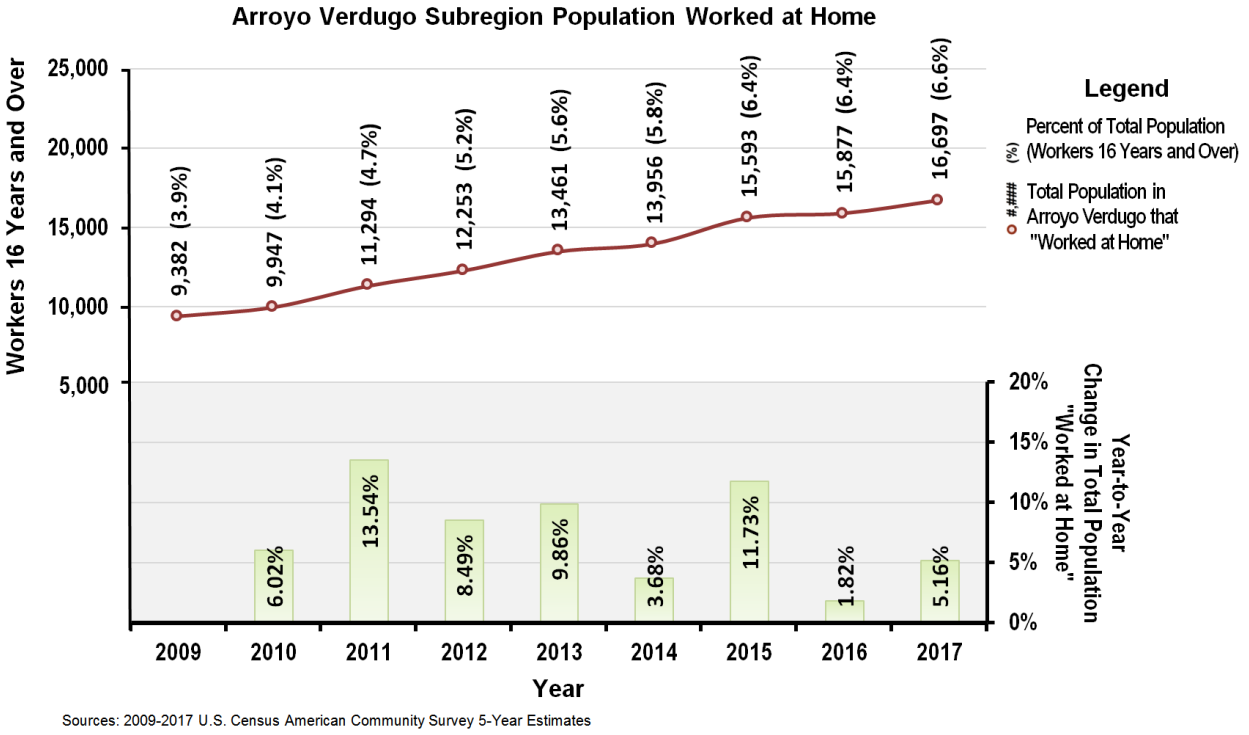


Sources: 2009-2017 U.S. Census American Community Survey 5-Year Estimates

Arroyo Verdugo

In the Arroyo Verdugo subregion, populations that “Worked at Home” continue to increase year after year. The greatest percentage change from year-to-year occurred between 2010 and 2011 (+13.54%). The percentage of population within the subregion that “Worked at Home” has grown steadily from 3.9% in 2009 to 6.6% in 2017.

Figure 3A-24

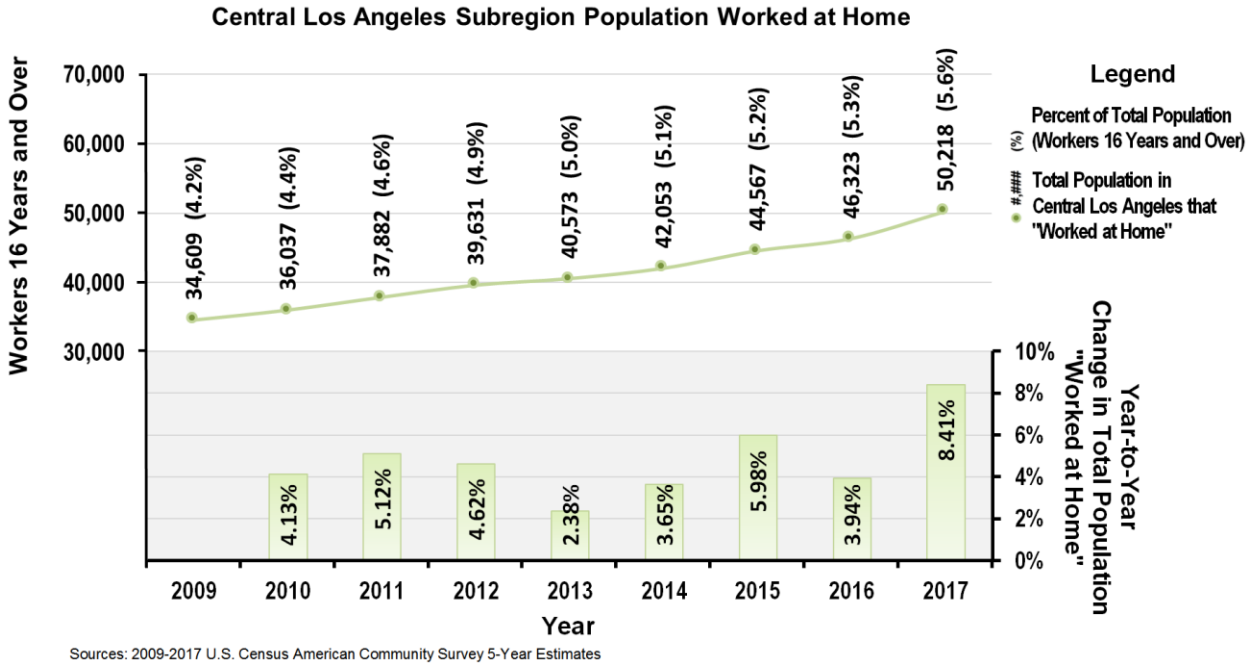


Sources: 2009-2017 U.S. Census American Community Survey 5-Year Estimates

Central Los Angeles

In the Central Los Angeles subregion, populations that “Worked at Home” continue to increase year after year. The greatest percentage change from year-to-year occurred between 2016 and 2017 (+8.41%). The percentage of population within the subregion that “Worked at Home” has grown steadily from 4.2% in 2009 to 5.6% in 2017.

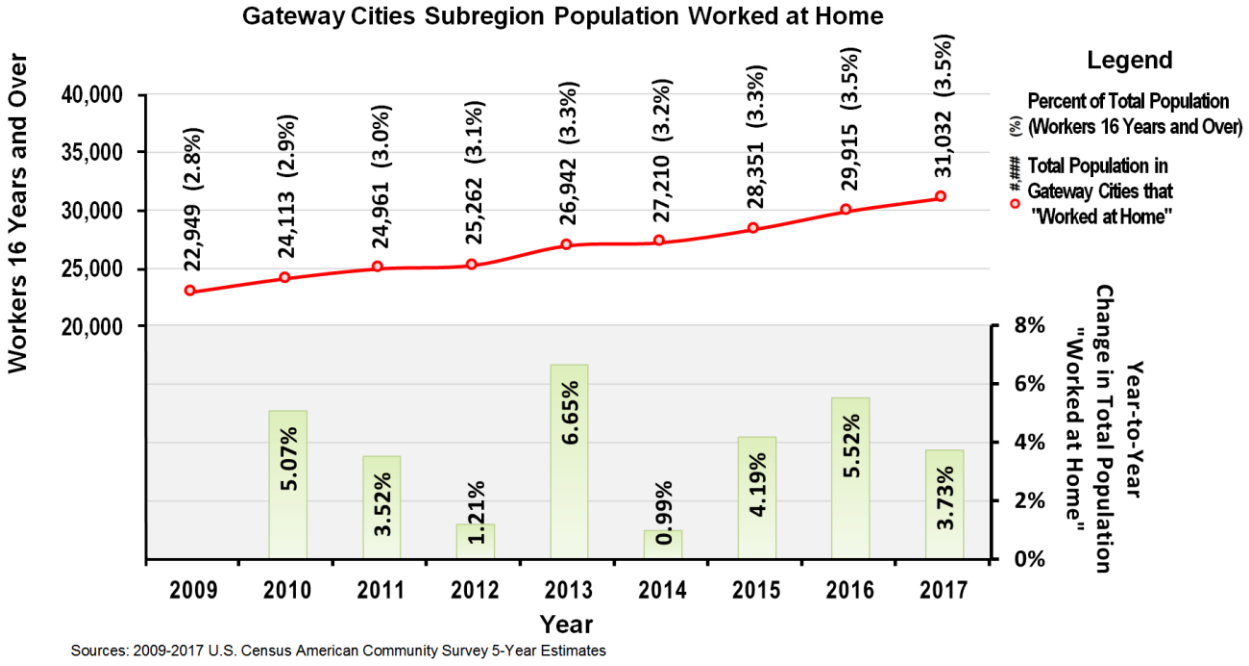
Figure 3A-25



Gateway Cities

In the Gateway Cities subregion, populations that “Worked at Home” continue to increase year after year. The greatest percentage change from year-to-year occurred between 2012 and 2013 (+6.65%). The percentage of population within the subregion that “Worked at Home” has grown steadily from 2.8% in 2009 to 3.5% in 2017.

Figure 3A-26

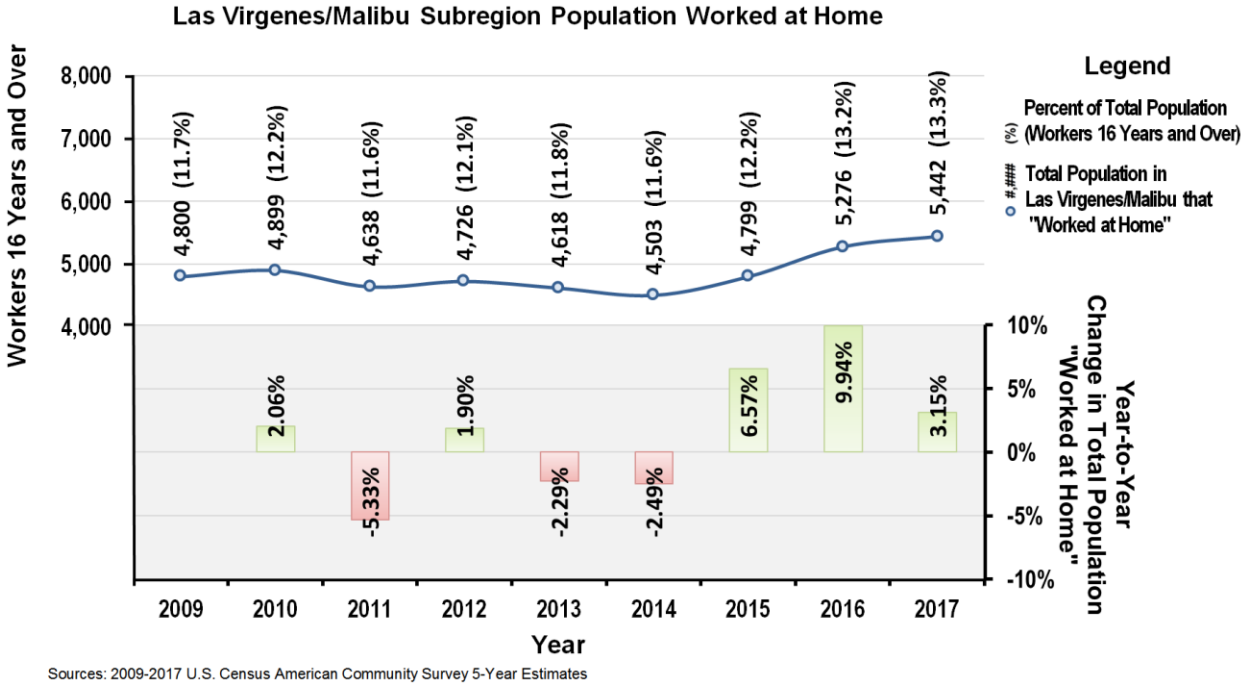


Sources: 2009-2017 U.S. Census American Community Survey 5-Year Estimates

Las Virgenes/Malibu

In the Las Virgenes/Malibu subregion, populations that “Worked at Home” have increased since 2009. The greatest percentage change from year-to-year occurred between 2015 and 2016 (+9.94%). The percentage of population within the subregion that “Worked at Home” has grown from 11.7% in 2009 to 13.3% in 2017.

Figure 3A-27

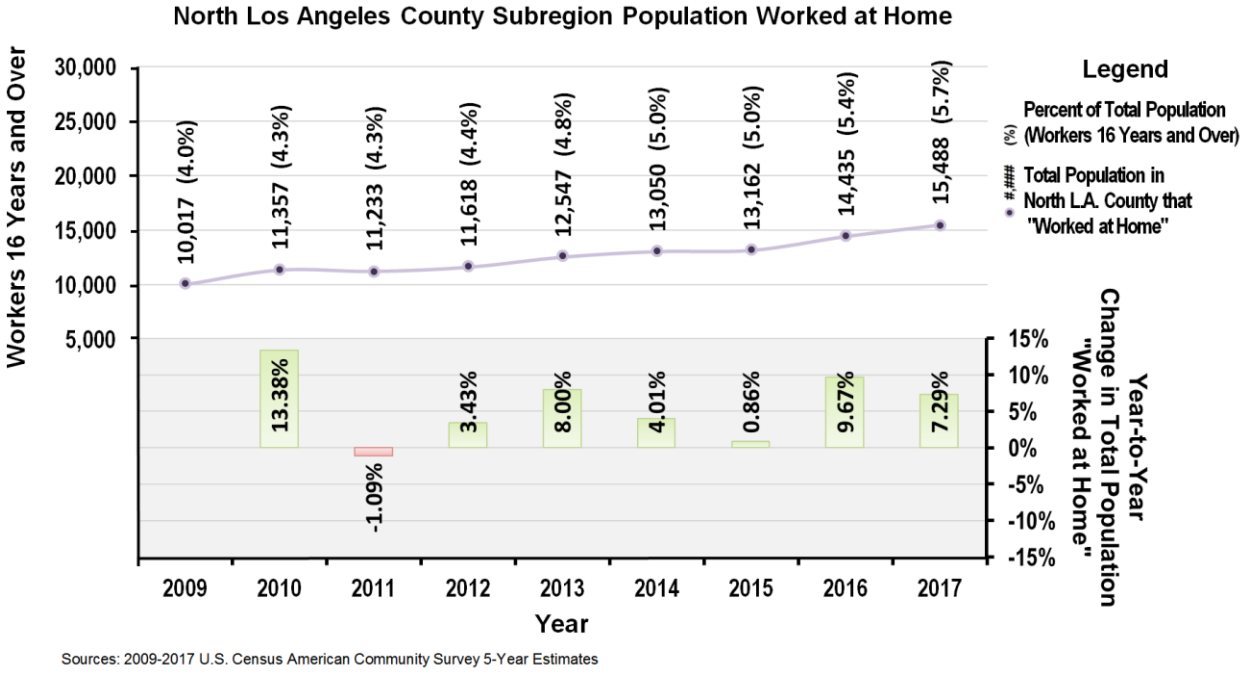


Sources: 2009-2017 U.S. Census American Community Survey 5-Year Estimates

North Los Angeles County

In the North Los Angeles County subregion, populations that “Worked at Home” have increased since 2009. The greatest percentage change from year-to-year occurred between 2009 and 2010 (+13.38%). The percentage of population within the subregion that “Worked at Home” has grown from 4% in 2009 to 5.7% in 2017.

Figure 3A-28

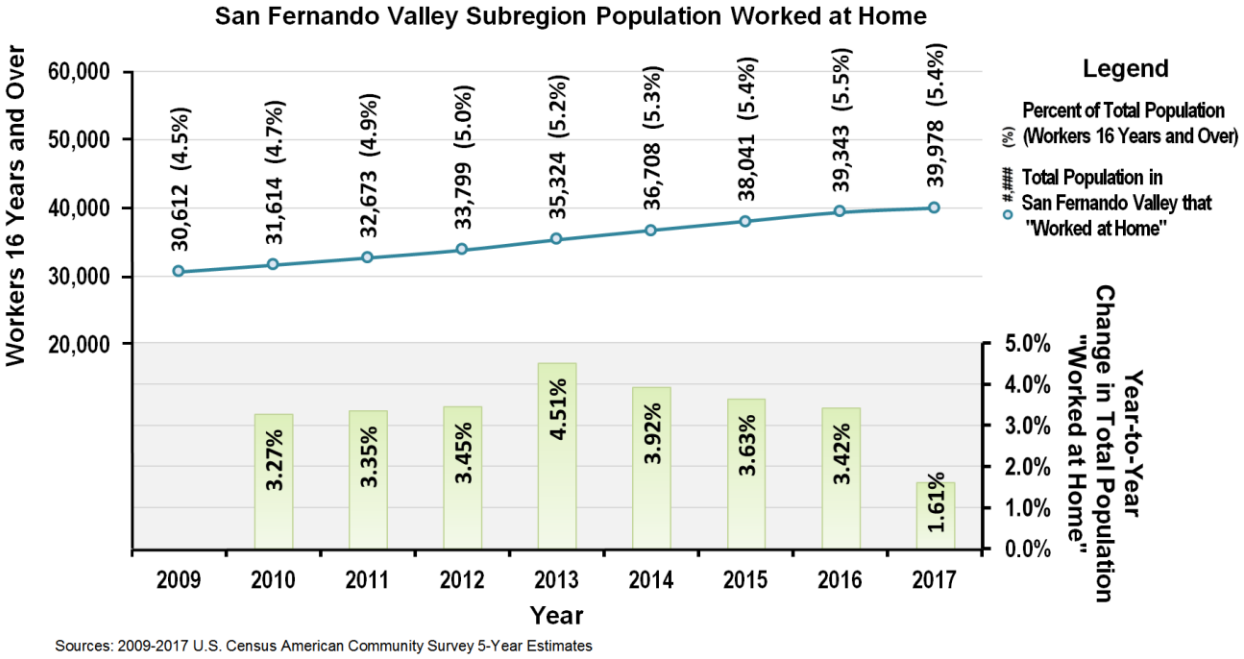


Sources: 2009-2017 U.S. Census American Community Survey 5-Year Estimates

San Fernando Valley

In the San Fernando Valley subregion, populations that “Worked at Home” continue to increase year after year. The greatest percentage change from year-to-year occurred between 2012 and 2013 (+4.51%). The percentage of population within the subregion that “Worked at Home” has grown steadily from 4.5% in 2009 to 5.4% in 2017.

Figure 3A-29

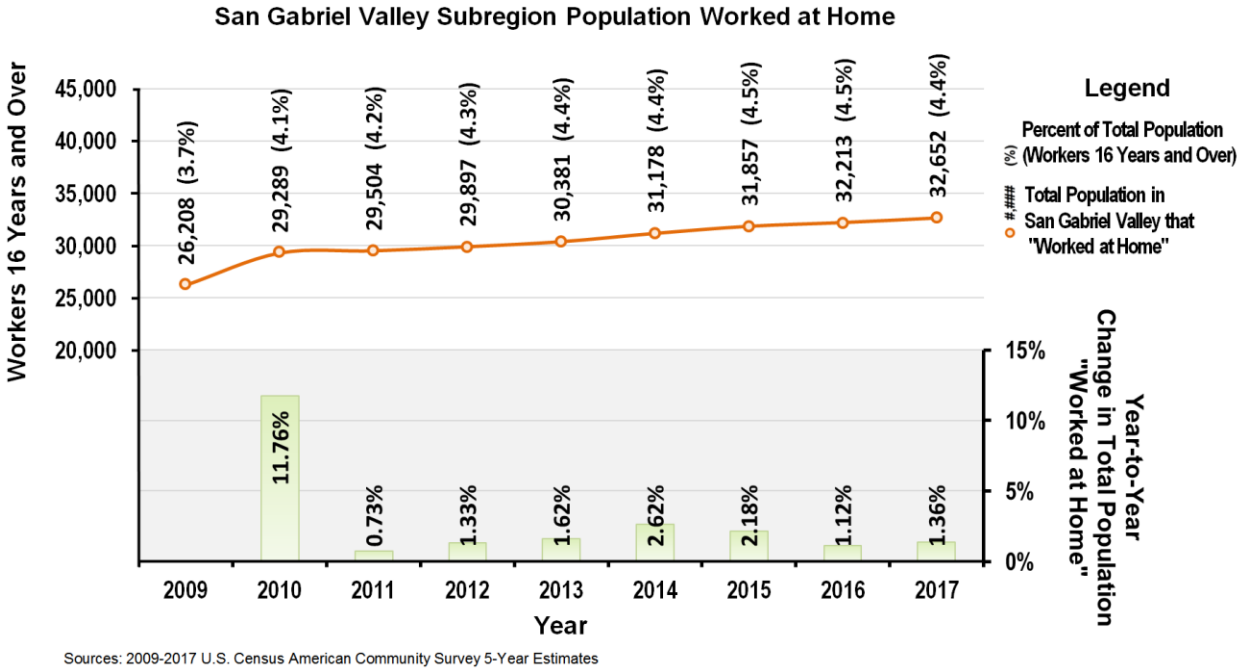


Sources: 2009-2017 U.S. Census American Community Survey 5-Year Estimates

San Gabriel Valley

In the San Gabriel Valley subregion, populations that “Worked at Home” continue to increase year after year. The greatest percentage change from year-to-year occurred between 2009 and 2010 (+11.76%). The percentage of population within the subregion that “Worked at Home” has grown steadily from 3.7% in 2009 to 4.4% in 2017.

Figure 3A-30

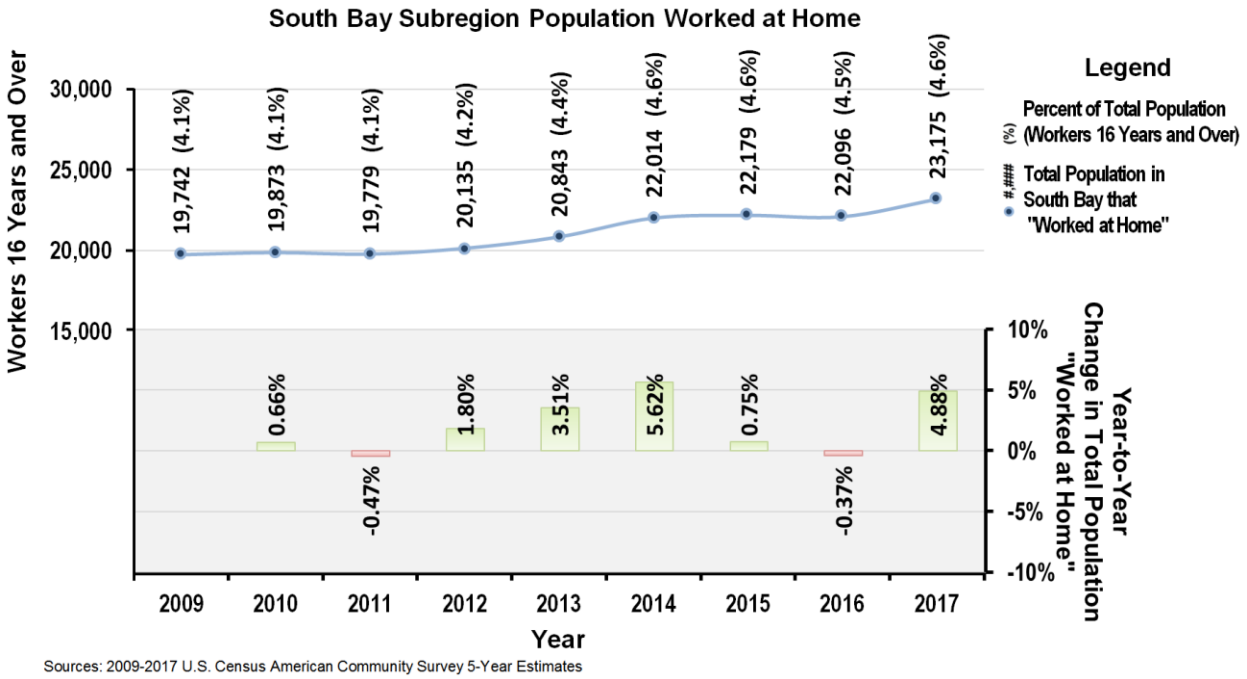


Sources: 2009-2017 U.S. Census American Community Survey 5-Year Estimates

South Bay

In the South Bay subregion, populations that “Worked at Home” have increased since 2009. The greatest percentage change from year-to-year occurred between 2013 and 2014 (+5.62%). The percentage of population within the subregion that “Worked at Home” has grown from 4.1% in 2009 to 4.6% in 2017.

Figure 3A-31

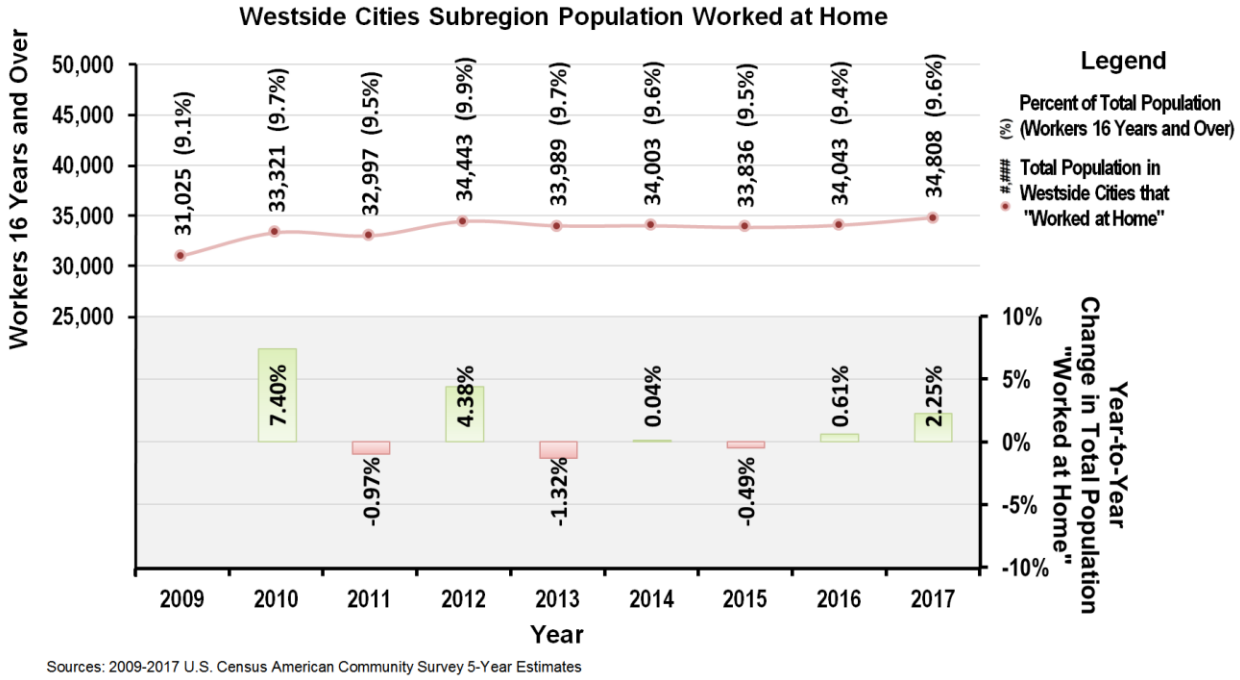


Sources: 2009-2017 U.S. Census American Community Survey 5-Year Estimates

Westside Cities

In the Westside Cities subregion, populations that “Worked at Home” have increased since 2009. The greatest percentage change from year-to-year occurred between 2009 and 2010 (+7.4%). The percentage of population within the subregion that “Worked at Home” has grown from 9.1% in 2009 to 9.6% in 2017.

Figure 3A-32

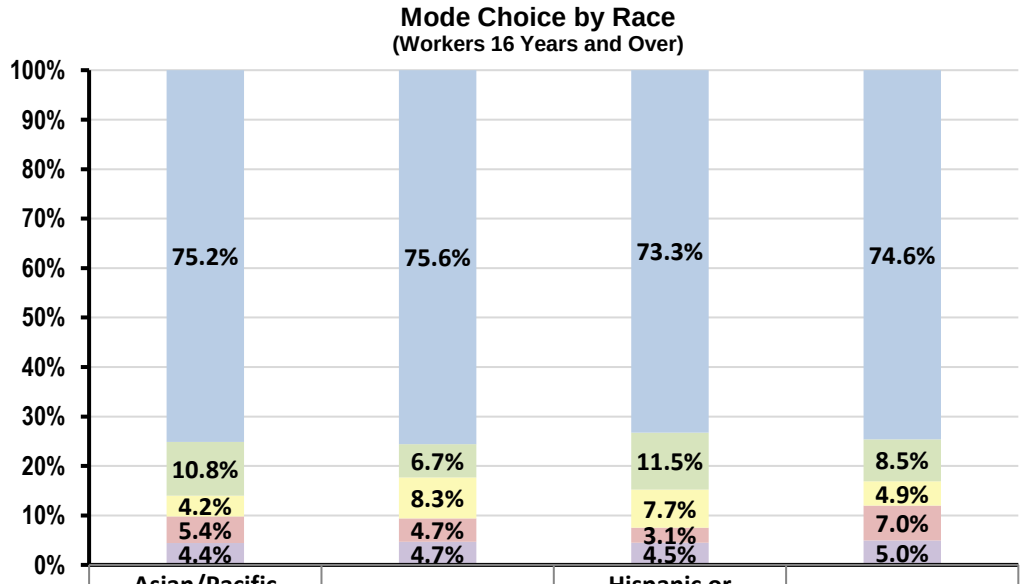


Sources: 2009-2017 U.S. Census American Community Survey 5-Year Estimates

Other Mode Choice Data

The largest working population by Race that "Worked at Home" was the "White Alone" group (172,217), followed by "Hispanic or Latino" group (69,753). By population percentage, the largest group was the "White Alone" group (7.0%), followed by the "Asian Alone" group (5.4%).

Figure 3A-33

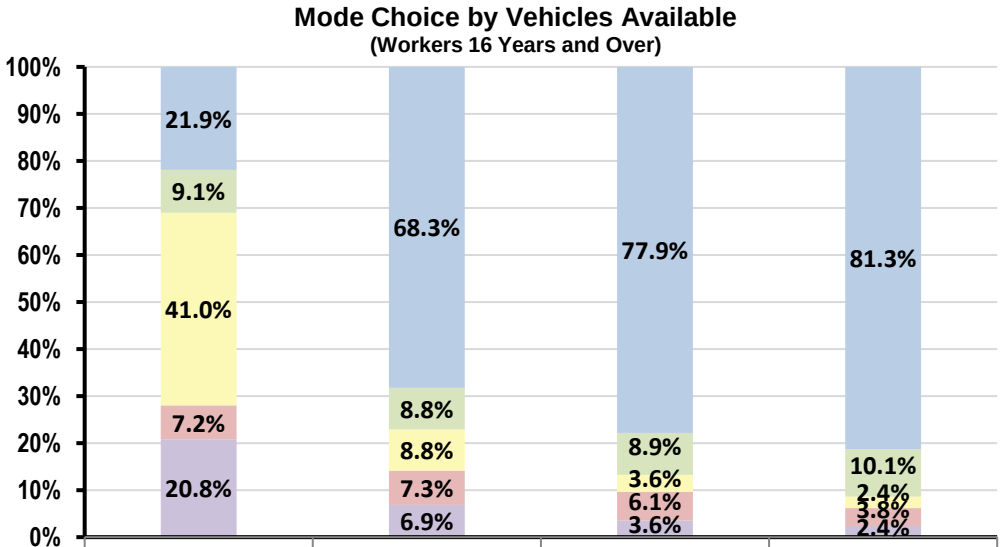


	Asian/Pacific Islander	Black Alone	Hispanic or Latino	White Alone
Drove Alone	572,697	274,895	1,674,108	1,826,371
Carpooled	82,602	24,545	263,049	207,487
Public Transportation	31,793	30,122	176,379	120,852
Worked at Home	41,320	17,243	69,753	172,217
Other	33,456	16,923	101,946	121,280

Source: U.S. Census American Community Survey 1-Year Estimates, 2017

The largest population that “Worked at Home” was the “2 or More Vehicles” group (109,044). By population percentage, the largest “Worked at Home” group was the “1 Vehicle Available” group (7.3%). Majority of the “No Vehicle Available” group use public transportation for their commute to work, followed by “Driving alone”, then “Other” (walked, motorcycle, taxi, etc.).

Figure 3A-34

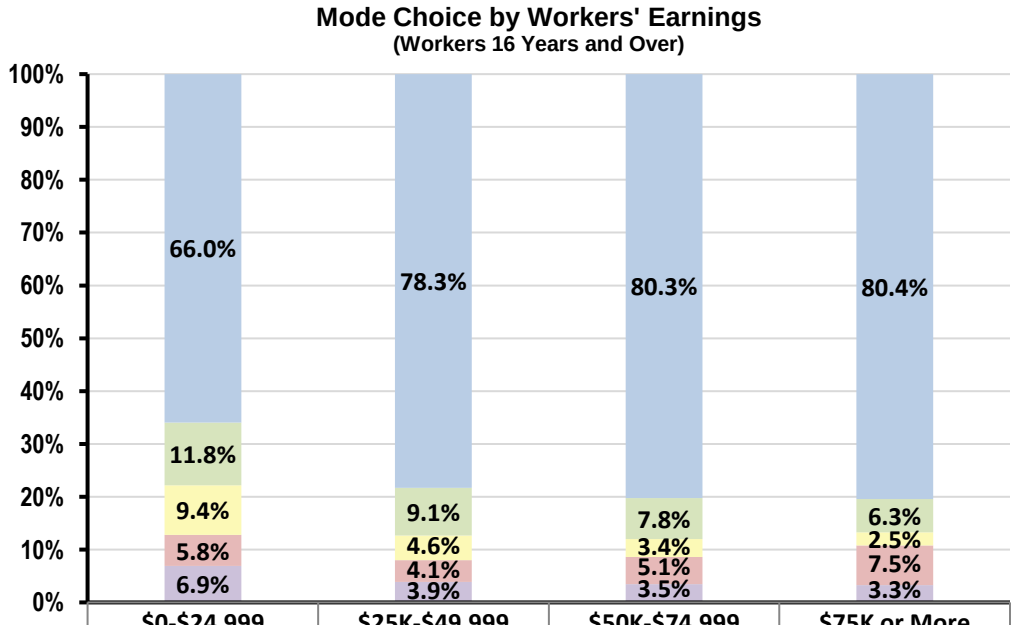


	No Vehicle Available	1 Vehicle Available	2 Vehicles Available	3 or More Vehicles Available
Drove Alone	40,699	704,332	1,397,355	1,476,489
Carpooled	16,950	91,016	159,401	183,261
Public Transportation	76,103	90,378	65,228	44,156
Worked at Home	13,451	75,229	109,044	69,516
Other	38,602	70,937	63,778	43,313

Source: U.S. Census American Community Survey 1-Year Estimates, 2017

Majority of the working population belong to the lowest earnings category. The low-income group have the highest total population that carpooled (206,233) and take public transportation (164,442).

Figure 3A-35



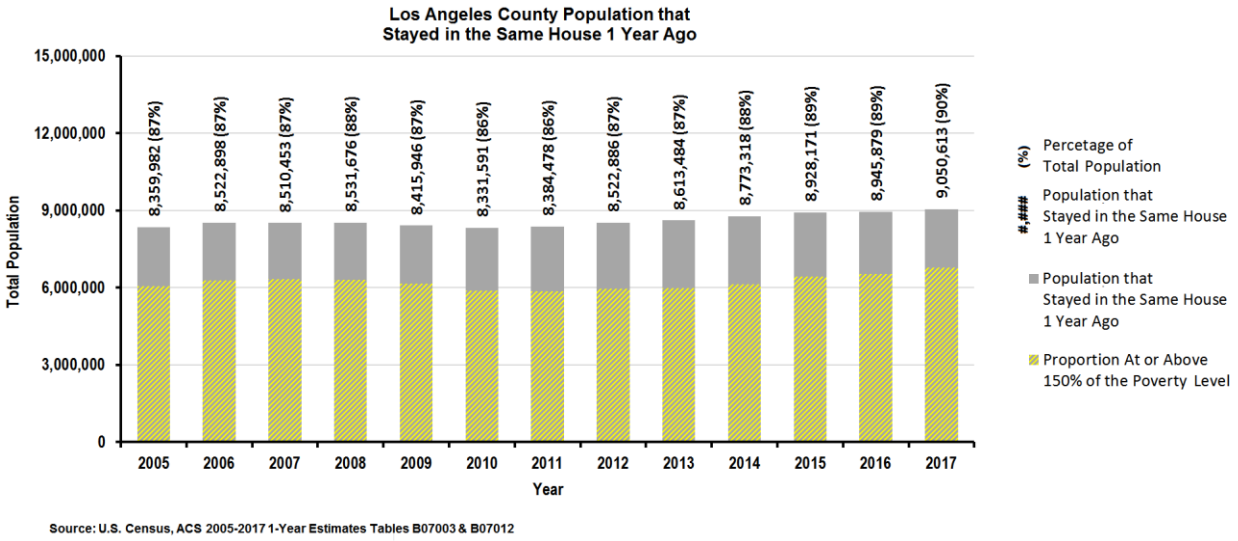
	$0-$24,999	$25K-$49,999	$50K-$74,999	$75K or More
Drove Alone	1,150,276	1,079,924	593,358	799,299
Carpooled	206,233	125,136	57,374	62,633
Public Transportation	164,442	64,141	24,984	25,115
Worked at Home	101,606	56,835	38,020	74,335
Other	120,884	53,446	25,582	32,682

Source: U.S. Census American Community Survey 1-Year Estimates, 2017.

Populations Mobility in Los Angeles County

People who had moved from another residence 1 year earlier were asked to report the exact address of where they lived 1 year ago. Figure 3A-36 shows the total population that did not move. Population that didn't move increased 1.2% from 8,945,879 in 2016 to 9,050,613 in 2017. The portion at or above 150% of the poverty level increased 3.7%, from 6,527,522 in 2016 to 6,770,660 in 2017. Since 2010, the population that stayed in the same home steadily increases and represents roughly 90% of the population in 2017.

Figure 3A-36



Source: U.S. Census, ACS 2005-2017 1-Year Estimates Tables B07003 & B07012

Naturalization

Naturalization is the process by which U.S. citizenship is granted to a foreign citizen or national after he or she fulfills the requirements established by Congress in the Immigration and Nationality Act. There's a general increasing trend in the number of persons petitioning for naturalization since 80's. Figure 3A-37 shows a recent decrease in the total number of petitions for naturalization from 735,060 in 2016 to 707,265 in 2017 (decrease of 6.1%).

Figure 3A-37

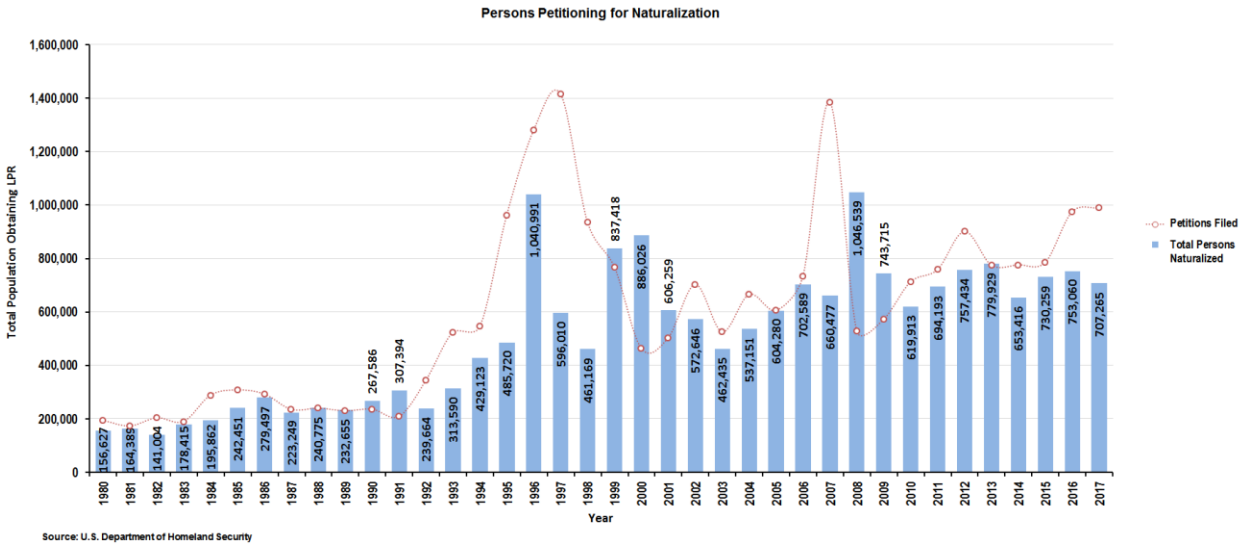
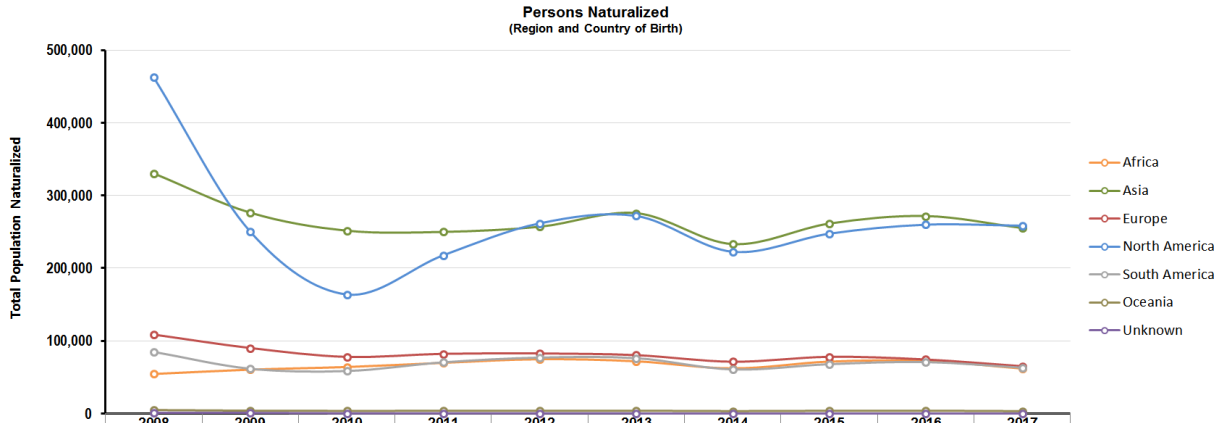


Figure 3A-38 shows which region the populations applying for naturalization are from. Majority of people applying for naturalization are from Asia and North America (includes countries north of Panama and countries in the Caribbean). The number of applications has decreased from all regions in 2016-2017.

Figure 3A-38

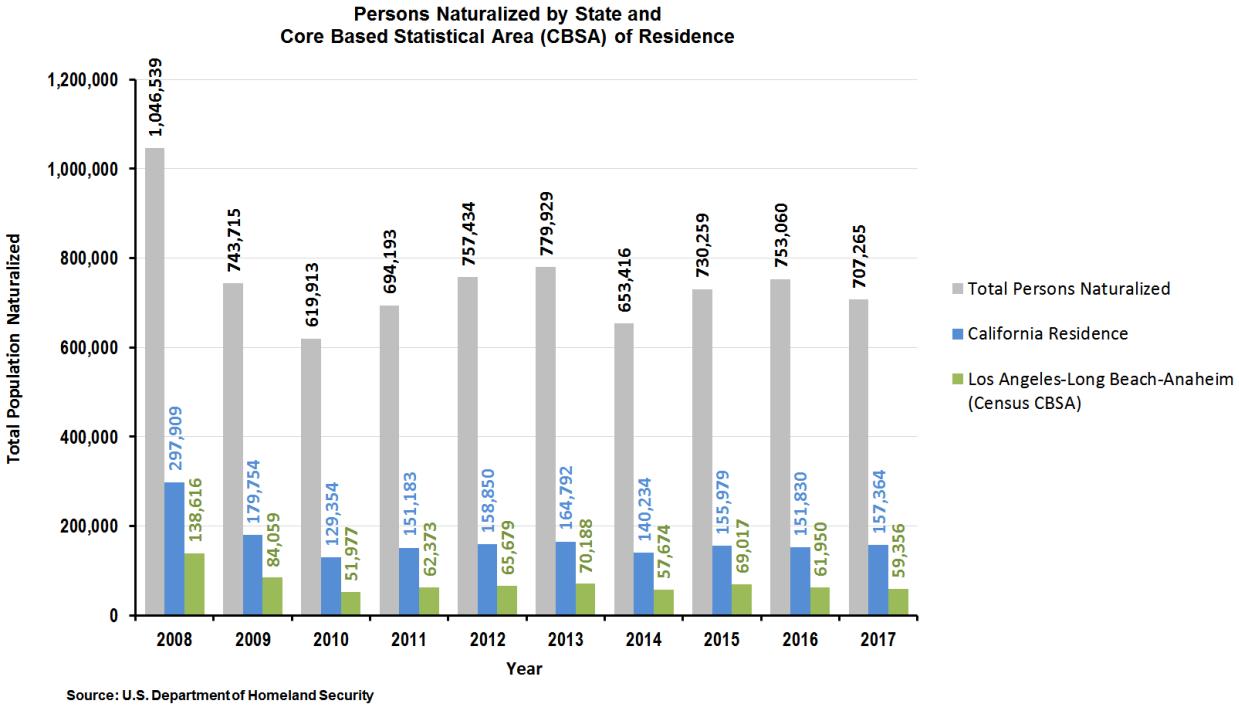


	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Africa	54,418	60,383	64,022	69,738	74,775	71,872	62,175	71,492	72,338	61,851
Asia	330,361	276,375	251,598	249,940	257,035	275,700	233,163	261,374	271,733	255,306
Europe	108,688	90,214	78,011	82,209	82,714	80,333	71,325	78,074	74,344	65,141
North America	462,312	250,209	163,836	217,750	261,673	271,807	222,547	247,492	259,845	258,371
South America	84,845	61,666	58,474	70,485	76,992	76,167	60,665	67,927	70,821	63,063
Oceania	4,781	3,928	3,646	3,734	3,886	3,849	3,399	3,811	3,953	3,327
Unknown	1,134	940	326	337	359	201	142	89	26	206

Source: U.S. Department of Homeland Security

Figure 3A-39 shows the number of people naturalized and where they're residing. The largest number of persons naturalizing lived in California (157,364), followed by New York (86,407). About 38% (59,356) of those naturalized in California live in the Los Angeles-Long Beach-Anaheim Core-Based Statistical Areas (CBSA).

Figure 3A-39



U.S. Lawful Permanent Residents

A lawful permanent resident (LPR), or "green card" recipient, is defined in immigration law as a person who has been granted "the status of having been lawfully accorded the privilege of residing permanently in the United States as an immigrant in accordance with the immigration laws, such status not having changed". There's a general increasing trend in the number of persons obtaining LPR status since 80's. Figure 3A-40 shows a decrease in total persons obtaining LPR status in the U.S. from 1,183,505 in 2016 to 1,127,167 in 2017 (a decrease of 4.8%).

Figure 3A-40

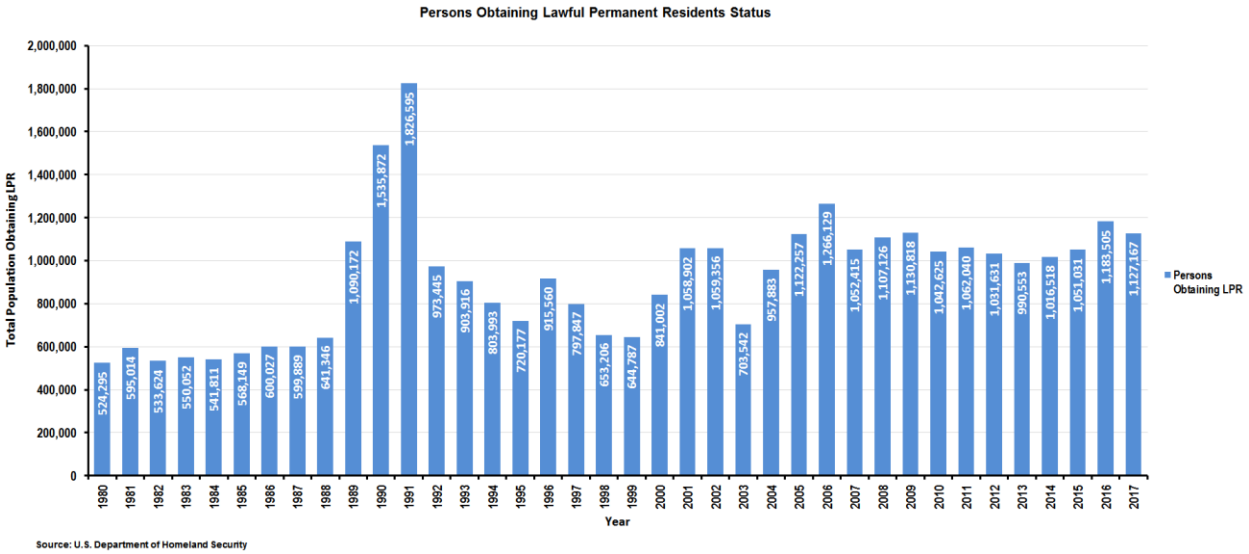
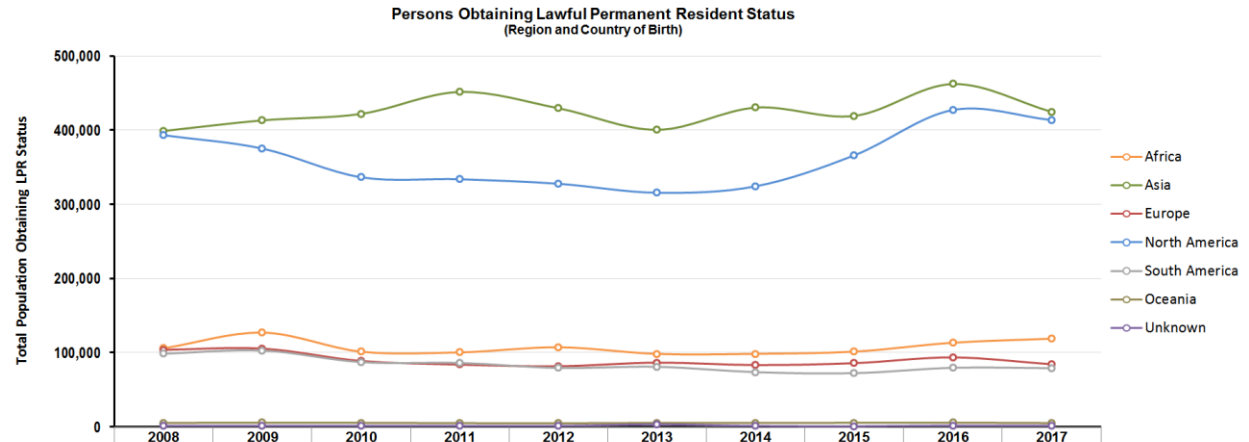


Figure 3A-41 shows which region the populations with green cards are from. Majority of people are from Asia and North America. The number of LPR has decreased for all regions except for Africa, which saw increase of 4.8% in 2016-2017.

Figure 3A-41

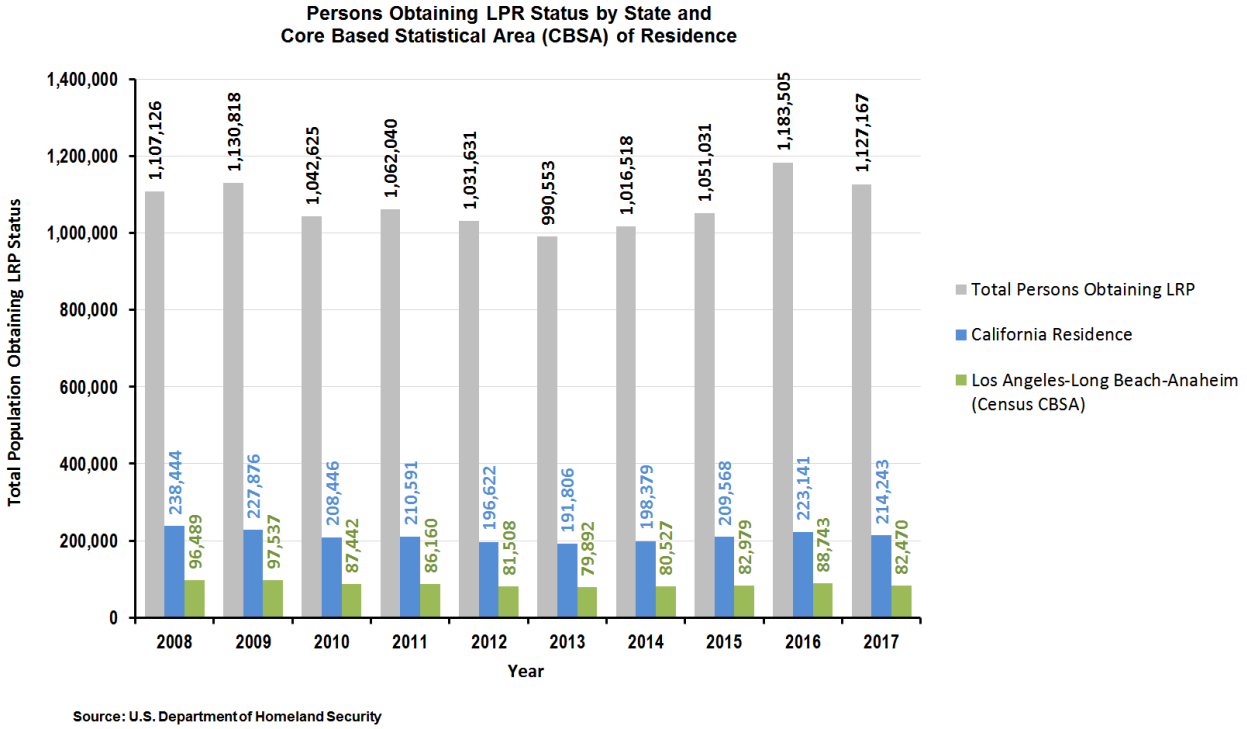


	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Africa	105,915	127,046	101,355	100,374	107,241	98,304	98,413	101,415	113,426	118,824
Asia	399,027	413,312	422,063	451,593	429,599	400,548	430,508	419,297	462,299	424,743
Europe	103,782	105,476	88,801	83,850	81,671	86,556	83,266	85,803	93,567	84,335
North America	393,196	375,180	336,553	333,902	327,771	315,660	324,354	366,126	427,293	413,650
South America	98,549	102,860	87,178	86,096	79,401	80,945	73,715	72,309	79,608	79,076
Oceania	5,263	5,578	5,345	4,980	4,742	5,277	5,112	5,404	5,588	5,071
Unknown	1,394	1,366	1,330	1,245	1,206	3,263	1,150	677	1,724	1,468

Source: U.S. Department of Homeland Security

Figure 3A-42 shows the number of people with green cards and where they're residing. The largest number of LPRs live in California (214,243), followed by New York (139,409). About 38% (82,470) of those with green cards in California live in the Los Angeles-Long Beach-Anaheim CBSA (Core-Based Statistical Areas).

Figure 3A-42



Source: U.S. Department of Homeland Security

Refugee and Asylums

Each year people who fear or face persecution in their country of origin seek asylum or refugee status in the United States. All refugee data in this appendix are from Worldwide Refugee Admissions Processing System (WRAPS) of the Bureau of Population, Refugees, and Migration of Department of State. Figure 3A-43 shows the total number of refugee arrivals for the United States since 1980. In 2017, the United States admitted 53,691 refugees, a decrease of 37% from 2016 and a decrease of 74% from 1980. According to the Office of Immigration Statistics, the decline from 2016 can be attributed to the additional security vetting procedures.

Figure 3A-43

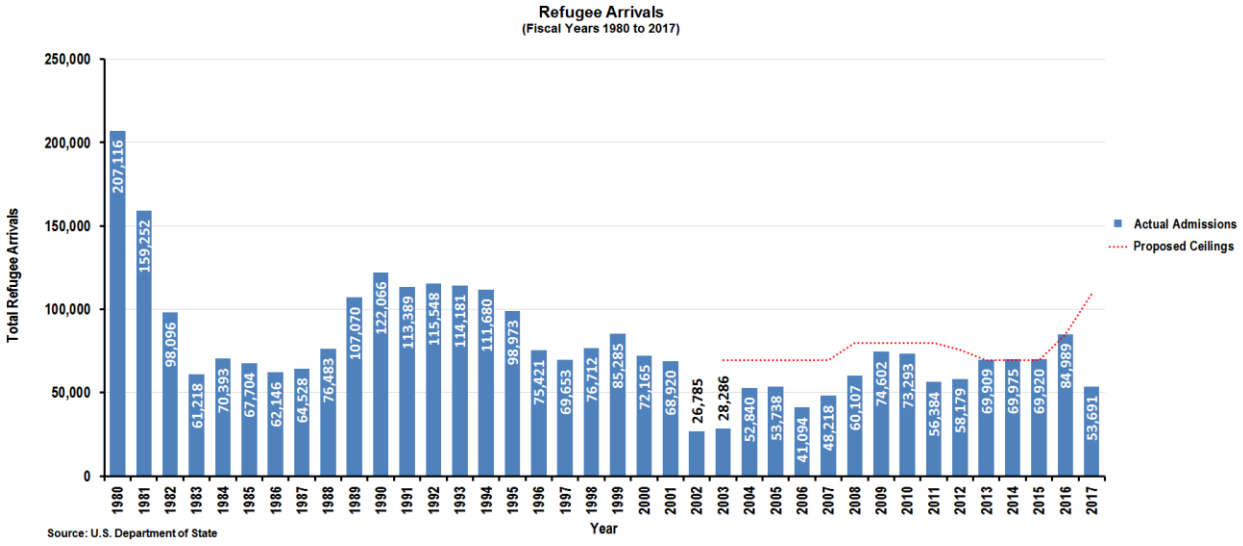
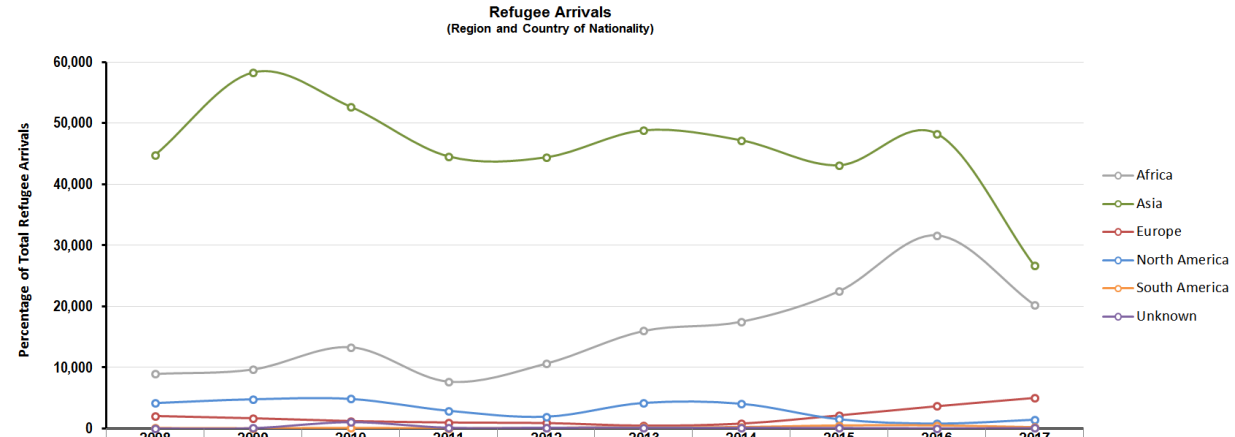


Figure 3A-44 shows which region refugee arrivals are from. Majority of people are from Asia and Africa. The number of refugee arrivals has decreased in 2016-2017 for all regions except for Europe and North America. Between 2016-2017, the European region had increased of 1,362 refugees and the North American region had an increase of 644 refugees.

Figure 3A-44

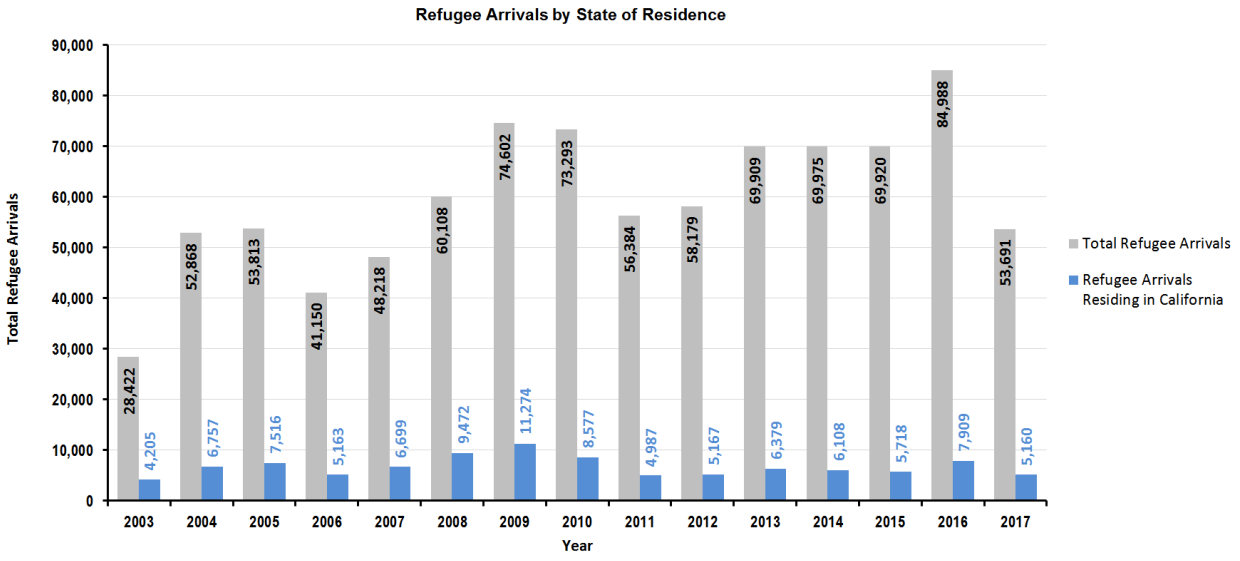


	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Africa	8,943	9,678	13,325	7,693	10,629	15,984	17,501	22,492	31,647	20,248
Asia	44,819	58,309	52,695	44,583	44,416	48,840	47,197	43,115	48,287	26,648
Europe	2,059	1,693	1,238	996	908	482	818	2,164	3,664	5,026
North America	4,177	4,800	4,856	2,930	1,948	4,206	4,066	1,528	811	1,455
South America	100	57	126	46	130	233	252	522	529	233
Unknown	9	65	1,053	136	148	164	141	99	50	81

Source: U.S. Department of State

Figure 3A-45 shows the number of refugees resettling in California. The last 10 years, the majority of arriving refuges were placed in California and Texas. California saw a decrease of 35% in the number of refugee arrivals in 2016-2017.

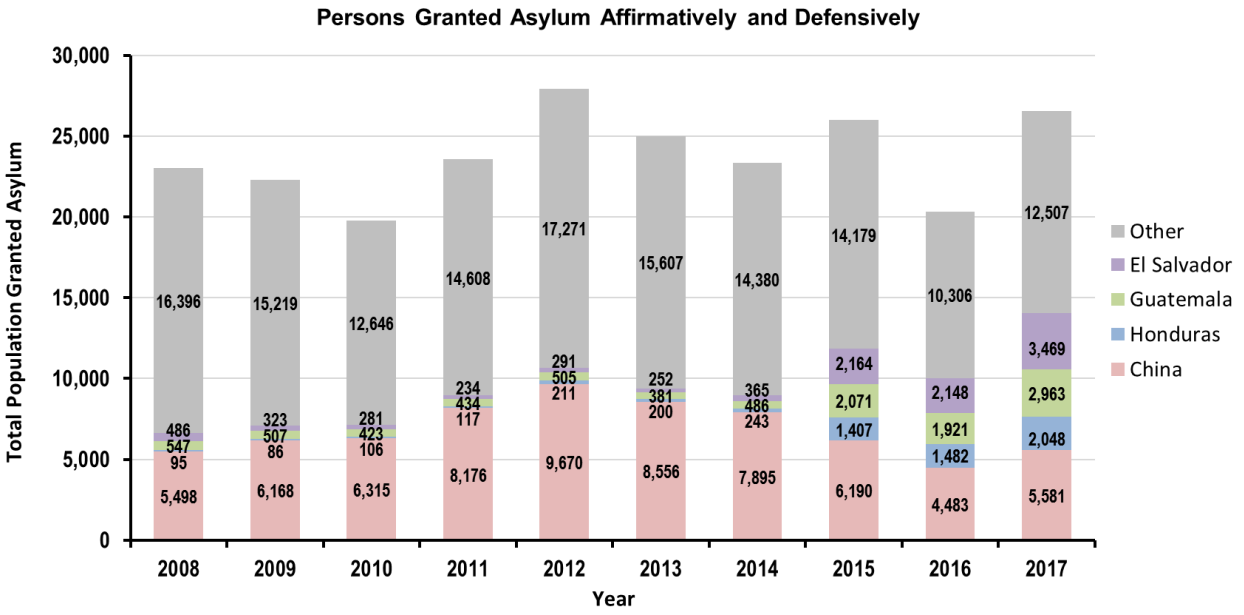
Figure 3A-45



Source: U.S. Department of State, Bureau of Population, Refugees, and Migration, Worldwide Refugee Admissions Processing System (WRAPS).

Figure 3A-46 shows the number of individuals granted asylum affirmatively or defensively. For the last 10 years, China has the most individuals granted asylum. In the last 3 years, the top 4 countries granted asylum has shifted towards nationals from China, followed by El Salvador, Guatemala, and Honduras. From 2016-2017 the total number of granted asylums has increased by 31% from 20,340 in 2016 to 25,568 in 2017.

Figure 3A-46

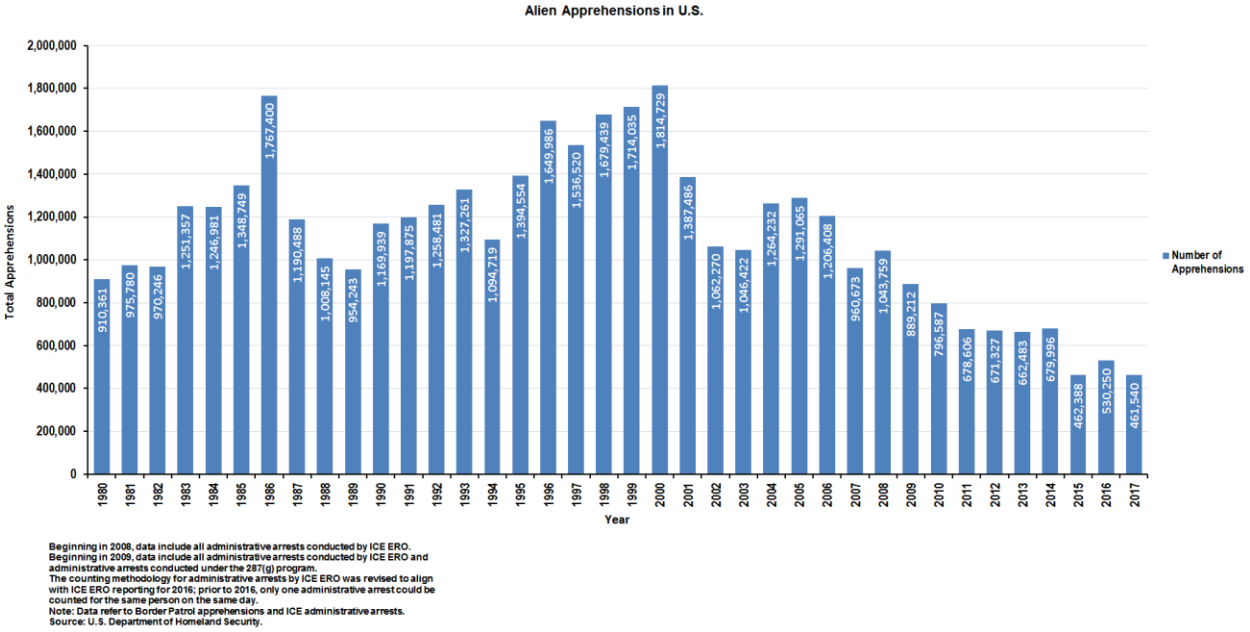


Source: U.S. Department of State, Bureau of Population, Refugees, and Migration, Worldwide Refugee Admissions Processing System (WRAPS).

Immigration Enforcement Actions

The Department of Homeland Security (DHS) engages in immigration enforcement actions to prevent unlawful entry into the United States and to apprehend and repatriate aliens who have violated or failed to comply with U.S. immigration laws. Primary responsibility for the enforcement of immigration law within DHS rests with U.S. Customs and Border Protection (CBP), U.S. Immigration and Customs Enforcement (ICE), and U.S. Citizenship and Immigration Services (USCIS). CBP enforces immigration laws at and between the ports of entry, ICE is responsible for interior enforcement and for detention and removal operations, and USCIS adjudicates applications and petitions for immigration and naturalization benefits. Since 2000, the number of alien apprehensions has dropped 75%.

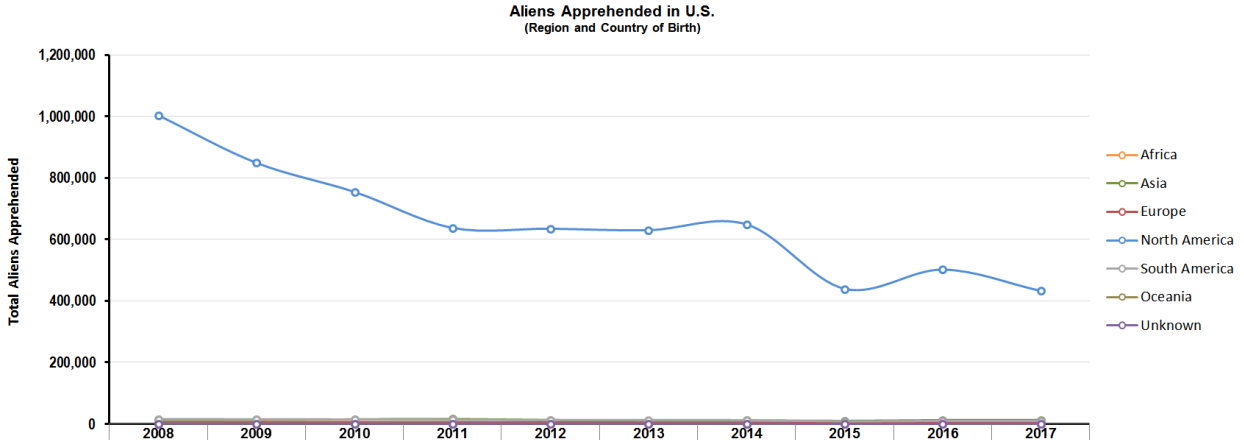
Figure 3A-47



Beginning in 2008, data include all administrative arrests conducted by ICE ERO.
Beginning in 2009, data include all administrative arrests conducted by ICE ERO and administrative arrests conducted under the 287(g) program.
The counting methodology for administrative arrests by ICE ERO was revised to align with ICE ERO reporting for 2016; prior to 2016, only one administrative arrest could be counted for the same person on the same day.
Note: Data refer to Border Patrol apprehensions and ICE administrative arrests.
Source: U.S. Department of Homeland Security.

Figure 3A-48 shows which region the apprehended are from. Majority of people apprehended are from North America. Since 2008, there has been a general decrease in the number of aliens apprehended. In 2016-2017, there was a decrease of 14% in total numbers of aliens apprehended from North America.

Figure 3A-48

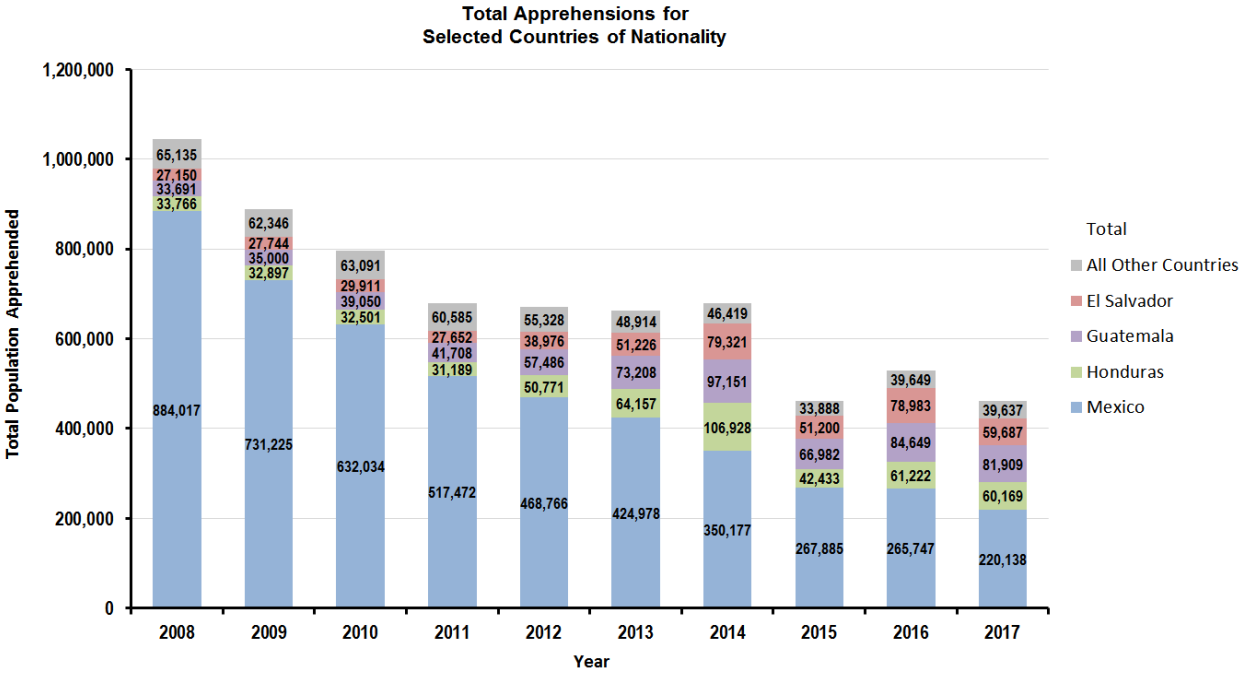


	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Africa	5,218	5,652	5,762	5,209	4,755	3,772	3,308	2,296	2,040	2,947
Asia	13,202	13,353	14,877	15,875	12,424	10,771	11,131	9,825	12,267	12,484
Europe	5,151	5,100	5,571	5,520	5,548	4,447	3,915	2,379	3,818	2,935
North America	1,003,131	848,800	754,304	637,354	634,711	629,884	648,576	439,102	501,754	432,410
South America	15,525	15,213	14,589	13,357	12,507	12,459	12,174	8,284	9,875	9,628
Oceania	481	477	522	498	458	428	369	241	157	286
Unknown	1,051	617	962	793	924	722	523	261	339	850

Beginning in 2008 data include administrative arrests conducted by ICE ERO.
Beginning in 2009 data include administrative arrests conducted by ICE ERO and administrative arrests conducted under the 287(g) program. Includes countries with fewer than 10 aliens apprehended per year. The counting methodology for administrative arrests by ICE ERO was revised to align with ICE ERO reporting for 2016; prior to 2016, only one administrative arrest could be counted for the same person on the same day.
Note: CBP Border Patrol data are current as of October 2017. ICE Enforcement and Removal Operations (ERO) data are current as of October 2017.
ICE Homeland Security Investigations (HSI) data are current as of October 2017.
Source: U.S. Department of Homeland Security.

Figure 3A-49 shows total apprehensions for selected countries of nationality. In 2016-2017, the number of apprehensions of Mexican nationality decreased 17% while nationals from El Salvador, Honduras, and Guatemala have decreased 24%, 1.7%, and 3.2% respectively.

Figure 3A-49



Beginning in 2008 data include administrative arrests conducted by ICE ERO.
Beginning in 2009 data include administrative arrests conducted by ICE ERO and administrative arrests conducted under the 287(g) program. Includes countries with fewer than 10 aliens apprehended per year.
The counting methodology for administrative arrests by ICE ERO was revised to align with ICE ERO reporting for 2016; prior to 2016, only one administrative arrest could be counted for the same person on the same day.
Note: CBP Border Patrol data are current as of October 2017. ICE Enforcement and Removal Operations (ERO) data are current as of October 2017.
ICE Homeland Security Investigations (HSI) data are current as of October 2017.
Source: U.S. Department of Homeland Security.

Estimation of the Unauthorized Immigrant Population Residing in the United States

The Department of Homeland Security refers to foreign-born non-citizens unlawfully present in the United States as “illegal aliens”. In order to derive the unauthorized population, two populations are estimated: 1) the total foreign-born population living in the United States on January 1, 2014, and 2) the legally resident foreign-born population on the same date. The unauthorized population estimate is the residual when (2) is subtracted from (1). Annual estimates of the illegal alien population are subject to sampling error in the American Community Survey and considerable non-sampling error because of uncertainty in some of the assumptions required for estimation. Caution is recommended in interpreting year-to-year changes in the size of the illegal alien population. Although DHS has been producing annual estimates since 2005, comparisons across multiple years are problematic. In addition to sampling error and the uncertainty surrounding the estimates, the series of DHS estimates is not fully consistent. In particular, estimates of the foreign-born population from the 2010-2015 ACS were based on the 2010 Decennial Census (adjusted for childbirths, deaths, and migration), whereas estimates from earlier ACS editions were based on the 2000 Census. Figure 3A-50 was extracted from *Department of Homeland Security Office of Immigration Statistics Population Estimates 2017* report. The figure lists the various assumptions and estimates made. Figure 3A-51 is the results based on the assumptions made below.

Figure 3A-50

Component Estimates of the Illegal Alien Population: 2015

1) Foreign-born population		
a.	Foreign-born population, entered 1980-2014, 2014 ACS	33,920,000
b.	Adjustment for shift in reference date from July 1, 2014 to January 1, 2015	610,000
c.	Undercount of nonimmigrants in ACS	200,000
d.	Undercount of other legally resident immigrants (LPRs, recent refugee/asylee arrivals) in ACS	560,000
e.	Undercount of illegal alien population in ACS	1,200,000
f.	Estimated foreign-born population, January 1, 2015 (a.+b.+c.+d.+e.)	36,490,000
2) Legally resident population		
g.	LPR, refugee, and asylee flow January 1, 1980-December 31, 2014	29,550,000
h.	Mortality 1980-2014	2,400,000
i.	Emigration 1980-2014	4,580,000
j.	LPR, refugee, and asylee resident population, January 1, 2015 (g.-h.-i.)	22,570,000
k.	Nonimmigrant population on January 1, 2015	1,950,000
l.	Estimated legally resident population, January 1, 2015 (j.+k.)	24,520,000
3) Illegal alien population		
m.	Estimated resident illegal alien population, January 1, 2015 (f.-l.)	11,960,000

Note: Detail may not sum to totals because of rounding.
Source: U.S. Department of Homeland Security.

Figure 3A-51

Illegal Alien Population by Country of Birth and State of Residence: 2000 and 2005–2015

Country of birth and state of residence	Estimated population in January												
	2000	2005	2006*	2007	2008	2009	2010	2010**	2011	2012	2013	2014	2015
Country of birth													
Total . . .	8,460,000	10,490,000	11,310,000	11,780,000	11,600,000	10,750,000	10,790,000	11,590,000	11,510,000	11,430,000	11,210,000	11,460,000	11,960,000
Mexico . . .	4,680,000	5,970,000	6,570,000	6,980,000	7,030,000	6,650,000	6,640,000	6,830,000	6,800,000	6,720,000	6,450,000	6,450,000	6,580,000
El Salvador	430,000	470,000	510,000	540,000	570,000	530,000	620,000	670,000	660,000	690,000	690,000	670,000	750,000
Guatemala.	290,000	370,000	430,000	500,000	430,000	480,000	520,000	520,000	520,000	560,000	590,000	620,000	620,000
India	120,000	280,000	210,000	220,000	160,000	200,000	200,000	270,000	240,000	260,000	320,000	390,000	470,000
Honduras. .	160,000	180,000	280,000	280,000	300,000	320,000	330,000	380,000	380,000	360,000	390,000	390,000	440,000
Philippines.	200,000	210,000	280,000	290,000	300,000	270,000	280,000	290,000	270,000	310,000	340,000	330,000	370,000
China	190,000	230,000	170,000	290,000	220,000	120,000	130,000	300,000	280,000	210,000	190,000	230,000	320,000
Korea	180,000	210,000	230,000	230,000	240,000	200,000	170,000	220,000	230,000	230,000	250,000	240,000	230,000
Vietnam. . .	160,000	150,000	150,000	120,000	80,000	110,000	110,000	190,000	170,000	160,000	160,000	180,000	170,000
Ecuador. . .	***	120,000	150,000	160,000	170,000	170,000	180,000	210,000	210,000	170,000	150,000	170,000	150,000
Other countries . .	1,940,000	2,300,000	2,340,000	2,170,000	2,100,000	1,700,000	1,610,000	1,720,000	1,750,000	1,760,000	1,670,000	1,790,000	1,870,000
State of residence													
Total . . .	8,460,000	10,490,000	11,310,000	11,780,000	11,600,000	10,750,000	10,790,000	11,590,000	11,510,000	11,430,000	11,210,000	11,460,000	11,960,000
California. .	2,510,000	2,770,000	2,790,000	2,840,000	2,850,000	2,600,000	2,570,000	2,910,000	2,830,000	2,820,000	2,780,000	2,730,000	2,880,000
Texas	1,090,000	1,360,000	1,620,000	1,710,000	1,680,000	1,680,000	1,770,000	1,780,000	1,790,000	1,830,000	1,750,000	1,850,000	1,940,000
Florida. . . .	800,000	850,000	960,000	960,000	840,000	720,000	760,000	730,000	740,000	730,000	740,000	710,000	810,000
New York . .	540,000	560,000	510,000	640,000	640,000	550,000	460,000	690,000	630,000	580,000	610,000	570,000	590,000
Illinois	440,000	520,000	530,000	560,000	550,000	540,000	490,000	550,000	550,000	540,000	520,000	530,000	450,000
New Jersey	350,000	380,000	420,000	470,000	400,000	360,000	370,000	440,000	420,000	430,000	410,000	450,000	440,000
Georgia . . .	220,000	470,000	490,000	490,000	460,000	480,000	460,000	430,000	440,000	400,000	390,000	410,000	390,000
North Carolina. . .	260,000	360,000	360,000	380,000	380,000	370,000	390,000	390,000	400,000	360,000	400,000	390,000	390,000
Arizona . . .	330,000	480,000	490,000	530,000	560,000	460,000	470,000	350,000	360,000	350,000	350,000	350,000	380,000
Virginia . . .	160,000	240,000	230,000	230,000	230,000	210,000	200,000	220,000	250,000	250,000	240,000	280,000	310,000
Other states	1,760,000	2,510,000	2,900,000	2,970,000	3,010,000	2,780,000	2,840,000	3,080,000	3,110,000	3,140,000	3,170,000	3,190,000	3,390,000

*Revised as noted in the 1/1/2007 illegal alien estimates report published in September 2008.

**Revised to be consistent with estimates derived from the 2010 Census.

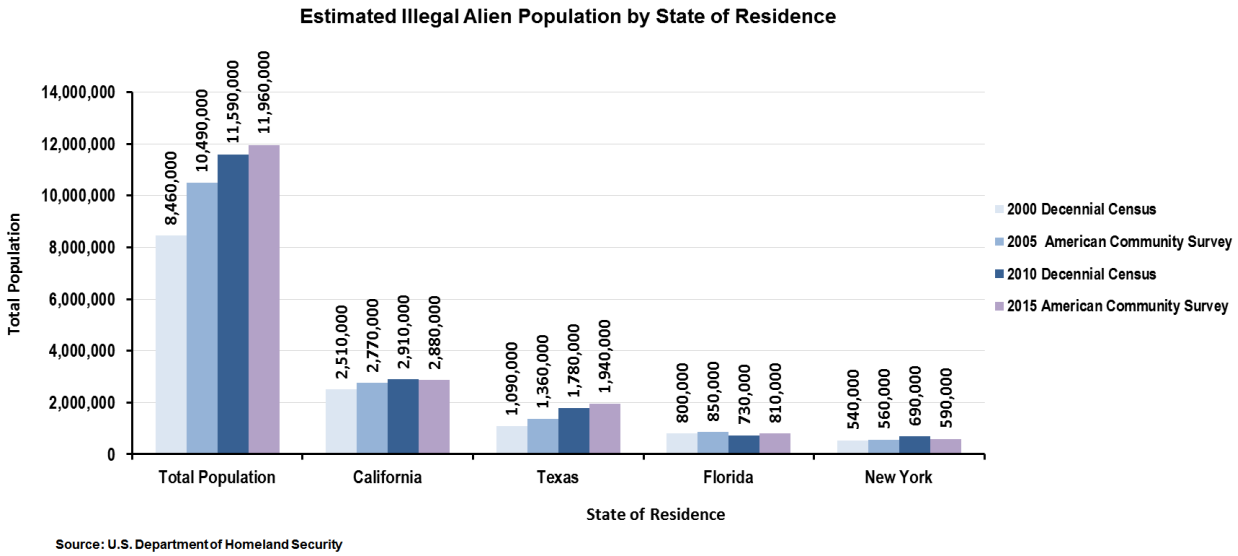
***Estimate not available for Jan. 2000.

Notes: Detail may not sum to totals because of rounding. Estimates for 2013 and 2014 have been updated since the 2014 edition of this report (see Appendix 1, Section 1a).

Source: U.S. Department of Homeland Security.

Figure 3A-52 was created using the data generated from the formula expressed in figure 3A-50. The estimated data shows an increasing trend in illegal alien population for 4 time periods in the top 4 states of residence. Between 2010 and 2015, both California and New York saw a decrease in estimated illegal alien population while Texas and Florida saw an increase. California decreased 1% while across the country there was an increase of 3.2%.

Figure 3A-52



Source: U.S. Department of Homeland Security

Other Trends

Additional research and analysis are pending.

Appendix 3B

On-Board Survey Results

- Customer Satisfaction
- Demographic Data
- Trip Profile
- Smartphone Usage
- Sexual Harassment

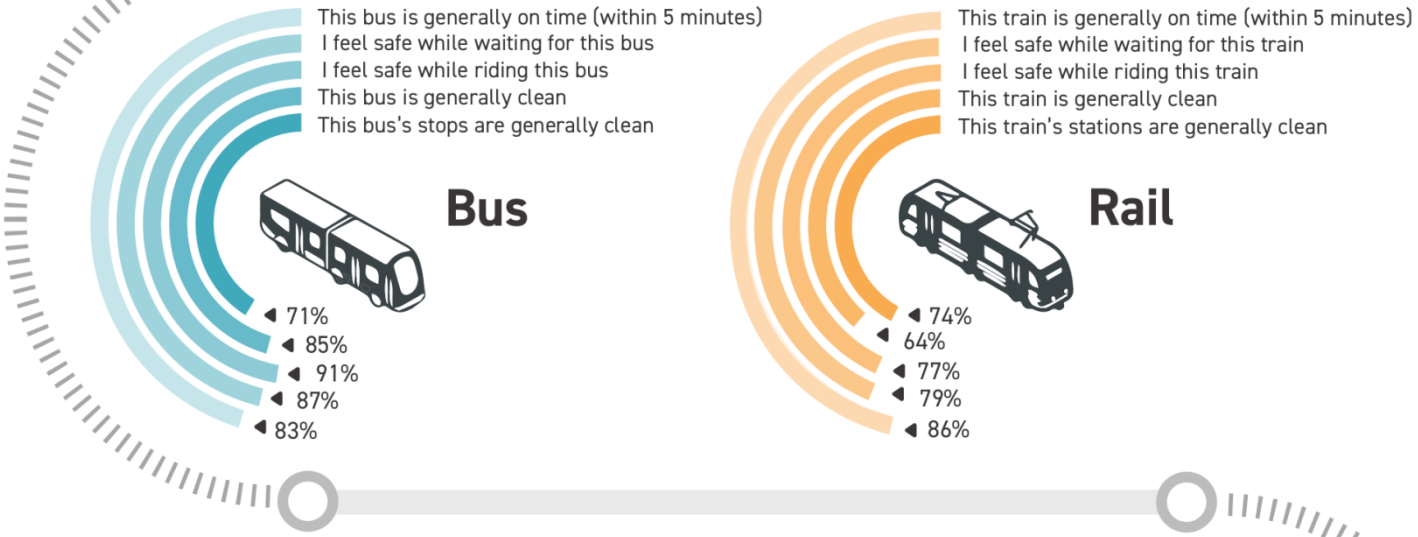
Attachment B

On-Board Survey Results + Trend Report Fall '18

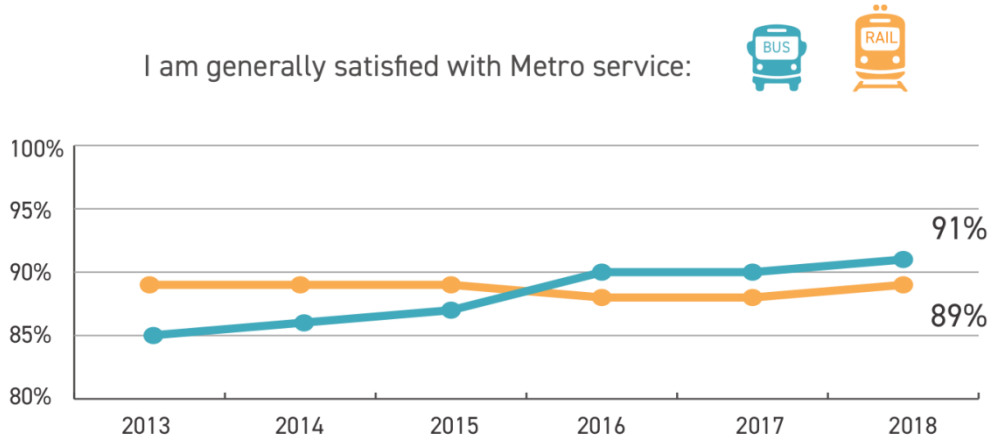
Every year Metro Research conducts a customer satisfaction survey on board their buses and trains.
This year, we received input from 13,855 riders like you!
This is what they had to say.

Metro

Customer Satisfaction

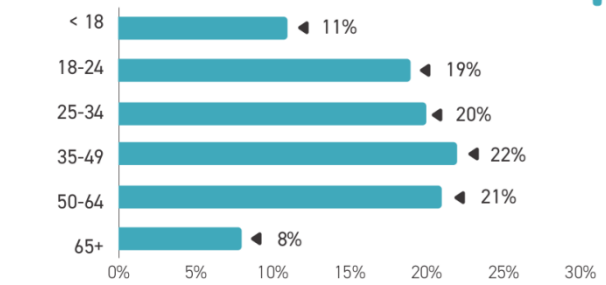


I am generally satisfied with Metro service:

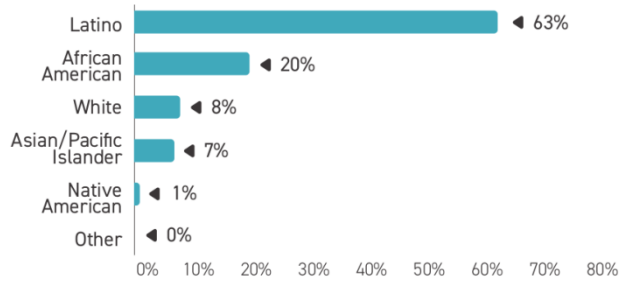


Demographic Data

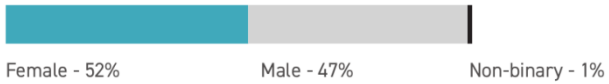
AGE



ETHNICITY

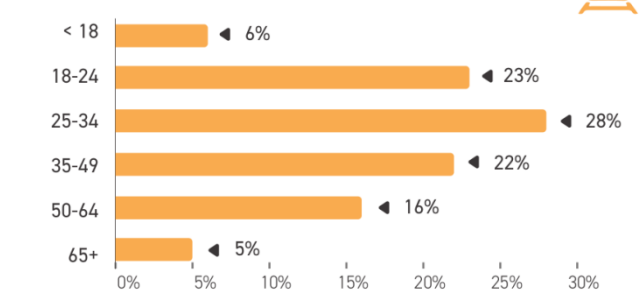


GENDER IDENTITY



SURVEY LANGUAGE

AGE



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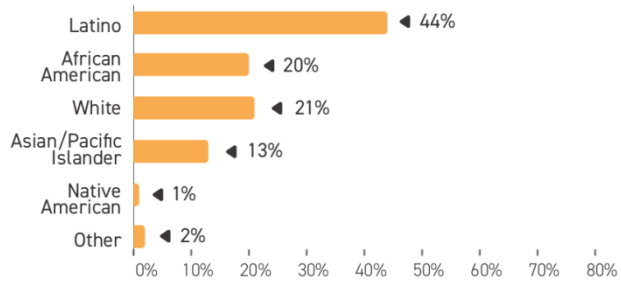
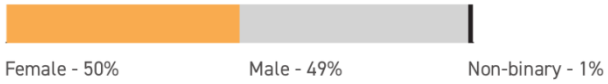


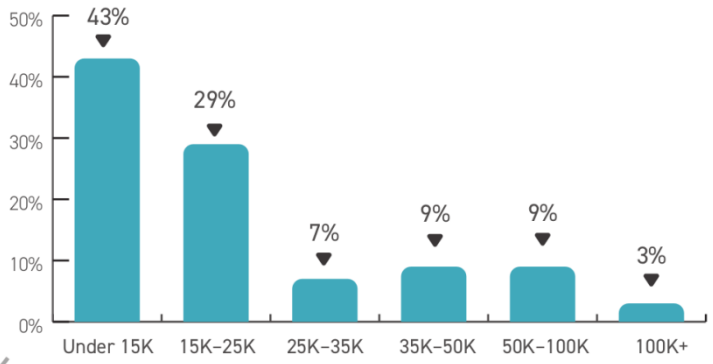
GENDER IDENTITY



SURVEY LANGUAGE

Demographic Data

HOUSEHOLD INCOME

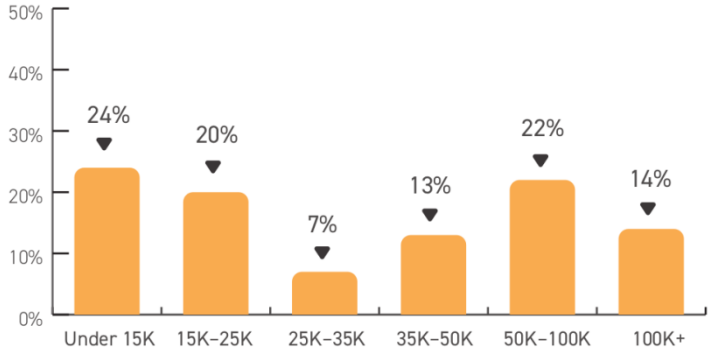


Median Income
$17,154

Mean Income
$24,746

58% Below Poverty Line

HOUSEHOLD INCOME



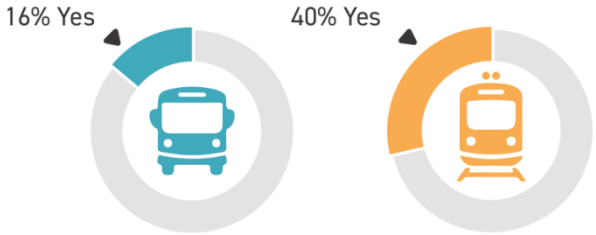
Median Income
$32,634

Mean Income
$46,440

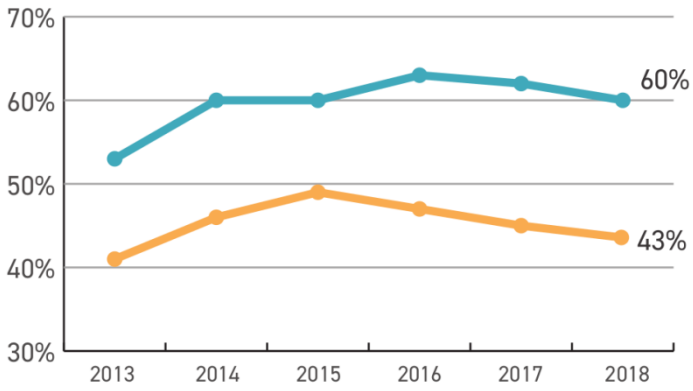
34% Below Poverty Line

Trip Profile

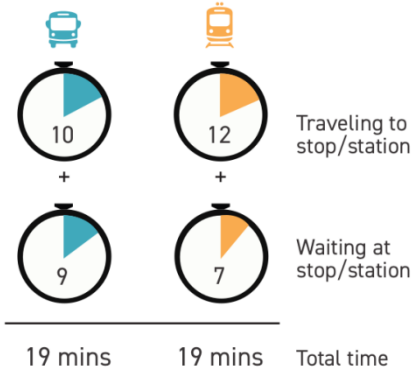
Do you have a car available to make this trip?



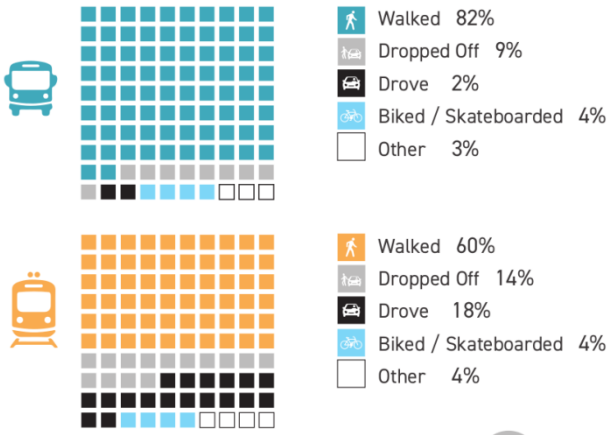
I have been riding Metro for 5+ years:



AVERAGE TOTAL TIME BEFORE BOARDING BUS/TRAIN

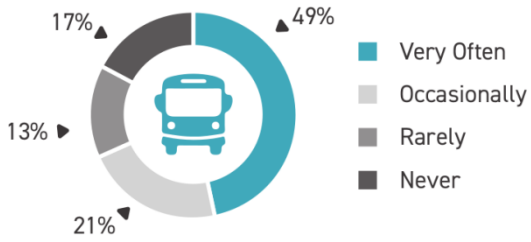


FIRST MILE TRAVEL MODES

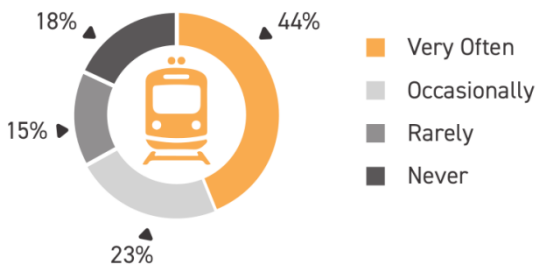


Smartphone Usage

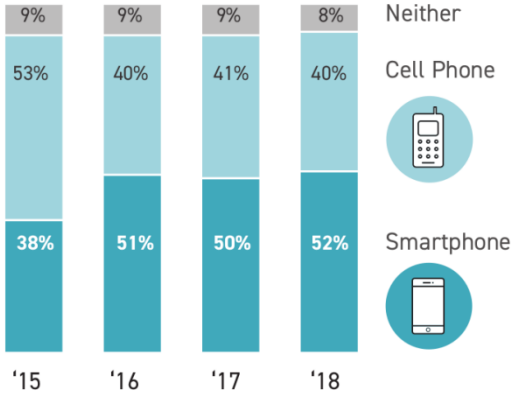
How often do you use mobile applications to get traffic information?



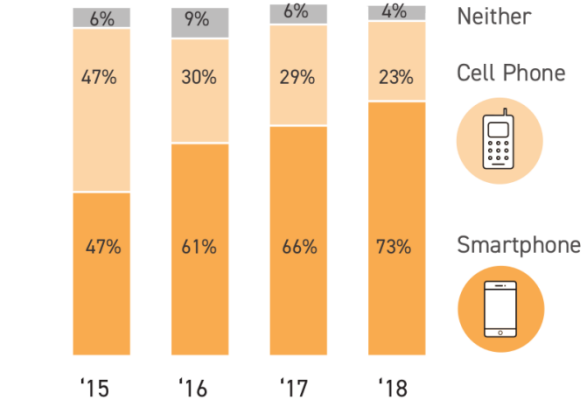
How often do you use mobile applications to get traffic information?



What type of mobile device do you own?



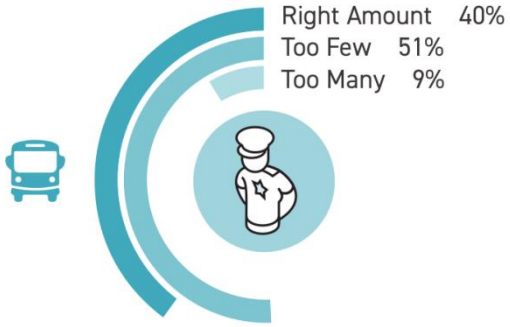
What type of mobile device do you own?



Sexual Harassment

Regarding the number of fare enforcement personnel on board Metro buses/trains, do you think there are:

Regarding the number of police officers on board Metro buses/trains, do you think there are:

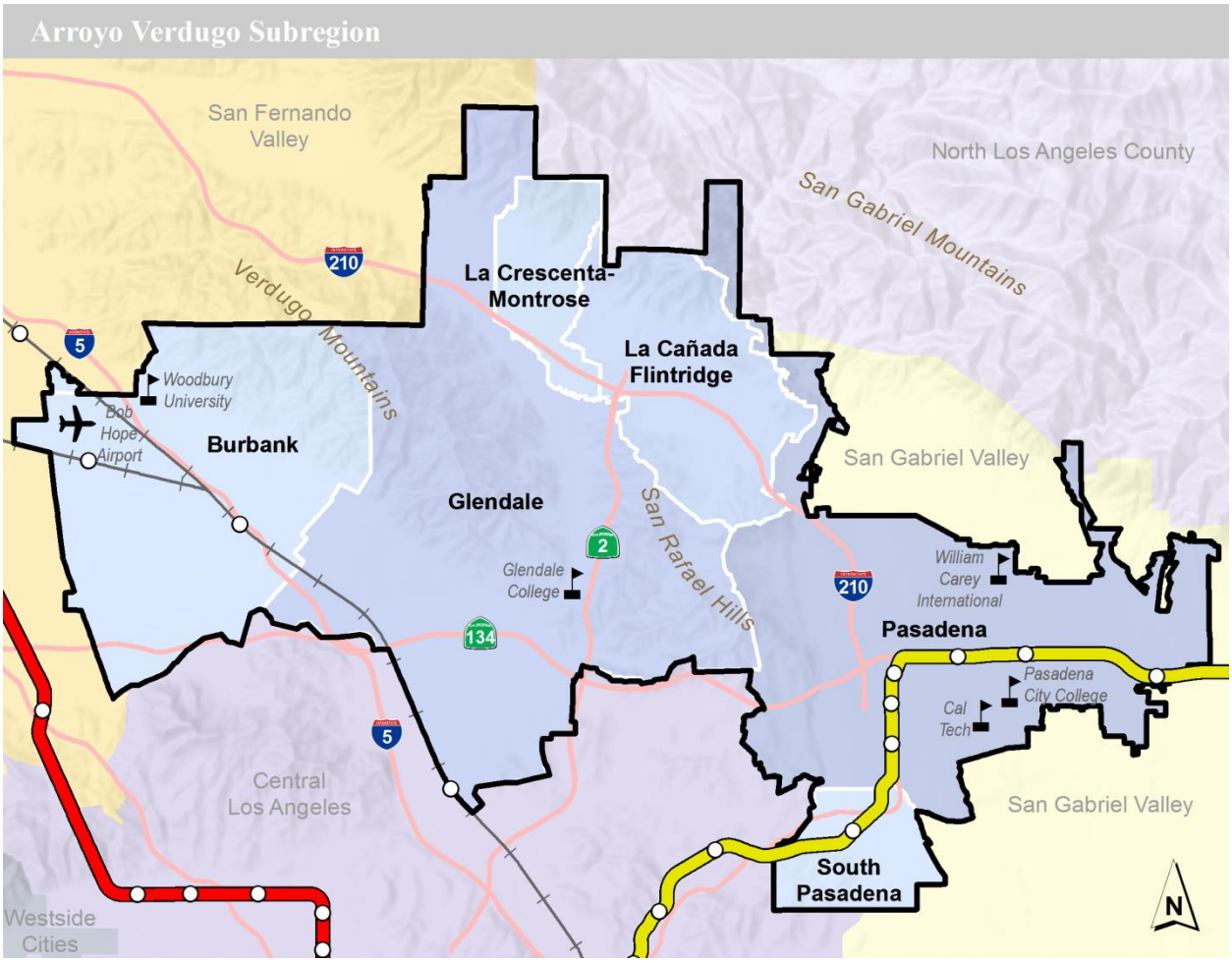


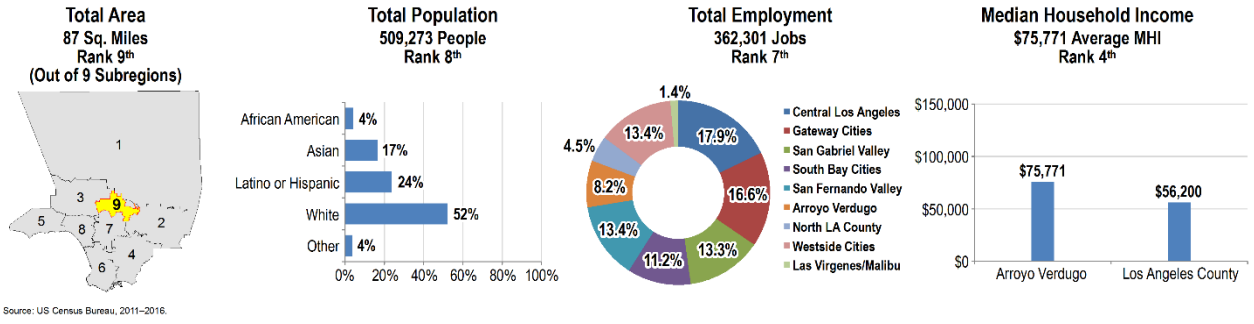
Appendix 3C

Understanding of Communities

- Arroyo Verdugo Subregion
- Central Los Angeles Subregion
- Gateway Cities Subregion
- Las Virgenes/Malibu Subregion
- North Los Angeles County Subregion
- San Fernando Valley Subregion
- San Gabriel Valley Subregion
- South Bay Cities Subregion
- Westside Cities Subregion

Arroyo Verdugo





Source: US Census Bureau, 2011–2016.

Cities and Communities

Burbank, Glendale, Pasadena, South Pasadena, and La Cañada Flintridge. Census designated place include La Crescenta-Montrose.

Setting

The Arroyo Verdugo subregion sits against a backdrop of the San Gabriel Mountains, on the northern edge of the Los Angeles Basin. It's the smallest subregion in the County covering 87 square miles and is home to five cities and unincorporated LA County. The subregion ranks 8th (out of 9) in total population, 7th in total employment, and 7th in total daily trips. The subregion is predominately non-Hispanic Whites and ranks 4th in the County for average median household income.

Major Transportation Facilities

Several major freeways traverse this subregion including the Foothill (I-210), Glendale (SR-2), Golden State (I-5) and Ventura (SR-134) Freeways.

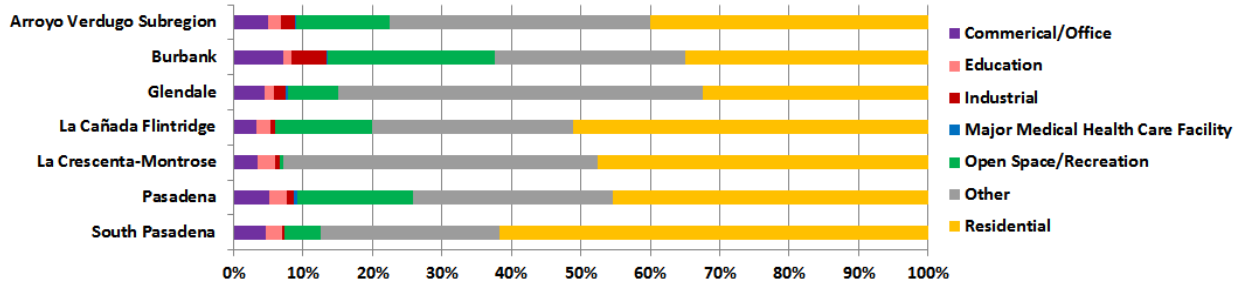
Bus service in the subregion is provided by Metro and LADOT, as well as by local transit service providers in each of the member cities. Metro's Gold Line provides rail service to communities in the eastern portion of the subregion. Metrolink's Ventura County and Antelope Valley Lines provide commuter rail services to Burbank and Glendale. Limited Amtrak service is also available.

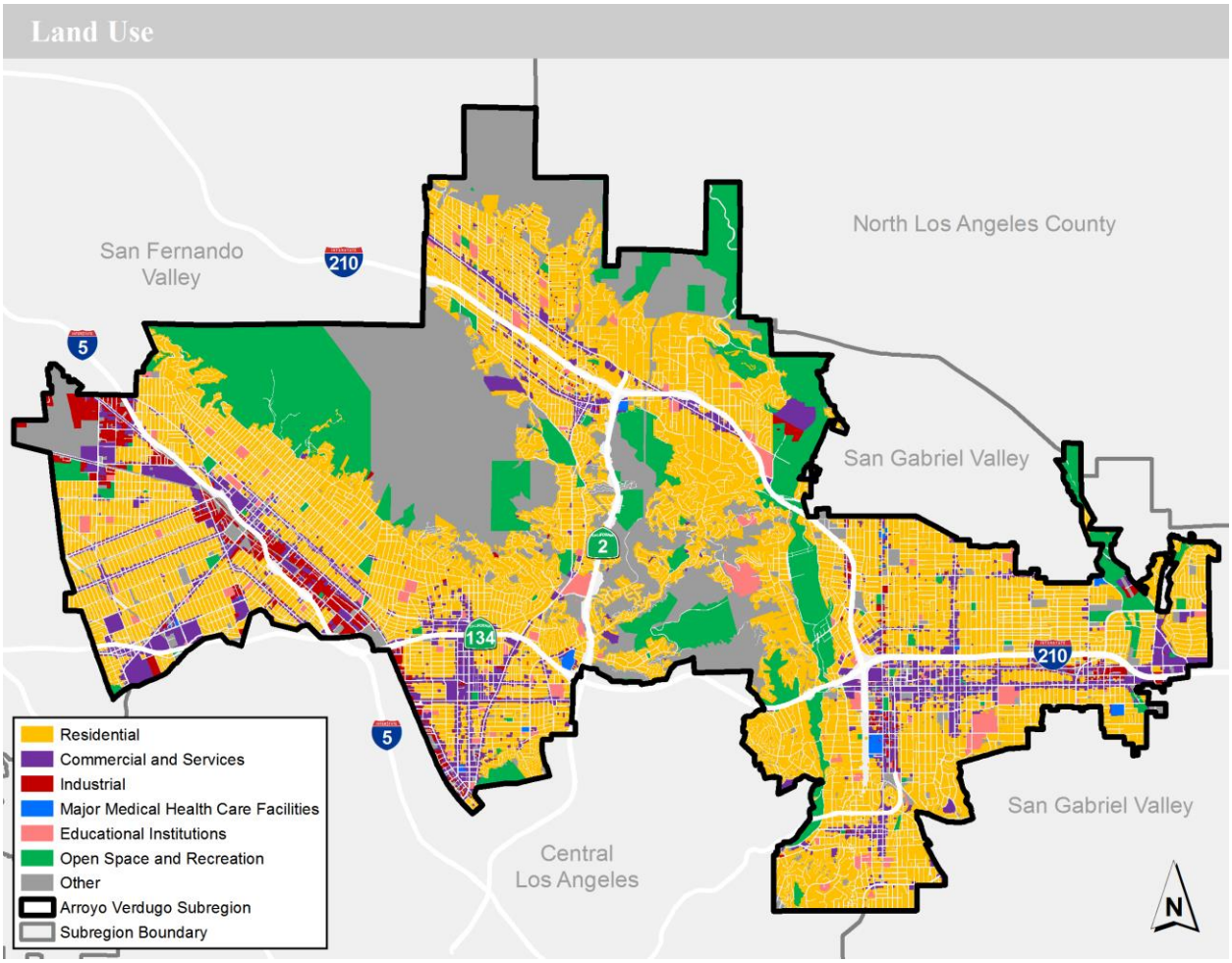
Burbank, Glendale, and La Cañada Flintridge also provide paratransit services within their cities for the elderly and persons with disabilities. Service in La Cañada Flintridge is administered by the City of Glendale. Access Services, Inc. provides paratransit service in Arroyo Verdugo as part of its region-wide service.

Bob Hope Airport is located in the City of Burbank. The airport can be reached by the I-5 Freeway or Metrolink Rail. Burbank's Bob Hope airport can also be found north-west of the city. Hospitals in the subregion include Glendale Memorial Hospital, Shriners for Children Medical Center, and Saint Joseph Medical Center. The subregion is also home to one of the world's most prestigious university, California Institute of Technology.

Land Use

Roughly 7% of the subregion is designated for commercial/industrial land use and residential land use covers approximately 40%. The City of South Pasadena has the highest percentage of residential land use while the largest total residential land use is located in the City of Pasadena. The largest industrial land use (by total area and percentage) can be found in the City of Burbank. Burbank also has a large percentage of commercial land use. The city of Burbank, billed as the "Media Capital of the World", has numerous media and entertainment companies are headquartered or have significant production facilities.





Travel Demand Factors

Population densities tend to cluster along SR-134, I-5, and Metro Gold Line. High population density areas can be found south of the Verdugo Mountains and east of San Rafael Hills. The City of South Pasadena is the smallest city by total area but has the highest population density in the subregion. High employment densities can also be found along the freeways and fixed guideways. The City of Burbank has the highest employment density and one of the largest commercial land use areas in the subregion. The City of Glendale is the largest city in the subregion by area and total population. The city ranks 2nd in population density and 3rd in employment/trip densities within the subregion. Employment centers can be found near major thoroughfares in the City of Burbank, Glendale, and Pasadena.

Name	Acres	Population Density (Person per Acre)	Employment Density (Jobs per Acre)	Daily Trips Density (Person Trips per Acre)
Arroyo Verdugo Subregion	55,409	9.2	6.5	82.6
Burbank	11,129	9.5	10.2	105.3
Glendale	19,559	10.0	5.8	75.7
La Cañada Flintridge	5,533	3.9	1.2	28.2
La Crescenta-Montrose	2,200	8.4	1.8	46.7
Pasadena	14,801	9.6	7.8	102.2
South Pasadena	2,187	11.8	4.3	70.1

Transit Dependent Communities

Transit Dependent Communities can be found south of the Verdugo Mountains and east of San Rafael Hills. Tracts along the I-5 Freeway, southern portion of Glendale, and areas of downtown Pasadena all meet the transit dependent criteria. There is a large population of seniors in the subregion and only 25% of the seniors are transit dependent because they meet the low-income criteria. Tracts with zero-car ownership percentages greater than the County average are located in and near areas of commercial/industrial landuse as well as high-density residential areas in Pasadena, Glendale, and Burbank. Similar clustering patterns can be seen with low-income populations with additional tracts meeting the criteria near Burbank airport.

Traffic Congestions

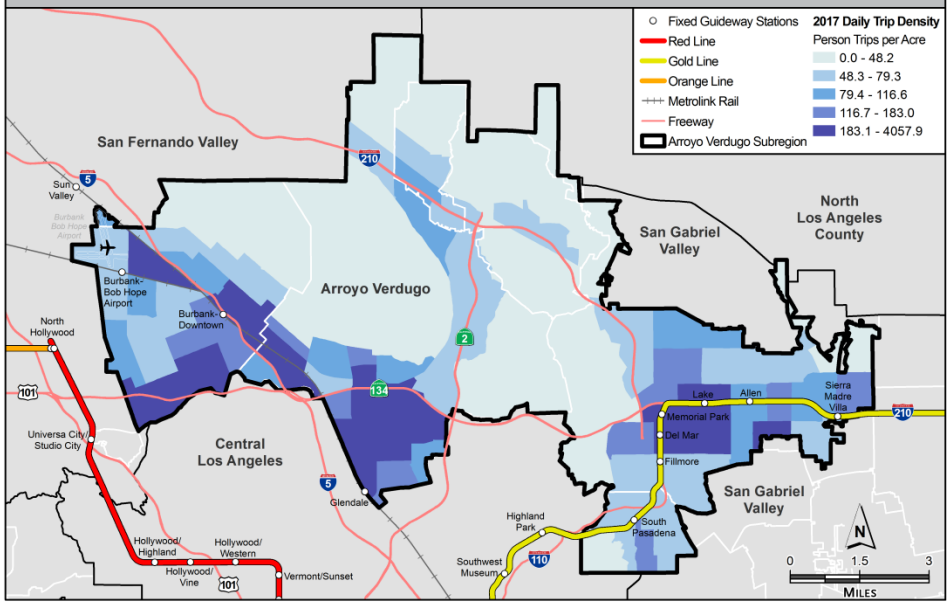
During the morning peak (6 AM to 9 AM), about 17% of directional freeway miles in the subregion are subject to severe congestion, i.e., average speed less than 25 miles per hour, 66% subject to moderate congestion, i.e., average speed between 25 and 50 mph, and the remaining 17% are uncongested, speed 50 miles per hour or better.

The severely congested portion includes

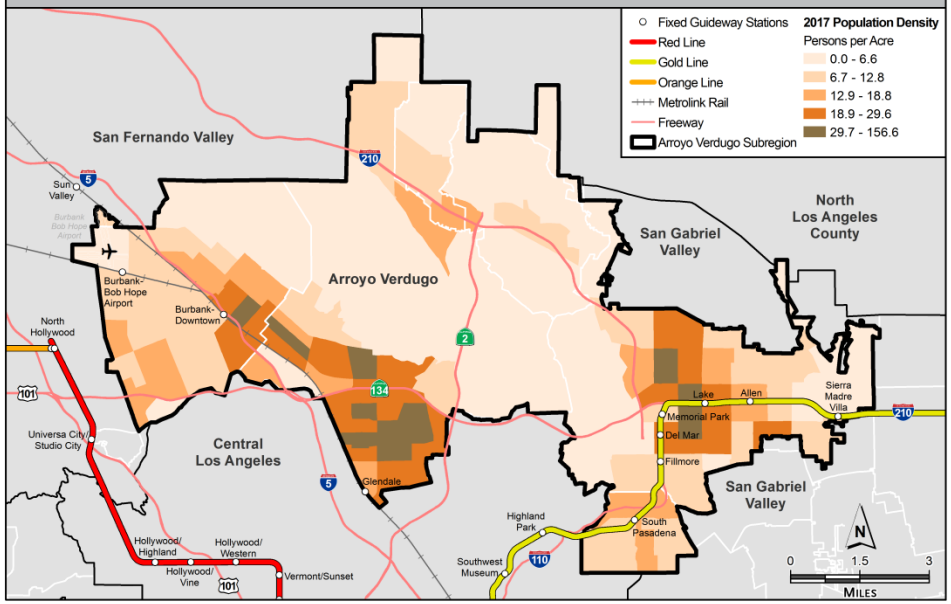
- I-5 S --- From Burbank Blvd to SR-134 junction.
- I-210 W --- From Sierra Madre Blvd to SR-134 junction.
- SR-134 W --- From SR-2 junction to Grand Blvd.

During the midday, only 1% of its freeways are severely congested, while 41% of its freeways are moderately congested and the remaining 58% are uncongested.

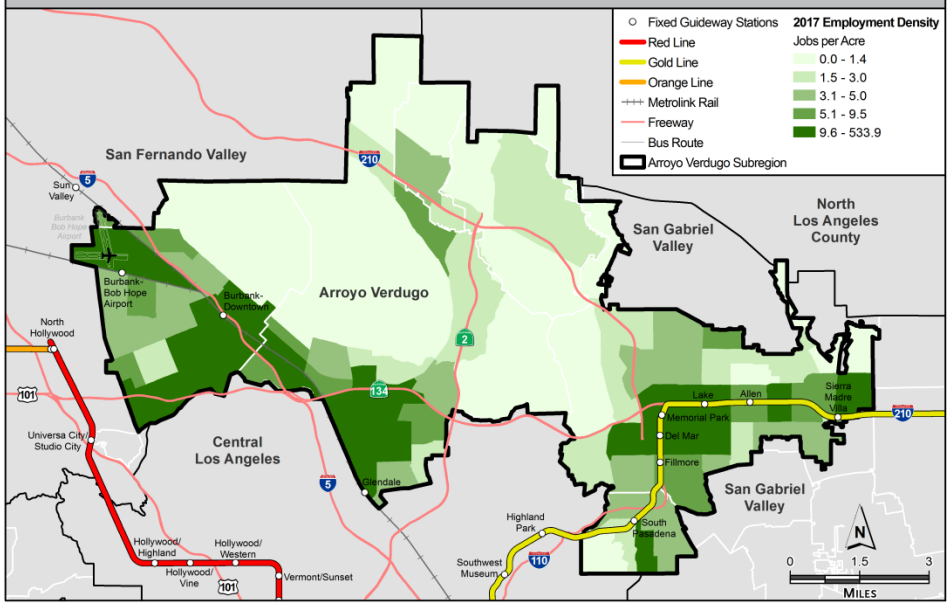
Daily Trip Density



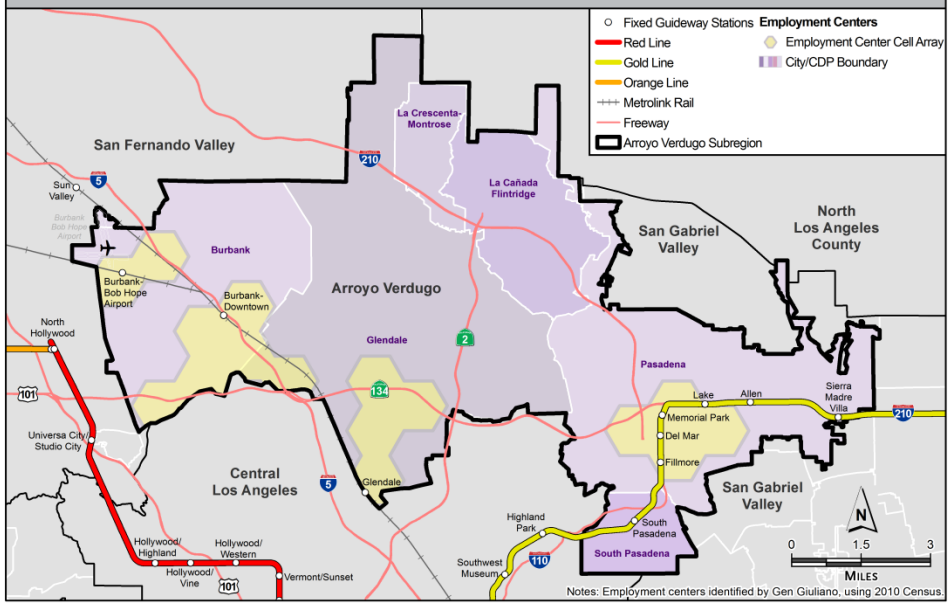
Population Density



Employment Density

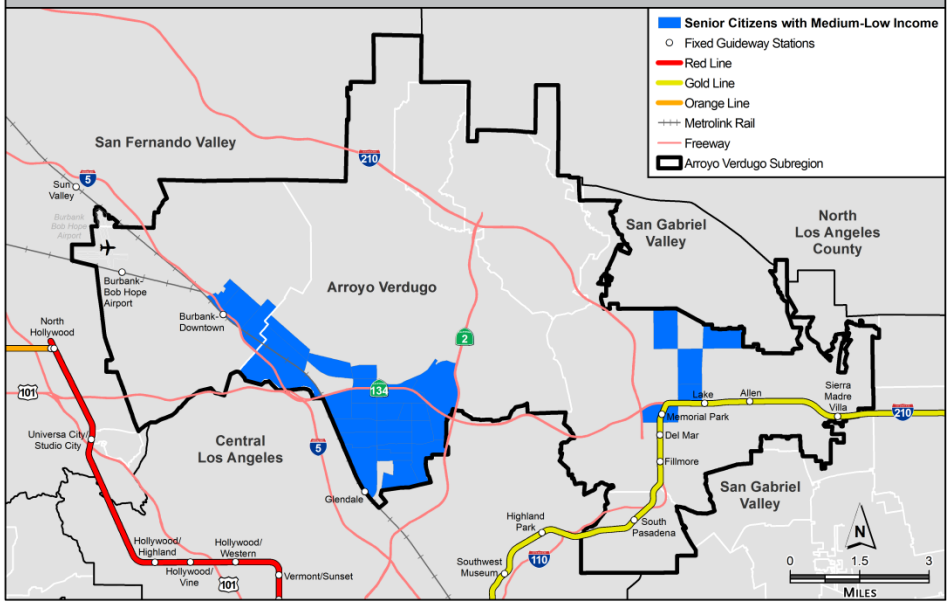


Employment Centers

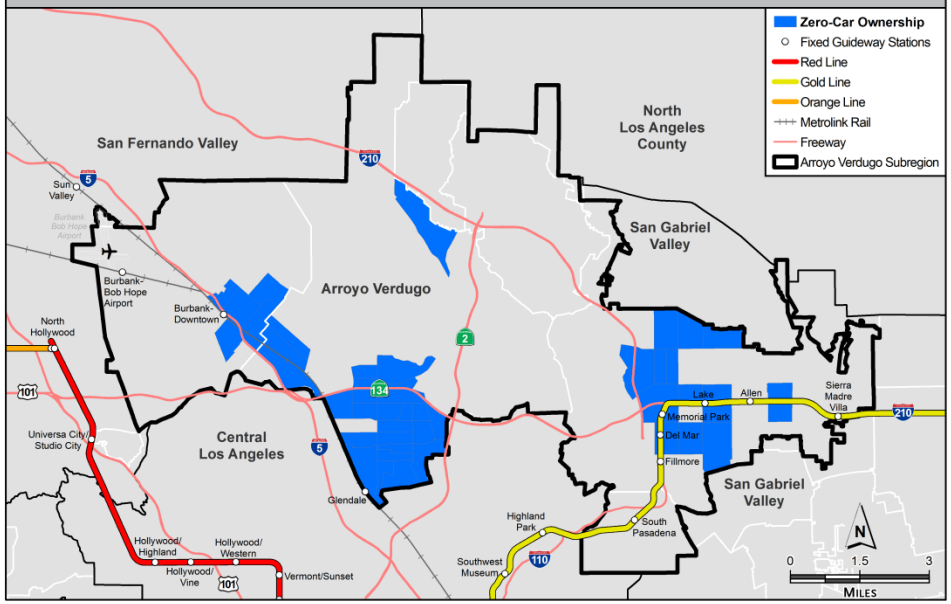


Notes: Employment centers identified by Gen Giuliano, using 2010 Census.

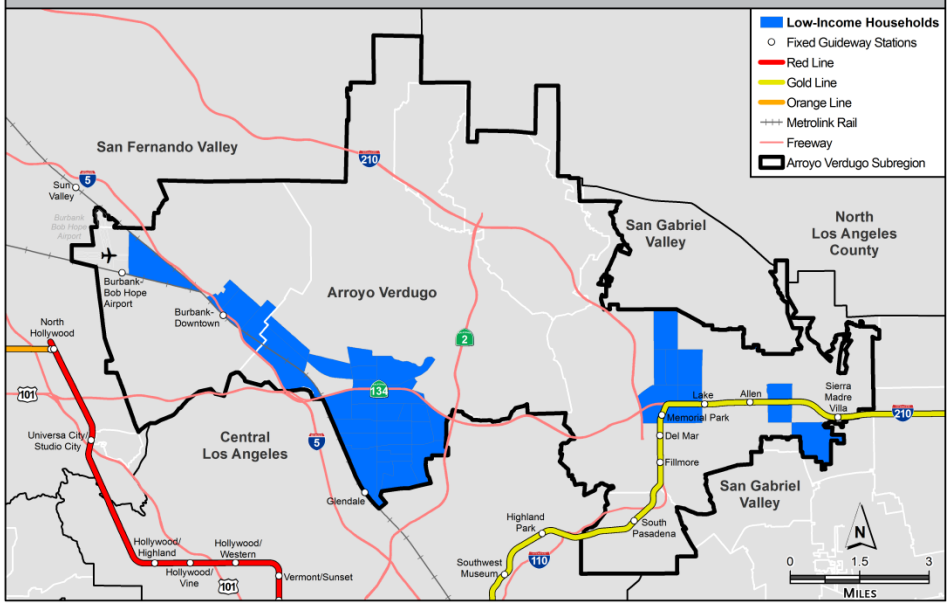
Senior Citizens with Medium-Low-Income



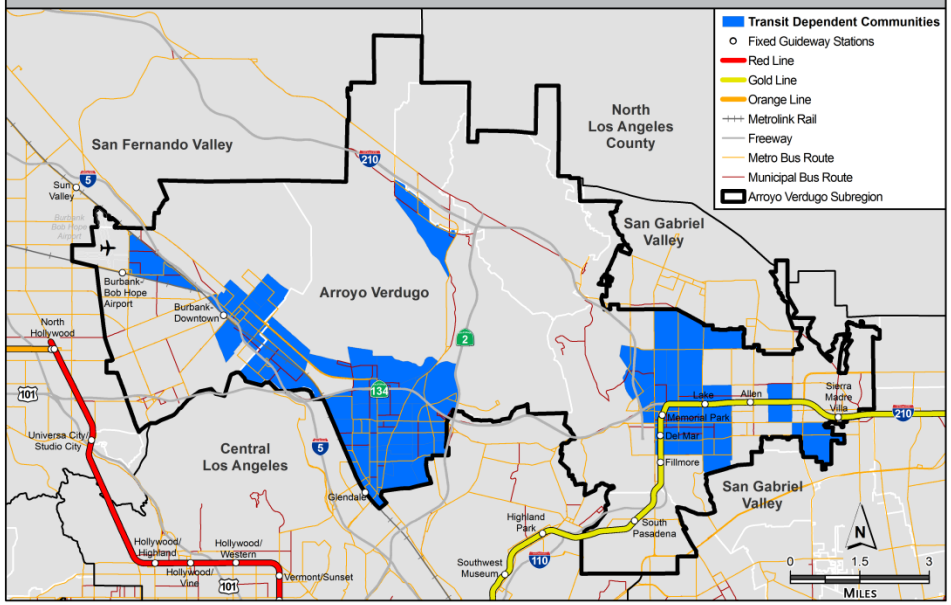
Zero-Car Ownership



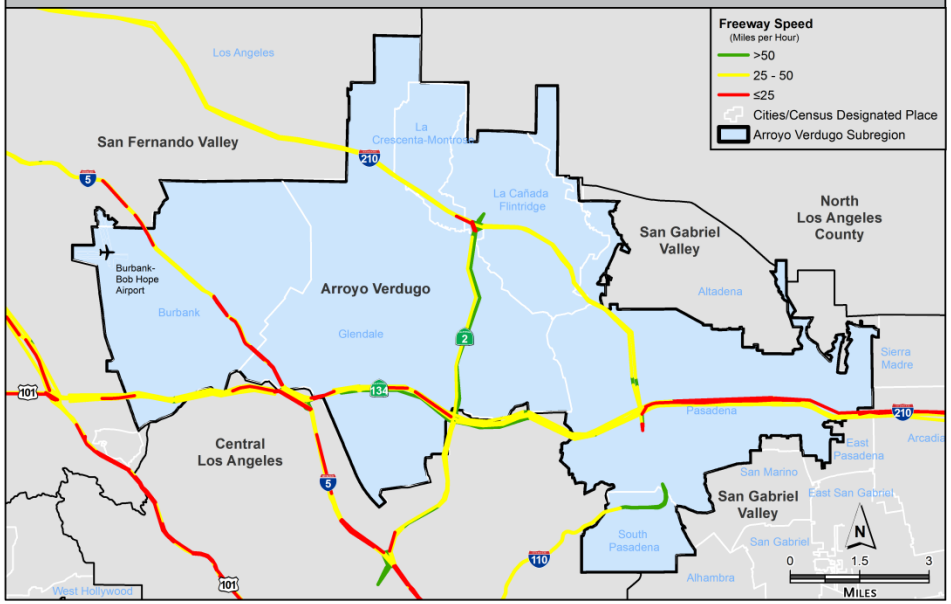
Low-Income



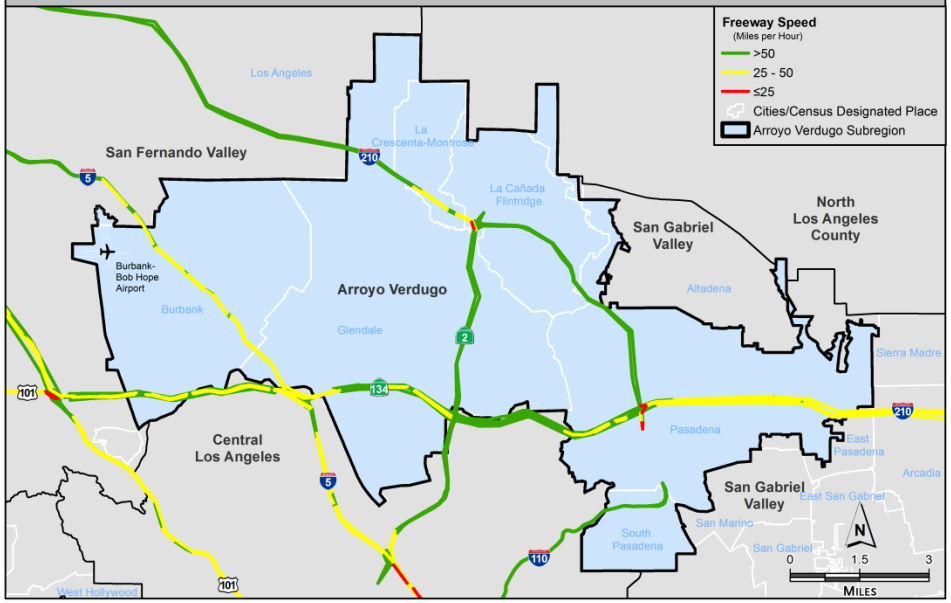
Transit-Dependent Population



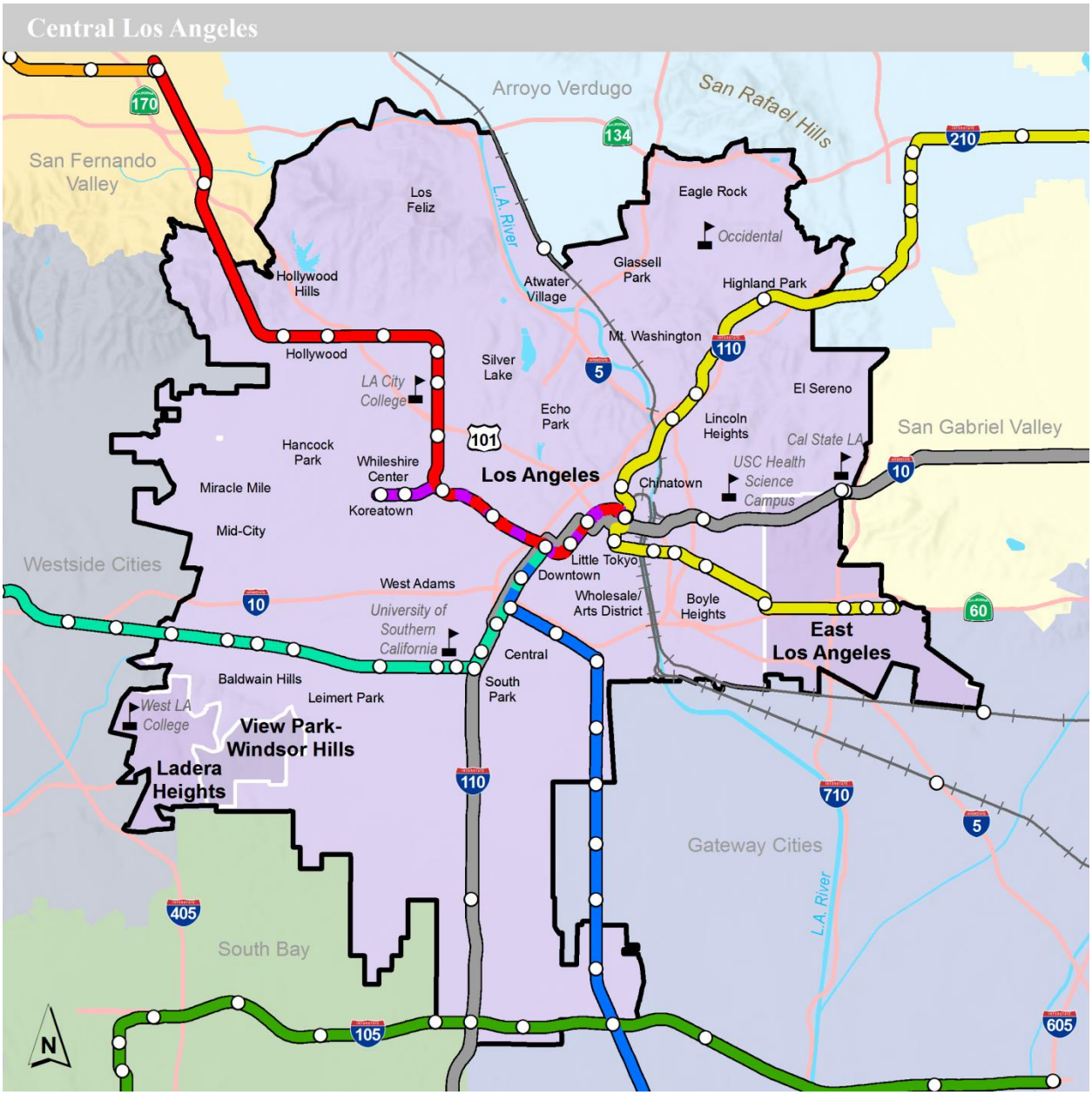
2017 AM Peak Period Freeway Congested Speed



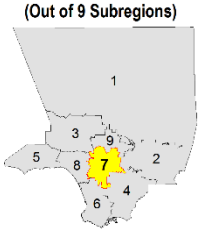
2017 Mid-day Freeway Congested Speed



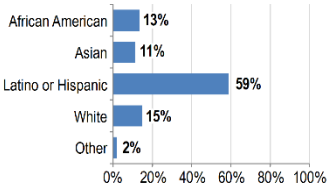
Central Los Angeles



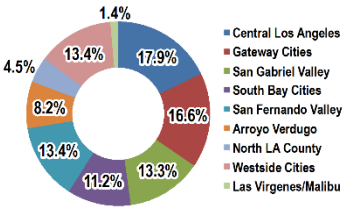
Total Area
138 Sq. Miles
Rank 7th
(Out of 9 Subregions)



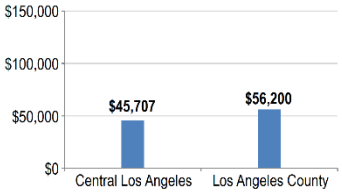
Total Population
1,910,621 People
Rank 2nd



Total Employment
789,312 Jobs
Rank 1st



Median Household Income
$45,707 Average MHI
Rank 9th



Source: US Census Bureau, 2011–2016.

Cities and Communities

City of Los Angeles extends through several subregions. Communities within the city includes Atwater Village, Baldwin Hills, Boyle Heights, Central City, Chinatown, Eagle Rock, Echo Park, Glassell Park, Hancock Park, Highland Park, Hollywood, Hollywood Hills, Korea Town, Leimert Park, Little Tokyo, Arts District, Miracle Mile, Mt. Washington, Silver Lake, University Park, West Adams, Wilshire Center, portions of South-Los Angeles, and unincorporated areas of East Los Angeles, Ladera Heights and View Park-Windsor Hills.

Setting

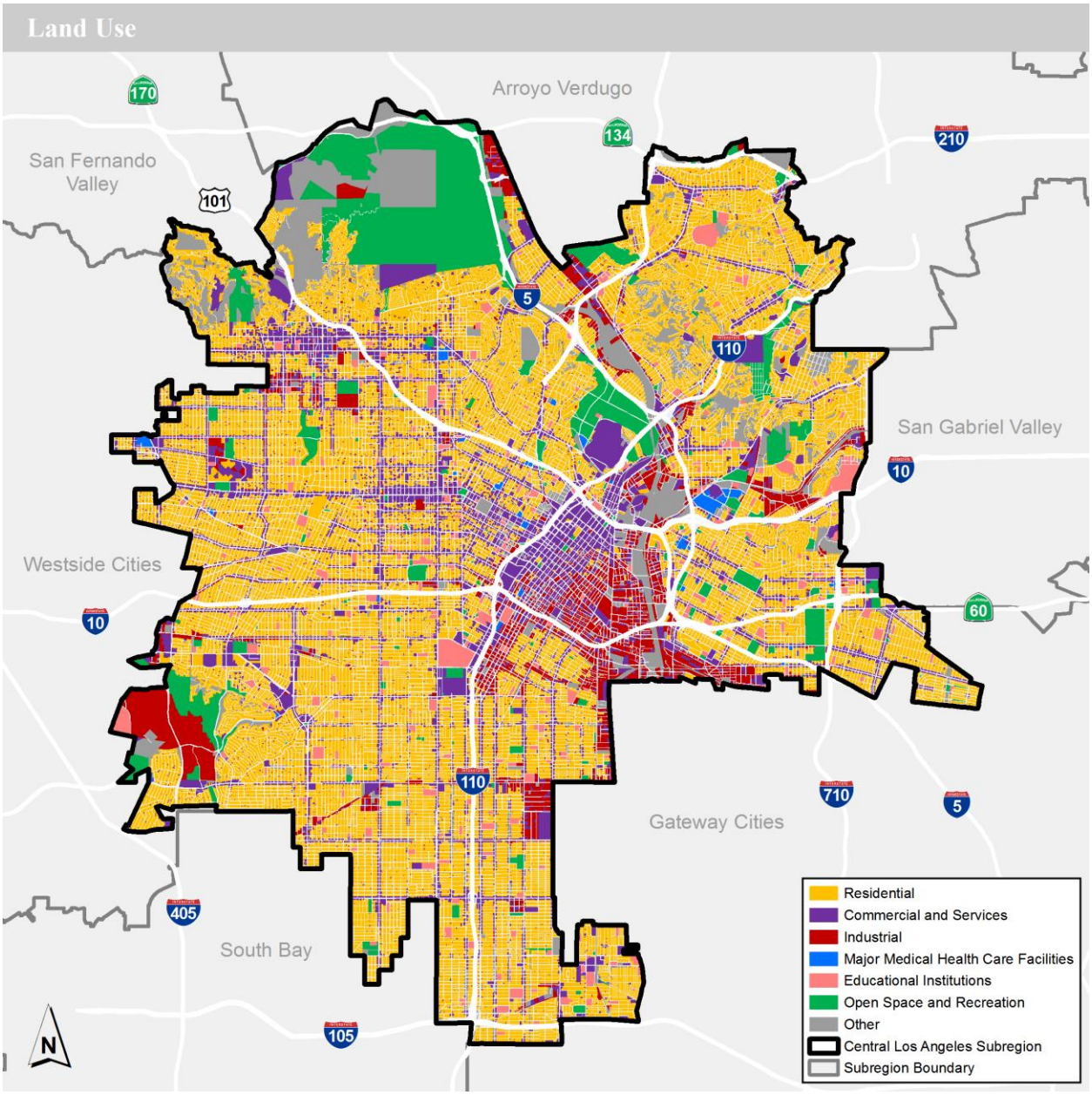
Central Los Angeles is the focal point of the region's transportation system. The subregion contains a diverse land use pattern that includes the County's heaviest concentration of commercial and government offices, major industrial areas along the Los Angeles River; the most densely populated residential communities in the region, western U.S. wholesale marts, and many of the region's recreational and cultural facilities. There are many entertainment attractions located in the subregion including the Hollywood Walk of Fame, L.A. Live, Orpheum Theatre, and Griffith Park/Observatory. Los Angeles now has several major sports team including the L.A. Rams and USC Trojans, both play at the Coliseum, L.A. Dodgers that play at Chavez Ravine, and the L.A. Lakers that play at Staple Center.. The symbolic landmark Hollywood sign can be found on Mount Lee and is often viewed by thousands of daily visitors from Griffith Park Observatory. Downtown Los Angeles is the County's largest employment district and over the past decade the site of a considerable expansion of residential, entertainment, and retail development. The subregion ranks 2nd in total population, 1st in total employment, and 1st in total daily trips. The subregion is predominately Hispanic or Latino and has the lowest average median household income in the County.

Major Transportation Facilities

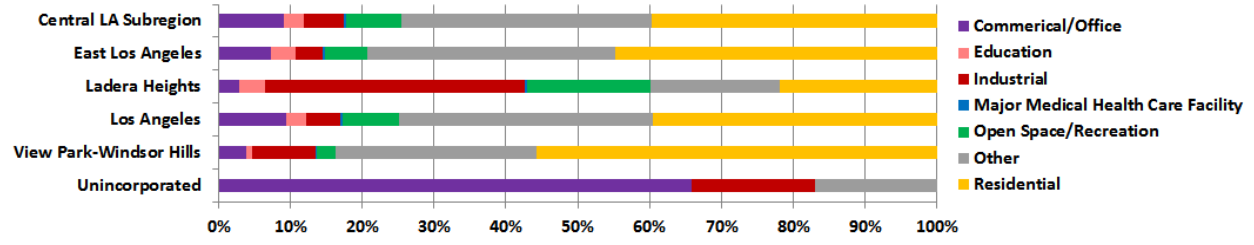
A total of eight freeways and two busways pass through the subregion. They include Harbor Freeway (I-110), Glendale Freeway (SR-2), Golden State/Santa Ana Freeway (I-5), Santa Monica/San Bernardino Freeway (I-10), Pomona Freeway (SR-60), Ventura Freeway (SR-134), Hollywood Freeway (US-101), and Long Beach Freeway (I-710). The El Monte Busway runs along the San Bernardino Freeway's median and terminates at Alameda St. The Harbor Transitway runs along the Harbor Freeway's median and terminates at Adams Bl.

Ten municipal bus operators serve the Central Area, which include Metro, Antelope Valley Transit, Foothill Transit, Gardena Municipal Bus Lines, LADOT (Dash and Commuter Express), Montebello Municipal Bus Lines, Orange County Transportation Authority (OCTA), Santa Clarita Transit, Santa Monica Municipal Bus Lines, and Torrance Transit. Currently, Metro operates four Metro Rapid lines within the Central Area (Wilshire/Whittier Bls, South Broadway, Vermont Av and Florence Av). The road infrastructure is built-out and cannot accommodate more road capacity without adverse community impacts.

Land Use



Central Los Angeles covers approximately 138 square miles. Roughly 15% is designated for commercial/industrial land use and residential land use covers approximately 40% of the subregion. Chart below shows the breakdown of land use for individual cities and unincorporated communities of LA County.



View Park-Windsor Hills community has the highest percentage of residential land use but 9.6 persons per acres population density. The highest population density is located in the East Los Angeles community. City of Los Angeles has the largest area for industrial/commercial use and the highest employment density in the subregion.

Name	Acres	Population Density (Person per Acre)	Employment Density (Jobs per Acre)	Daily Trips Density (Person Trips per Acre)
Central Los Angeles Subregion	88,464	22.3	8.9	148.5
East Los Angeles	4,771	26.7	5.3	134.5
Ladera Heights	1,898	4.3	1.3	33.9
Los Angeles	80,603	22.7	9.4	153.5
View Park-Windsor Hills	1,179	9.6	1.7	47.5
Unincorporated	12	9.0	4.8	77.8

Travel Demand Factors

There is a spatial correlation between high population, trip, and employment density areas. Trip and population density clusters in the areas of Hollywood, Echo Park, Koreatown, Silver Lake, Little Armenia, Downtown Los Angeles, and the Fashion District. Population densities tends to cluster around Metro's Red, Purple, Blue, Silver, and southern portion of the Gold Line (near the industrial/residential interface of East LA and Boyle Heights). Employment density can be seen clustering in areas between Hollywood and Downtown Los Angeles. Downtown Los Angeles has the highest trip density areas in the subregion.

Transit Dependent Communities

Central Los Angeles has the highest percentage of Transit Dependent Communities. The community covers roughly 60 percent of the subregion. Majority of the communities are low-income households and households with zero-vehicles available. The senior communities are dispersed throughout the region, with majority located adjacent to Metro rail lines. With most of the subregion being Transit Dependent, we can see the more affluent areas are located in or nears areas of Ladera Heights, Windsor-Hill, and Hollywood.

Traffic Congestions

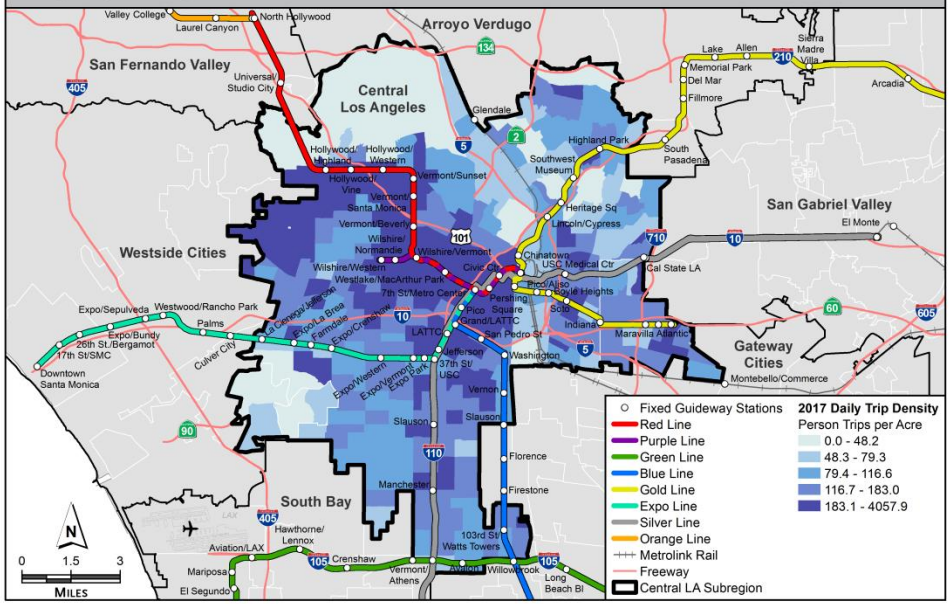
During the morning peak (6 AM to 9 AM), about 39% of directional freeway miles in the subregion are subject to severe congestion, i.e., average speed less than 25 miles per hour, 49% subject to moderate congestion, i.e., average speed between 25 and 50 mph, and the remaining 12% are uncongested, speed 50 miles per hour or better.

The severely congested portion includes

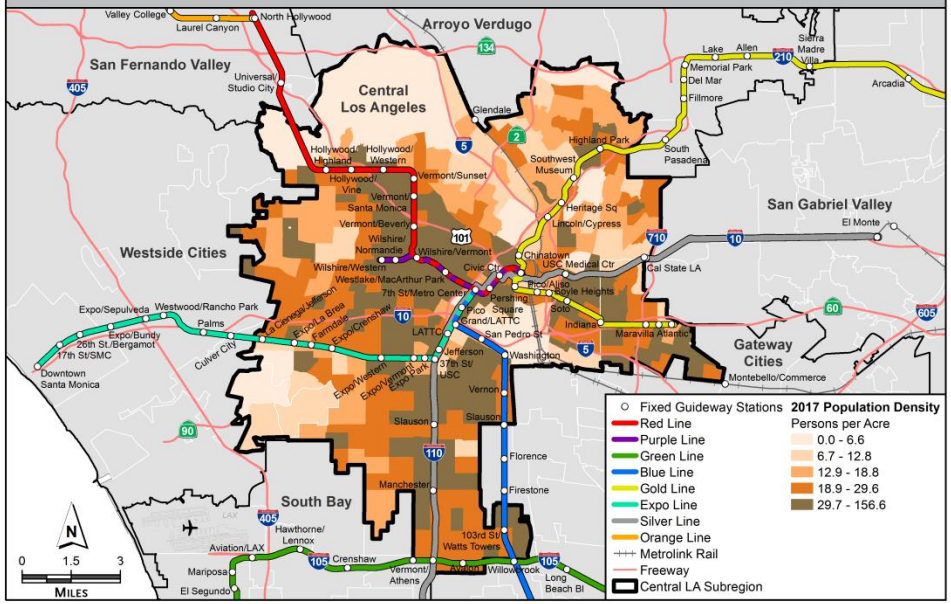
- I-5 --- Both Directions between Hyperion Ave and I-10 Junction.
- US-101 --- Both Directions between Hollywood Blvd and Mission Rd.
- I-110 --- Both Directions between Stadium Way and I-10 Junction.
- I-10 W --- From US-101 Junction to Arlington Ave.

During the midday, 6% of its freeways are severely congested, 61% moderately congested and the remainders are uncongested.

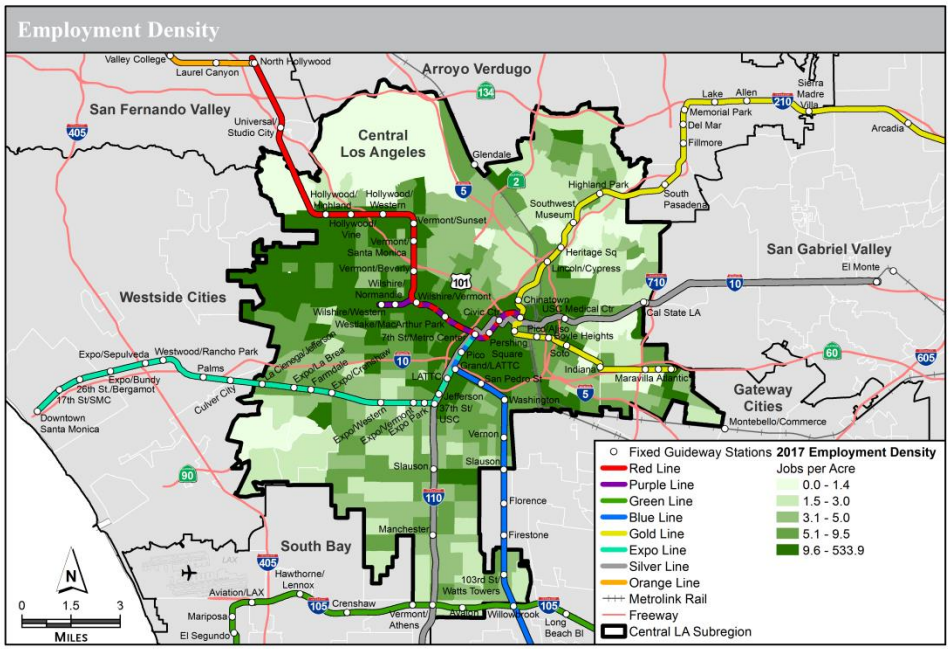
Daily Trip Density



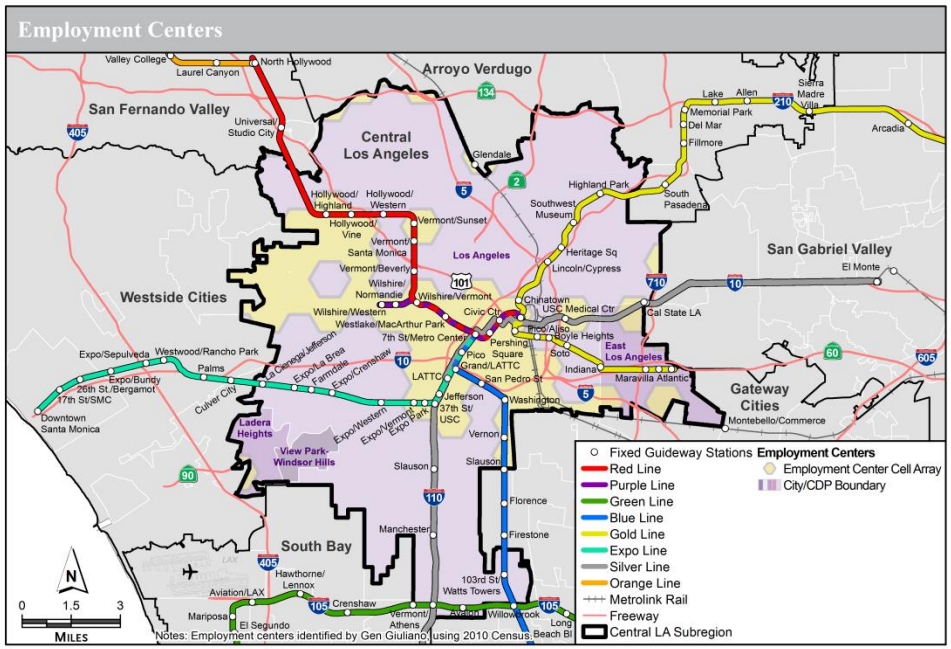
Population Density



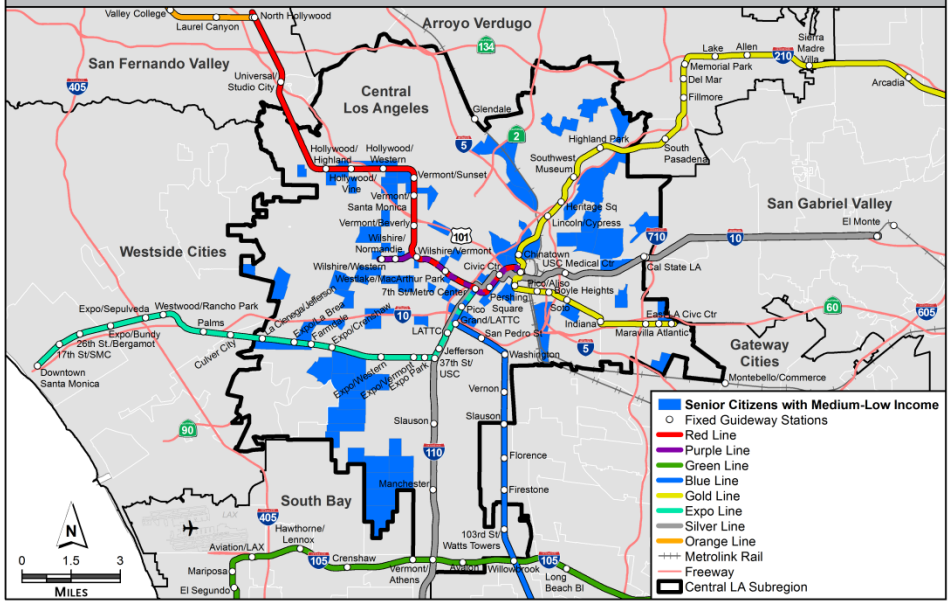
Employment Density



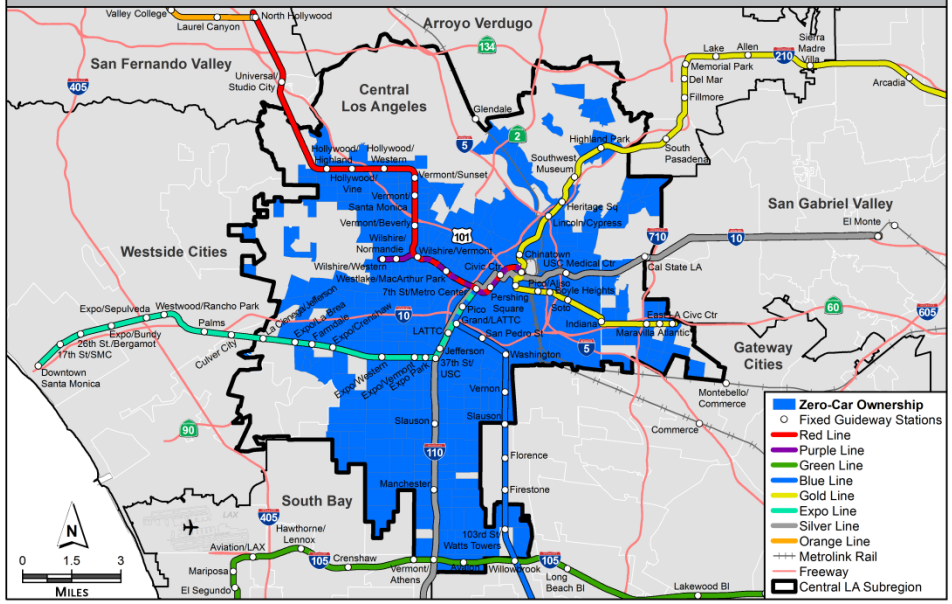
Employment Centers



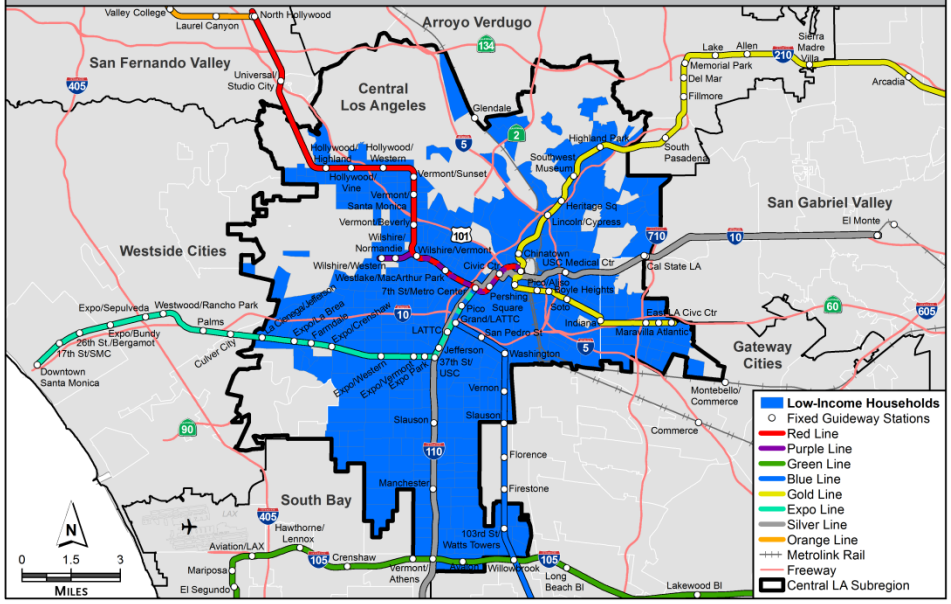
Senior Citizens with Medium-Low-Income



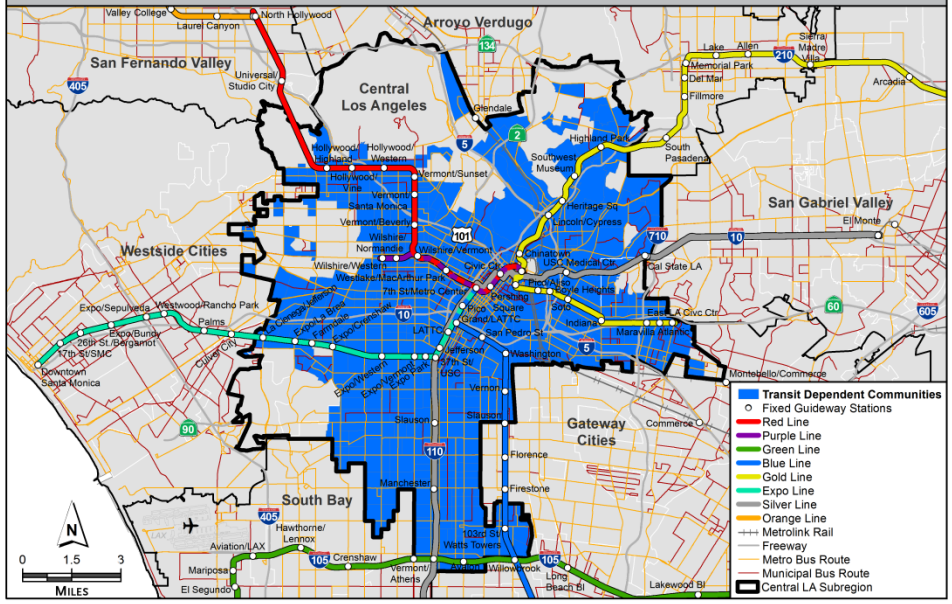
Zero-Car Ownership



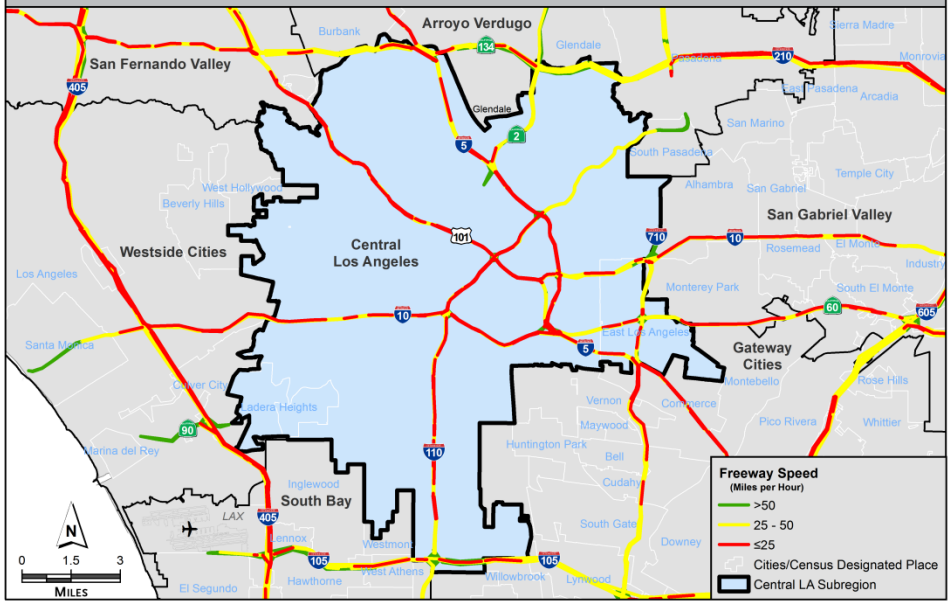
Low-Income



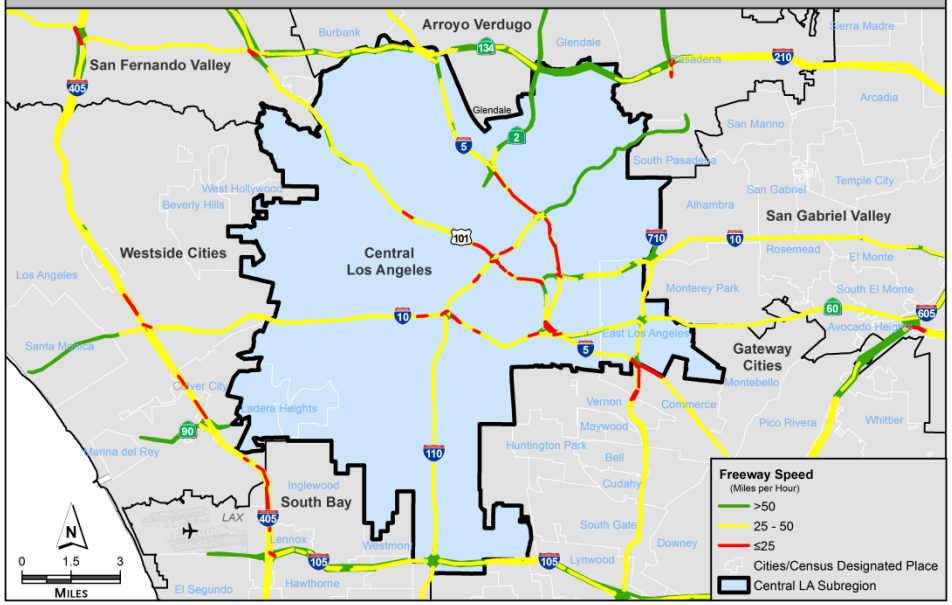
Transit-Dependent Population



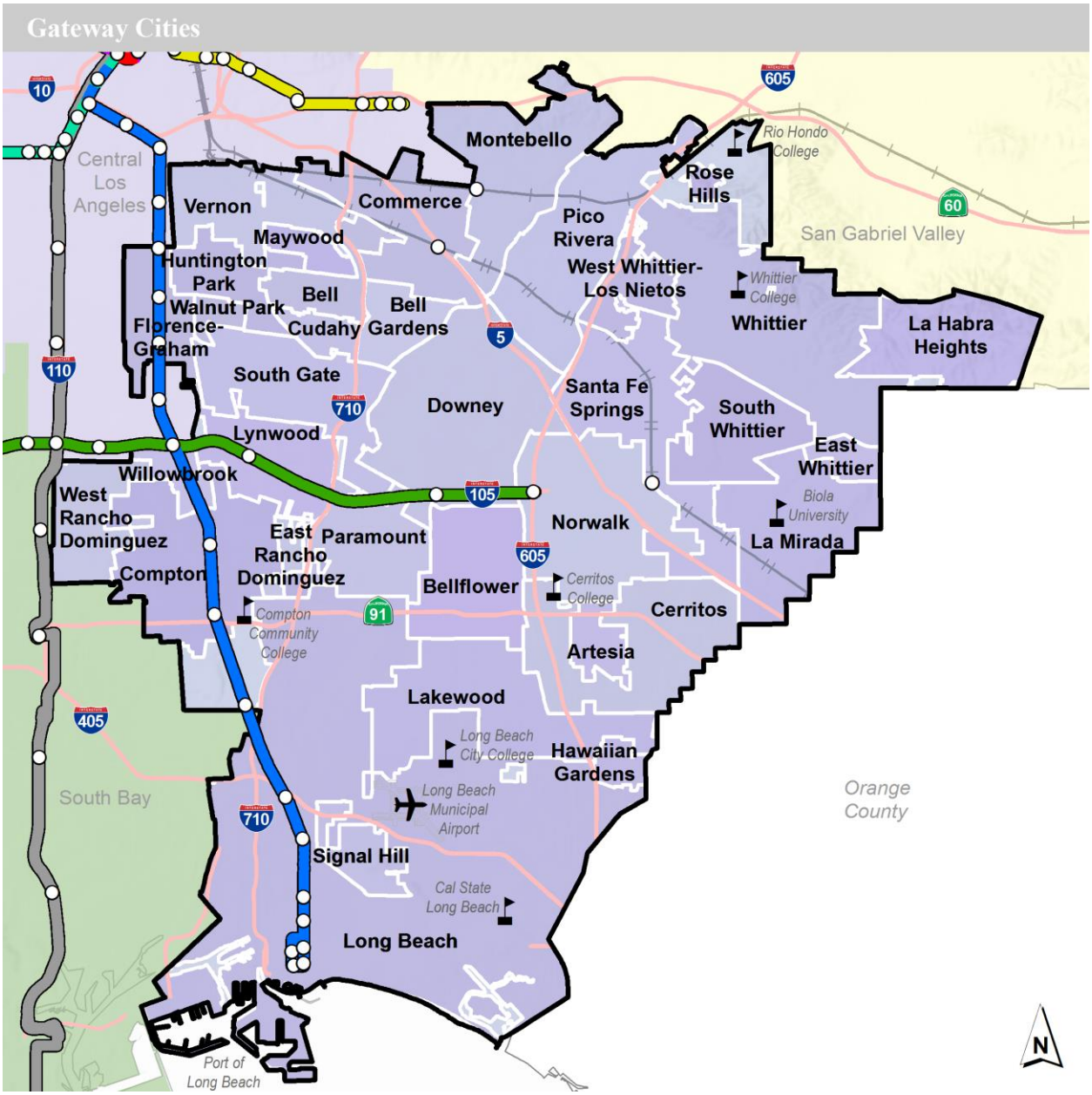
2017 AM Peak Period Freeway Congested Speed



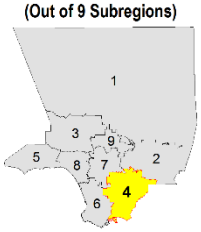
2017 Mid-day Freeway Congested Speed



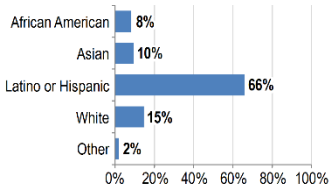
Gateway Cities



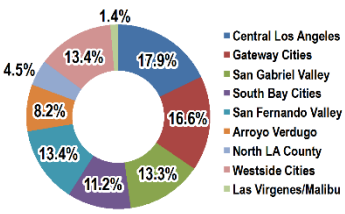
Total Area
235 Sq. Miles
Rank 4th
(Out of 9 Subregions)



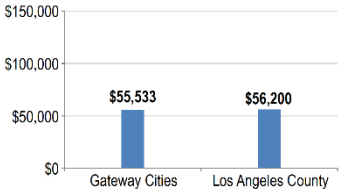
Total Population
1,979,441 People
Rank 1st



Total Employment
735,342 Jobs
Rank 2nd



Median Household Income
$55,533 Average MHI
Rank 8th



Source: US Census Bureau, 2011–2016.

Cities and Communities

Artesia, Bell, Bell Gardens, Bellflower, Cerritos, Commerce, Compton, Cudahy, Downey, Hawaiian Gardens, Huntington Park, La Habra Heights, La Mirada, Lakewood, Long Beach, Lynwood, Maywood, Montebello, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon, and Whittier. Gateway Cities also includes the following unincorporated communities of Los Angeles County: East Rancho Dominguez, East Whittier, Florence-Graham, Rose Hills, South Whittier, Walnut Park, West Rancho Dominguez, West Whittier-Los Nietos, and Willowbrook (portion).

Setting

Gateway Cities form the southeastern boundary of Los Angeles County. This subregion has an approximate resident population of 2 million people within 26 cities and unincorporated areas. The subregion is home to highly urbanized areas including Long Beach, the County's second largest city, industrial-oriented cities such as Vernon and Commerce, traditional residential suburbs such as La Habra Heights and a broad spectrum of balanced communities that fall between. Gateway Cities is the 4th largest subregion in the County, ranks 1st in total population, 2nd in total employment, and 2nd in total daily trips. The subregion is predominately Hispanic or Latino and has the 2nd lowest average median household income of all the subregions.

Major Transportation Facilities

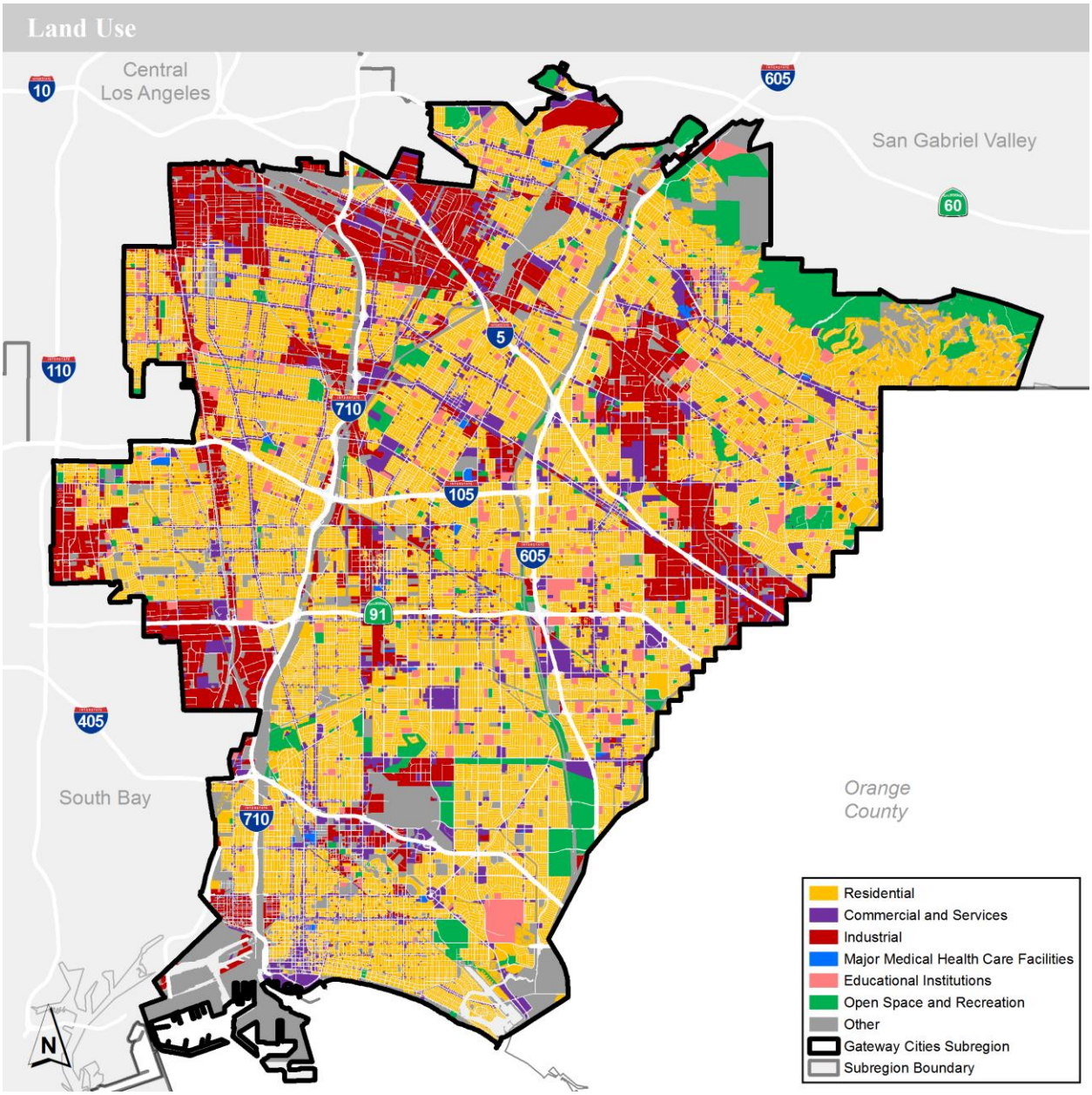
Several major east-west freeway corridors traverse this subregion. This includes the Pomona Freeway (SR-60), Artesia Freeway (SR-91), and the Glenn Anderson Freeway (I-105). Santa Ana Freeway (I-5), San Diego Freeway (I-405), Long Beach Freeway (I-710), and San Gabriel River Freeway (I-605) all serve as the major north-south corridors.

An airport located in the City of Long Beach serves as a hub of corporate activity. The Port of Long Beach combined with the adjacent Port of Los Angeles constitutes the fifth busiest port in the world and the largest container port in the U.S. The ports are served by the Alameda Corridor, a 20-mile railway designed to speed cargo and containers from the ports to the rest of the country. The ports are also served by the freeway network described above.

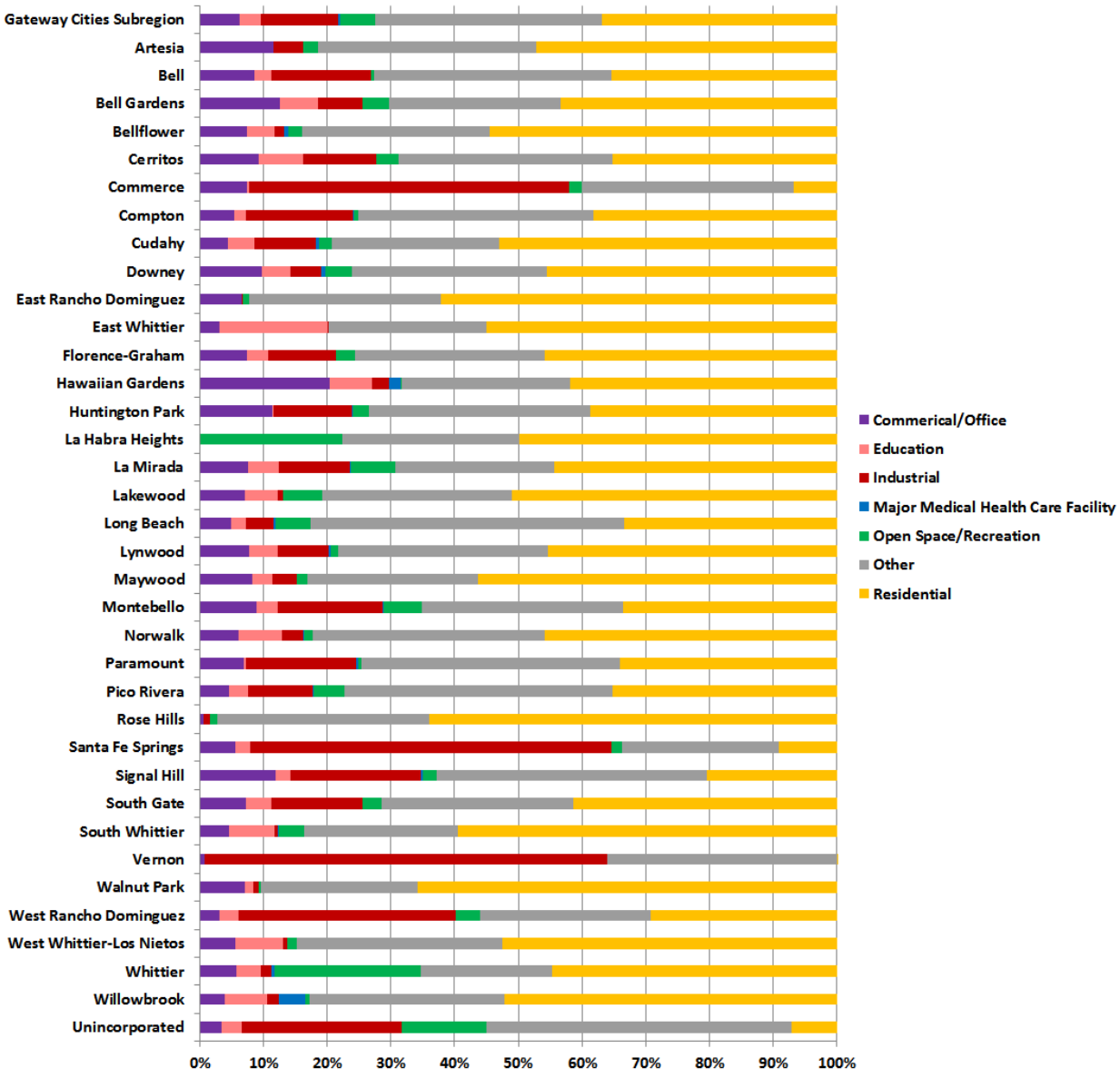
The subregion is served by the Metro Blue and Green Light Rail lines as well as the Harbor Transitway running along the I-110. These major transit infrastructure investments help move people to the ports and other employment areas within the subregion.

The subregional bus system consists of: Metro Gateway Cities Service Sector, Long Beach Transit, Norwalk Transit, Commerce, and Montebello Municipal Bus lines. In addition, many cities operate transit and dial-a-ride services, such as Cerritos on Wheels (COW), La Mirada Dial-a-Ride. Metrolink's Orange County Line and the 91-Line provide commuter rail services with stops in Norwalk/ Santa Fe Springs and the City of Commerce. Metrolink's Riverside Line provides commuter service with stop in Montebello/Commerce.

Land Use



Gateway Cities covers approximately 235 square miles. Roughly 18% is designated for commercial/industrial land use and residential land use covers approximately 37%. Chart below shows the breakdown of land use for cities within the subregion. The city of Maywood has the highest percentage of residential land use area while Santa Fe Springs and the city of Vernon contain the highest percentage of commercial/industrial areas.



Travel Demand Factors

There is a spatial correlation between high population, trip, and employment density areas. Trip density and population density clusters in the northwest and southwest areas of the subregion as well as areas between I-710 Freeway and Metro Blue Line. Population densities are dispersed sporadically throughout the region, often times surrounded by high employment density.

Bellflower, Downey, Norwalk, Lynwood, Maywood, and Long Beach all have high population density. Their neighbors Commerce, Santa Fe Springs, Vernon, and Signal all have high employment densities.

Name	Acres	Population Density (Person per Acre)	Employment Density (Jobs per Acre)	Daily Trips Density (Person Trips per Acre)
Gateway Cities Subregion	150,537	13.3	4.9	84.5
Artesia	1,037	16.1	4.9	95.6
Bell	1,676	21.5	6.5	120.3
Bell Gardens	1,576	26.7	6.0	146.0
Bellflower	3,950	19.6	3.5	96.1
Cerritos	5,650	8.8	5.5	94.9
Commerce	4,185	3.3	11.1	76.7
Compton	6,475	15.2	4.0	79.3
Cudahy	785	31.3	4.0	146.2
Downey	8,044	14.2	6.0	108.1
East Rancho Dominguez	526	23.7	1.6	92.8
East Whittier	700	13.8	0.8	61.4
Florence-Graham	2,246	27.2	3.8	128.7
Hawaiian Gardens	606	24.1	4.4	126.6
Huntington Park	1,930	32.2	8.2	191.2
La Habra Heights	3,950	2.3	0.4	9.7
La Mirada	5,019	9.8	3.6	56.9
Lakewood	6,055	13.2	3.6	92.1
Long Beach	33,717	14.0	4.7	89.9
Lynwood	3,098	22.5	3.0	100.9
Maywood	754	35.4	4.3	150.8
Montebello	5,358	11.9	5.3	91.4
Norwalk	6,239	17.0	4.0	91.2
Paramount	3,098	18.1	6.5	110.6
Pico Rivera	5,684	11.6	3.5	67.5
Rose Hills	276	1.5	3.0	35.2
Santa Fe Springs	5,704	4.0	9.2	64.5
Signal Hill	1,402	8.0	10.4	96.3
South Gate	4,706	20.6	4.4	101.4
South Whittier	3,422	15.8	2.0	69.3
Vernon	3,301	0.4	13.3	52.7
Walnut Park	479	33.6	3.0	133.7
West Rancho Dominguez	2,547	8.8	6.1	59.4
West Whittier-Los Nietos	1,612	14.4	2.7	71.9
Whittier	9,394	9.1	2.7	56.3
Willowbrook	992	21.4	2.7	94.4
Unincorporated	4,346	3.0	4.5	35.2

Land use chart show 65% of Vernon is designated for industrial. In the table above, we can see the city of Vernon has the highest employment density in the subregion. City of Commerce and Santa Fe Springs also contains high percentage of commercial/industrial land use.

The City of Long Beach is the second largest city in the county in terms of total population. Long Beach covers the largest area, ranks 7th in population density, and 5th in employment density within the subregion. Hawaiian Gardens is the smallest city in the subregion, ranking 8th in population density, and 17th in employment density.

Transit Dependent Communities

Transit dependent communities figure shows tracts with high concentrations of low income and zero-car ownership clustering around Downtown Long Beach and northwest portion of the subregion. Seniors with income less than countywide median household income (approximately $56,000) make up the rest of the transit dependent community, covering random areas in the region.

Traffic Congestions

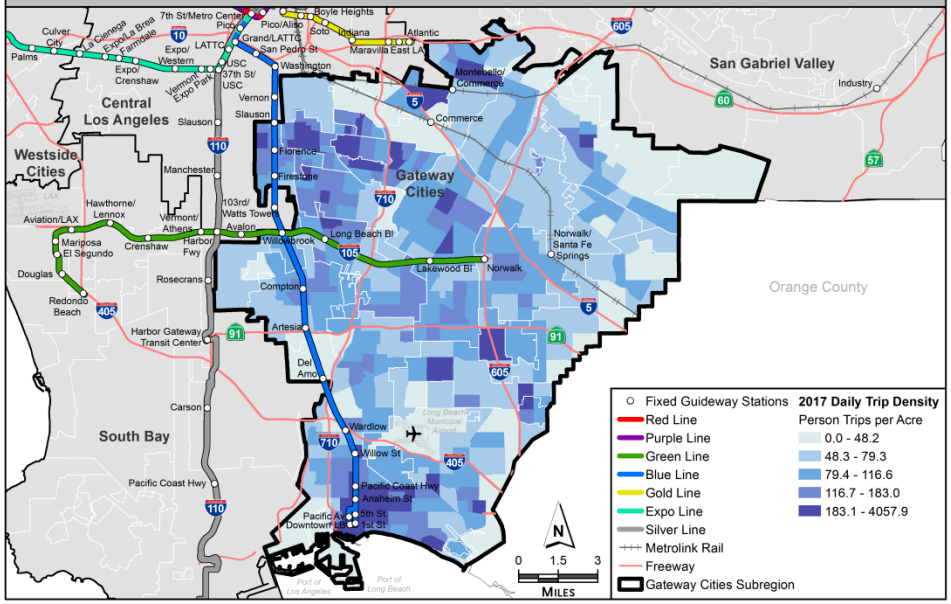
During the morning peak (6 AM to 9 AM), about 25% of directional freeway miles in the subregion are subject to severe congestion, i.e., average speed less than 25 miles per hour, 60% subject to moderate congestion, i.e., average speed between 25 and 50 mph, and the remaining 15% are uncongested, speed 50 miles per hour or better.

The severely congested portion includes

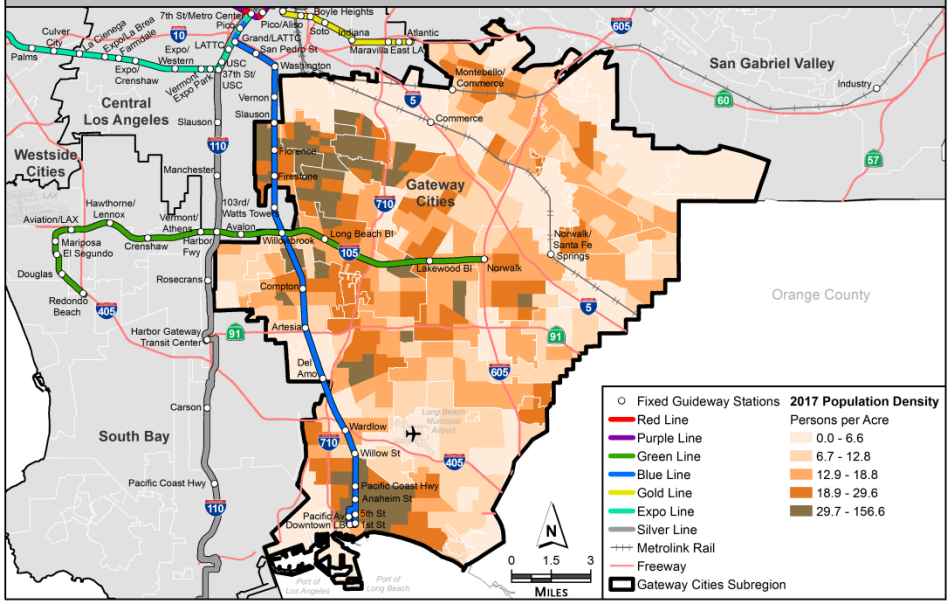
- I-5 N --- From I-605 Junction to I-710 Junction.
- I-5 S --- From I-710 Junction to Slauson Ave.
- I-605 S --- From SR-72 to I-105 Junction.

During the midday, 2% of its freeways are severely congested, 64% moderately congested and the remainders are uncongested.

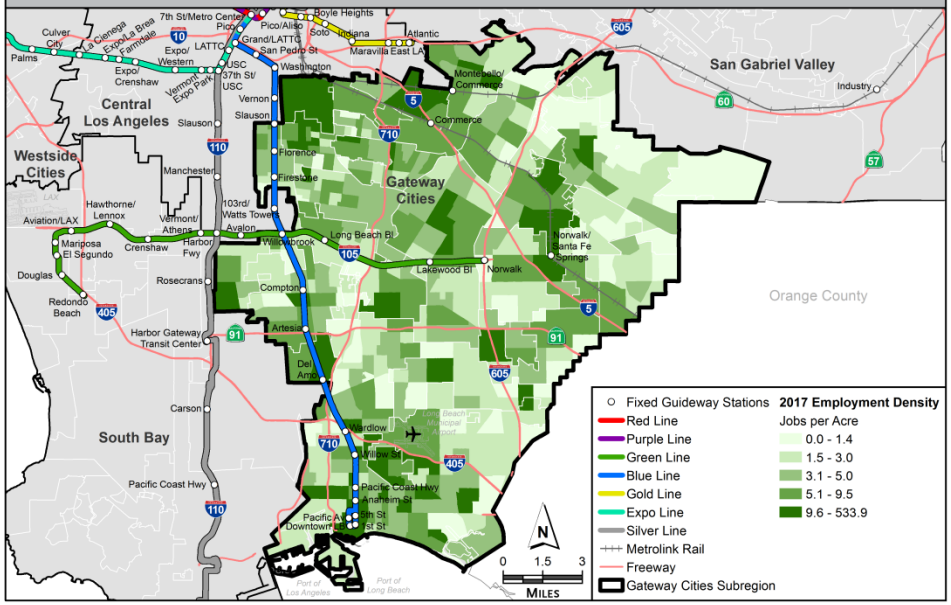
Daily Trip Density



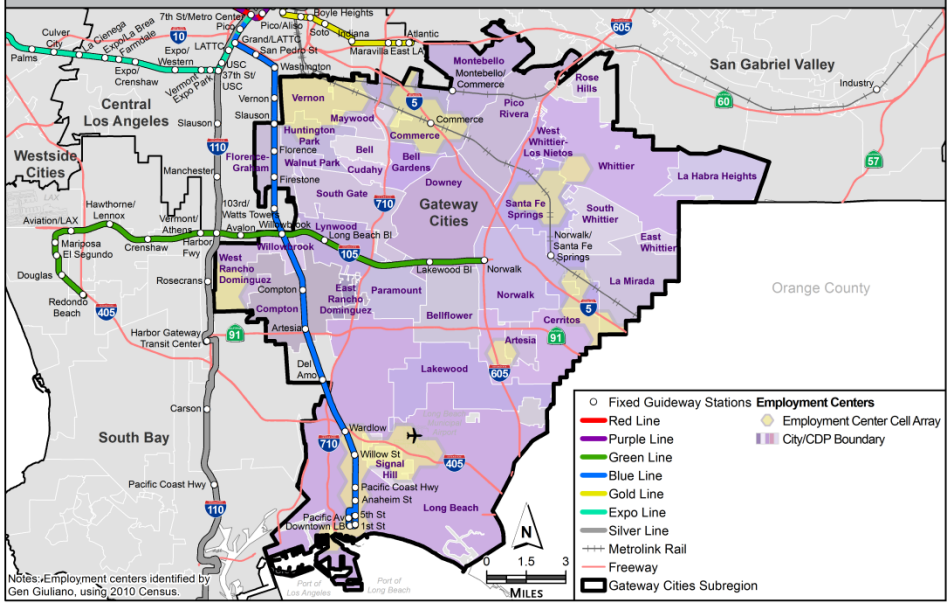
Population Density



Employment Density

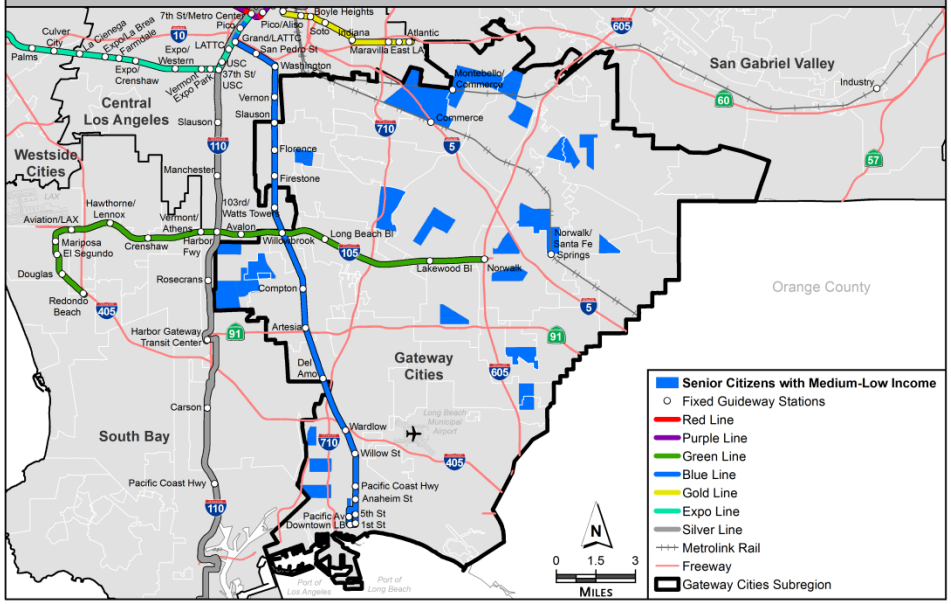


Employment Centers

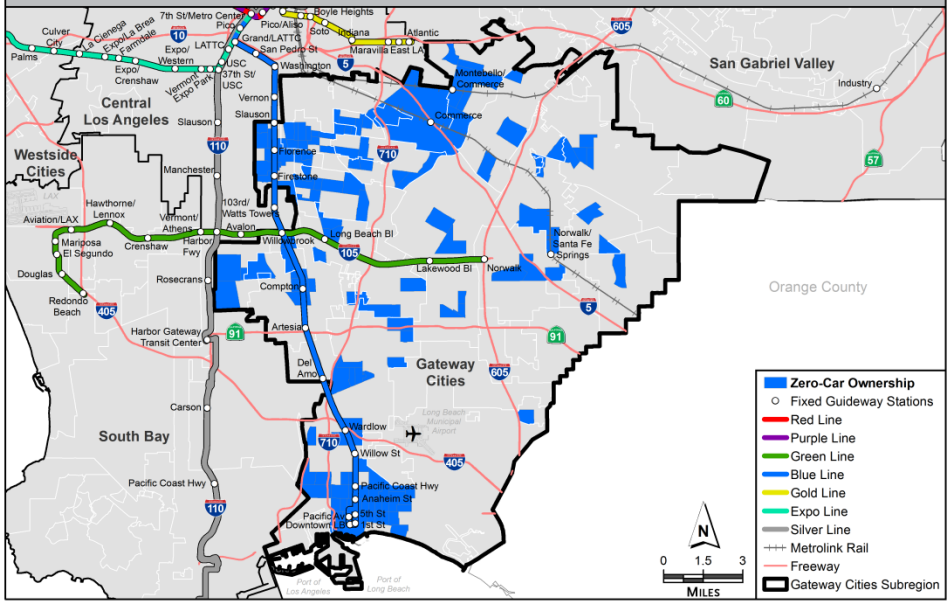


Notes: Employment centers identified by Gen Giuliano, using 2010 Census.

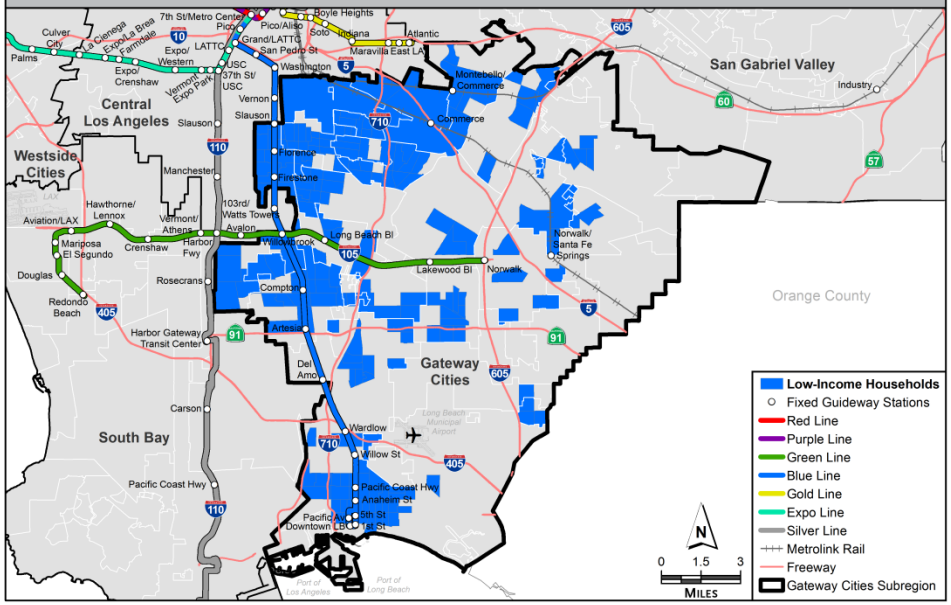
Senior Citizens with Medium-Low-Income



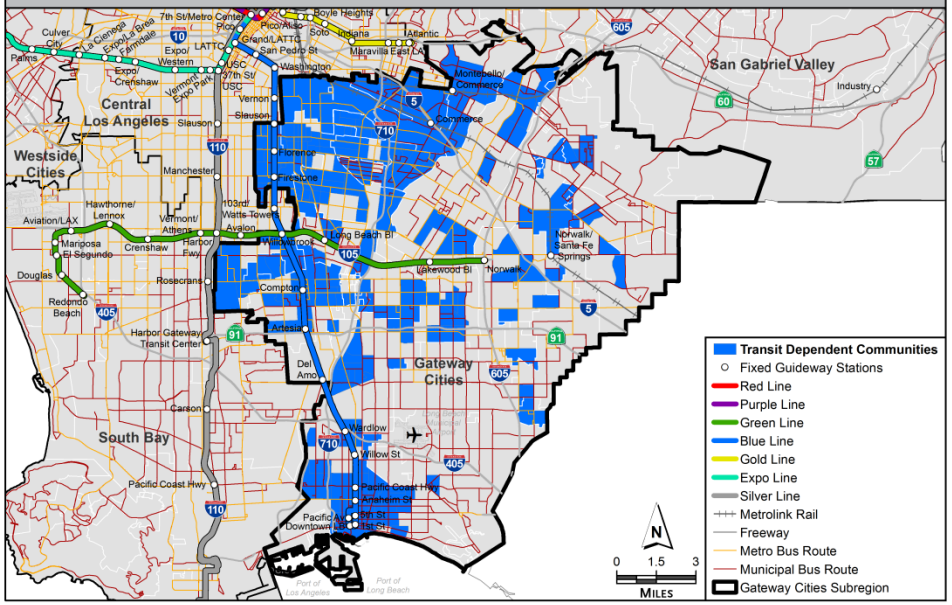
Zero-Car Ownership



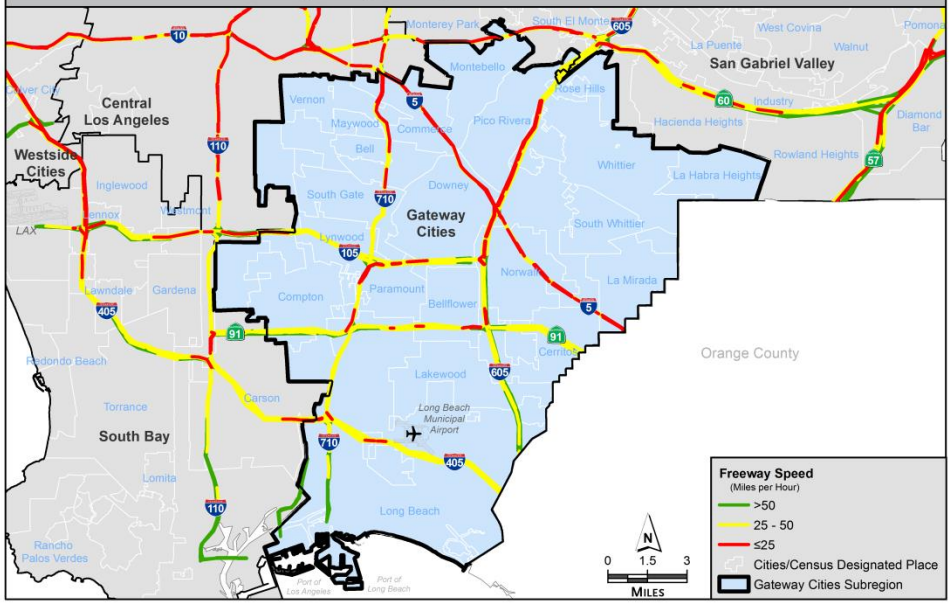
Low-Income



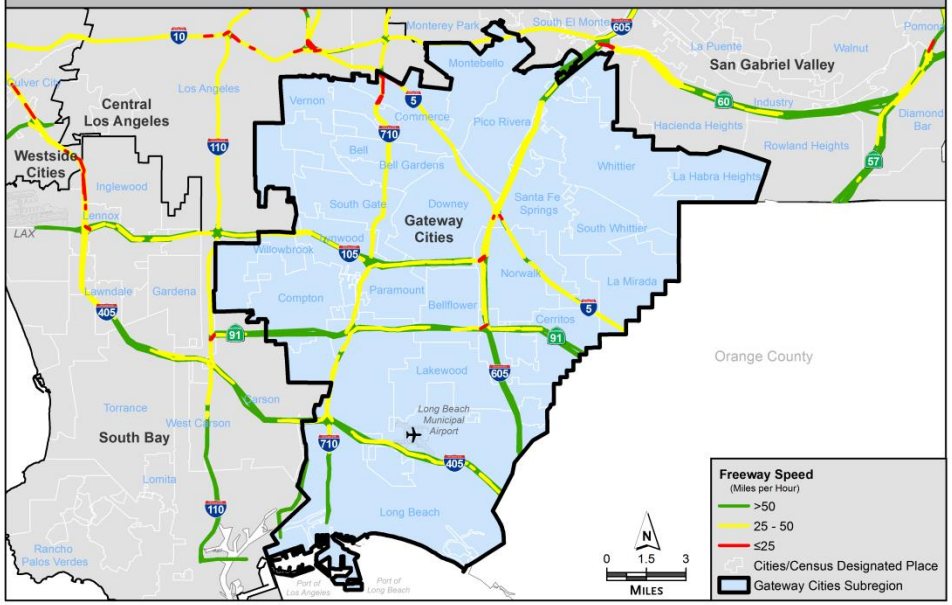
Transit-Dependent Population



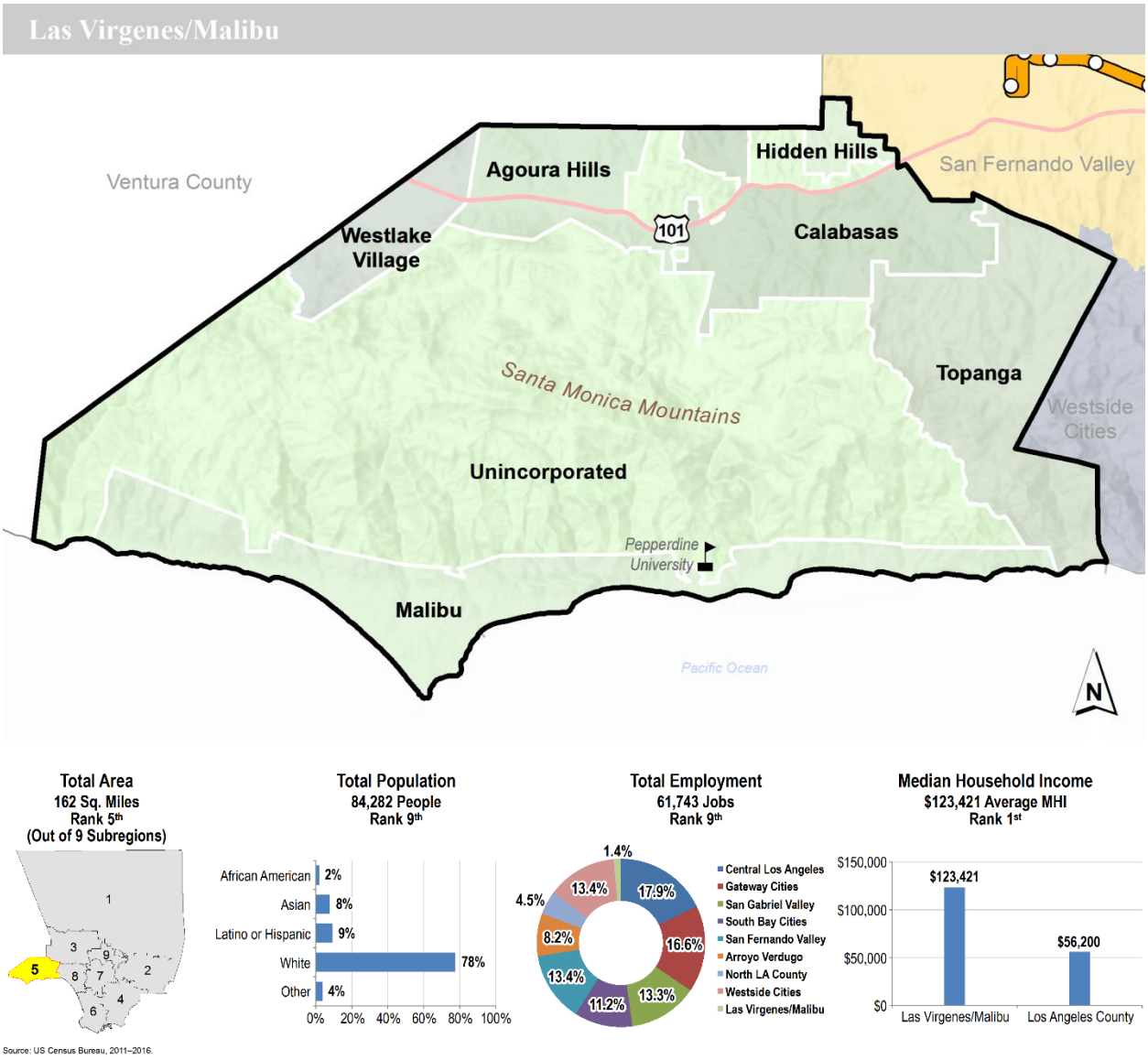
2017 AM Peak Period Freeway Congested Speed



2017 Mid-day Freeway Congested Speed



Las Virgenes/Malibu



Source: US Census Bureau, 2011–2016.

Cities and Communities

Agoura Hills, Calabasas, Hidden Hills, Malibu and Westlake Village, and parts of unincorporated Los Angeles County.

Setting

The Las Virgenes/Malibu subregion occupies the western most portion of Los Angeles County. This subregion covers 162 square miles and is home to five cities and unincorporated areas. The subregion has the lowest total population, lowest total employment, and lowest total daily trips. The area is predominately non-Hispanic Whites and has the highest average median household income of all the subregions.

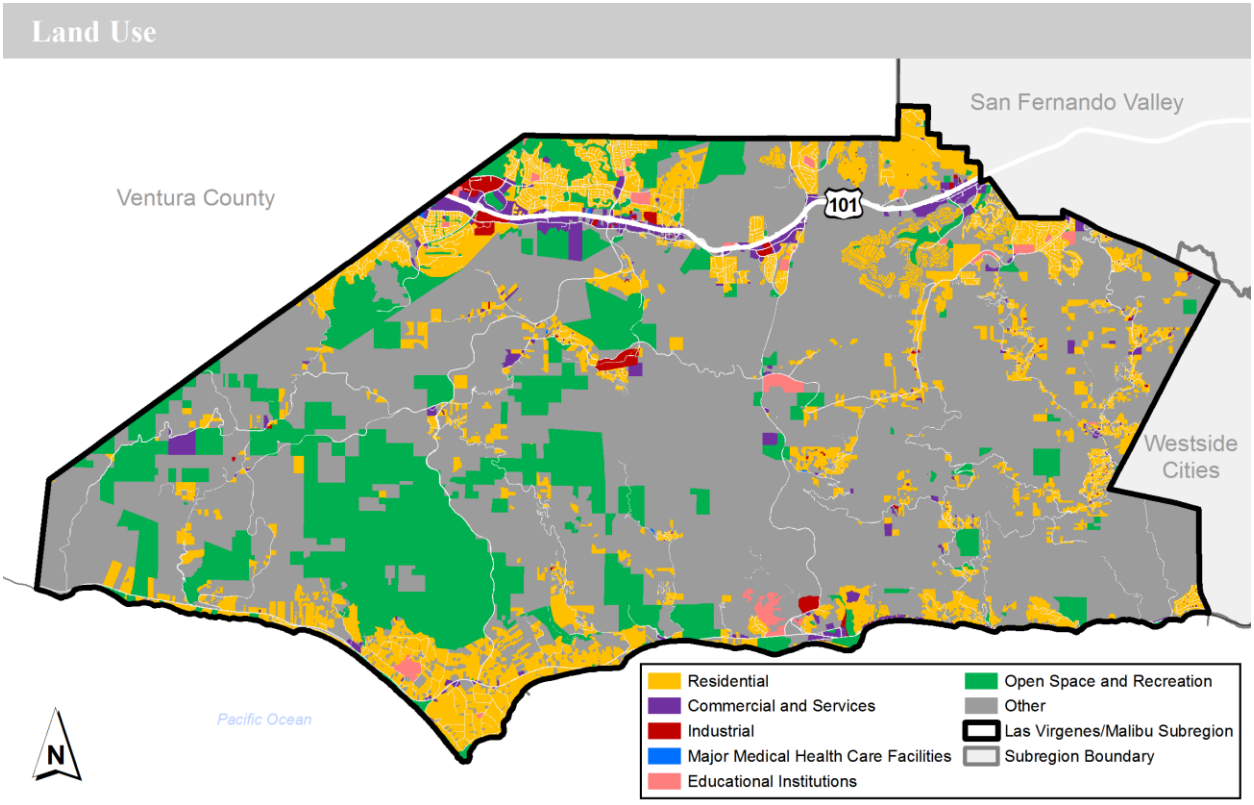
The area's most prominent feature is the strikingly rugged Santa Monica Mountains, which divide this subregion. The Las Virgenes cities occupy the north-facing foothills and valleys adjacent to the Santa Monica Mountains State Park and National Recreation Area, and the city of Malibu sits in the south stretching 21 miles along the Pacific coast. The coastline is home to world-class beaches and surf

breaks which includes Topanga Beach, Surfrider Beach, and Zuma Beach. Overlooking the Pacific Ocean is Pepperdine University, one of the nation's top business and law school as well as being listed as one of the most beautiful campus in the country.

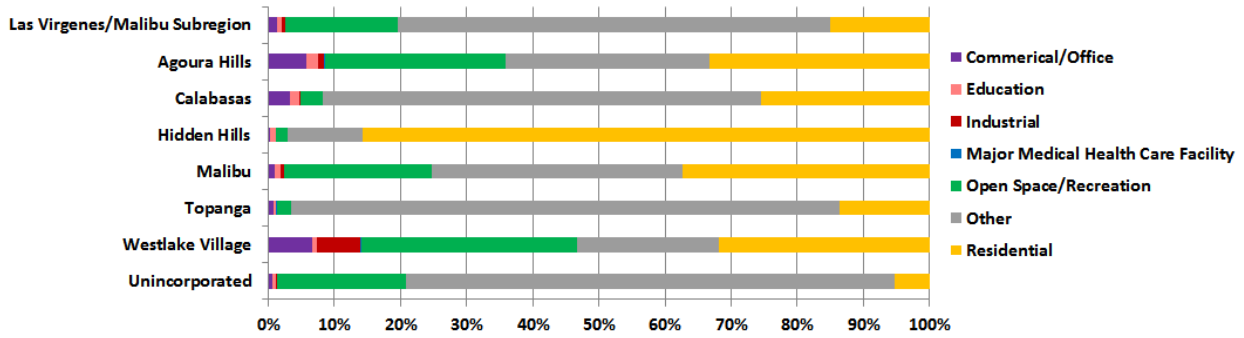
Major Transportation Facilities

The US-101 is the subregion's dominant transportation corridor, around which most commercial/research park development and employment opportunities have clustered. This generally low-density area has a limited network of arterial roadways, of which Pacific Coast Highway (SR-1) is the most heavily traveled. A series of north-south arterials connect the two highways, which include SR-23, Kanan Dume/Kanan, Las Virgenes/Malibu Canyon Rd, and Topanga Canyon Bl (SR-27). Regional bus service is provided by Metro and LADOT. Calabasas runs a community shuttle while the other cities in the subregion operate dial-a-ride services. There is currently no rail service in the subregion.

Land Use



Roughly 2% of the subregion is designated for commercial/industrial land use and residential land use covers approximately 15%. The largest area in the subregion is unincorporated and used for recreation/state parks. The Santa Monica Mountain Range extends east-west for roughly 40 miles, paralleling the north shore of Santa Monica Bay. Chart below shows the breakdown of land use for communities within the subregion. The City of Hidden Hills has the highest percentage of residential land use at 85%, but is also the smallest city in the subregion. It is followed by Malibu with 37% residential land use, and the largest city in the subregion.



Travel Demand Factors

The transportation system in the Las Virgenes/Malibu subregion has substantial capacity problems. As home to some of the nation's most-visited beaches and recreational sites, severe weekend and summertime traffic are frequent occurrences. Weekday traffic volumes have also grown as development and employment opportunities have extended into Ventura County. The unavoidable reliance on two primary routes presents substantial challenges to this area and yields the anticipated outcomes: traffic delays, disruptions and unreliable service levels. Due to the region's topography, size, modest roadway network, and limited transportation alternatives, congestion has become commonplace. Bus service does not traverse the mountains in a north-south direction. This significantly reduces access to employment opportunities by day workers and access to Pepperdine University by students traveling from other areas of the region.

Name	Acres	Population Density (Person per Acre)	Employment Density (Jobs per Acre)	Daily Trips Density (Person Trips per Acre)
Las Virgenes/Malibu Subregion	104,096	0.8	0.6	7.3
Agoura Hills	5,027	2.9	2.4	27.7
Calabasas	8,765	1.7	1.2	16.0
Hidden Hills	1,088	2.3	1.4	14.3
Malibu	12,724	0.8	0.6	7.9
Topanga	12,244	0.5	0.1	2.8
Westlake Village	3,593	2.3	2.1	24.7
Unincorporated	60,655	0.5	0.3	3.9

Transit Dependent Communities

Las Virgenes/Malibu subregion has the highest median household incomes in the county. As a result of this high income, the area has no communities that would fall within the criteria of transit dependency.

Traffic Congestions

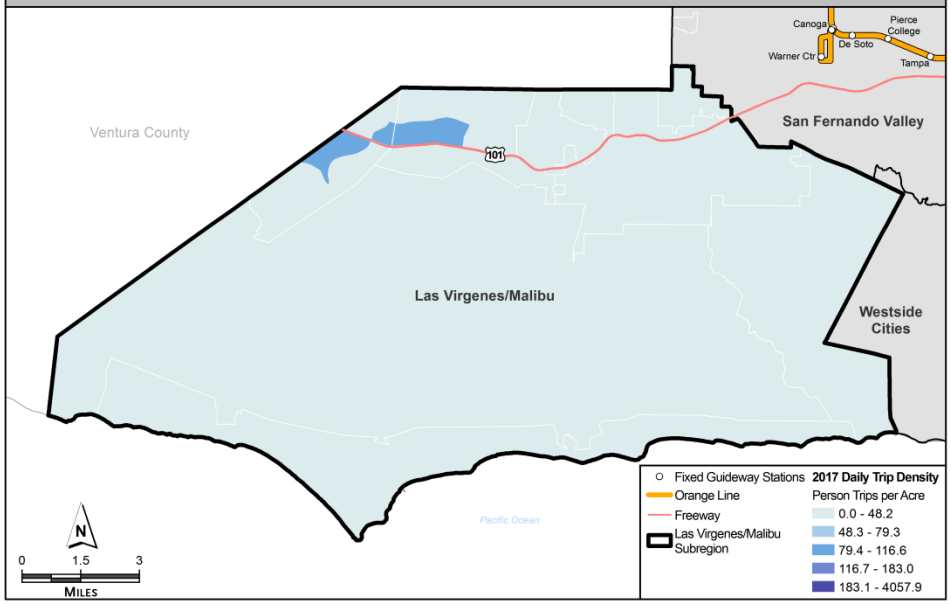
During the morning peak (6 AM to 9 AM), about 15% of directional freeway miles in the subregion are subject to severe congestion, i.e., average speed less than 25 miles per hour, 84% subject to moderate congestion, i.e., average speed between 25 and 50 mph, and the remaining 1% are uncongested, speed 50 miles per hour or better.

The severely congested portion includes

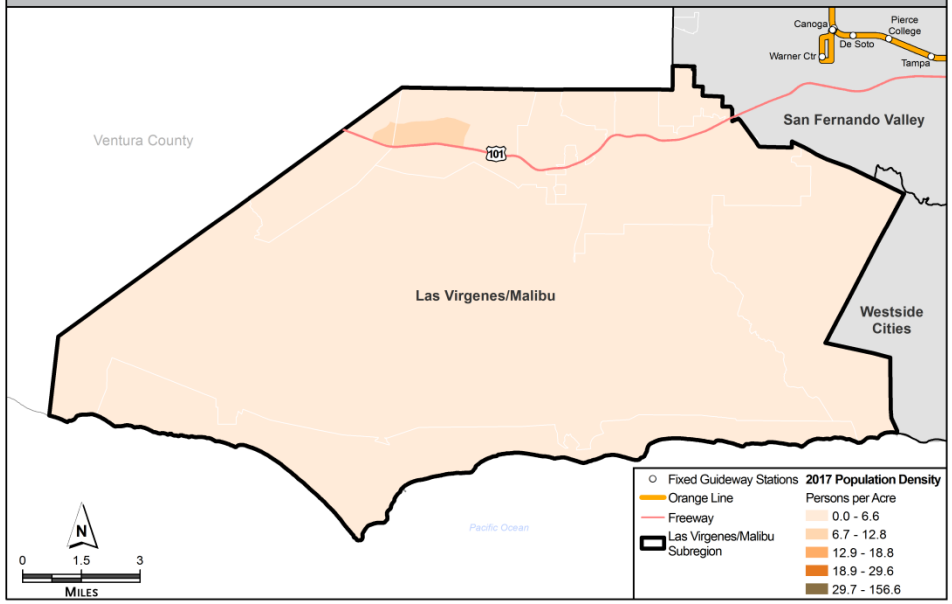
- US-101 W --- From Valley Cir Blvd to Las Virgenes Rd.

During the midday, 36% moderately congested and the remainders are uncongested.

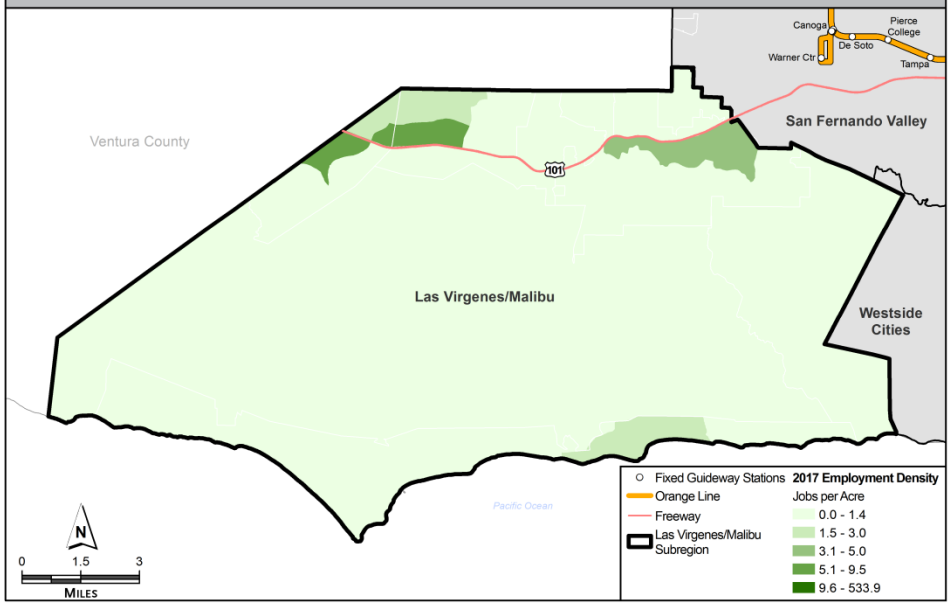
Daily Trip Density



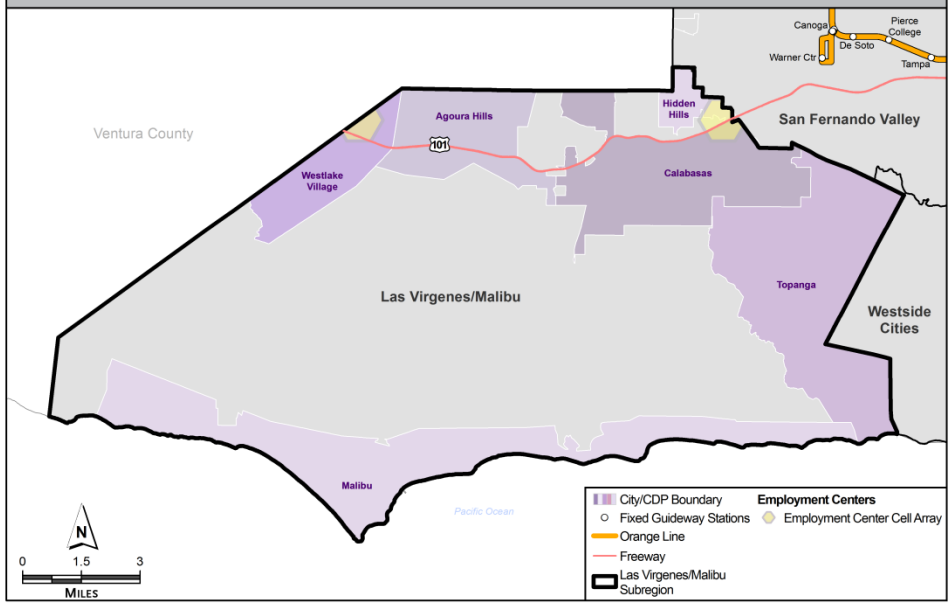
Population Density



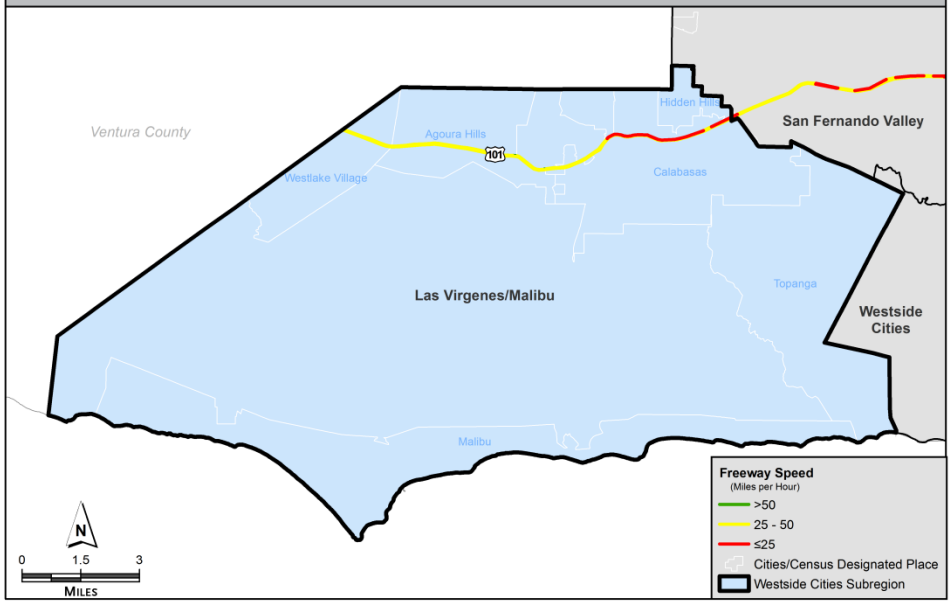
Employment Density



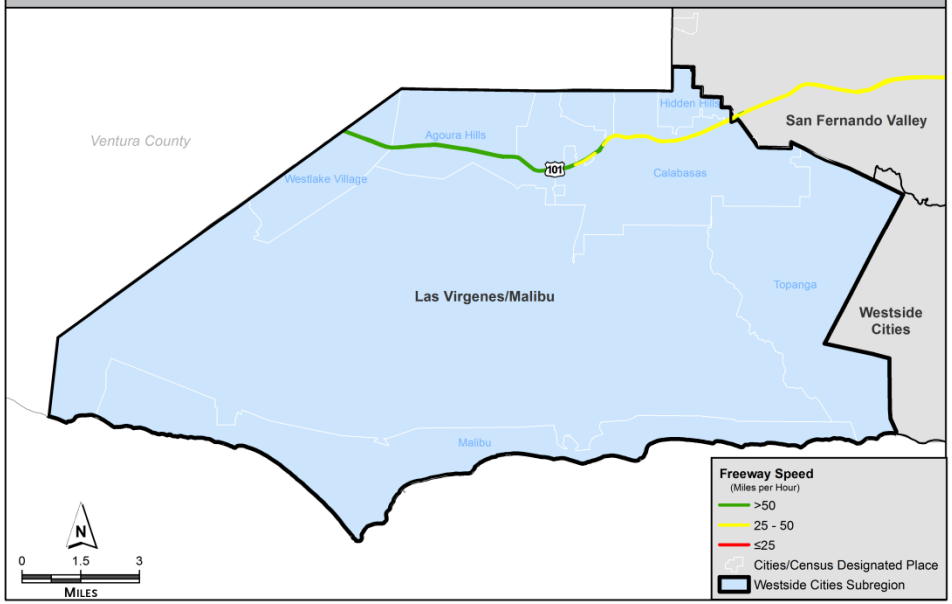
Employment Centers



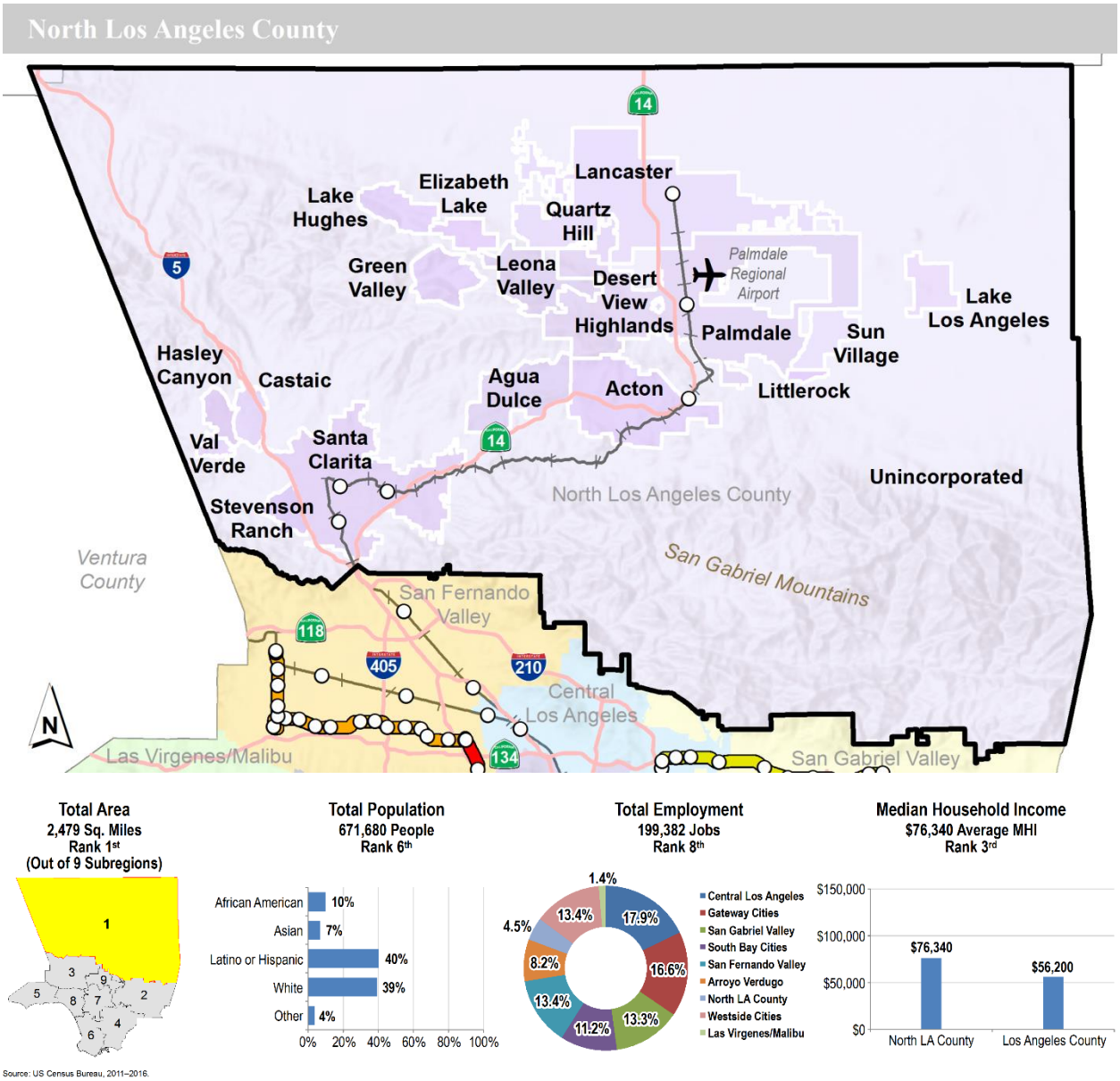
2017 AM Peak Period Freeway Congested Speed



2017 Mid-day Freeway Congested Speed



North Los Angeles County



Cities and Communities

Lancaster, Palmdale, and Santa Clarita. North Los Angeles County subregion also includes the following unincorporated communities: Acton, Agua Dulce, Castaic, Desert View Highlands, Elizabeth Lake, Green Valley, Hasley Canyon, Lake Hughes, Lake Los Angeles, Leona Valley, Littlerock, Quartz Hill, Stevenson Ranch, Sun Village, and Val Verde.

Setting

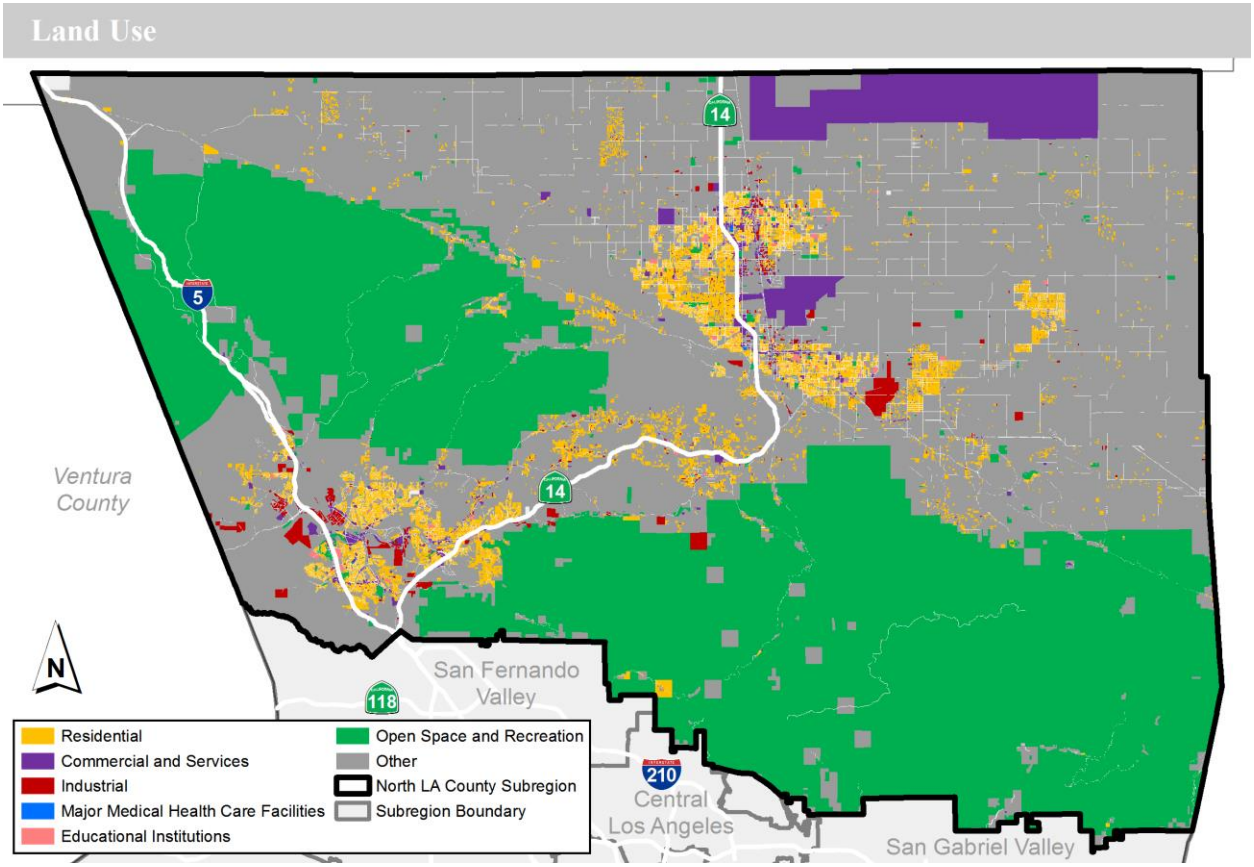
The North Los Angeles County subregion comprises the Los Angeles County area north of the San Fernando Valley. This subregion covers 2,479 square miles and includes three cities and unincorporated Los Angeles County. There are various unique characters of the landscape. The subregion is bounded southerly by the San Gabriel mountain range and Angeles National Forest, north-east by the Mojave Desert, and west by the Santa Susana mountain range. The desert is known for its Joshua tree woodlands, wildflowers, and a variety of desert scrubs and cacti. Snow is common in the mountain ranges over 4,000 feet. Specific to the higher elevations are mountain meadows, freshwater lakes and

streams, as well as coniferous forests. The subregion is the largest in the County, ranks 6th in total population, 8th in total employment, 8th in total daily trips, and 3rd in average median household income. The subregion has a high percentage of non-Hispanic Whites and Latino or Hispanic population.

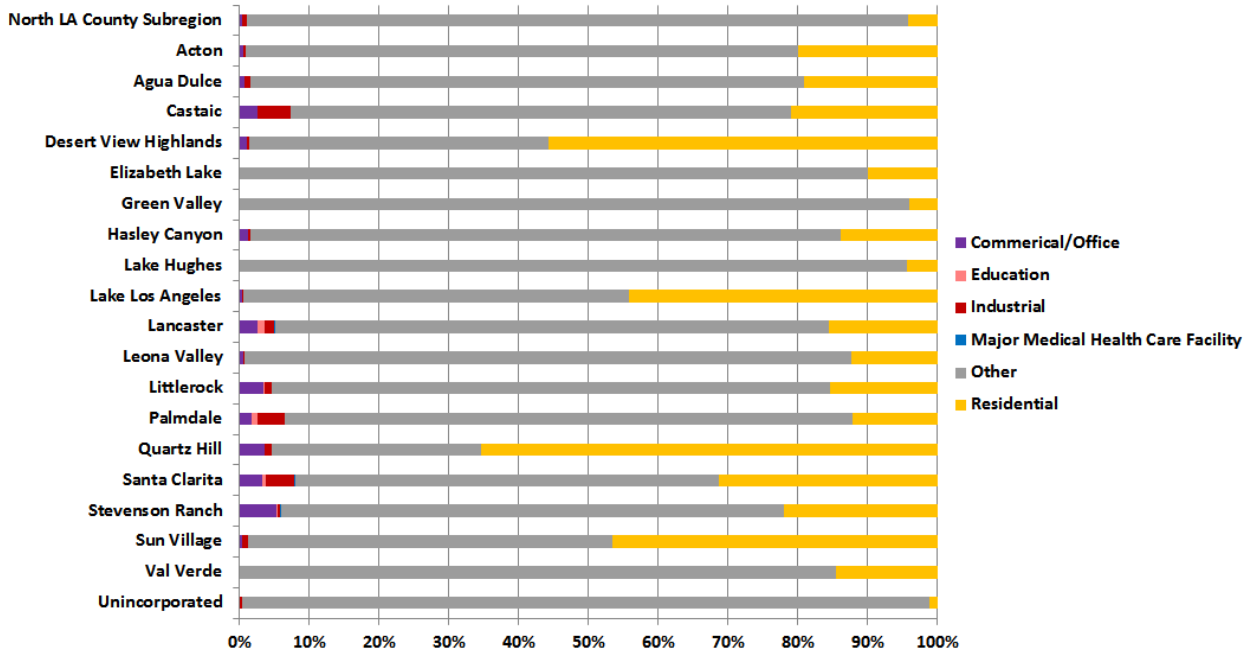
Major Transportation Facilities

Area freeways include the Golden State Freeway (I-5) and the Antelope Valley Freeway (SR-14). State Route SR-126 and SR-138 also impact the region. Metrolink operates commuter rail services with stations located in the cities of Lancaster, Palmdale, Santa Clarita, and in unincorporated areas of Los Angeles County.

Land Use



Roughly 1% of the subregion is designated for commercial/industrial land use and residential land use covers approximately 4%. Majority of the area is designated as desert/forest.

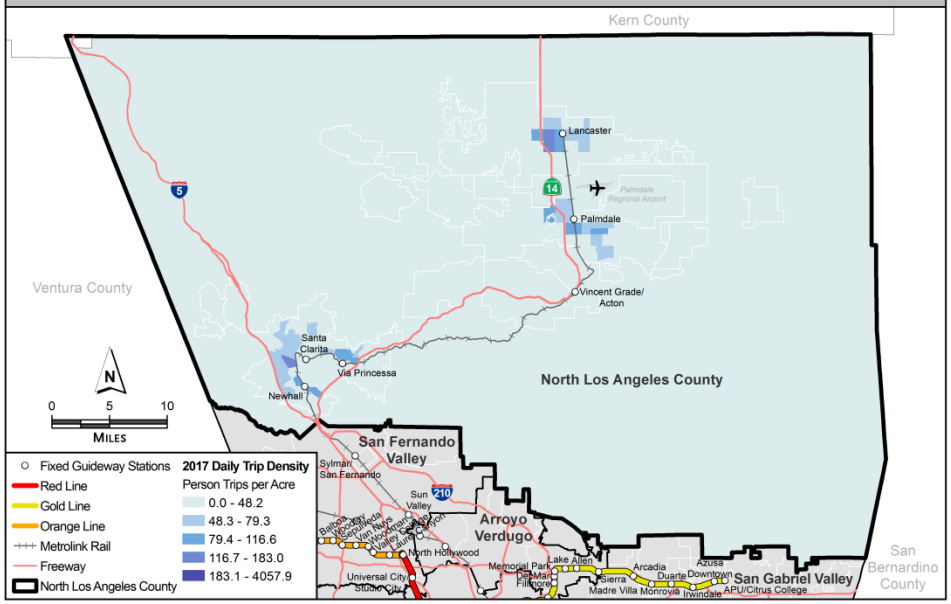


Travel Demand Factors

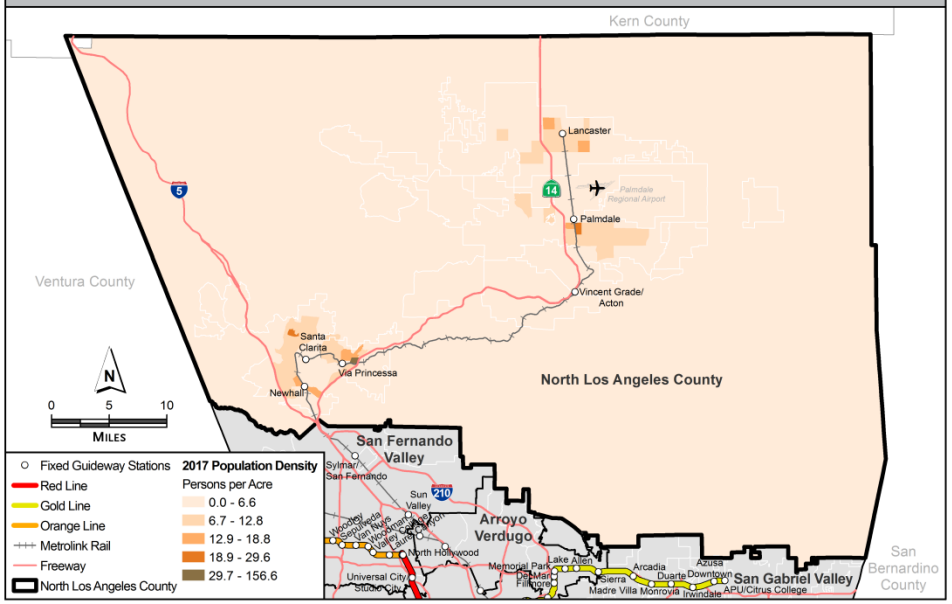
Desert View Highlands is the smallest community in the subregion but has the highest population, employment, and daily trip densities. Palmdale is the largest city, followed by Lancaster, and Santa Clarita. The City of Santa Clarita has the 2nd highest densities in the subregion.

Name	Acres	Population Density (Person per Acre)	Employment Density (Jobs per Acre)	Daily Trips Density (Person Trips per Acre)
North LA County Subregion	1,585,434	0.5	0.1	2.8
Acton	25,137	0.2	0.04	0.9
Agua Dulce	14,626	0.2	0.03	0.8
Castaic	4,658	2.0	0.2	8.7
Desert View Highlands	282	6.9	3.4	82.0
Elizabeth Lake	4,187	0.2	0.02	0.9
Green Valley	8,197	0.1	0.004	0.2
Hasley Canyon	3,674	0.6	0.1	2.7
Lake Hughes	6,839	0.1	0.01	0.4
Lake Los Angeles	6,264	0.8	0.04	2.8
Lancaster	60,510	2.8	0.8	18.2
Leona Valley	11,914	0.3	0.02	1.0
Littlerock	1,181	0.6	0.1	3.3
Palmdale	68,036	2.3	0.4	13.9
Quartz Hill	2,408	4.3	0.5	20.2
Santa Clarita	42,200	4.9	1.7	32.1
Stevenson Ranch	4,068	1.6	0.8	13.0
Sun Village	6,914	1.1	0.1	5.4
Val Verde	1,642	0.3	0.5	2.9
Unincorporated	1,312,698	0.1	0.03	0.5

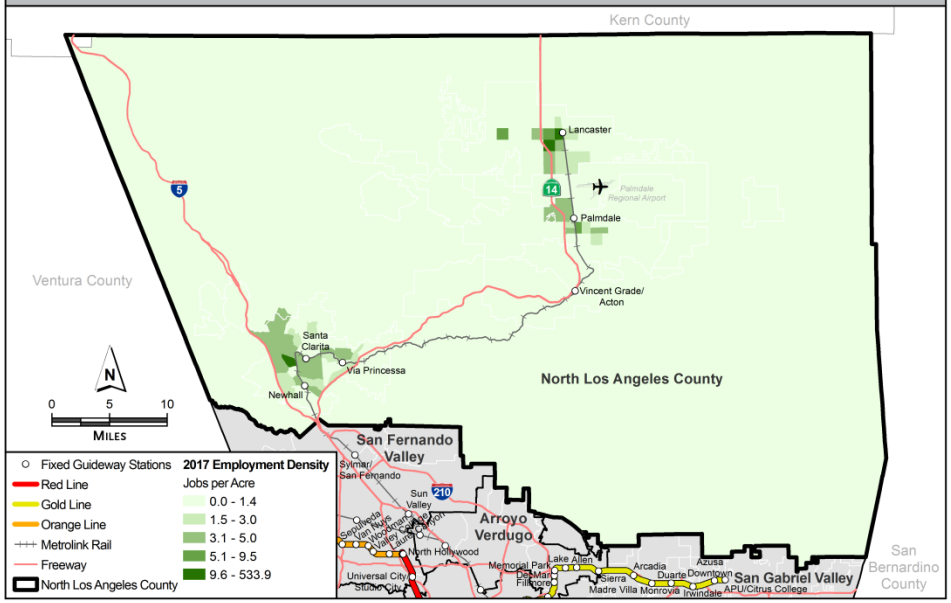
Daily Trip Density



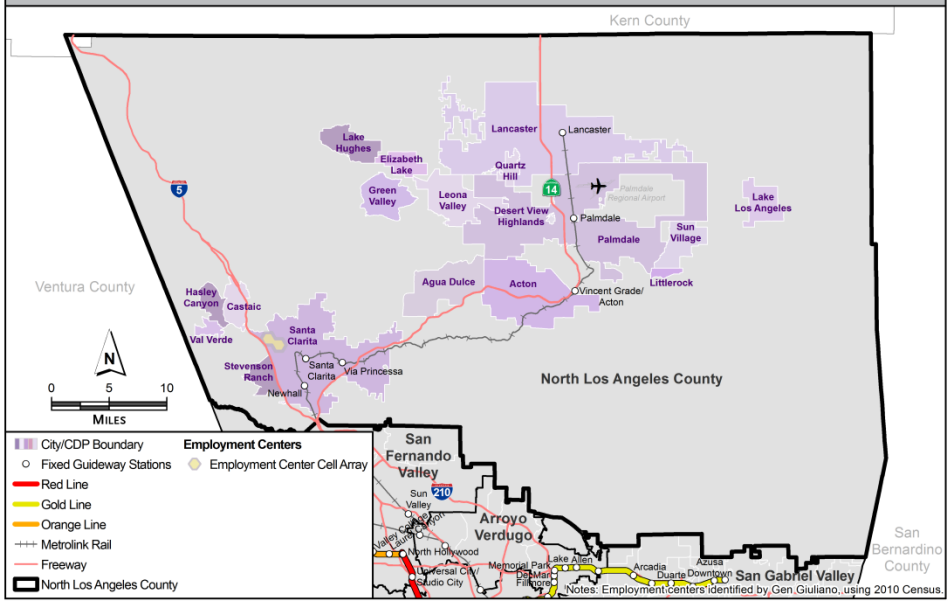
Population Density



Employment Density



Employment Centers



Transit Dependent Communities

Most of the Transit Dependent Communities fall in the low-income household criteria. Zero-vehicle household tracts can be found along State Highway 14 in the cities of Palmdale and Lancaster. Senior communities can be found in areas northeast of the subregion and part of Elizabeth Lake community.

Traffic Congestions

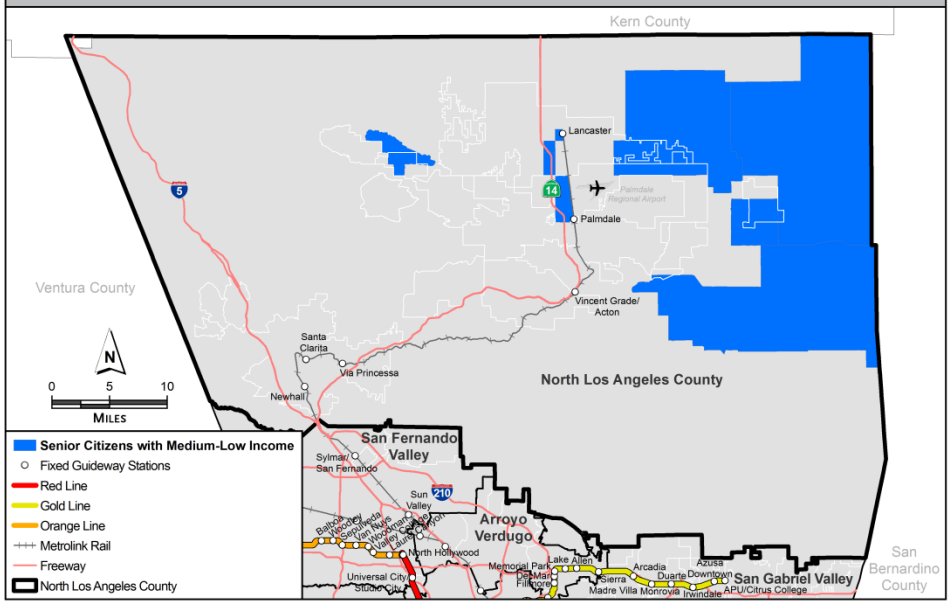
During the morning peak (6 AM to 9 AM), about 6% of directional freeway miles in the subregion are subject to severe congestion, i.e., average speed less than 25 miles per hour, 21% subject to moderate congestion, i.e., average speed between 25 and 50 mph, and the remaining 73% are uncongested, speed 50 miles per hour or better.

The severely congested portion includes

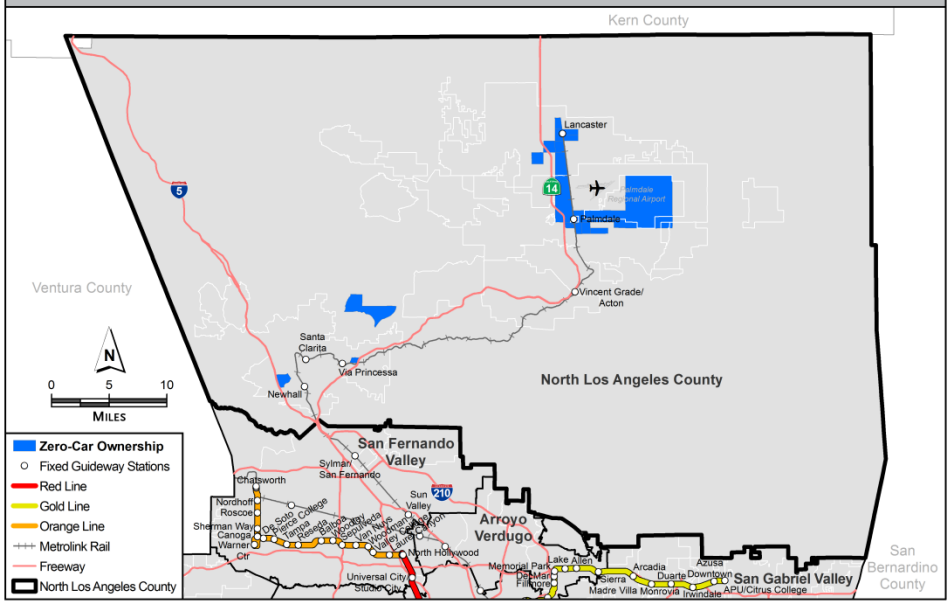
- SR-14 W --- From Crown Valley Rd to Sierra Hwy.
- SR-14 S --- From Golden Valley Rd to Newhall Ave.

During the midday, 1% moderately congested and the remainders are uncongested.

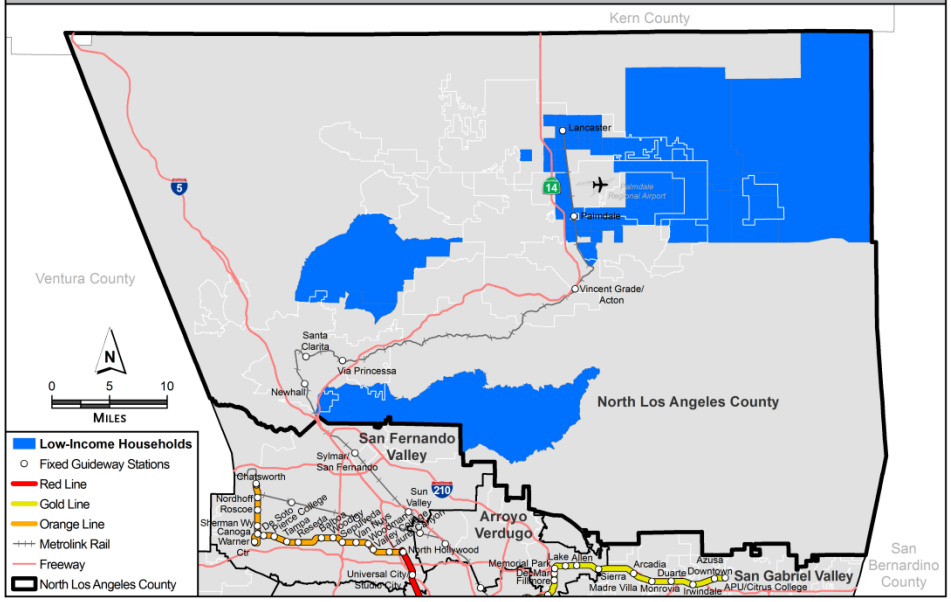
Senior Citizens with Medium-Low-Income



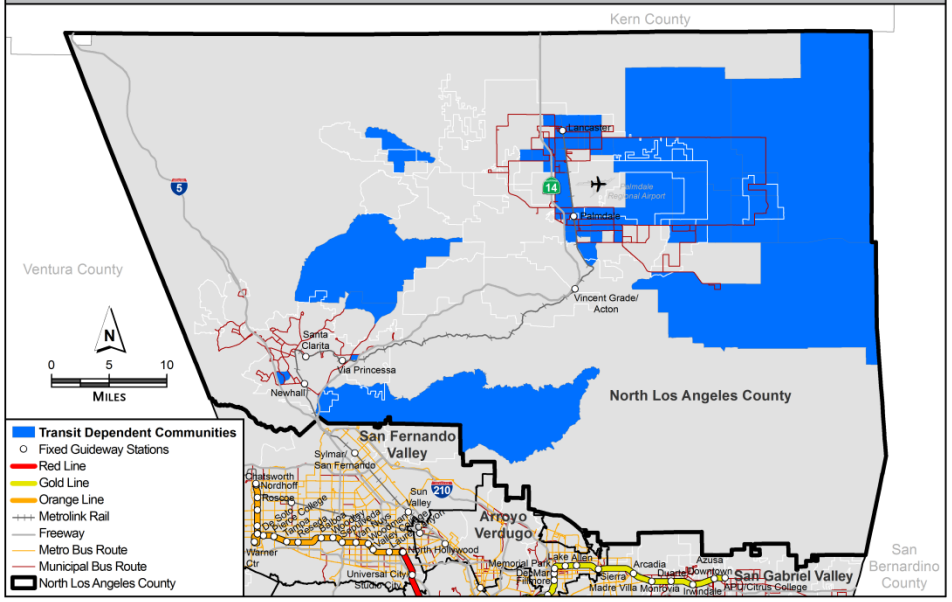
Zero-Car Ownership



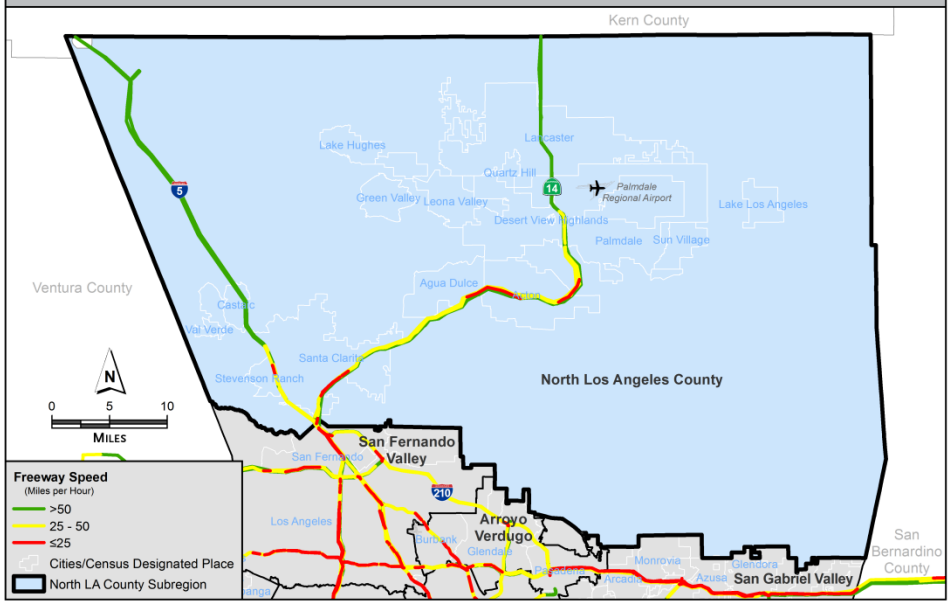
Low-Income



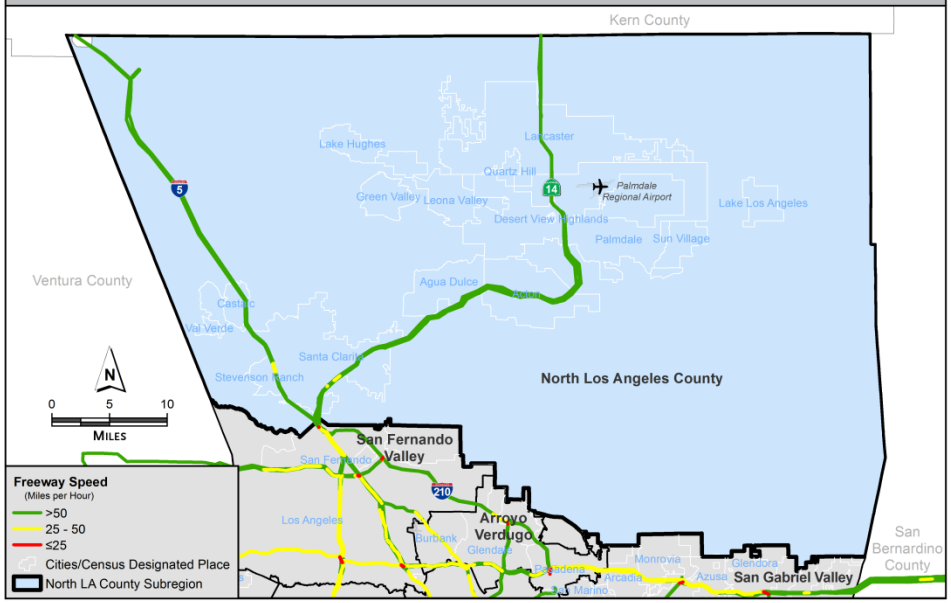
Transit-Dependent Population



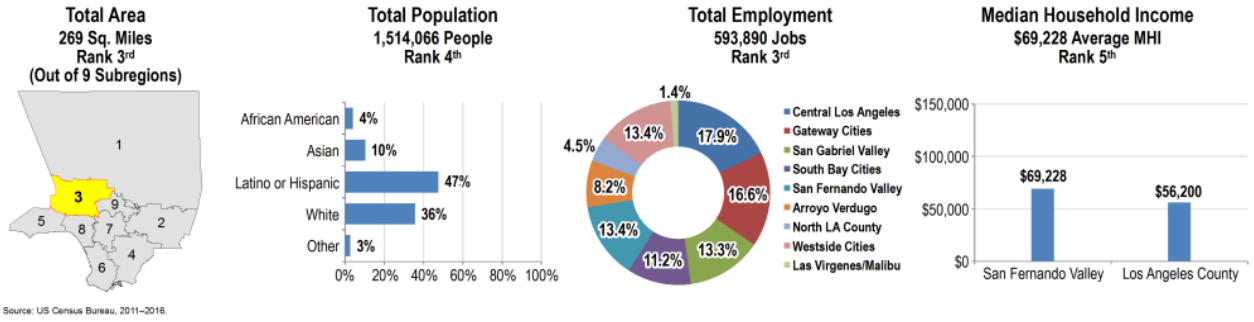
2017 AM Peak Period Freeway Congested Speed



2017 Mid-day Freeway Congested Speed



San Fernando Valley



Source: US Census Bureau, 2011–2016.

Cities and Communities

San Fernando Valley portion of the City of Los Angeles, City of San Fernando, and parts of unincorporated Los Angeles County.

Setting

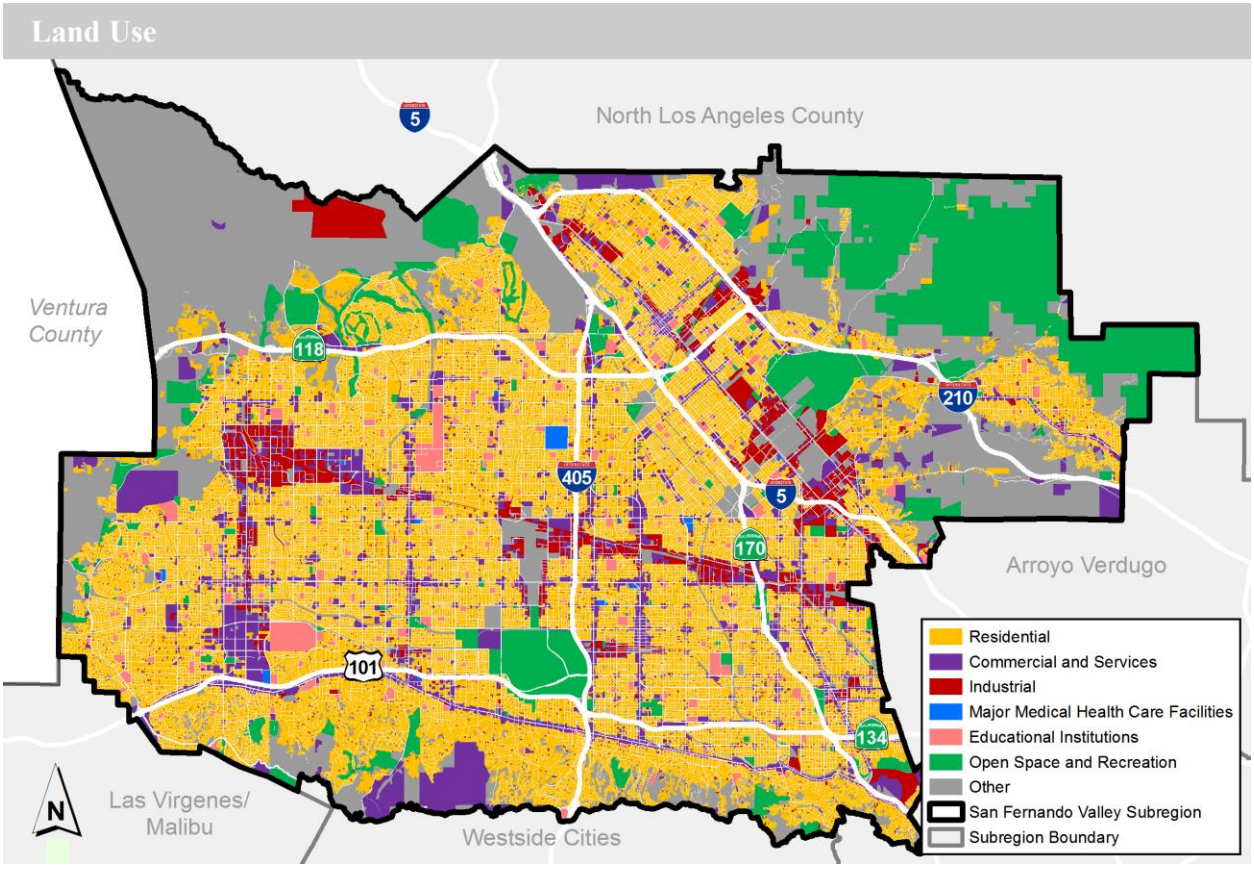
The San Fernando Valley subregion fans north of the Hollywood Hills and Santa Monica, west to the Las Virgenes/Malibu area and eastward towards Arroyo Verdugo. This subregion covers 269 square miles and is home to two cities and numerous Los Angeles City communities. The Valley is home to numerous companies, the most well-known of which work in motion pictures, music recording, and television production. The valley was previously known for advances in aerospace technology and nuclear research by companies such as Lockheed, Rocketdyne and its Santa Susana Field Laboratory, Atomics International, and Litton Industries. The area is the 3rd largest subregion, ranks 4th in total population, 3rd in total employment, 4th in total daily trips, and 5th in average median household income. The subregion has a high percentage of non-Hispanic Whites and Latino or Hispanic population.

Major Transportation Facilities

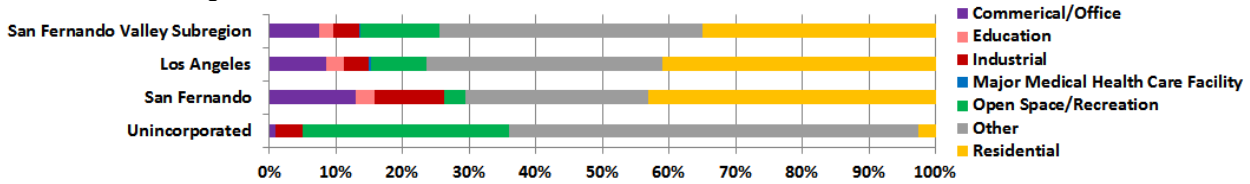
A number of freeways crisscross this subregion, including the Golden State Freeway (I-5), Ventura Freeway (US-101 and SR-134), Simi Valley Freeway (SR-118), Hollywood Freeway (SR-170), San Diego Freeway (I-405) and Foothill Freeway (I-210). There are carpool lanes on the SR-118, SR-134, and SR-170 and portions of the I-5 and I-405.

Municipal operators as well as Metro provide bus and rail services to the subregion. The Metro Red Line serves this area via stations at Universal City and North Hollywood. Metrolink's Antelope Valley and Ventura County lines provide commuter rail service. The Metro Orange Line is an 18-mile landscaped transitway which includes a Class I bikeway along the most of the alignment and 17 stations spaced about a mile apart. It runs between the North Hollywood Metro Rail station and the Metrolink Chatsworth Station.

Land Use



Roughly 11% of the subregion is designated for commercial/industrial land use and residential land use covers approximately 35%. Chart below shows the breakdown of land use for communities within the subregion. City of Los Angeles is the largest city and has the biggest residential area in the subregion. The City of San Fernando has the highest area percentage of residential, commercial, and industrial land uses in the subregion.



Travel Demand Factors

The City of San Fernando is the smallest city in the subregion but has the highest density in terms of population, employment, and daily trips. The I-405 is the major conduit between the San Fernando Valley and the Westside Cities, carrying several hundred thousand vehicles per day through the Sepulveda Pass. The I-405/US-101 and I-405/I-10 interchanges at either end of this section are two of the 10 busiest interchanges in the nation. Due to capacity limitations on the I-405 through the Pass, Sepulveda Bl, Laurel Canyon Bl, Coldwater Canyon Dr, and Beverly Glen Bl carry significant traffic between the San Fernando Valley and the Westside, impacting local residents. The I-405 is also the primary route to LAX from the San Fernando Valley and the North County sub-region.

Name	Acres	Population Density (Person per Acre)	Employment Density (Jobs per Acre)	Daily Trips Density (Person Trips per Acre)
San Fernando Valley Subregion	172,088	8.8	3.5	58.7
Los Angeles	143,551	10.3	4.0	68.5
San Fernando	1,519	16.1	7.3	112.7
Unincorporated	27,018	0.4	0.5	3.9

Transit Dependent Communities

Roughly 25% of the subregion is considered Transit Dependent. The community can be found throughout the subregion, with tracts clustering in the center of the subregion. Tracts along the I-5 and I-210 Freeways, Metro's Orange Line and Metrolink Ventura County Line, and parts of the Angeles National Forest all meets the criteria for transit dependency.

Traffic Congestions

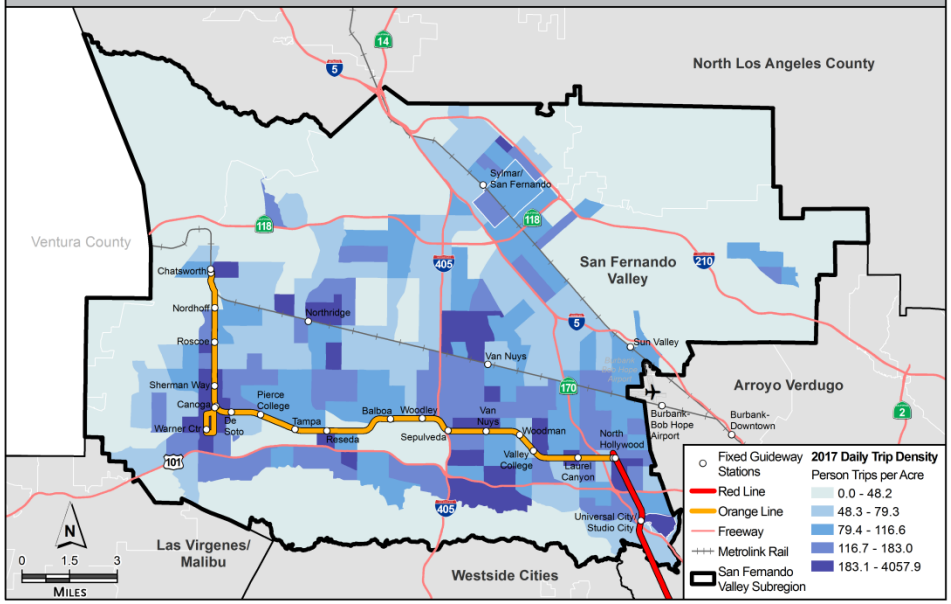
During the morning peak (6 AM to 9 AM), about 25% of directional freeway miles in the subregion are subject to severe congestion, i.e., average speed less than 25 miles per hour, 61% subject to moderate congestion, i.e., average speed between 25 and 50 mph, and the remaining 14% are uncongested, speed 50 miles per hour or better.

The severely congested portion includes

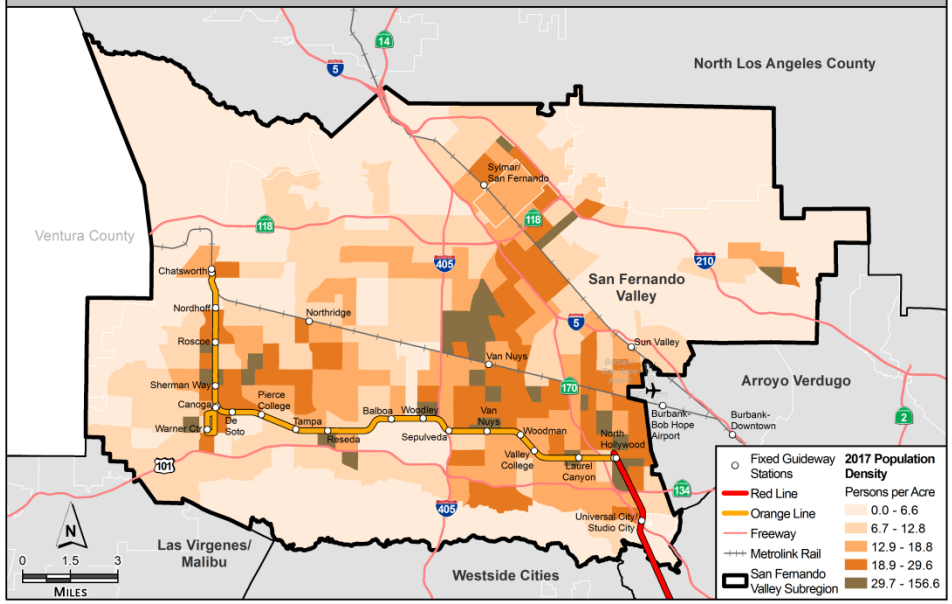
- US-101 W --- From Whitsett Ave to SR-27 Junction.
- US-101 E --- From Lindley Ave to Van Nuys Blvd.
- I-405 S --- From Roscoe Blvd to US-101 Junction.
- I-5 S --- From I-210 Junction to I-405 Junction.

During the midday, 1% of its freeways are severely congested, 50% moderately congested and the remainders are uncongested.

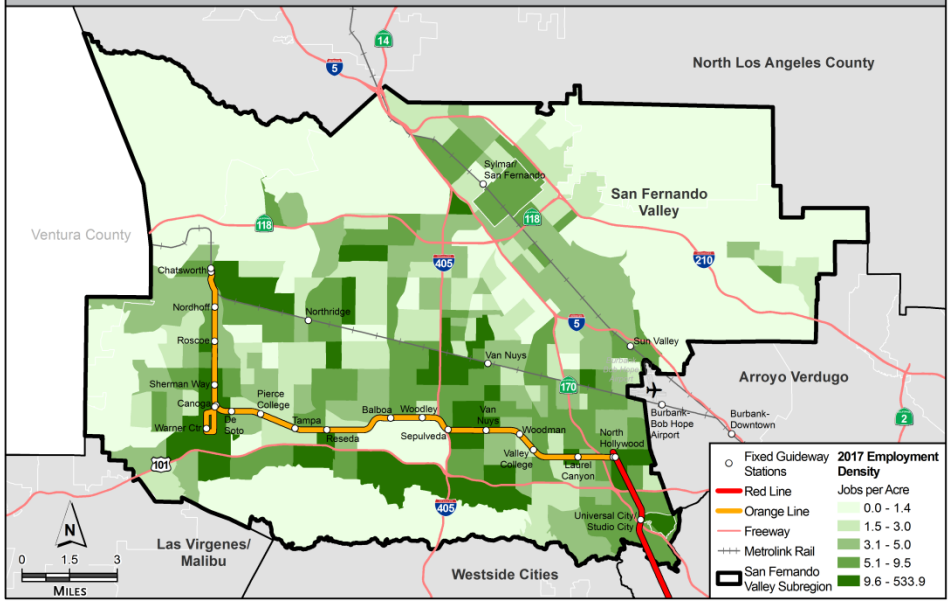
Daily Trip Density



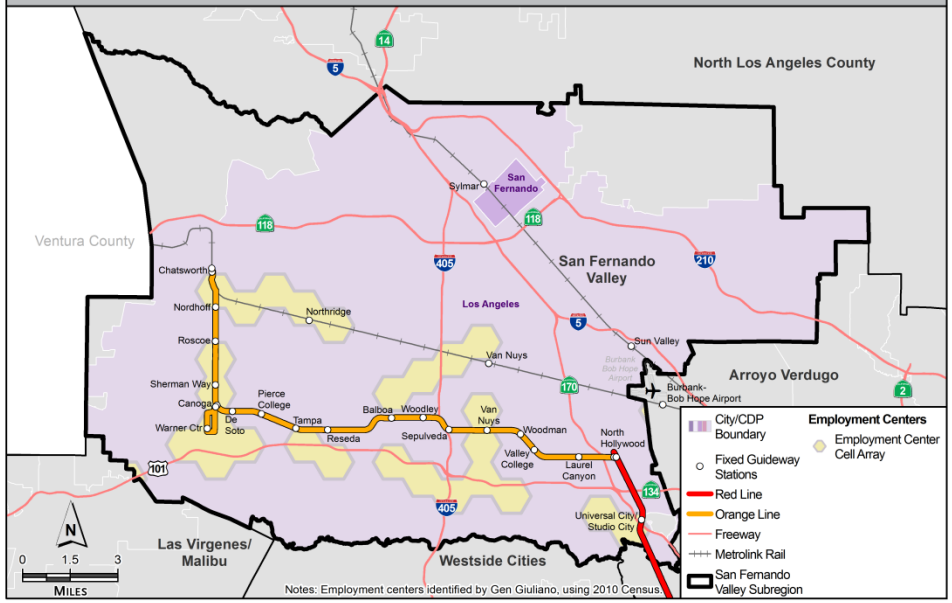
Population Density



Employment Density

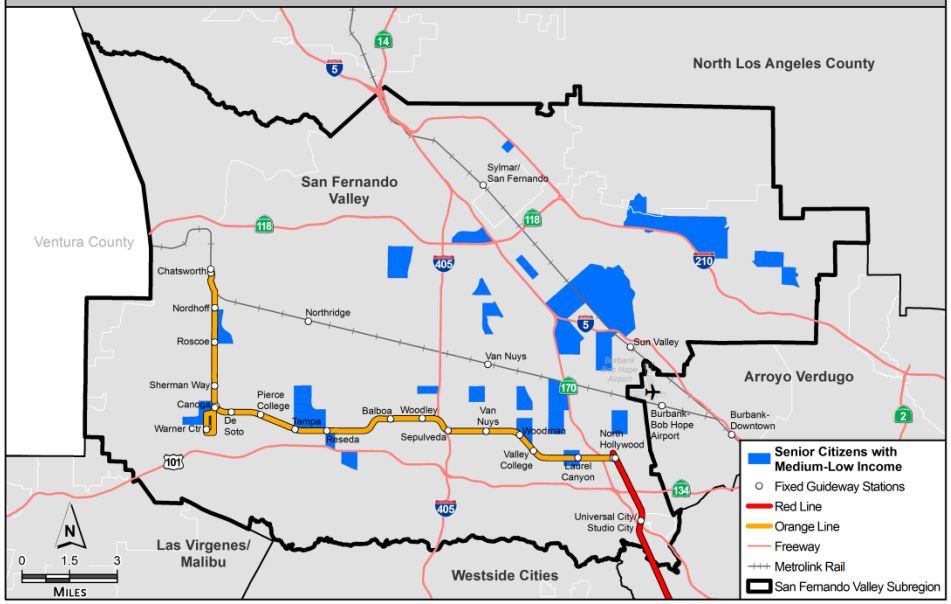


Employment Centers

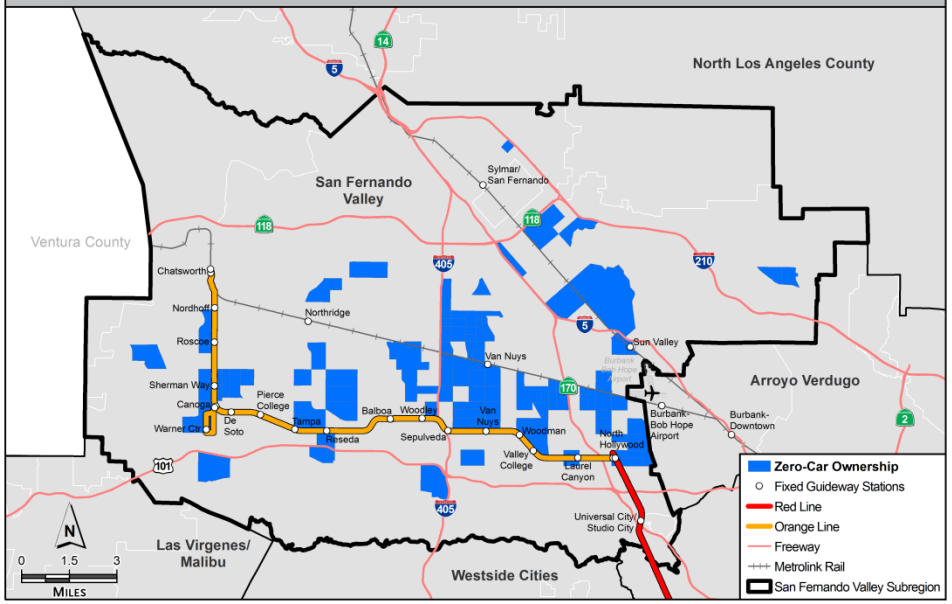


Notes: Employment centers identified by Gen Giuliano, using 2010 Census.

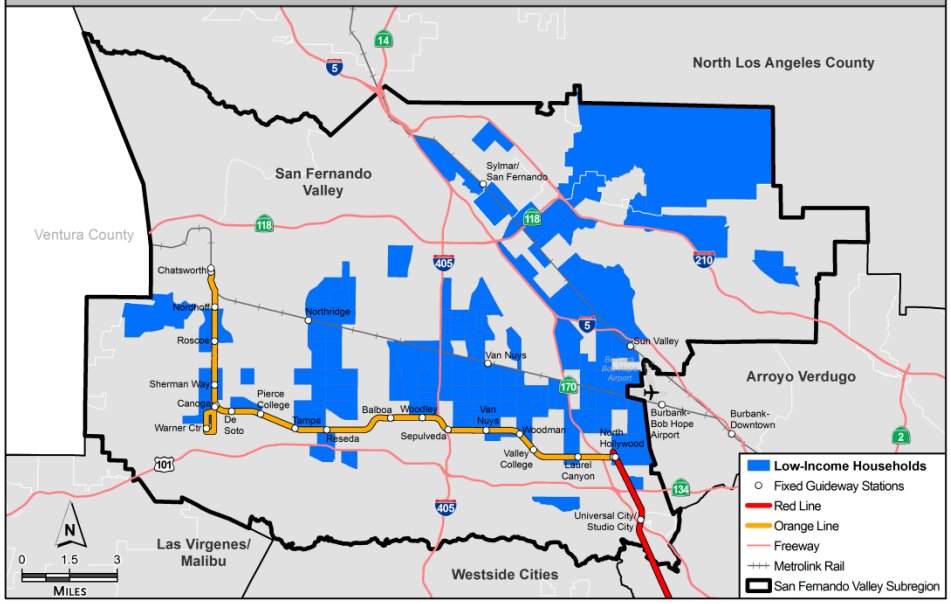
Senior Citizens with Medium-Low-Income



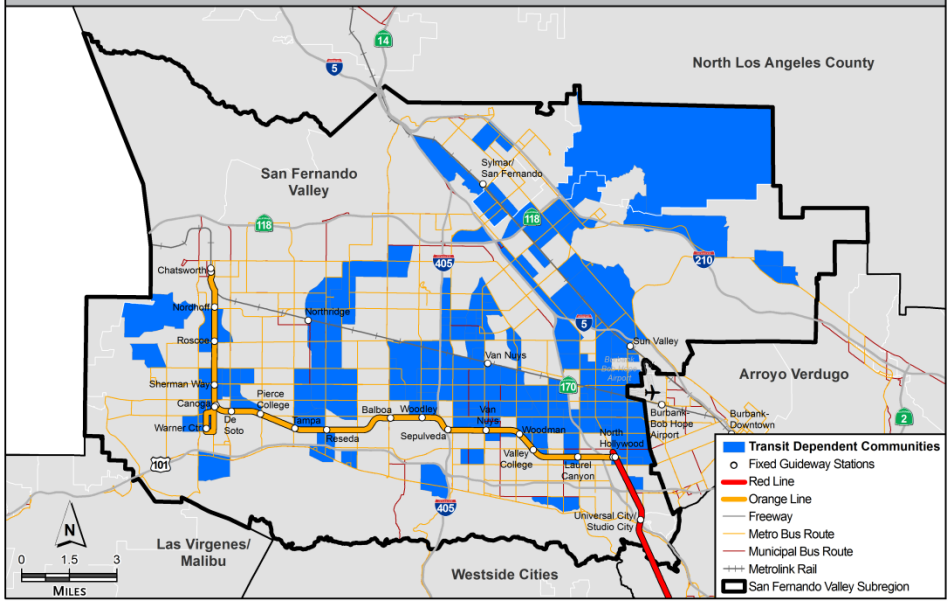
Zero-Car Ownership



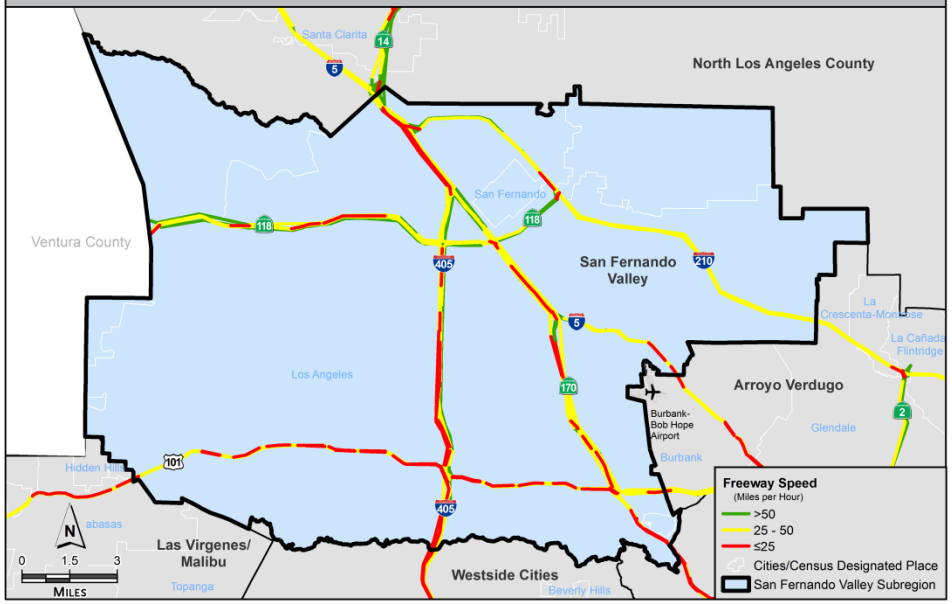
Low-Income



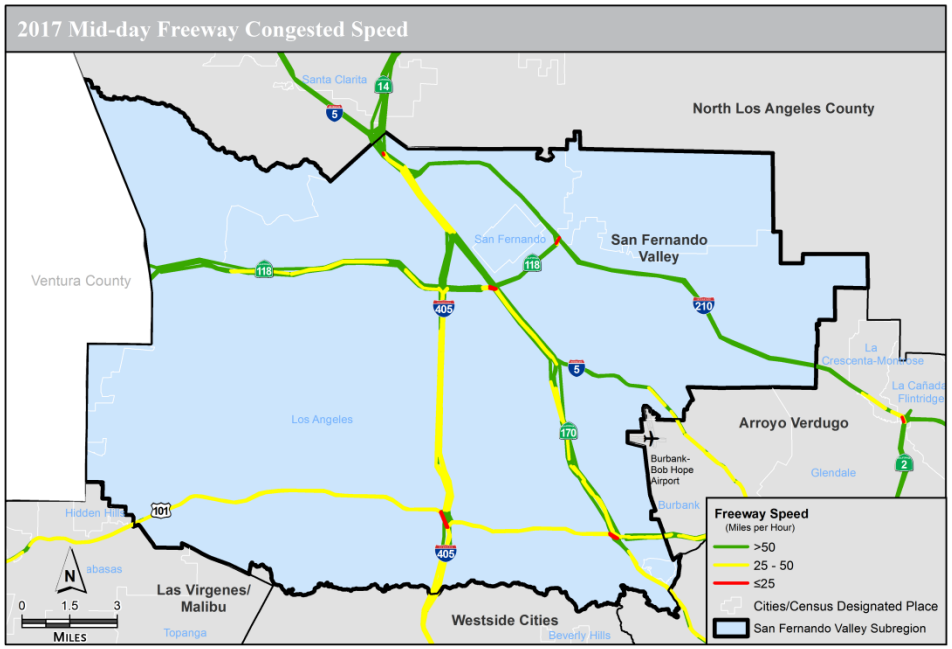
Transit-Dependent Population



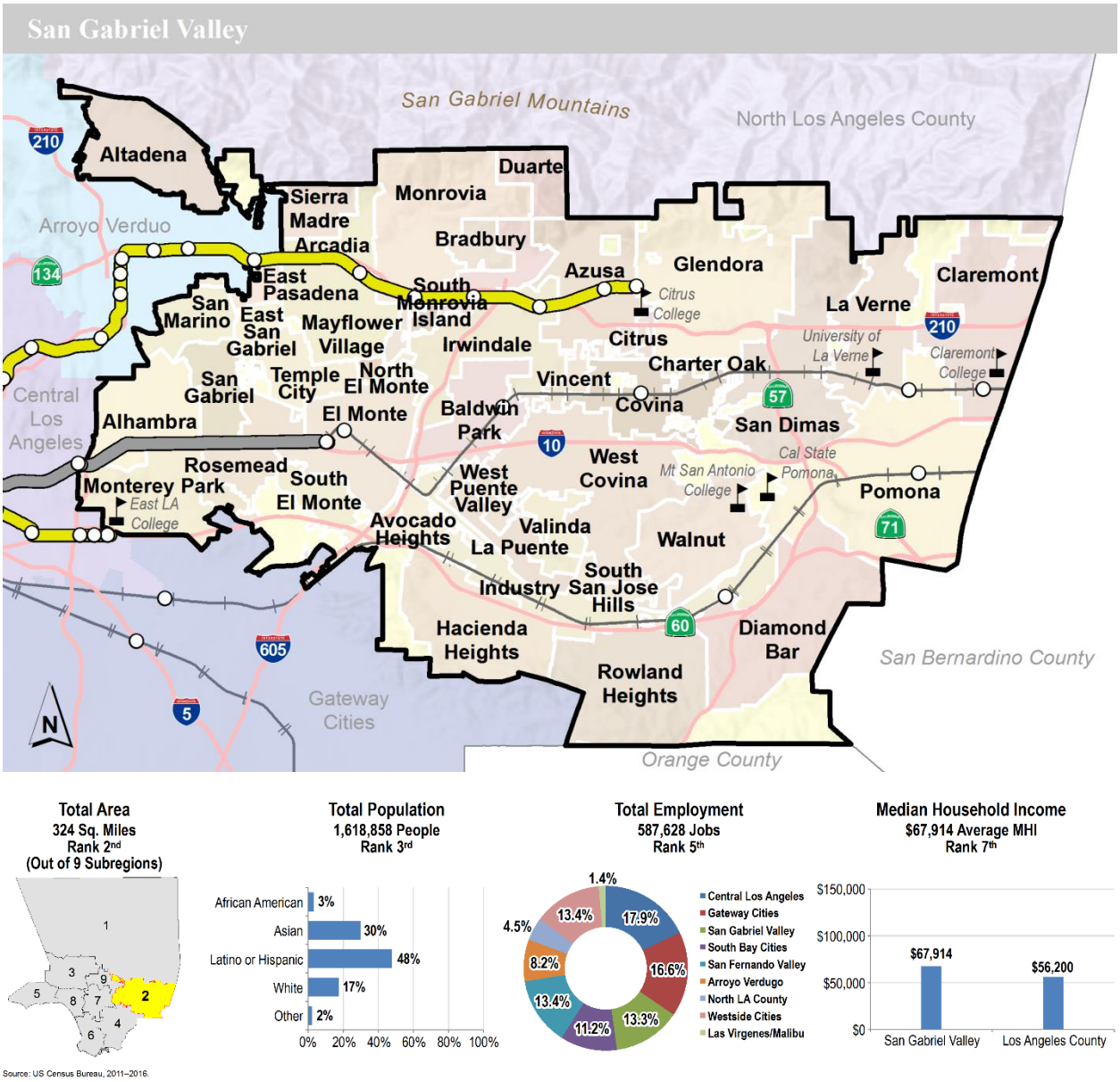
2017 AM Peak Period Freeway Congested Speed



2017 Mid-day Freeway Congested Speed



San Gabriel Valley



Source: US Census Bureau, 2011–2016.

Cities and Communities

Alhambra, Arcadia, Azusa, Baldwin Park, Bradbury, Claremont, Covina, Diamond Bar, Duarte, El Monte, Glendora, Industry, Irwindale, La Puente, La Verne, Monrovia, Monterey Park, Pomona, Rosemead, San Dimas, San Gabriel, San Marino, Sierra Madre, South El Monte, Temple City, Walnut, and West Covina. San Gabriel Valley also includes the following unincorporated communities of Los Angeles County: Altadena, Avocado Heights, Charter Oak, Citrus, East Pasadena, East San Gabriel, Hacienda Heights, Mayflower Village, North El Monte, Rowland Heights, San Pasqual, South Monrovia Island, South San Gabriel, South San Jose Hills, Valinda, Vincent, and West Puente Valley.

Setting

The San Gabriel Valley subregion sits in the easternmost portion of Los Angeles County. It covers 322 square miles and approximately 99% built-out, leaving very little undeveloped land for commercial or industrial uses. The subregion encompasses 31 jurisdictions and is home to 570,000 jobs within Los Angeles County. The area is also characterized by socioeconomic and ethnic diversity and is comprised

of some of the most affluent as well as the lowest income communities within Los Angeles County.

The subregion is home to several colleges including Cal State Pomona, University of La Verne, Claremont College, Citrus College, East LA College, and Mt. San Antonio College. Major medical facilities include Children's Hospital Los Angeles-Arcadia, Alhambra Hospital Medical Center, Methodist Hospital, Monrovia Memorial Hospital, and Pomona Valley Hospital Medical Center.

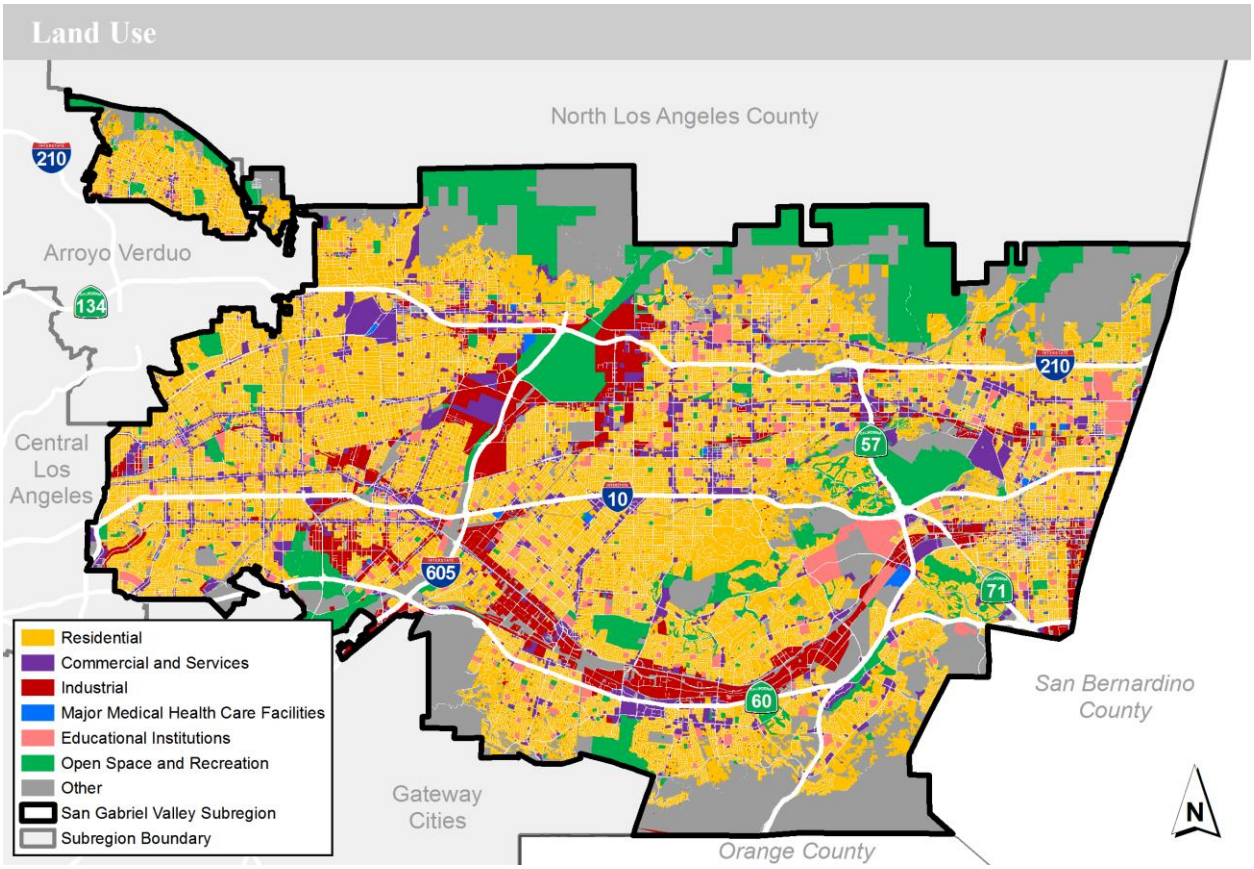
Major Transportation Facilities

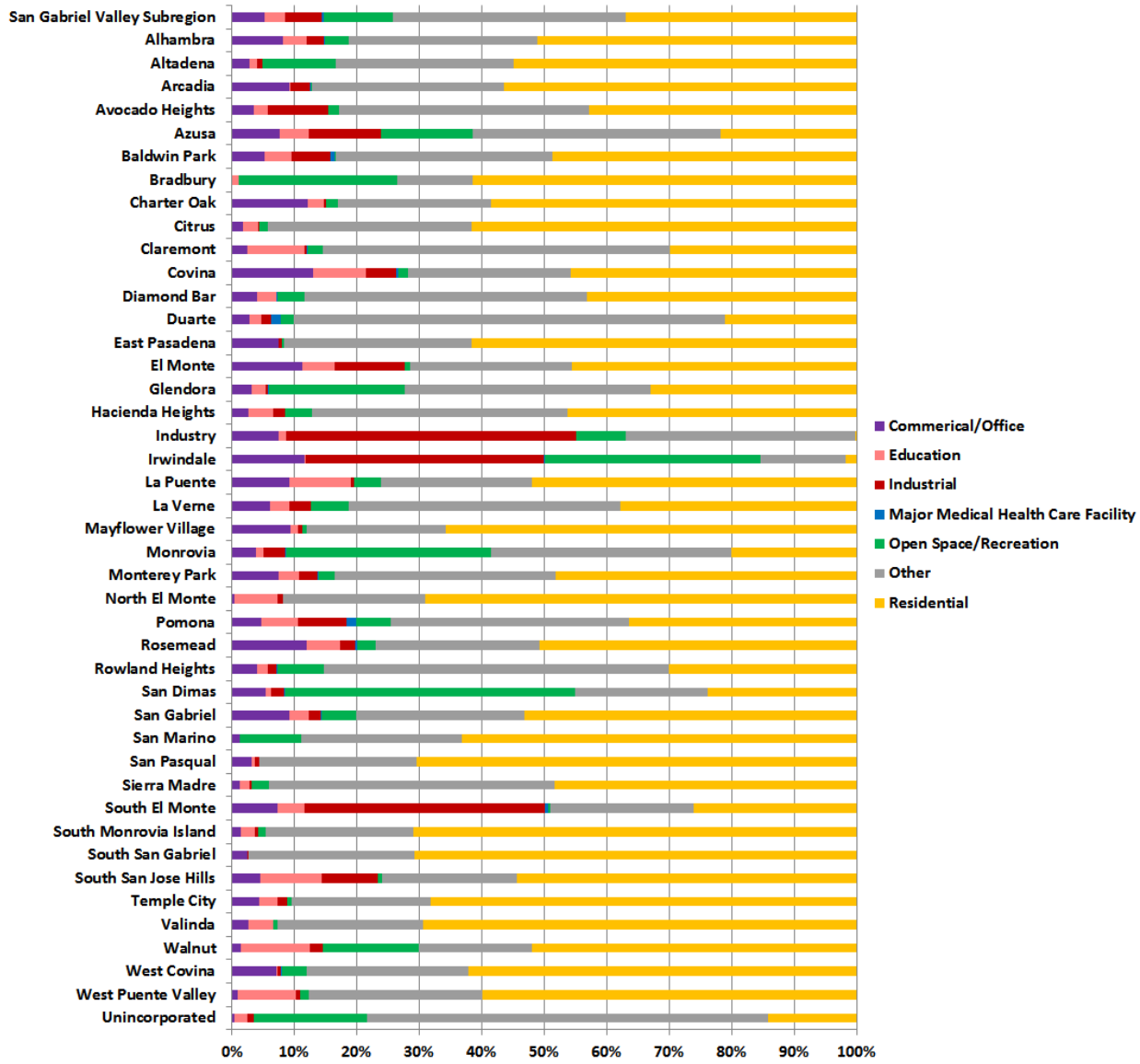
One of the unique transportation features of this subregion is the significant number of freeways that traverse it; namely, San Bernardino Freeway (I-10), Foothill Freeway (I-210), Pasadena Freeway (SR-110), Orange Freeway (SR-57), Pomona Freeway (SR-60), Chino Valley Freeway (SR-71), San Gabriel River Freeway (I-605) and the Long Beach Freeway (I-710). The Foothill Freeway has a carpool lane in each direction through the entire San Gabriel Valley subregion. Carpool lanes also exist on portions of I-10, I-605 and SR-60.
The El Monte Busway on the I-10 serves both buses and carpools and is the highest-volume carpool facility in Los Angeles County.

Metro, Foothill and Montebello Transit provide bus service to the subregion. Most cities in this subregion provide dial-a-ride services within their city limits to seniors and persons with disabilities, with some providing additional service to the general public through community shuttle programs.

Land Use

Roughly 11% of the subregion is designated for commercial/industrial land use and residential land use covers approximately 37%. Chart below shows the breakdown of land use for communities within the subregion. The city of Industry has the largest percentage of commercial/industrial land use and the highest employment density in the area. The communities of South Monrovia Island and South San Gabriel have the highest percentage of residential land use area. West Covina has the largest total residential area in the subregion. The City of Industry and Irwindale contains the highest percentage and largest total area for commercial/industrial use.


Land Use
North Los Angeles County
Arroyo Verduo
Central Los Angeles
Gateway Cities
San Bernardino County
Orange County
210
134
10
605
57
60
71
N
Residential
Commercial and Services
Industrial
Major Medical Health Care Facilities
Educational Institutions
Open Space and Recreation
Other
San Gabriel Valley Subregion
Subregion Boundary


San Gabriel Valley Subregion
Alhambra
Altadena
Arcadia
Avocado Heights
Azusa
Baldwin Park
Bradbury
Charter Oak
Citrus
Claremont
Covina
Diamond Bar
Duarte
East Pasadena
El Monte
Glendora
Hacienda Heights
Industry
Irwindale
La Puente
La Verne
Mayflower Village
Monrovia
Monterey Park
North El Monte
Pomona
Rosemead
Rowland Heights
San Dimas
San Gabriel
San Marino
San Pasqual
Sierra Madre
South El Monte
South Monrovia Island
South San Gabriel
South San Jose Hills
Temple City
Valinda
Walnut
West Covina
West Puente Valley
Unincorporated
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Commerical/Office
Education
Industrial
Major Medical Health Care Facility
Open Space/Recreation
Other
Residential

Travel Demand Factors

Name	Acres	Population Density (Person per Acre)	Employment Density (Jobs per Acre)	Daily Trips Density (Person Trips per Acre)
San Gabriel Valley Subregion	207,596	7.9	2.8	49.7
Alhambra	4,884	17.4	6.0	111.6
Altadena	5,587	7.7	1.2	36.0
Arcadia	7,125	8.8	3.8	67.7
Avocado Heights	1,818	6.9	3.3	37.3
Azusa	6,188	7.7	2.3	46.3
Baldwin Park	4,343	17.8	3.8	91.7
Bradbury	1,254	1.2	0.2	6.0
Charter Oak	594	14.7	2.7	70.2
Citrus	569	17.0	2.6	89.8
Claremont	8,554	4.3	2.1	36.7
Covina	4,506	11.3	5.1	84.3
Diamond Bar	9,478	4.9	1.5	26.8
Duarte	4,282	5.0	2.7	38.8
East Pasadena	847	7.7	3.3	67.0
East San Gabriel	1,007	15.1	1.8	64.3
El Monte	6,175	18.1	5.0	95.2
Glendora	12,610	4.2	1.7	31.2
Hacienda Heights	7,159	7.3	1.5	36.4
Industry	7,723	2.8	7.5	58.2
Irwindale	6,152	0.6	3.0	23.6
La Puente	2,227	18.8	2.4	85.2
La Verne	5,479	5.6	2.3	40.5
Mayflower Village	440	10.5	1.3	41.6
Monrovia	8,776	4.4	2.2	32.5
Monterey Park	4,947	12.7	6.9	88.8
North El Monte	271	11.7	3.2	70.6
Pomona	14,669	10.7	3.9	65.5
Rosemead	3,313	16.2	3.9	84.2
Rowland Heights	8,396	5.7	1.6	32.8
San Dimas	9,873	3.4	1.2	21.8
San Gabriel	2,653	16.0	5.1	100.4
San Marino	2,415	5.6	1.6	30.6
San Pasqual	163	12.6	1.0	50.7
Sierra Madre	1,892	5.7	1.0	27.8
South El Monte	1,823	11.0	6.6	71.8
South Monrovia Island	351	17.2	3.4	72.5
South San Gabriel	533	13.4	2.0	55.4
South San Jose Hills	965	21.6	1.9	87.9
Temple City	2,563	14.2	3.1	76.0
Valinda	1,289	13.6	2.2	65.1
Vincent	942	14.9	3.1	83.0
Walnut	5,758	5.4	1.6	33.9
West Covina	10,297	10.5	2.8	61.7
West Puente Valley	1,197	16.8	2.0	71.9
Unincorporated	15,510	3.0	1.2	20.5

One of the unique transportation features of this subregion is the significant number of freeways that traverse it; namely, I-10, I-210, SR-110, SR-57, SR-60, SR-71, I-605 and the I-710 Freeways. The city of Alhambra has the highest daily trip density in the subregion. The city is split by the I-10, which serves both buses and carpools and has the highest volume carpool facility in Los Angeles County. Population, employment, and trip densities can be seen clustering in or near the City of Alhambra, Rosemead, El Monte, South El Monte, Baldwin Park, Irwindale, Covina, La Puente, Azusa, Duarte, West Puente Valley, South San Jose Hills, and Pomona, and the southern portion of Claremont. The City of Industry has the highest employment density in the subregion. The highest population density area can be found in the community of San Jose Hills, but the highest total population is in the City of Pomona.

Transit Dependent Communities

Transit Dependent Communities in the San Gabriel Valley can be seen clustering around the I-10 and I-605 Freeways. The largest portion of transit dependents are low-income seniors with medium-low income. Zero-vehicles households are dispersed throughout the region, with most of the tracts clustering around Alhambra, Monterey Park, El Monte, Duarte, La Verne, Claremont, and Pomona.

Traffic Congestions

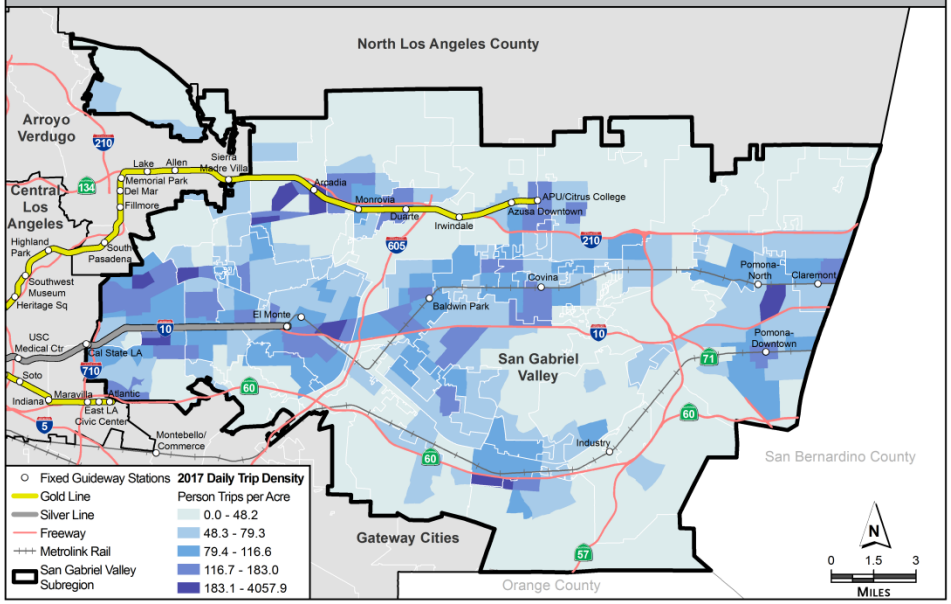
During the morning peak (6 AM to 9 AM), about 30% of directional freeway miles in the subregion are subject to severe congestion, i.e., average speed less than 25 miles per hour, 47% subject to moderate congestion, i.e., average speed between 25 and 50 mph, and the remaining 24% are uncongested, speed 50 miles per hour or better.

The severely congested portion includes

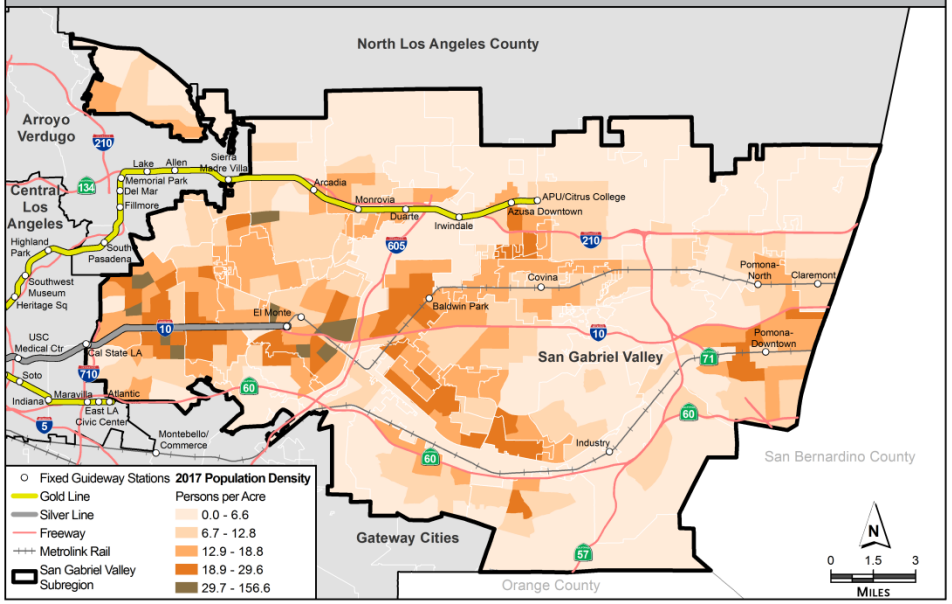
- I-210 W --- From Grand Ave to Baldwin Ave.
- I-10 W --- From Santa Anita Ave to I-710 junction.
- SR-60 W --- From Rosemead Blvd to Atlantic Blvd.

During the midday, 2% of its freeways are severely congested, 47% moderately congested and the remainders are uncongested.

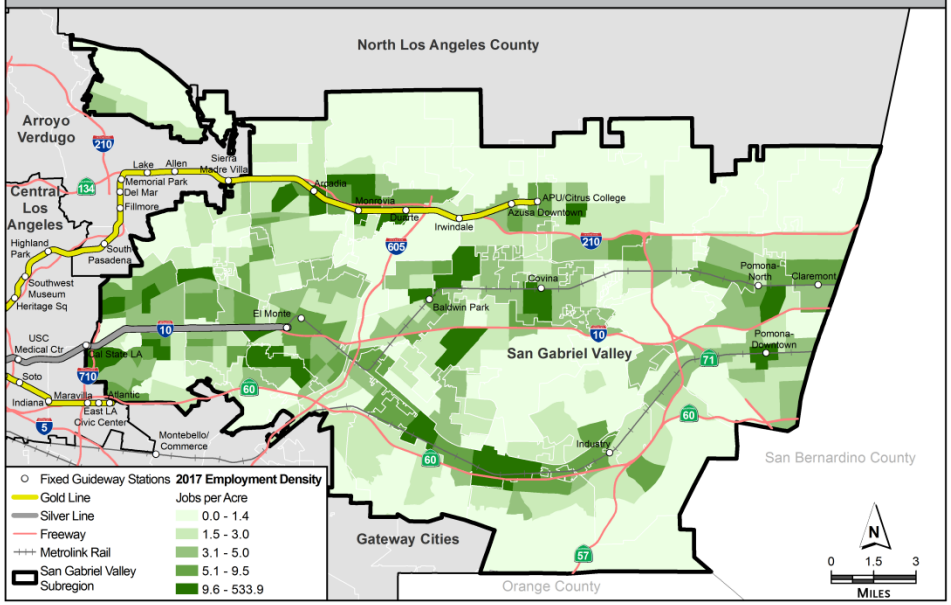
Daily Trip Density



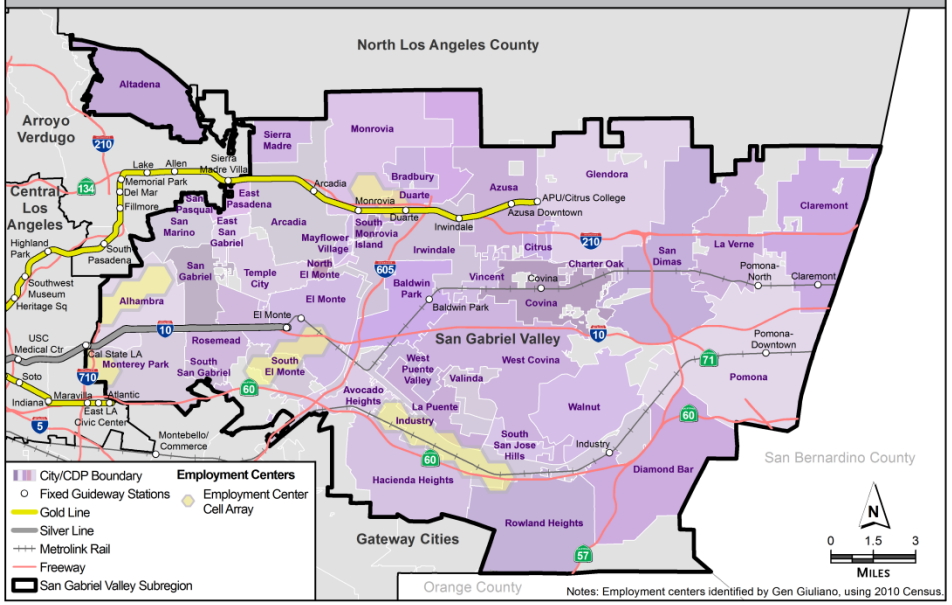
Population Density



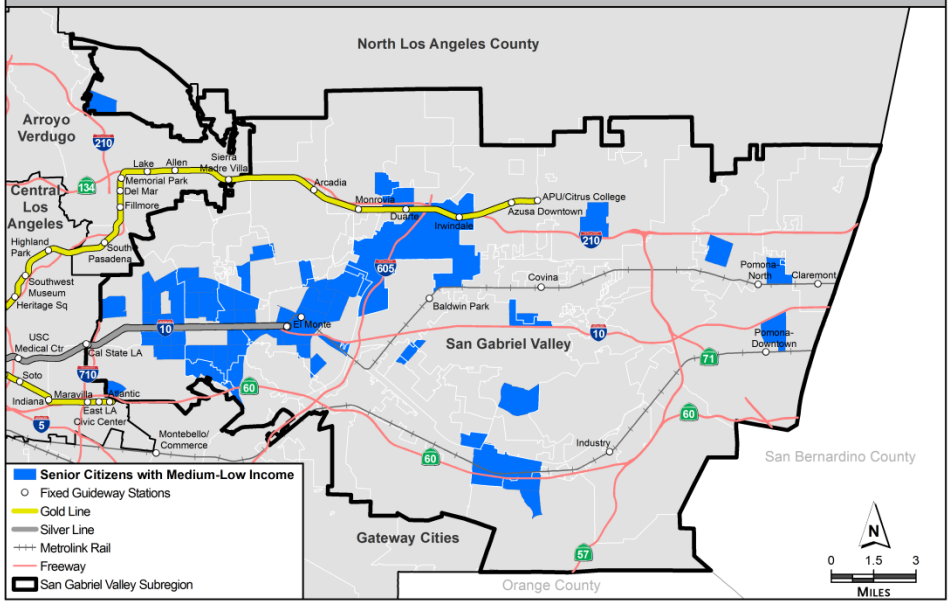
Employment Density



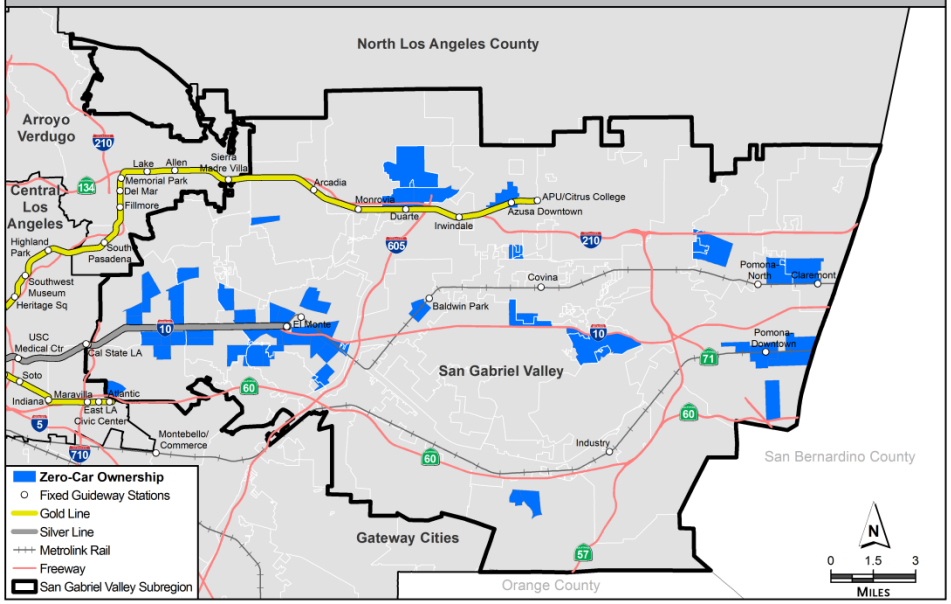
Employment Centers



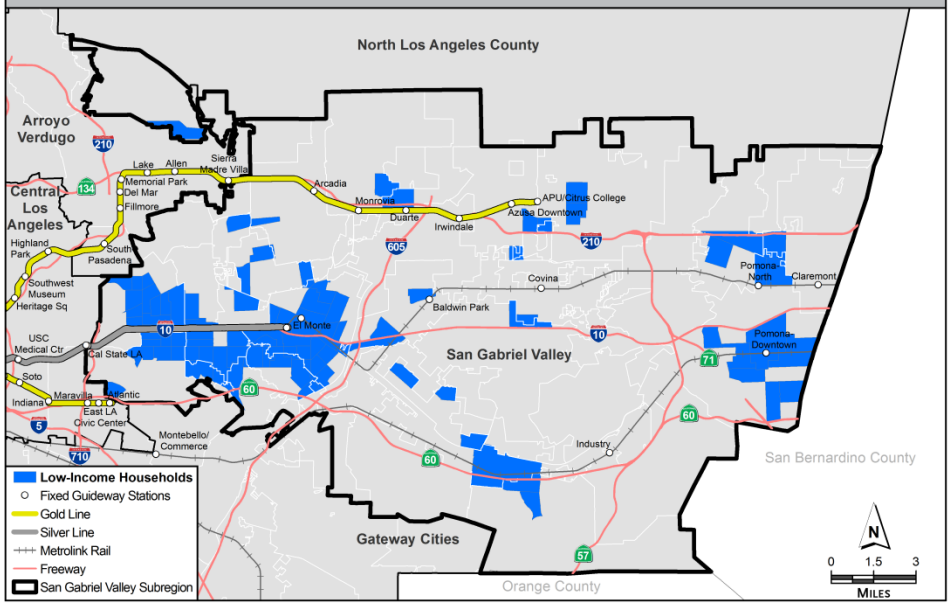
Senior Citizens with Medium-Low-Income



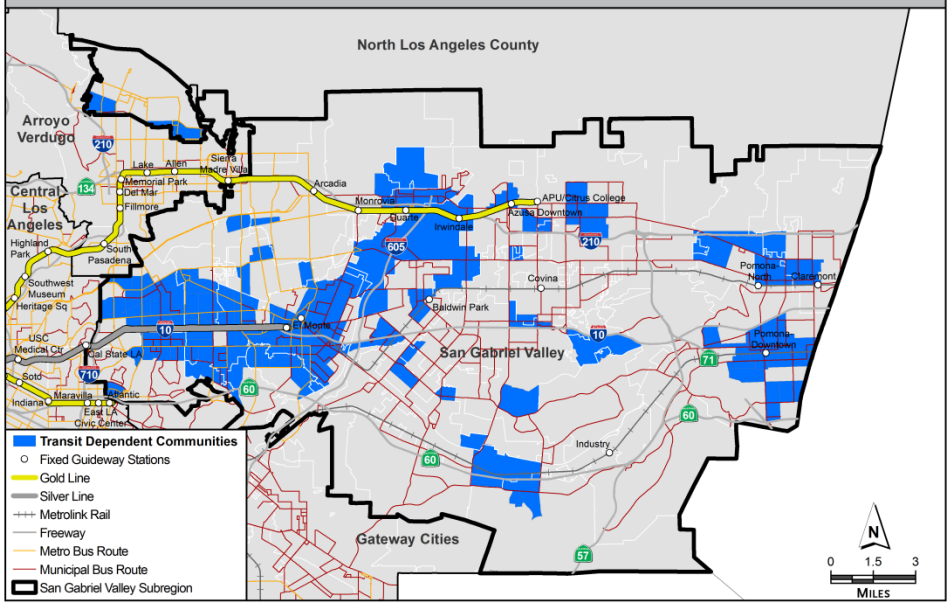
Zero-Car Ownership



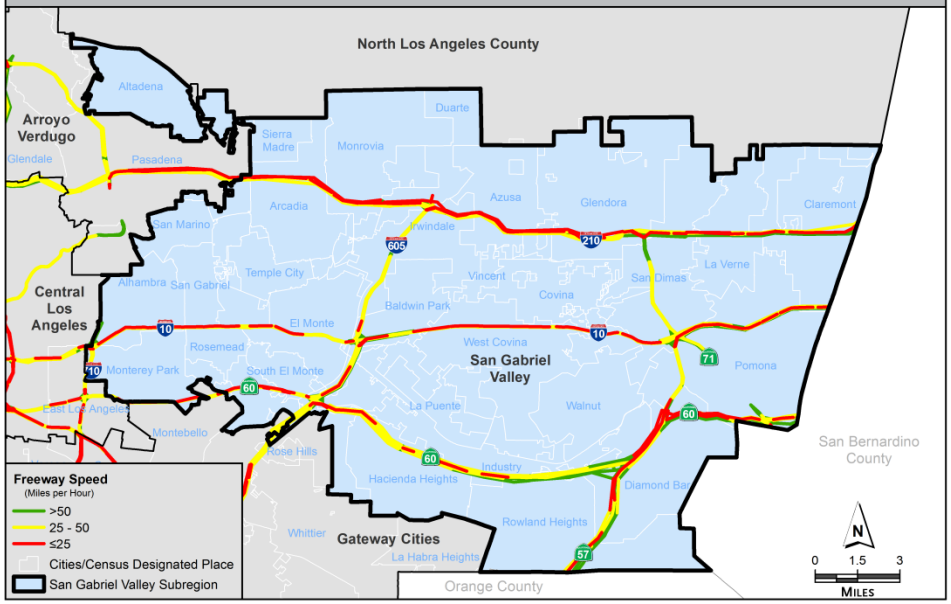
Low-Income



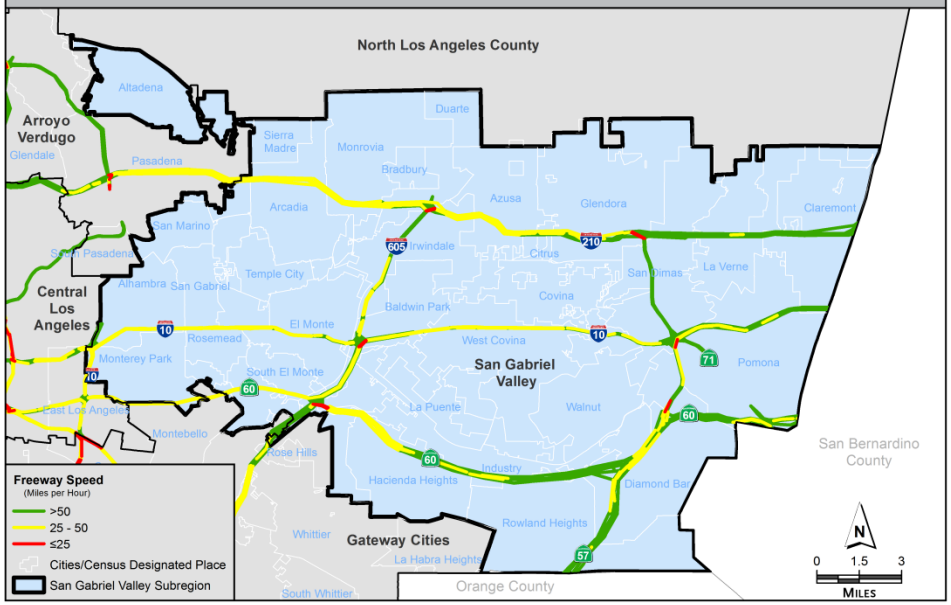
Transit-Dependent Population



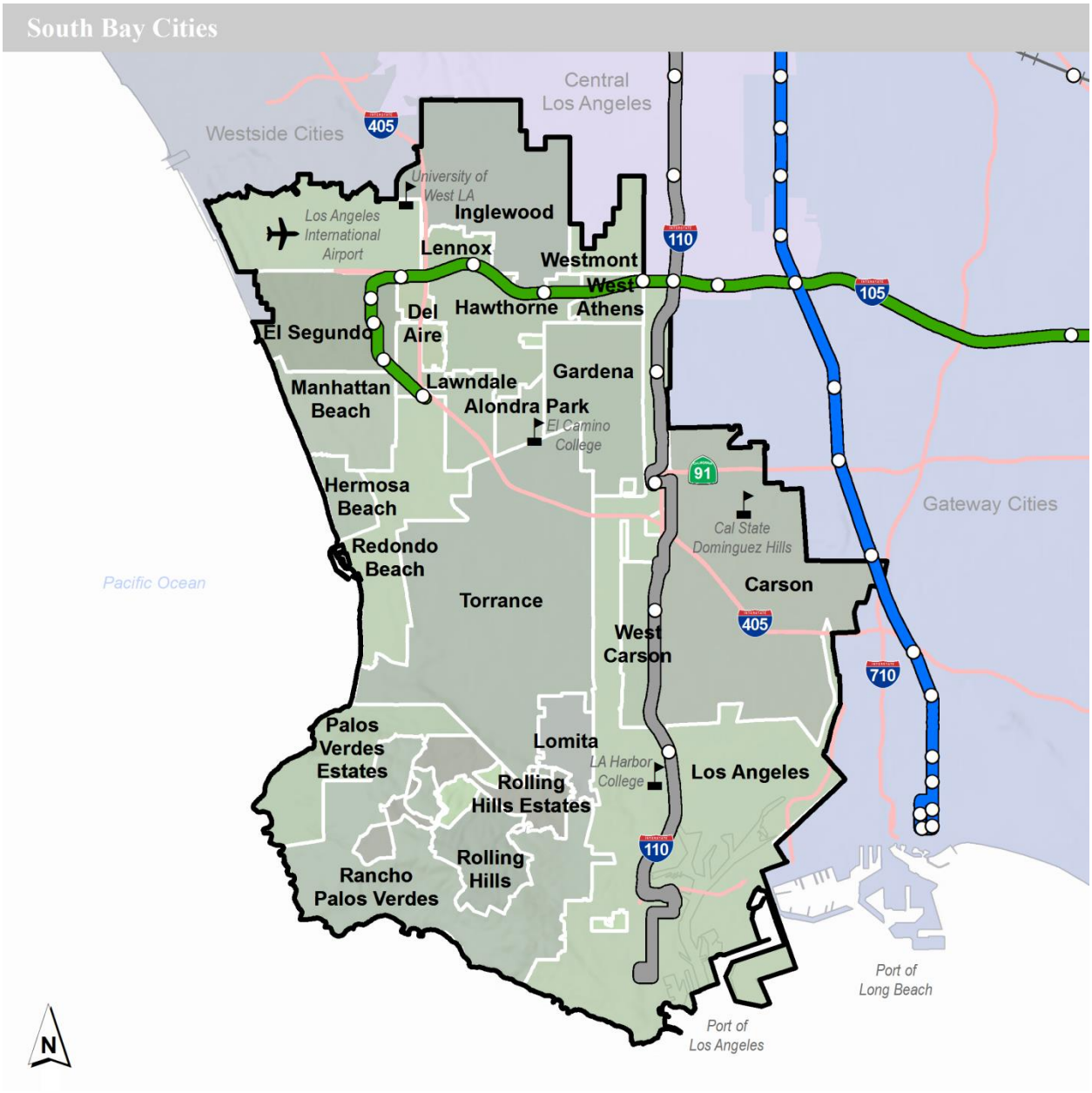
2017 AM Peak Period Freeway Congested Speed



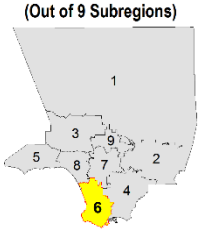
2017 Mid-day Freeway Congested Speed



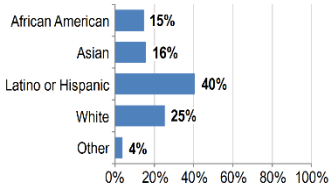
South Bay Cities



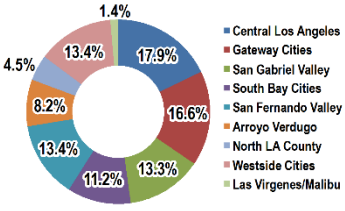
Total Area
154 Sq. Miles
Rank 6th
(Out of 9 Subregions)



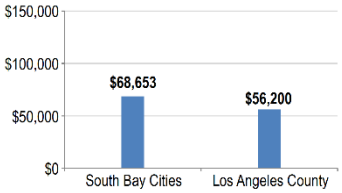
Total Population
1,050,022 People
Rank 5th



Total Employment
494,121 Jobs
Rank 6th



Median Household Income
$68,653 Average MHI
Rank 6th



Source: US Census Bureau, 2011–2016.

Cities and Communities

South Bay Cities portion of Los Angeles, Carson, El Segundo, Gardena, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Lomita, Manhattan Beach, Palos Verdes Estates, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, and Torrance. South Bay Cities also includes the following unincorporated communities of Los Angeles County: Alondra Park, Del Aire, Lennox, West Athens, West Carson, and Westmont.

Setting

The South Bay Cities subregion is located at the southern end of the Santa Monica Bay. This subregion covers 154 square miles and is home to 16 cities and unincorporated County areas. The west and southern portion of the subregion is bounded by the Pacific Ocean. El Porto Beach, Abalone Cove, and Venice Beach are major attractions for surfers and other water activity enthusiast. Cal State Dominguez Hills is located in the City of Carson. Major medical facilities include Harbor-UCLA Medical Center, Kaiser Permanente South Bay Medical Center, and Children's Hospital Los Angeles.

Major Transportation Facilities

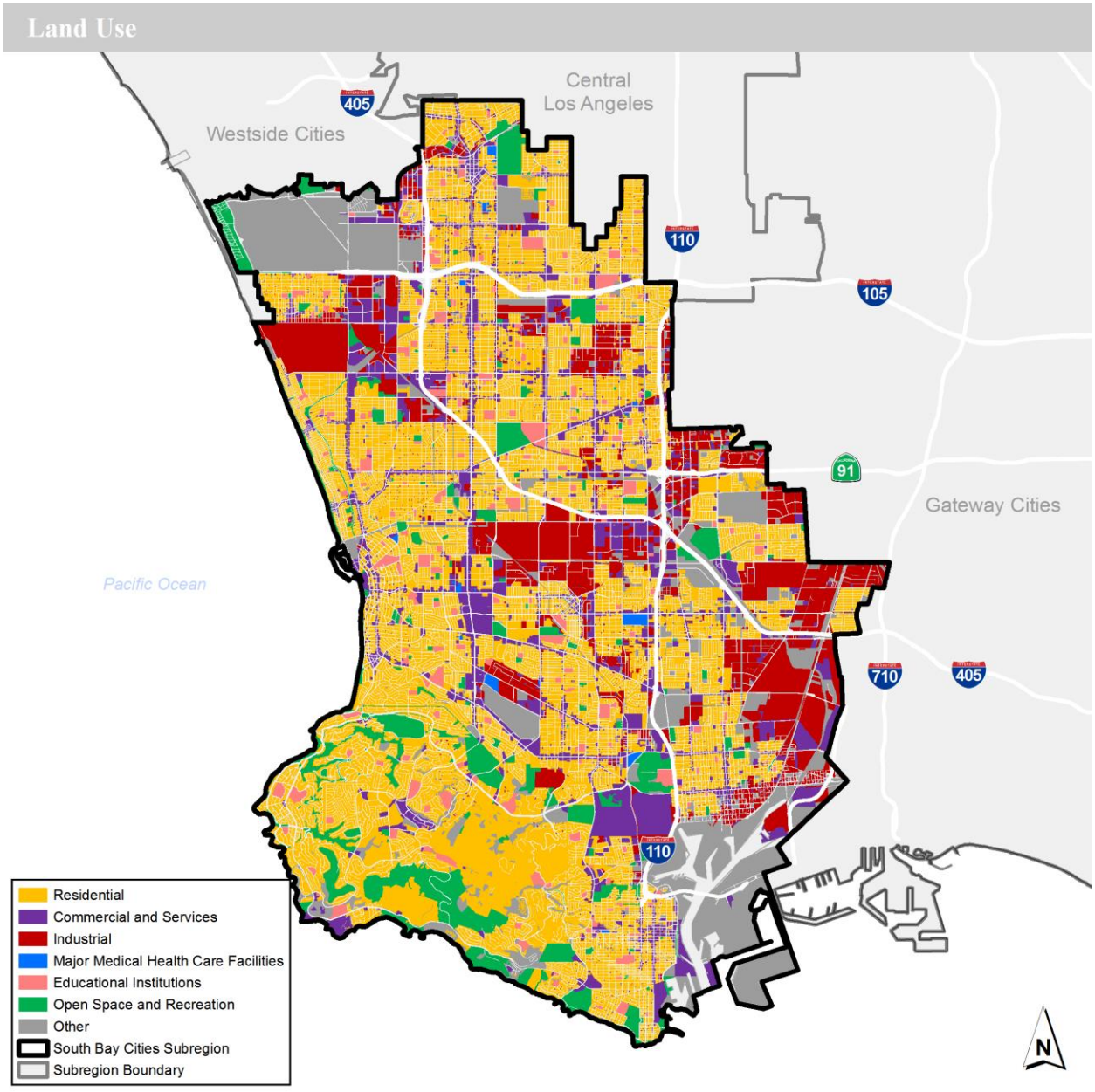
The Glenn Anderson (Century, I-105), Harbor (I-110) and the San Diego (I-405) freeways serve the South Bay area. SR-91 terminates near the eastern portion of the subregion, near Harbor Gateway Transit Center. A transitway, which provides elevated carpool lanes and a busway, runs down the center of the Harbor Freeway from USC in Central Los Angeles southwards to SR-91. A unique feature of the carpool lanes on the I-110 and I-105 Freeways is that they flow directly into each other via an elevated direct connector interchange, bypassing the at-grade interchange used by other traffic.

In addition, the South Bay is traversed with major arterials that carry equal capacity to the local freeway system. These major arterials include Hawthorne Bl, Pacific Coast Hwy, Sepulveda, Crenshaw, Artesia, Lomita Bl, Manhattan Beach Bl, Douglas St, Rosecrans Av, and 190th St as well as others.

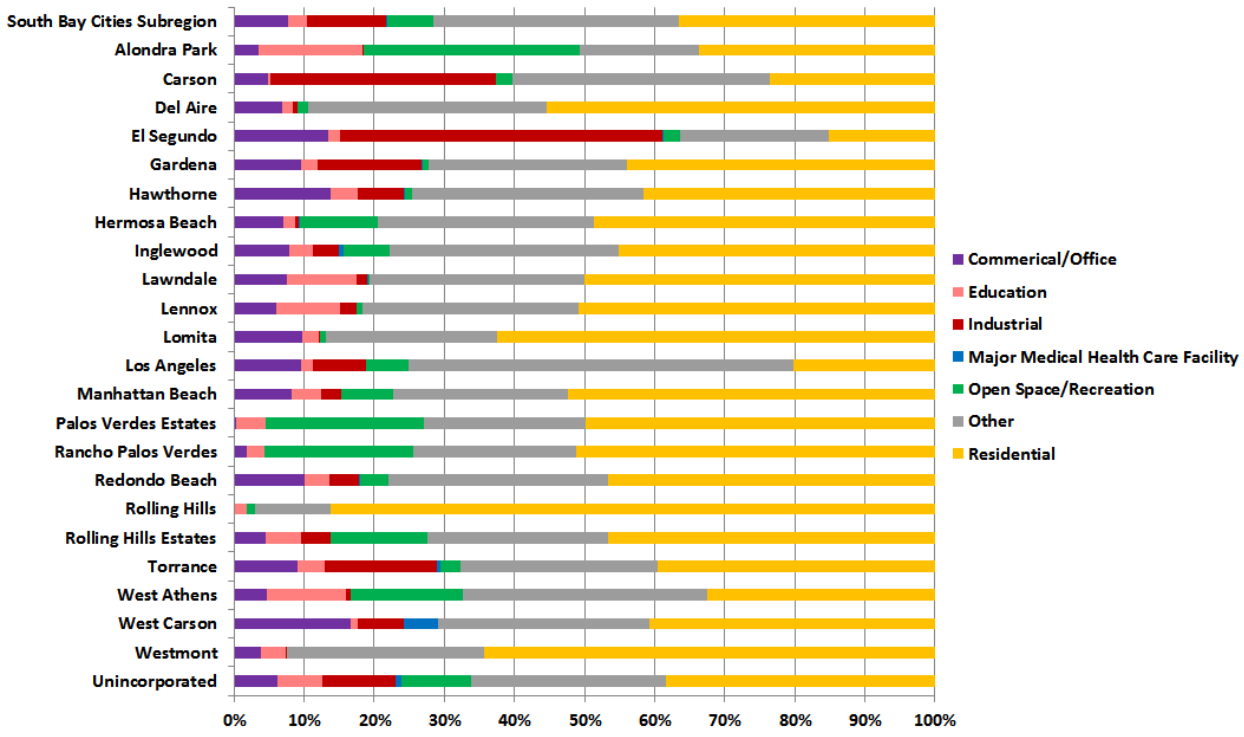
The Metro Green Line runs in the median of the I-105 Freeway from Norwalk in the east to the southern edge of Los Angeles International Airport (LAX) then south to Redondo Beach. A long segment of the Alameda Corridor runs along the subregion's eastern border.

The area has regional and local transit services provided by Metro, Torrance Transit, Municipal Area Express (MAX), Gardena Municipal Bus Lines, Long Beach Transit, Palos Verdes Transit, Beach Cities Transit, Carson Circuit, Lawndale Beat, and LADOT's Commuter Express. In addition, many local jurisdictions operate transit and dial-a-ride services within their boundaries.

Land Use



Roughly 19% of the subregion is designated for commercial/industrial land use and residential land use covers approximately 37%. Chart below shows the breakdown of land use for communities within the subregion. City of Los Angeles is the largest city in the subregion. The city of Rolling Hills has the largest percentage of residential land use but the lowest population density in the subregion. City of Torrance has the largest total area for residential land use. City of El Segundo has the highest percentage of industrial land use but the City of Carson has the largest total area. City of Los Angeles has the largest total commercial area, followed by the City of Torrance.


South Bay Cities Subregion
Alondra Park
Carson
Del Aire
El Segundo
Gardena
Hawthorne
Hermosa Beach
Inglewood
Lawndale
Lennox
Lomita
Los Angeles
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates
Torrance
West Athens
West Carson
Westmont
Unincorporated
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Commerical/Office
Education
Industrial
Major Medical Health Care Facility
Open Space/Recreation
Other
Residential

Travel Demand Factors

Name	Acres	Population Density (Person per Acre)	Employment Density (Jobs per Acre)	Daily Trips Density (Person Trips per Acre)
South Bay Cities Subregion	98,217	11.1	5.0	77.7
Alondra Park	731	12.2	3.1	125.9
Carson	12,140	7.8	5.0	60.2
Del Aire	648	14.3	7.6	132.4
El Segundo	3,500	4.8	11.1	76.7
Gardena	3,754	16.2	7.9	117.1
Hawthorne	3,901	22.5	6.2	131.9
Hermosa Beach	935	21.5	8.5	154.5
Inglewood	5,819	19.8	5.5	117.5
Lawndale	1,264	26.0	5.6	143.0
Lennox	700	29.9	4.3	137.4
Lomita	1,224	16.7	3.9	93.7
Los Angeles	23,488	8.9	4.1	57.7
Manhattan Beach	2,534	14.0	7.4	130.7
Palos Verdes Estates	3,089	4.5	0.8	22.1
Rancho Palos Verdes	8,742	4.7	1.0	27.2
Redondo Beach	4,031	17.0	6.2	120.9
Rolling Hills	1,913	1.0	0.1	3.7
Rolling Hills Estates	2,313	4.4	1.3	28.9
Torrance	13,171	11.3	8.0	102.2
West Athens	855	10.8	2.7	76.4
West Carson	1,459	15.6	5.8	88.1
Westmont	1,183	26.9	2.0	106.4
Unincorporated	825	8.0	5.9	72.5

The South Bay has two major transportation hubs near its borders — LAX, and the Port of Los Angeles. LAX passenger trips substantially add to traffic volumes on the freeways and surface streets traversing the area. Cargo and truck traffic also impact the subregion's transportation system. During the economic downturn in the 1990s, the South Bay adapted existing business structures to warehousing, which has led to increased truck traffic, added congestion and associated pavement damage on arterials and freeways (I-405 and I-110). At the same time, transporting goods into and out of the subregion has added traffic volumes to the freeways, placing additional capacity pressure on the aging onramps.

In addition, major trip generators/attractors such as the Home Depot Center, The Forum, and Hollywood Park, add to the considerable demand for commuter and entertainment travel and overall travel mobility needs of the subregion. There is a spatial correlation between high population, trip, and employment density areas. Trip and population density clusters in the areas along I-405, I-110, and I-105 Freeways. High population and trip densities tends to occur in most areas north of Pacific Coast Highway and in the San Pedro community. City of El Segundo has the highest employment density, followed by Hermosa Beach and Torrance.

Transit Dependent Communities

Communities that meet all three criteria's for transit dependency cluster around Westmont, West Athens, Inglewood, and Hawthorne. Areas of low-income communities can be seen along the I-110 and I-105 Freeway. Zero-vehicle household communities can be found near the northern portion of the subregion and in San Pedro-Wilmington area.

Traffic Congestions

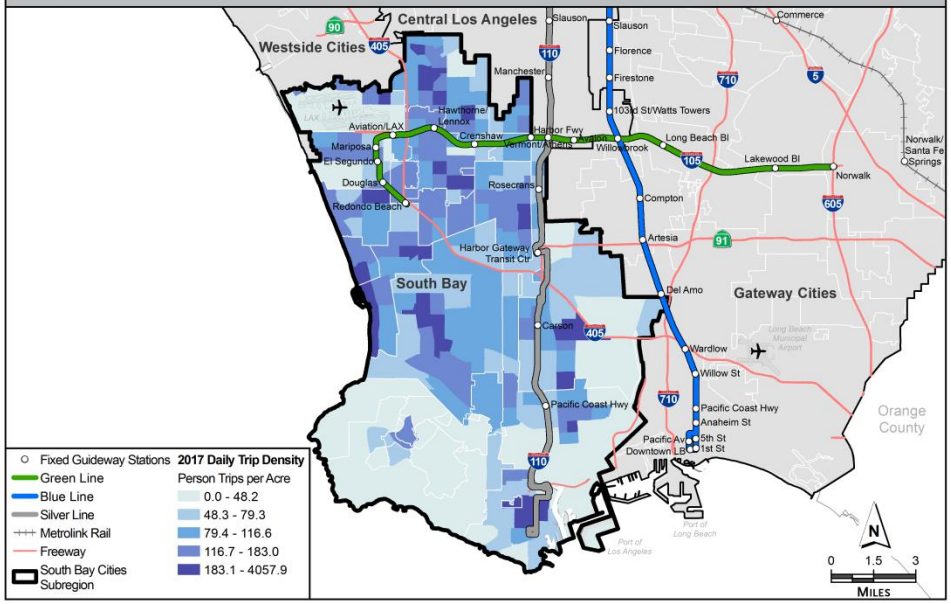
During the morning peak (6 AM to 9 AM), about 14% of directional freeway miles in the subregion are subject to severe congestion, i.e., average speed less than 25 miles per hour, 53% subject to moderate congestion, i.e., average speed between 25 and 50 mph, and the remaining 34% are uncongested, speed 50 miles per hour or better.

The severely congested portion includes

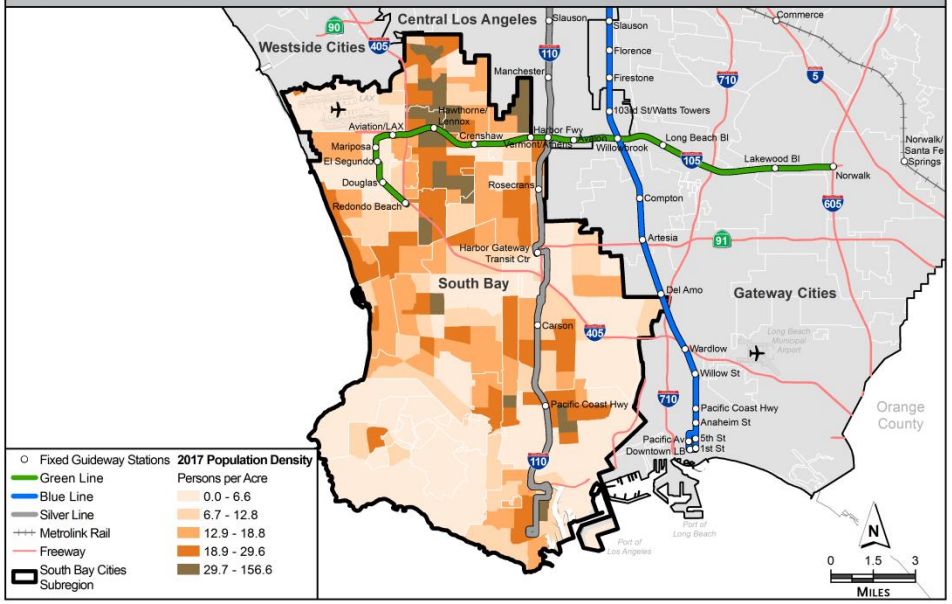
- I-405 N --- From Rosecrans Ave to La Cienega Blvd.
- I-105 W --- From Wilmington Ave to Crenshaw Blvd.

During the midday, 3% of its freeways are severely congested, 43% moderately congested and the remainders are uncongested.

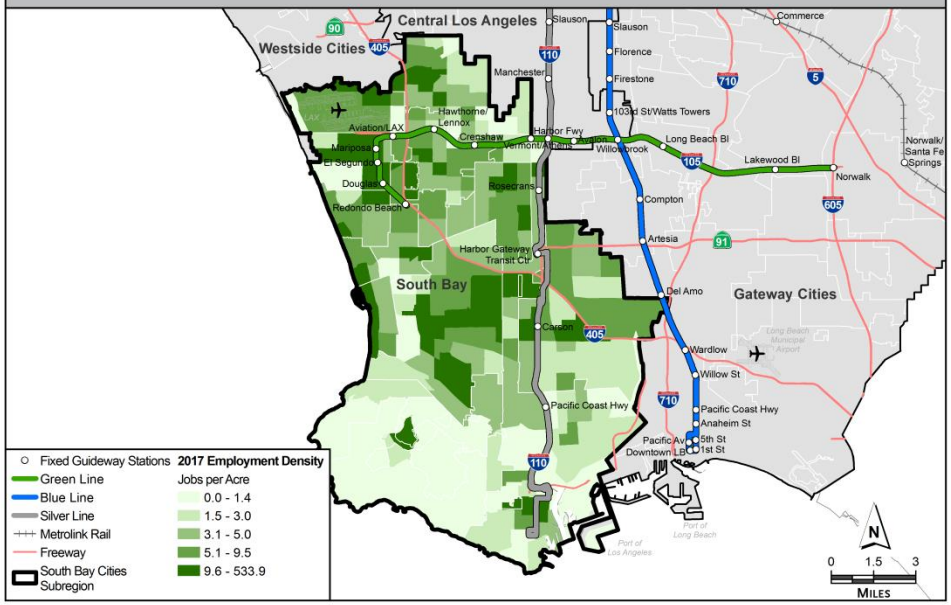
Daily Trip Density



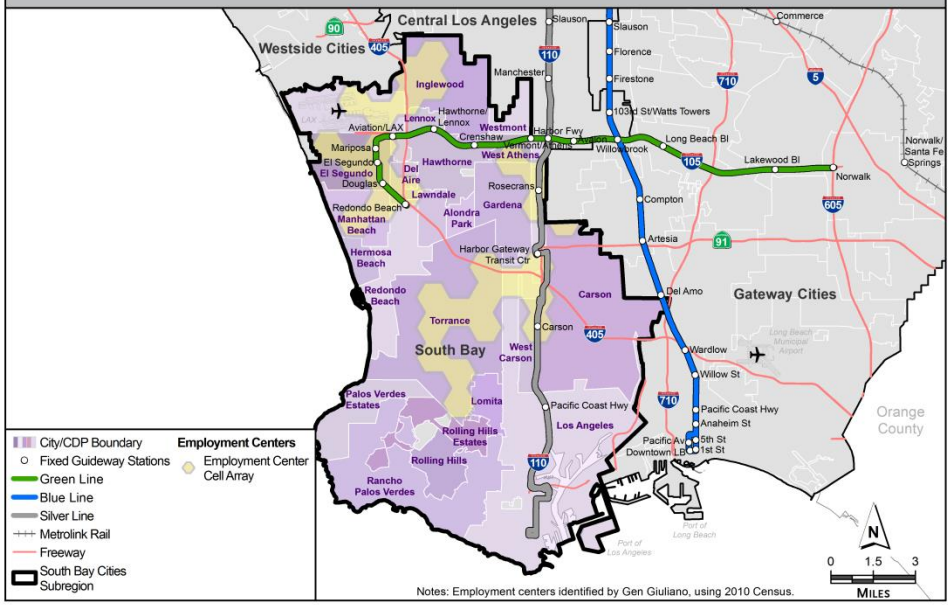
Population Density



Employment Density

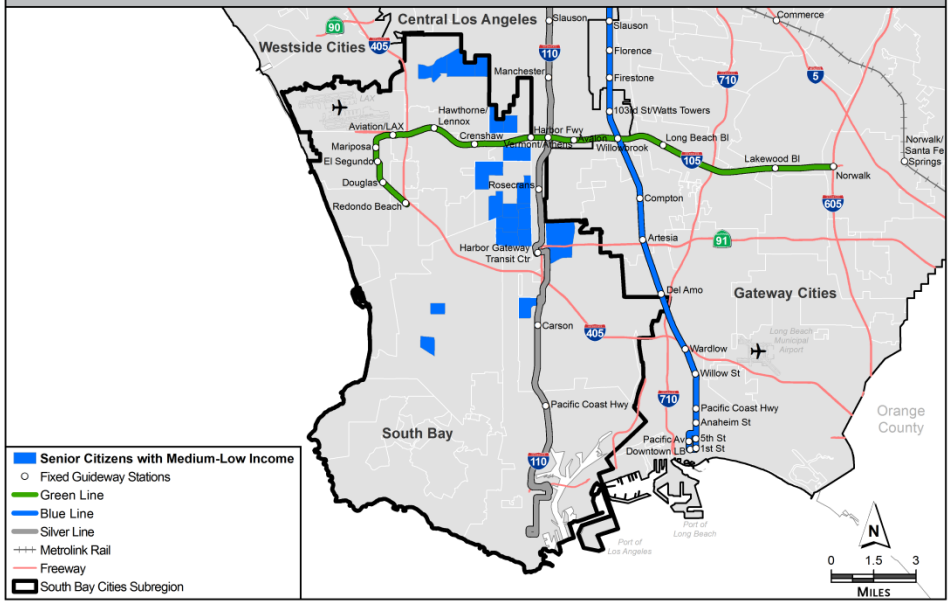


Employment Centers

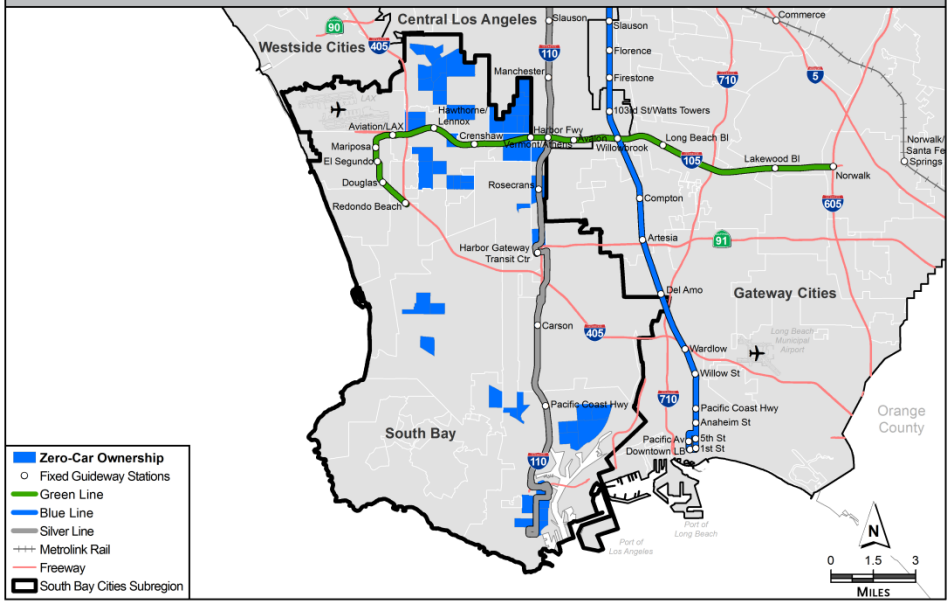


Notes: Employment centers identified by Gen Giuliano, using 2010 Census.

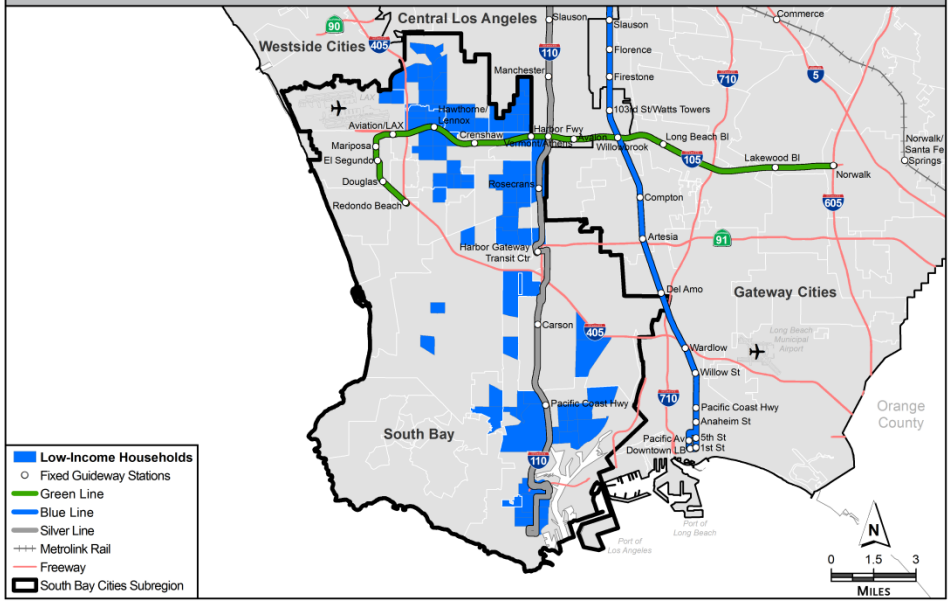
Senior Citizens with Medium-Low-Income



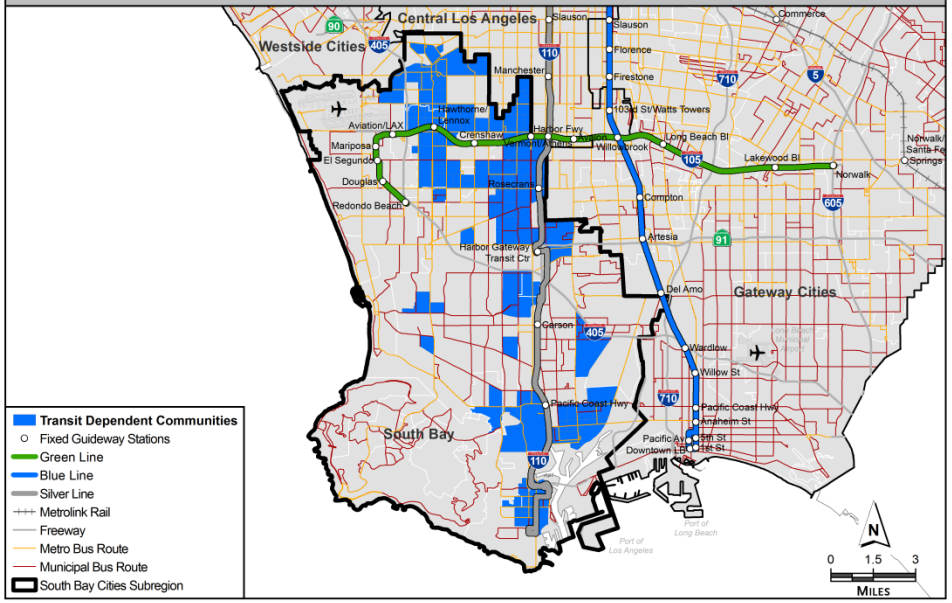
Zero-Car Ownership



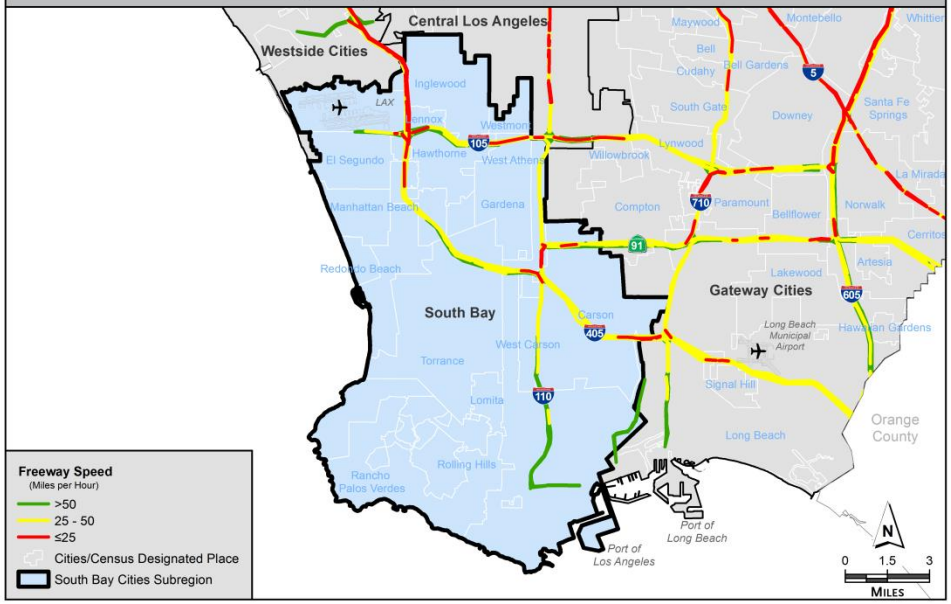
Low-Income



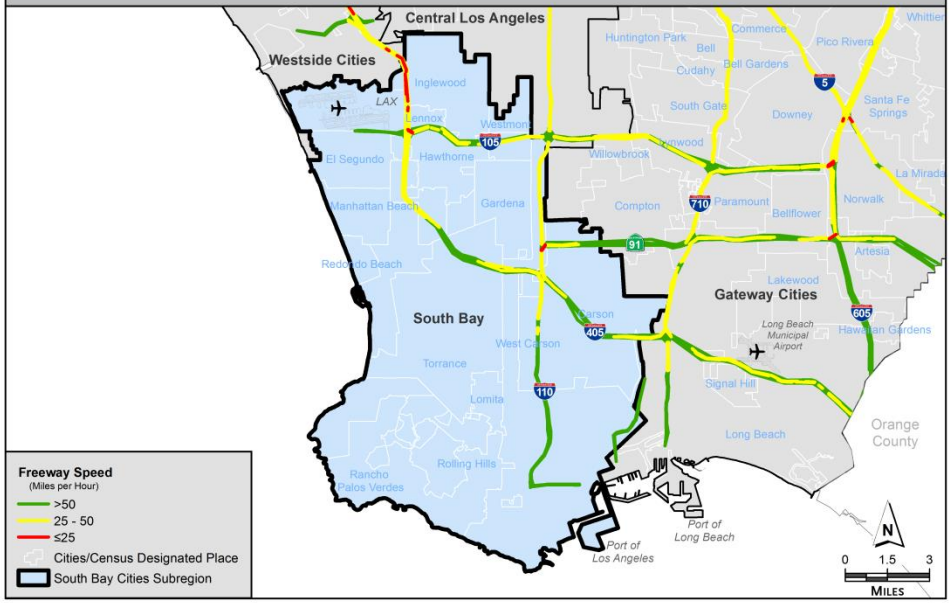
Transit-Dependent Population



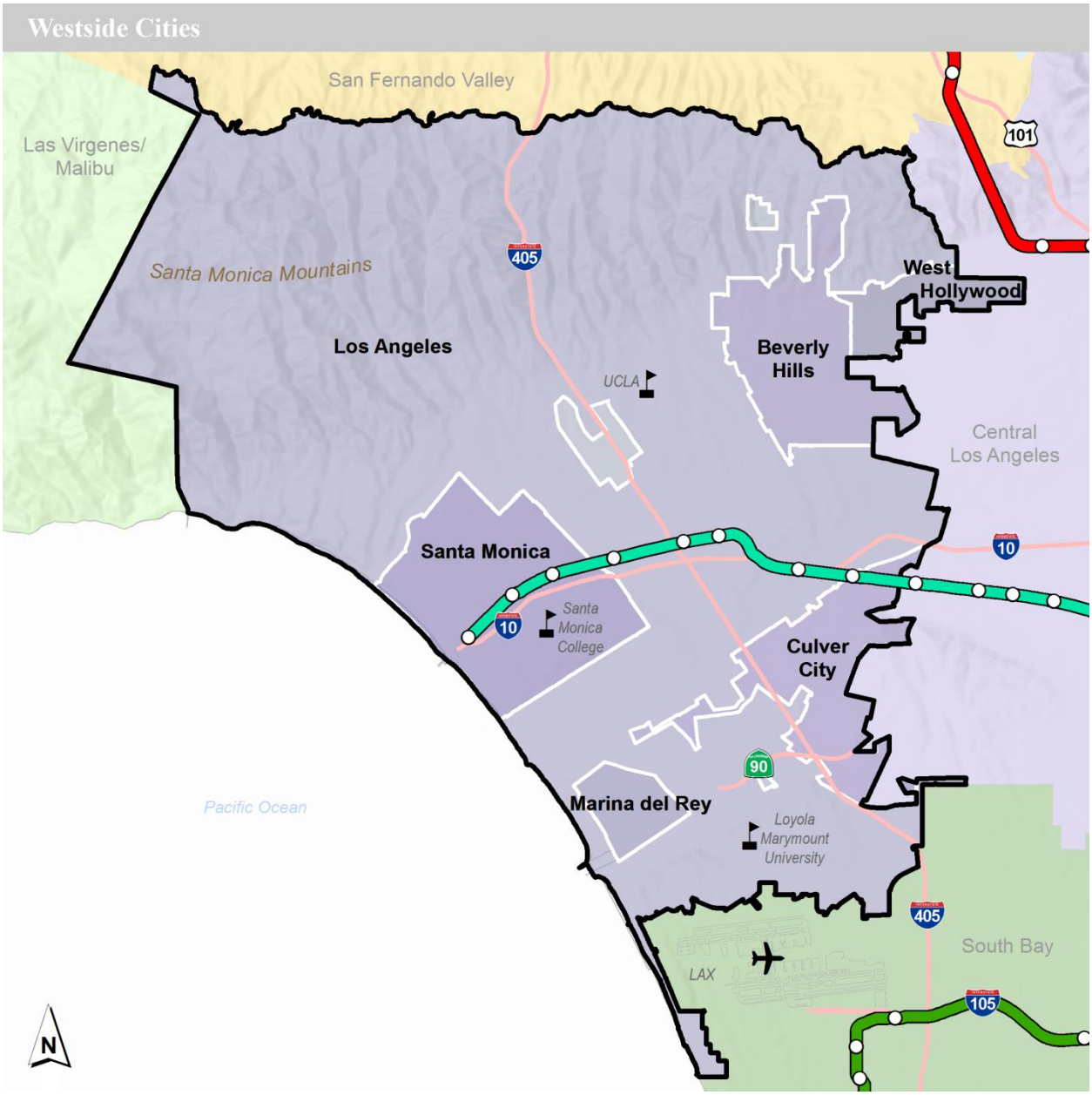
2017 AM Peak Period Freeway Congested Speed



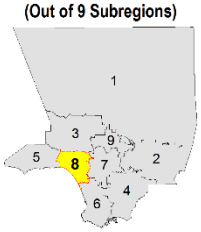
2017 Mid-day Freeway Congested Speed



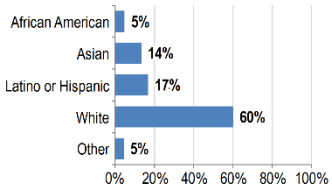
Westside Cities



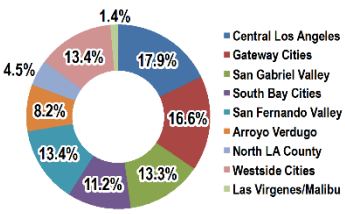
Total Area
111 Sq. Miles
Rank 8th
(Out of 9 Subregions)



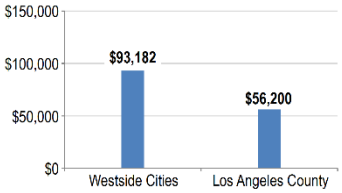
Total Population
653,289 People
Rank 7th



Total Employment
593,697 Jobs
Rank 4th



Median Household Income
$93,182 Average MHI
Rank 2nd



Source: US Census Bureau, 2011–2016.

Cities and Communities

Westside Cities portion of Los Angeles, Beverly Hills, Culver City, Santa Monica, and West Hollywood. Westside Cities also include the unincorporated community of Marina Del Rey.

Setting

This subregion covers 111 square miles and is home to five cities and numerous Los Angeles City communities. It is home to several historical landmarks such as the Santa Monica Looff Hippodrome, Beverly Hills Hotel, and the Werle Building. The subregion has some of the top educational institutions in the nation such as University of California Los Angeles and Loyola Marymount University. The West Los Angeles Veterans Affairs Medical Center, which is the largest facility in the Veterans Affairs health care system, is located west of UCLA. Westside Cities is the 2nd smallest subregion, ranks 7th in total population, 4th in total employment, 6th in total daily trips, and 2nd in average median household income. The subregion predominantly non-Hispanic Whites.

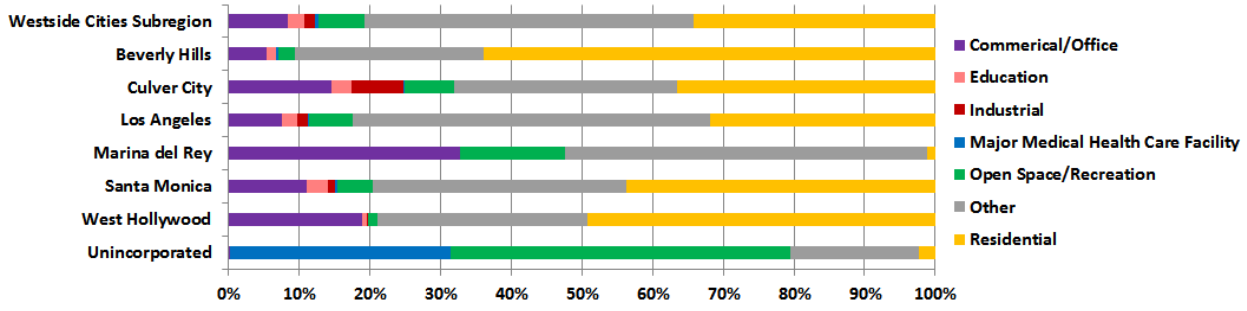
Major Transportation Facilities

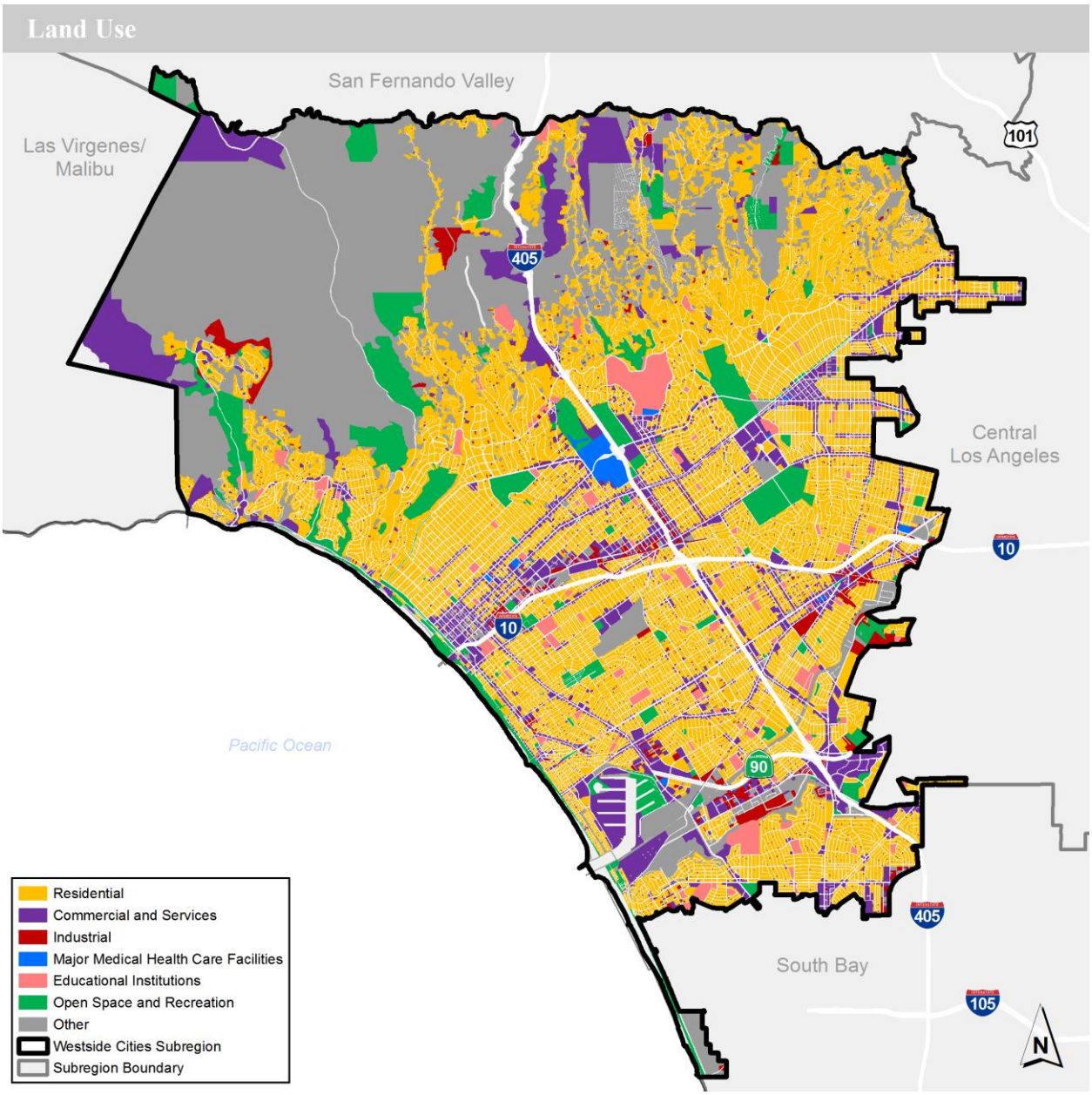
The Santa Monica Freeway (I-10), the San Diego Freeway (I-405) and Marina Freeway (SR-90) all serve the Westside area. Several major east-west and north-south boulevards parallel I-10 and I-405, providing primary access to and within the Westside area.

The area also have an extensive network of regional and local transit services provided by Metro, LADOT's Commuter Express, Santa Monica Big Blue Bus and Culver City Bus. Currently, Metro Rapid bus service operates along Wilshire Bl, La Cienega Bl, and parts of Sepulveda Bl. Big Blue Bus operates Metro Rapid service along Lincoln Bl. These lines provide connections to the Metro Purple Line at the Wilshire/Western Station, the LAX City Bus Center, the Metro Green Line, and the downtown Santa Monica transit center.

Land Use

Roughly 10% of the subregion is designated for commercial/industrial land use and residential land use covers approximately 34%. Chart below shows the breakdown of land use for communities within the subregion. City of Los Angeles is the largest city in the subregion. The City of Beverly Hills has the highest percentage of residential land use but the City of Los Angeles has the largest total residential and commercial area in the subregion.





Travel Demand Factors

West Hollywood and Santa Monica have the highest trip densities in the county. Some of the Westside's neighborhoods (such as parts of Santa Monica, West Hollywood, Westwood and Venice) have population densities almost 10 times the county average. The table below shows West Hollywood having the highest population, employment, and trip densities. The City of Los Angeles is the largest city in the subregion, has the lowest employment density, and has only 10% of land categorized for commercial/industrial use. The Westside cities' road infrastructure is completely built-out and cannot accommodate any more road capacity without adverse community impacts.

Name	Acres	Population Density (Person per Acre)	Employment Density (Jobs per Acre)	Daily Trips Density (Person Trips per Acre)
Westside Cities Subregion	70,924	9.5	8.4	102.6
Beverly Hills	3,655	9.7	16.5	180.0
Culver City	3,289	12.1	13.7	153.0
Los Angeles	55,813	8.3	6.4	79.4
Marina del Rey	931	10.2	6.6	106.6
Santa Monica	5,305	17.5	17.3	216.9
West Hollywood	1,208	29.8	24.4	336.8
Unincorporated	724	2.3	6.7	41.1

Transit Dependent Communities

Majority of the Transit Dependent Communities within the subregion are low-income or have zero access to vehicles. The senior communities are dispersed in various areas of the subregion. After combining the 3 criteria groups, we can see Transit Dependent tracts are located along the I-405 and I-10 Freeways as well as downtown Santa Monica and some areas of the eastern border.

Traffic Congestions

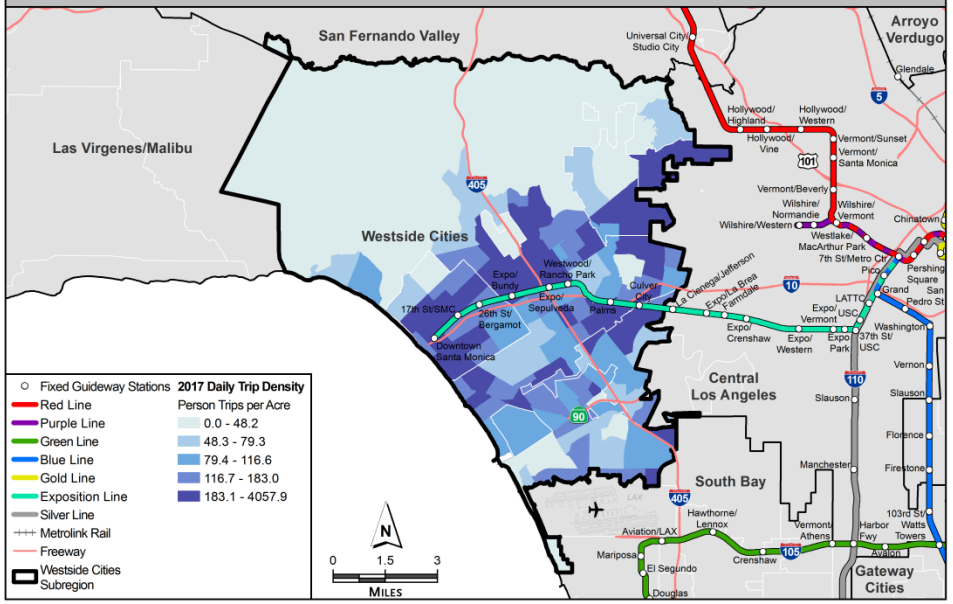
During the morning peak (6 AM to 9 AM), about 37% of directional freeway miles in the subregion are subject to severe congestion, i.e., average speed less than 25 miles per hour, 36% subject to moderate congestion, i.e., average speed between 25 and 50 mph, and the remaining 26% are uncongested, speed 50 miles per hour or better.

The severely congested portion includes

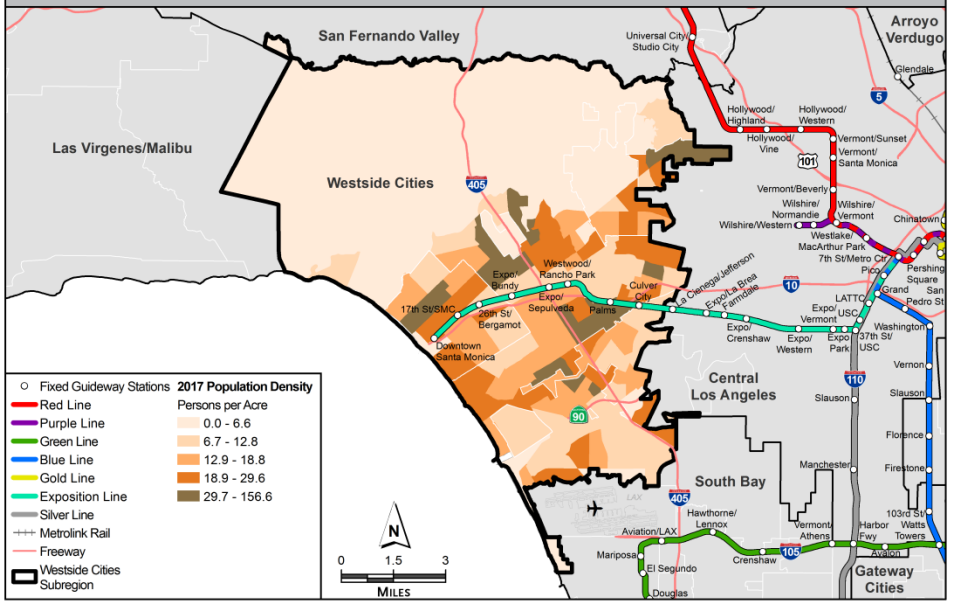
- I-405 S --- From Mulholland Dr. to I-10 Junction.
- I-10 W --- From SR-187 Junction to Bundy Dr.
- I-405 N --- From La Cienega Blvd to I-10 Junction.

During the midday, 6% of its freeways are severely congested, 61% moderately congested and the remainders are uncongested.

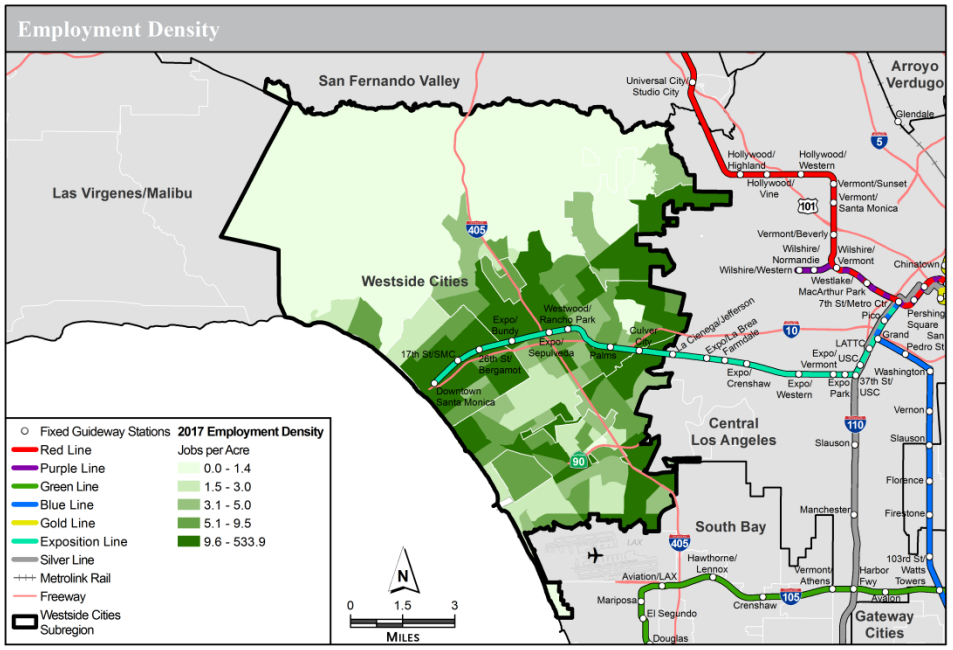
Daily Trip Density



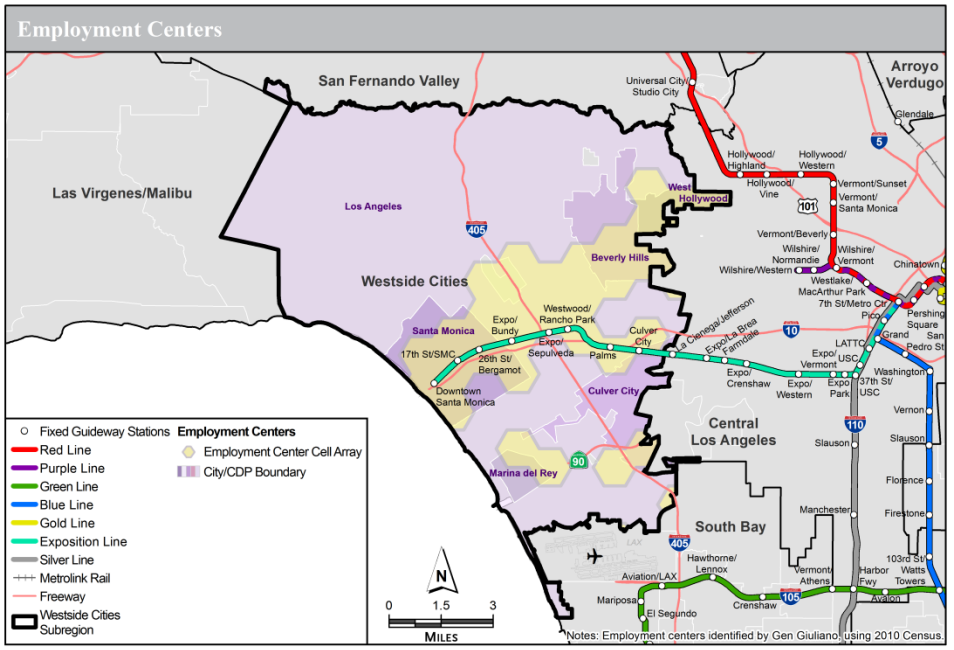
Population Density



Employment Density

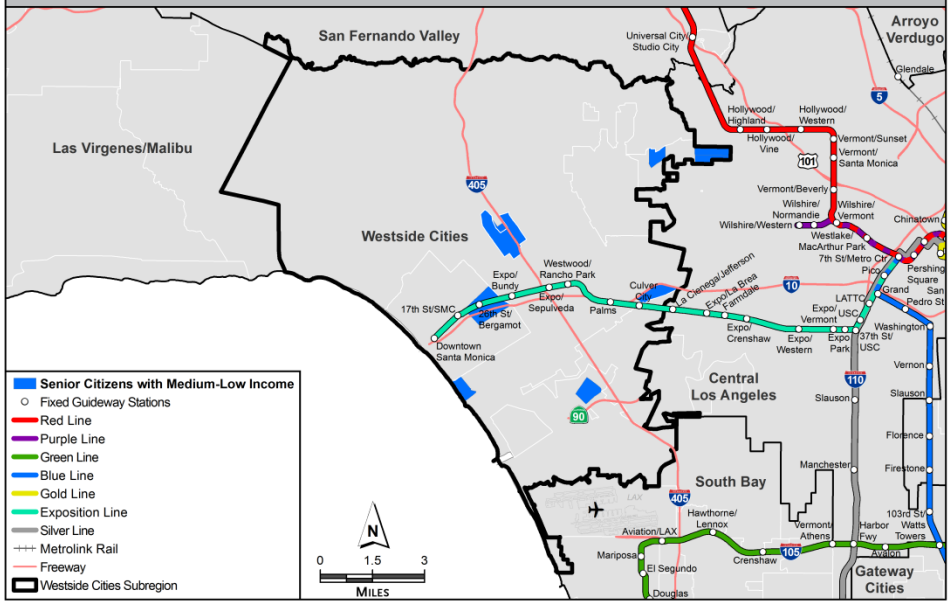


Employment Centers

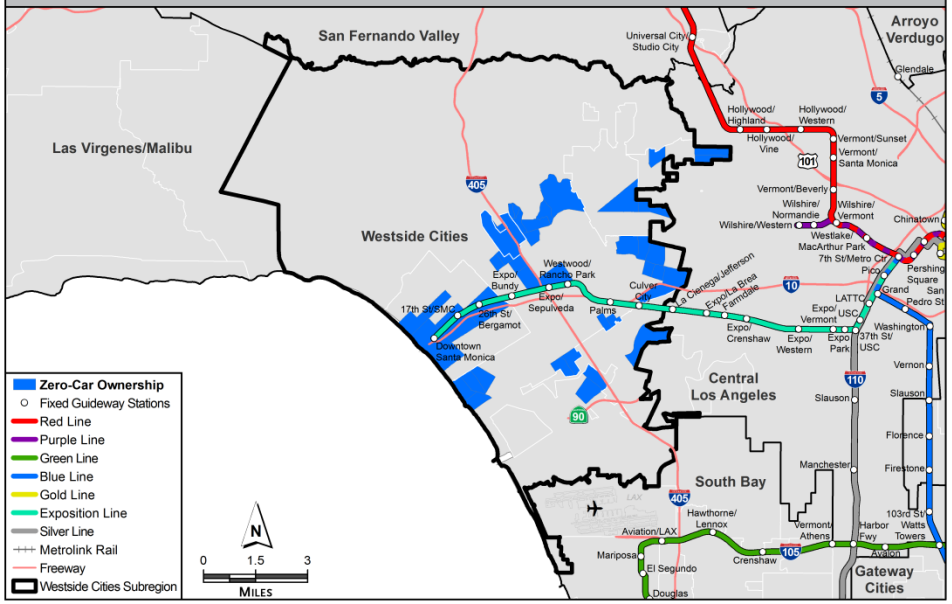


Notes: Employment centers identified by Gen Giuliano using 2010 Census.

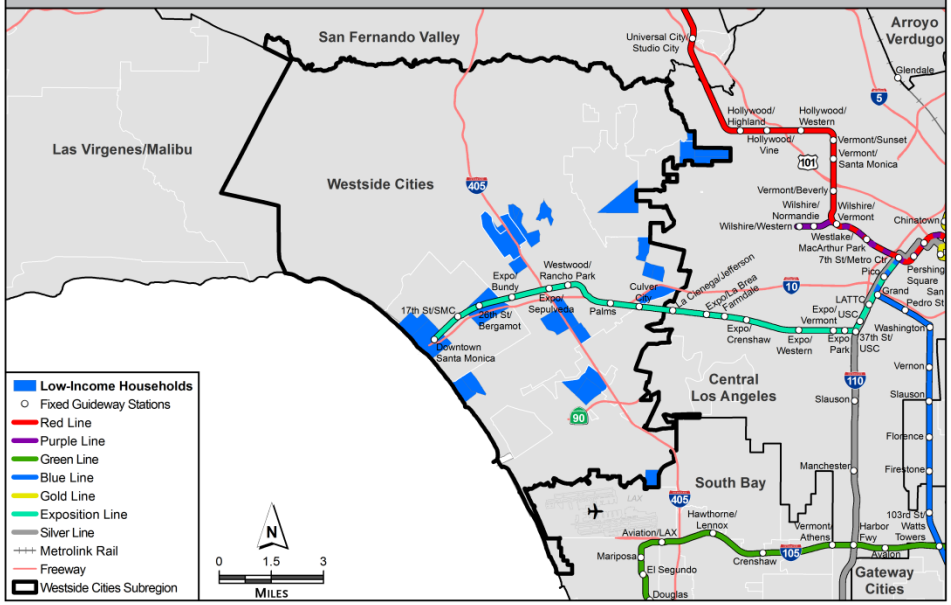
Senior Citizens with Medium-Low-Income



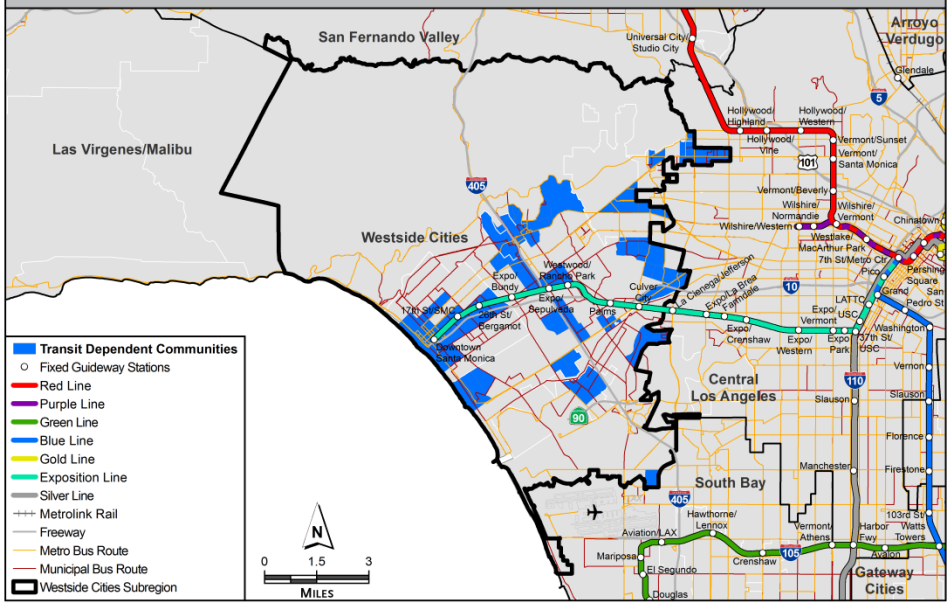
Zero-Car Ownership



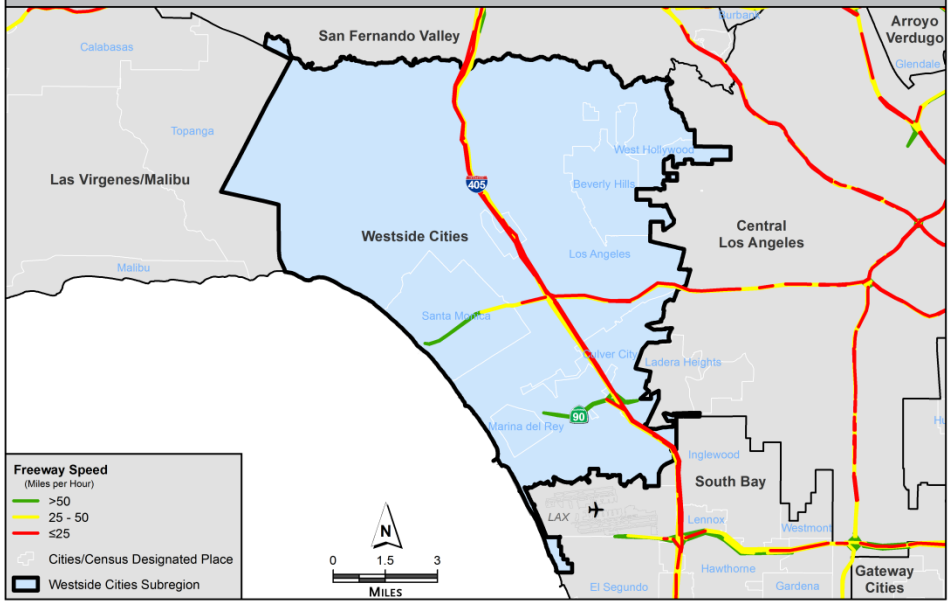
Low-Income



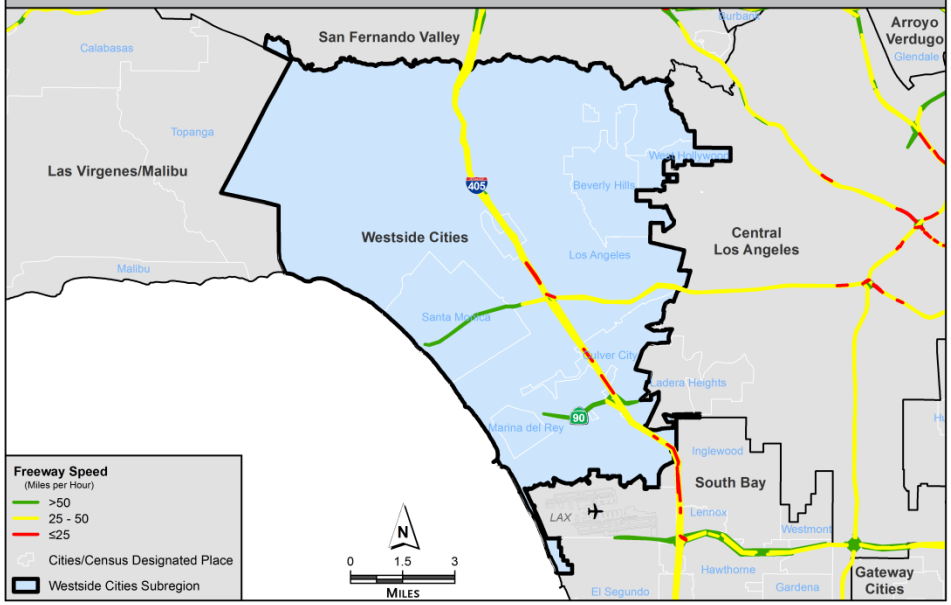
Transit-Dependent Population



2017 AM Peak Period Freeway Congested Speed



2017 Mid-day Freeway Congested Speed



Appendix 3D

Trip Attractions/Productions

- Arroyo Verdugo Subregion
- Central Los Angeles Subregion
- Gateway Cities Subregion
- Las Virgenes/Malibu Subregion
- North Los Angeles County Subregion
- San Fernando Valley Subregion
- San Gabriel Valley Subregion
- South Bay Cities Subregion
- Westside Cities Subregion

Trip Attractions/Productions

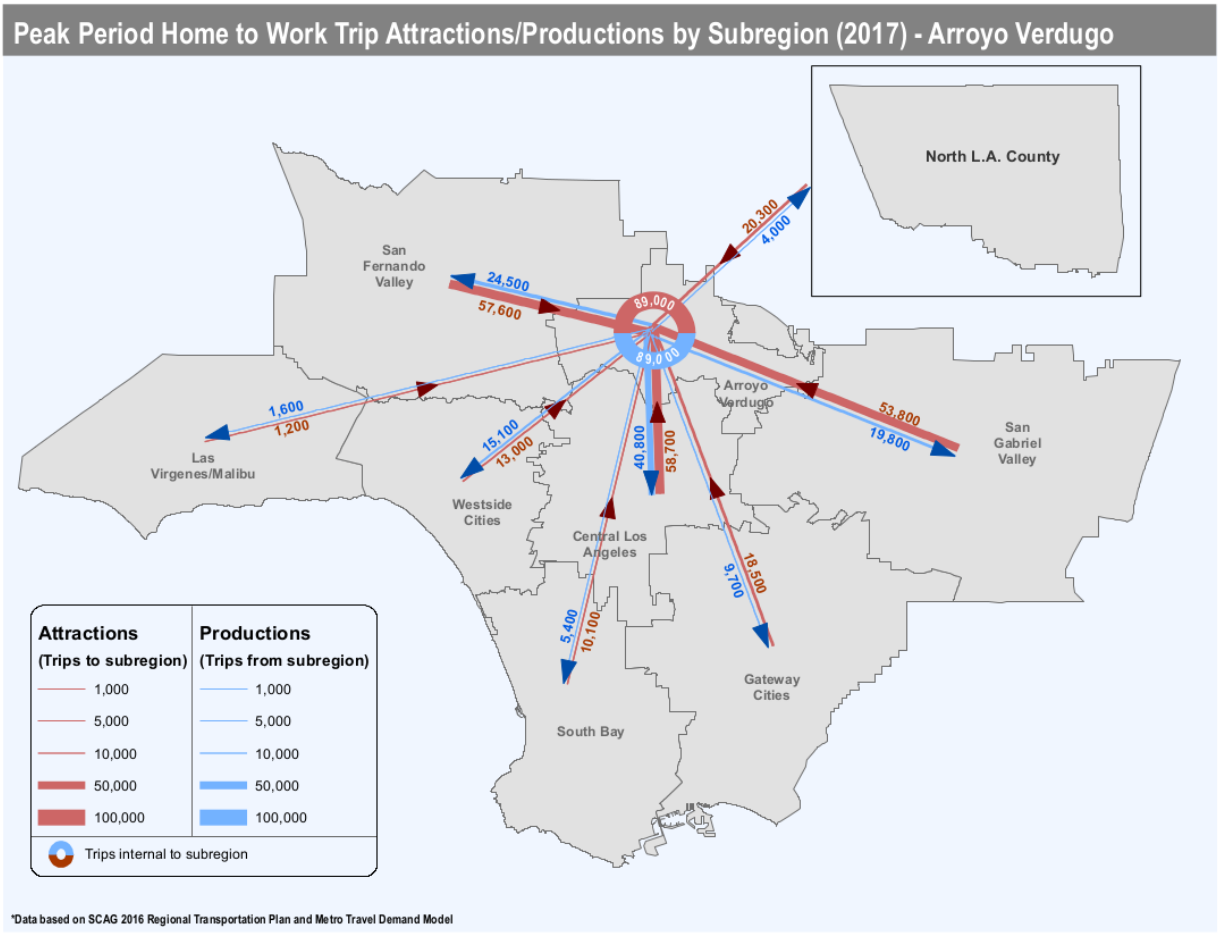
The Metro Travel Demand Model analyzes average daily travel using eight major groupings: four trip purposes by two time periods. The four major travel purposes are: Home-Based-Work (HBW), Home-Based-University (HBU), Home-Based-Other (HBO), and Non-Home Based (NHB). These purposes are further separated into travel during two time periods: Peak (6AM to 9AM and 3PM to 7PM) and Off-Peak (9AM to 3PM and 7PM to 6AM).

Of the purposes described above, the Peak Home-Based-Work is the most illustrative, as it reflects the general trend of travel in the AM rush hour and is indicative of the primary transit market. Figure 3D-1 through 9 present the 2017 Peak Period Home-Based-Work trip exchange flows between the 9 Los Angeles County Sub-Regions.

Arroyo Verdugo

Figure 3D-1 shows the total trips of home-based work trip attractions and productions for Arroyo Verdugo subregion. The largest interaction in Arroyo Verdugo occurs within the subregion at 89,000 (26% of the total trip attractions and 41% of the total trip productions). The highest trip attractions from other subregions are from Central Los Angeles at 58,700 (17% of total trip attractions). For trip productions outside of the subregion, the largest interaction are trips destined to Central Los Angeles at 40,800 (19% of total trip productions).

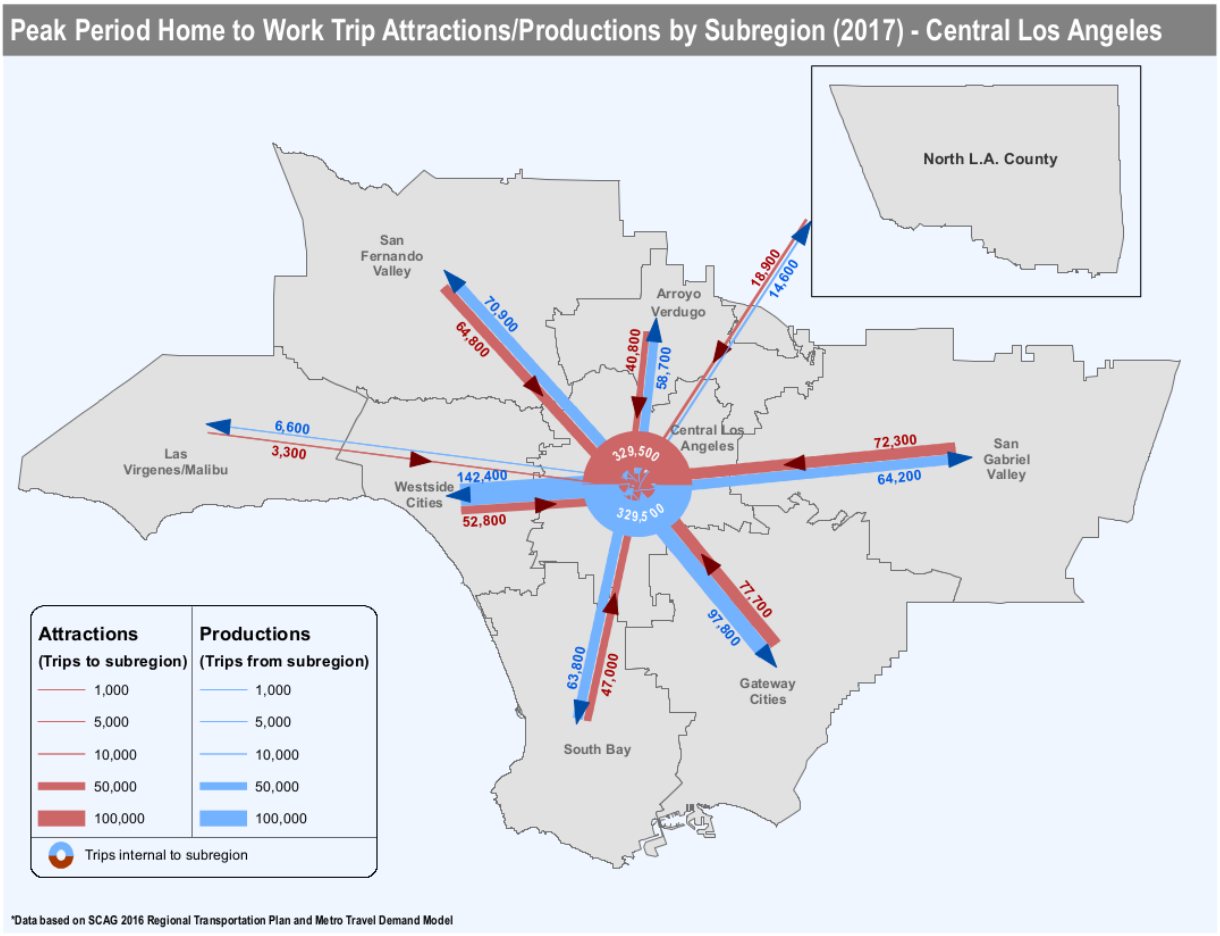
Figure 3D-1



Central Los Angeles

Figure 3D-2 shows the total trips of home-based work trip attractions and productions for Central Los Angeles subregion. The largest interaction in Central Los Angeles occurs within the subregion at 329,500 (43% of the total trip attractions and 37% of the total trip productions). The highest trip attractions from other subregions are from Gateway Cities at 77,700 (10% of the total trip attractions). For trip productions outside of the subregion, the largest interaction are trips destined to Westside Cities at 142,000 (16% of total trip productions).

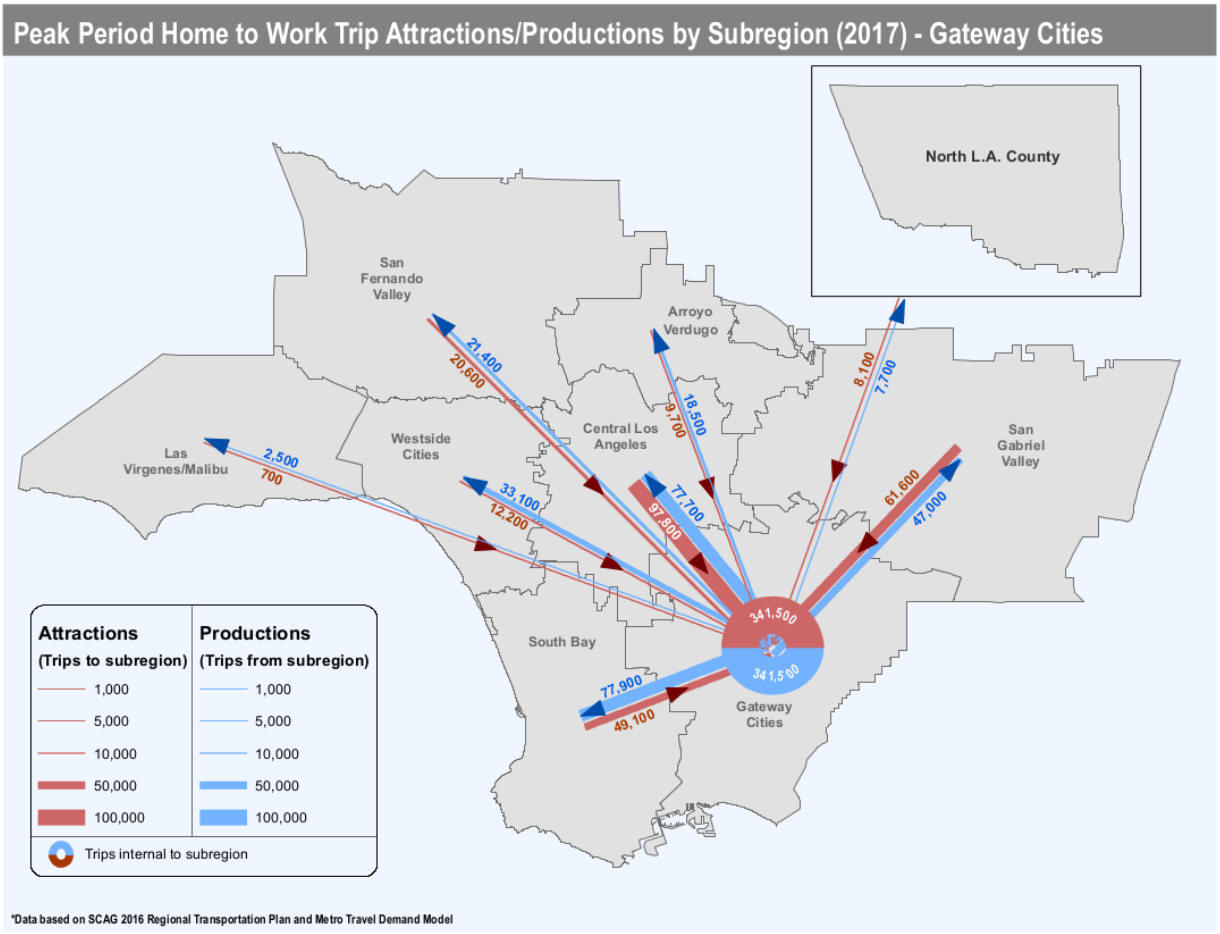
Figure 3D-2



Gateway Cities

Figure 3D-3 shows the total of home-based work trip attractions and productions for Gateway Cities subregion. The largest interaction in Gateway Cities occurs within the subregion at 341,500 (48% of the total trip attractions and 45% of the total trip productions). The next largest trip attractions are trips from outside of LA County at 116,300 (16% of the total trip attractions), followed by Central Los Angeles at 97,800 (14% of the total trip attractions). For trip productions, the next largest interactions are trips from outside of LA County at 131,900 (17% of the total trip productions) followed by South Bay Cities at 77,900 (10% of the total trip productions).

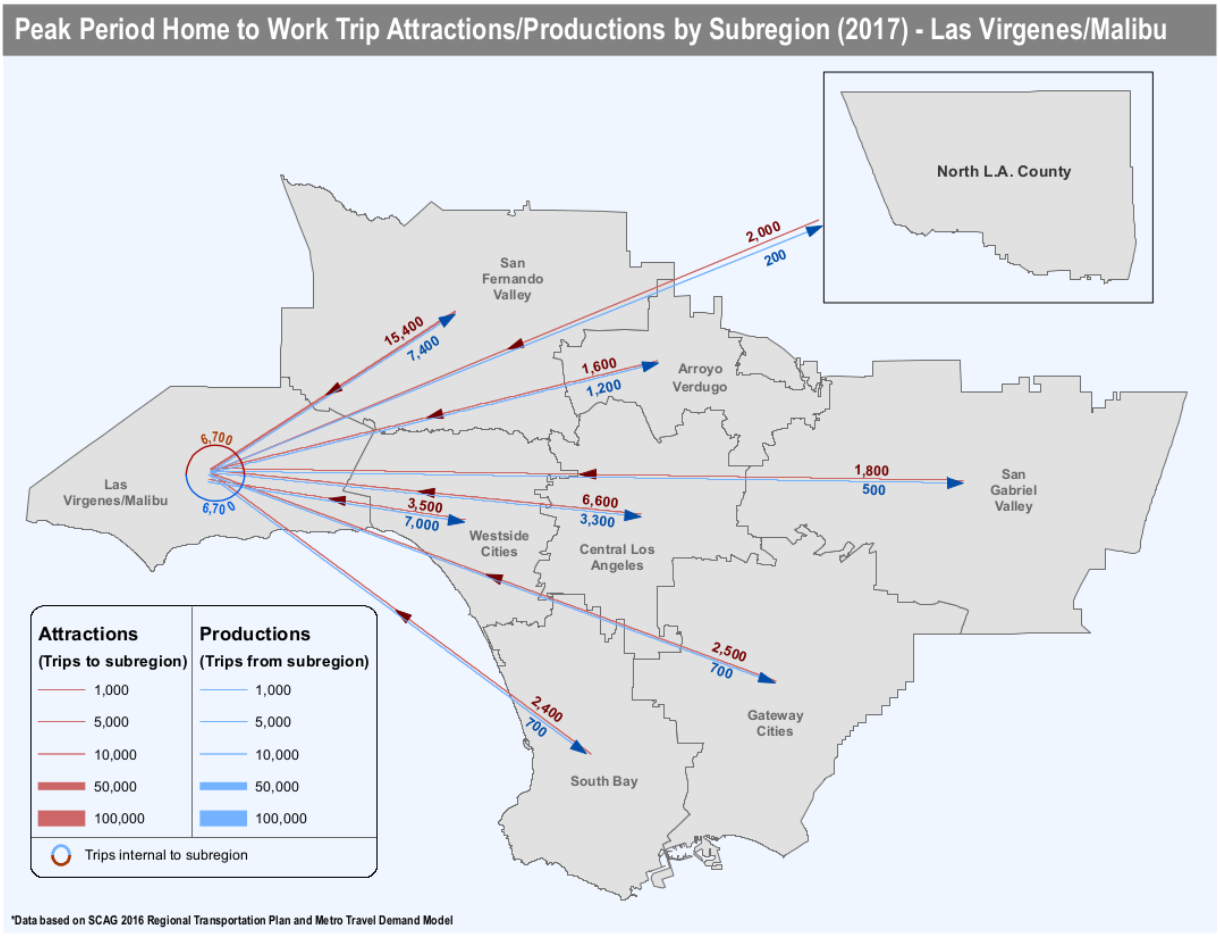
Figure 3D-3



Las Virgenes/Malibu

Figure 3D-4 shows the total of home-based work trip attractions and productions for Las Virgenes/Malibu. The largest work trip attractions come from outside of Los Angeles County at 17,100 (29% of the total trip attractions). The second highest interactions are trips from San Fernando Valley at 15,400 (26% of the total trip attractions). The largest trip productions are from San Fernando Valley at 7,400 (23% of the total trip production). The second highest home to work trip productions was to Westside Cities at 7,000 (22% of the total trip production).

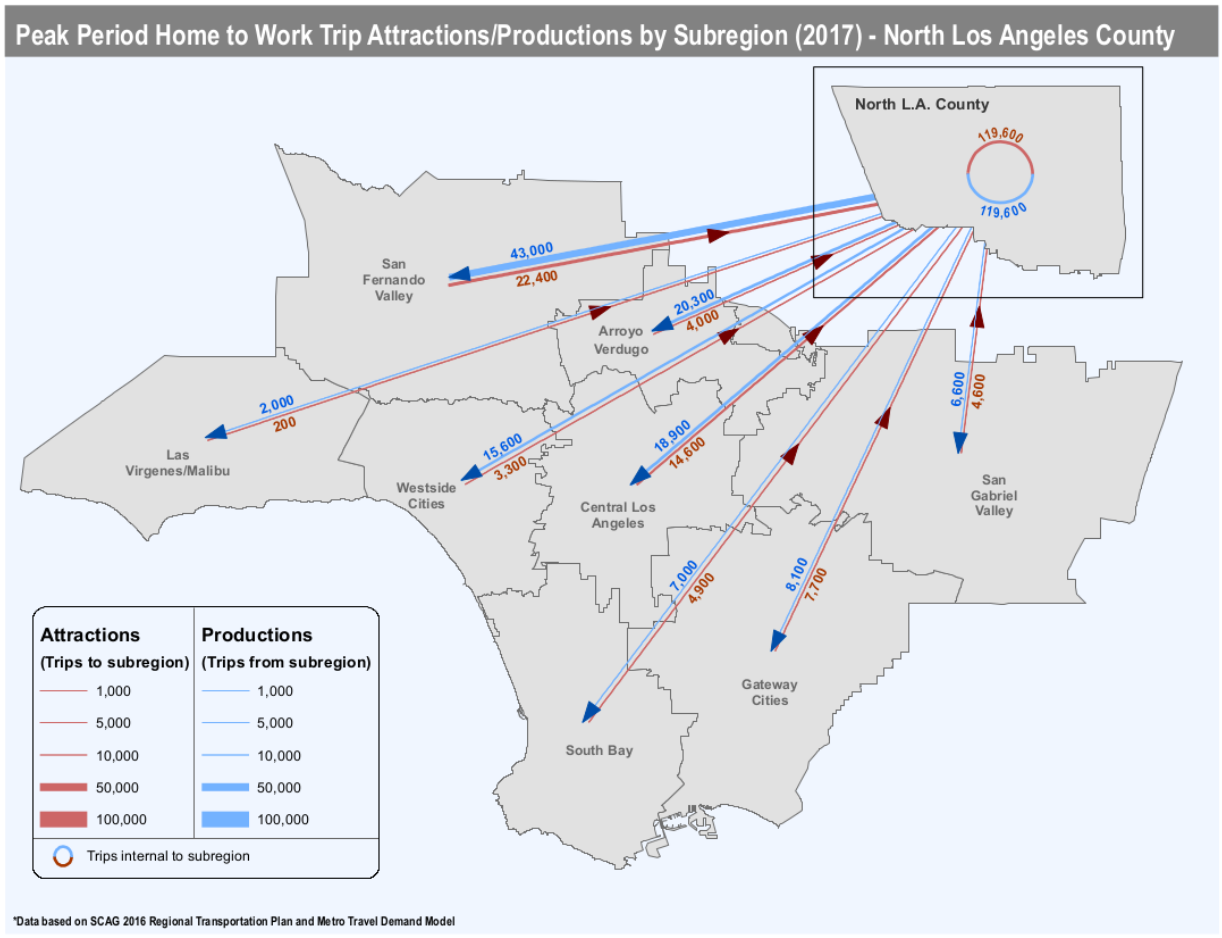
Figure 3D-4



North Los Angeles County

Figure 3D-5 shows the total of home-based work trip attractions and productions for North Los Angeles County. The largest interaction in North Los Angeles County occurs within the subregion at 119,600 (63% of the total trip attractions and 46% of the total trip productions). The highest trip attractions from other subregions are from San Fernando Valley at 22,400 (12% of the total trip attractions). For trip productions outside of the subregion, the largest interactions are trips destined to San Fernando Valley at 43,000 (17% of the total trip productions).

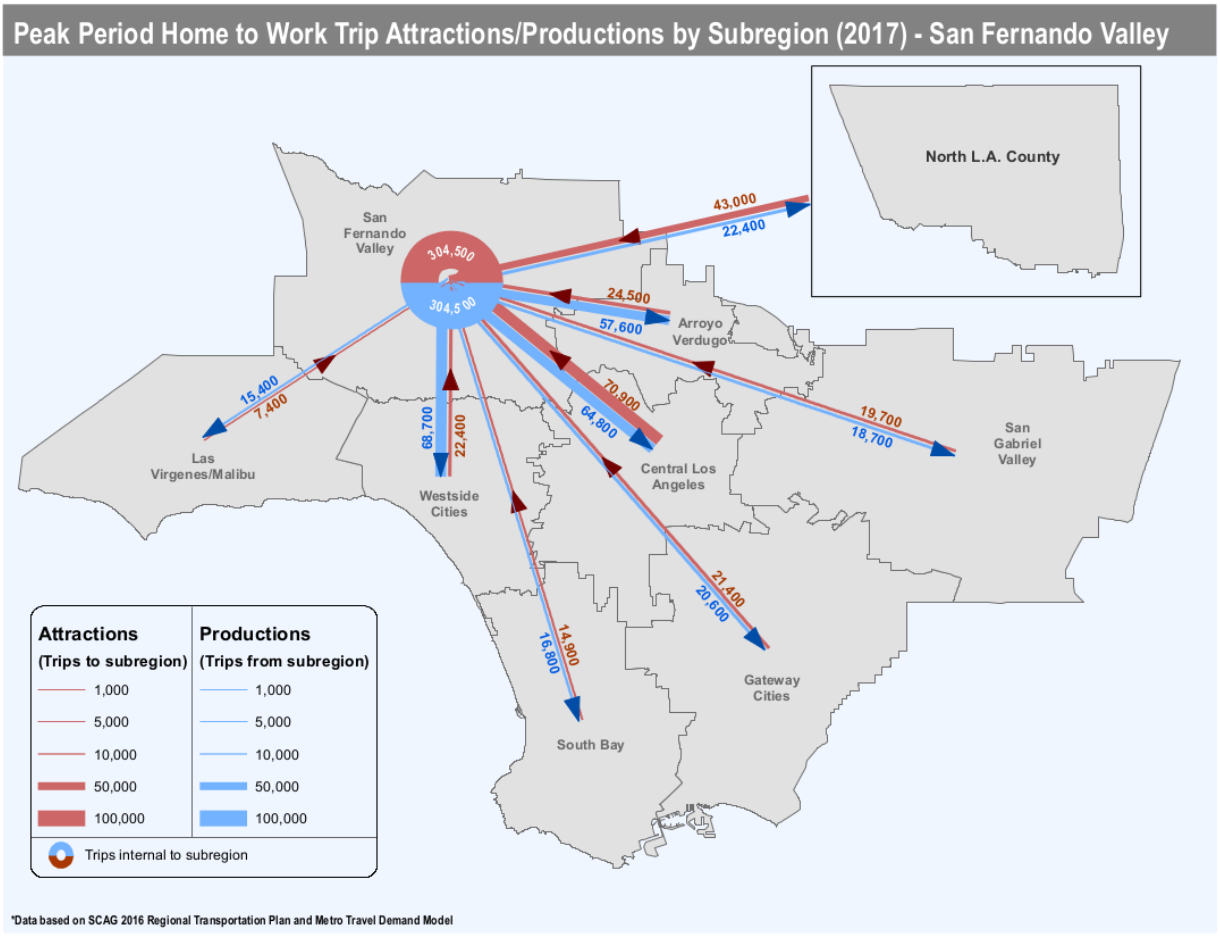
Figure 3D-5



San Fernando Valley

Figure 3D-6 shows the total of home-based work trip attractions and productions for San Fernando Valley. The largest interaction in San Fernando Valley occurs within the subregion at 304,500 (53% of the total trip attractions and 49% of the total trip productions). The highest trip attractions from other subregions are from Central Los Angeles at 70,900 (12% of the total trip attractions). For trip productions outside of the subregion, the largest interactions are trips destined to Westside Cities at 68,700 (11% of total trip productions).

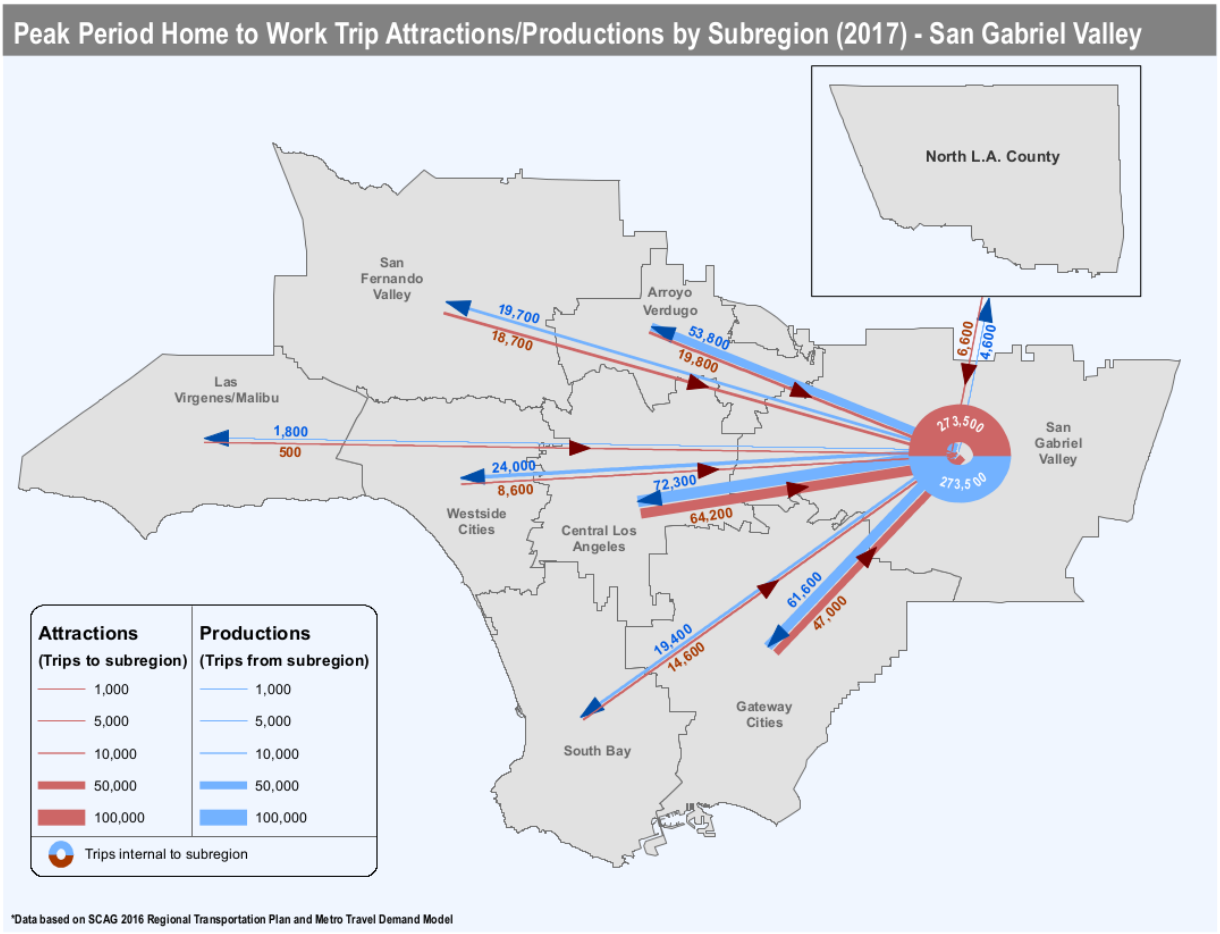
Figure 3D-6



San Gabriel Valley

Figure 3D-7 shows the total of home-based work trip attractions and productions for San Gabriel Valley. The largest interaction in San Gabriel Valley occurs within the subregion at 273,500 (48% of the total trip attractions and 44% of the total trip productions). The second highest attractions are from outside of LA County at 114,000 (20% of the total trip attractions), followed by Central Los Angeles at 64,200 (11% of the total trip attractions). For trip productions outside of the subregion, the largest interaction are trips destined outside of Los Angeles County at 90,300 (15% of total trip productions), followed by Central Los Angeles at 72,300 (12% of the total trip productions).

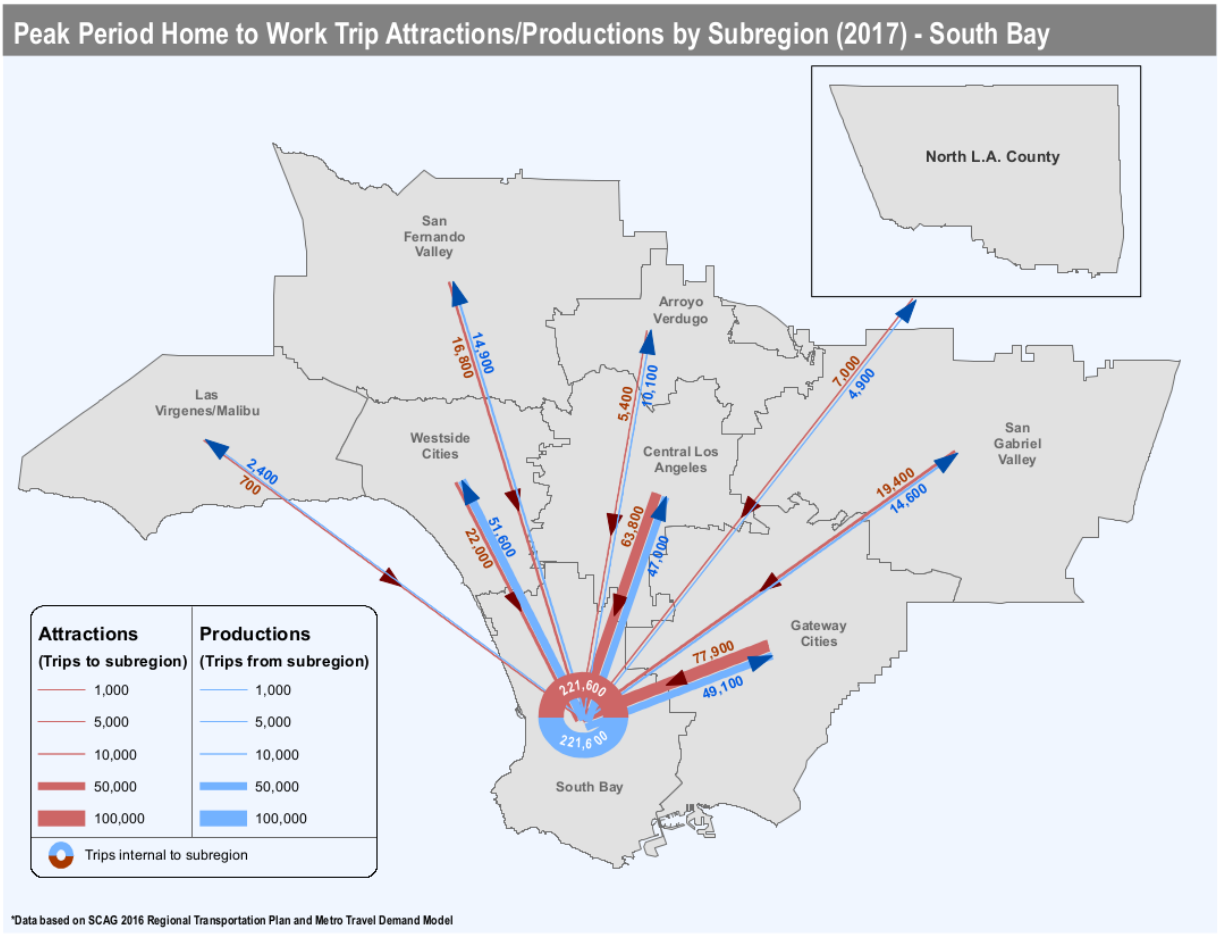
Figure 3D-7



South Bay Cities

Figure 3D-8 shows the total of home-based work trip attractions and productions for South Bay Cities. The largest interaction in South Bay Cities occurs within the subregion at 221,600 (46% of the total trip attractions and 51% of the total trip productions). The highest trip attractions from other subregions are from Gateway Cities at 77,900 (16% of the total trip attractions). For trip productions outside of the subregion, the largest interactions are trips destined to Westside Cities at 51,600 (12% of total trip productions).

Figure 3D-8



Westside Cities

Figure 3D-9 shows the total of home-based work trip attractions and productions for Westside Cities. The largest interaction in Westside Cities occurs within the subregion at 184,100 (32% of the total trip attractions and 56% of the total trip productions). The highest trip attractions from other subregions are from Central Los Angeles at 142,400 (25% of the total trip attractions). For trip productions outside of the subregion, the largest interactions are trips destined to Central Los Angeles at 52,800 (16% of total trip productions).

Figure 3D-9