

PATHWAYS FOR ECONOMIC RESILIENCY:

Los Angeles County 2021 - 2026

APPENDIX



Appendix

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The Pre-Pandemic Los Angeles County Economy

This section of the report will highlight the economic environment of Los Angeles County in 2019, the peak of economic activity before the pandemic. Baselines are an important first step in any economic analysis, they serve as a reference point for comparison.

The Los Angeles County Pre-Pandemic Baseline includes:

- **Economic Overview in 2019**
 - *Occupational employment*
- **Demographic characteristics:**
 - *Age*
 - *Race and Ethnicity*
 - *Educational Attainment*
 - *Income and Poverty*

End of the Great Expansion: Los Angeles County in 2019

Prior to the onset of the COVID-19 pandemic (hereafter the pandemic), Los Angeles County had been experiencing a historic expansion after the Great Recession and Global Financial Crisis. Since 2009, Los Angeles’s economy, as measured in real gross county product (GCP), had expanded by over 28 percent with real personal income rising over 30 percent (Exhibit 1).

Real wages had consistently risen due to almost ten years of continuously falling unemployment. The highest level of unemployment at 12.5 percent in 2010 had fallen to a moderate 4.4 percent in 2019 (Exhibit 2).

Exhibit 1: LA County Real GCP and Income

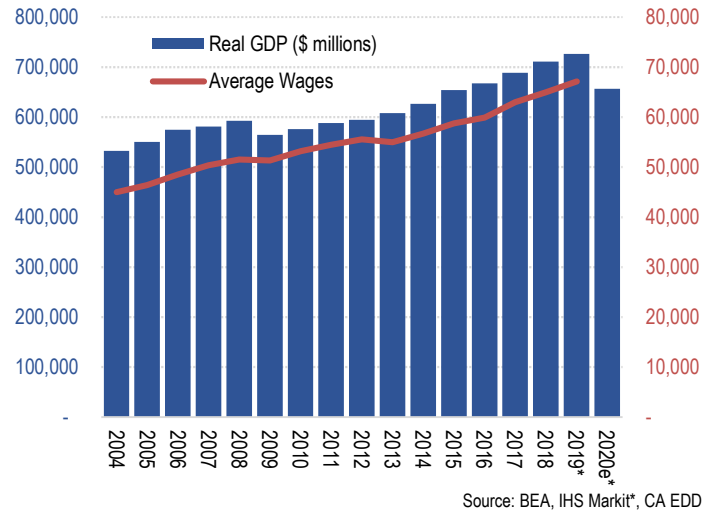
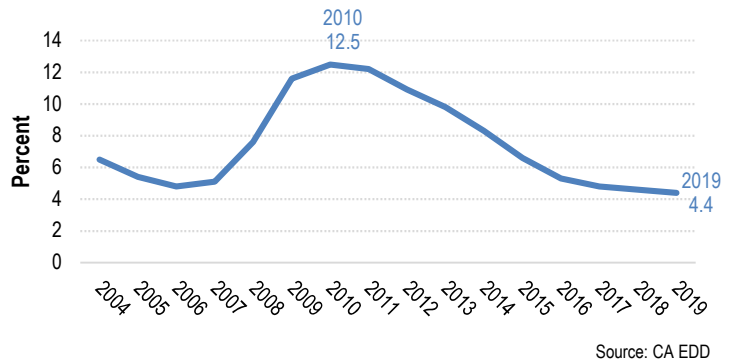
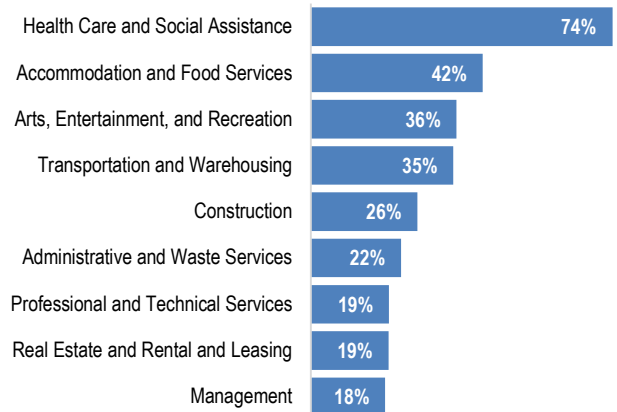


Exhibit 2: LA County Unemployment



**Exhibit 3: LA County Job Growth
by Industry, 2009 to 2019**



As with any expansion, some industries were more important than others in driving job growth. In Los Angeles County, the industries in Exhibit 3 — health care, leisure and hospitality, and logistics-based industries — grew the most in terms of employment between 2009 and 2019. Resultingly, the county grew according to its preexisting industrial strengths as a center of health care innovation and service; domestic and international tourism; port-based regional and international logistics; a diverse housing stock; and professional and business services, especially those related to technology, advertising, data and media.

Exhibit 4 shows the County’s annual employment in 2019 by industry along with the average annual wage for each sector. The County accounted for 4.5 million nonfarm jobs spread across the entire sectorial spectrum in 2019, approximately accounting for 26 percent of employment in the state.

Prior to the pandemic, the top sectors by employment were education and health care; professional and business services; hospitality and leisure; and retail trade (Exhibit 5).

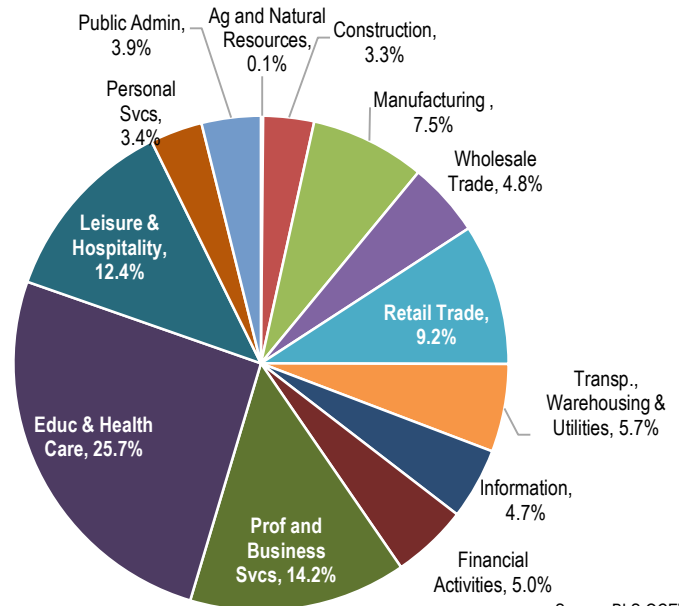
Overall, Los Angeles County stood in a position of economic strength at the end of 2019. Though the expansionary behavior is not everlasting, economic fundamentals for the County, State and Nation were strong. Some of the above growth industries were not significantly impacted by the pandemic, at least in the near term, while others have endured significant distress. However, it is worth reflecting on their economic trajectory

Exhibit 4: Economic Employment Base in LA County 2019

NAICS	Industry Name	Employment	Average Annual Wage
51	Information	210,439	\$139,062
52	Finance and Insurance	134,635	\$132,108
22	Utilities	28,370	\$123,430
55	Management of Enterprises	62,711	\$117,833
54	Professional and Technical Services	299,007	\$110,795
71	Arts, Entertainment and Recreation	107,967	\$106,847
92	Government	174,522	\$95,807
21	Mining and Natural Resources	1,895	\$94,990
53	Real Estate, Rental and Leasing	88,646	\$74,486
31-33	Manufacturing	338,308	\$74,088
23	Construction	149,695	\$69,921
42	Wholesale Trade	218,454	\$67,840
48-49	Transportation and Warehousing	230,039	\$67,355
61	Education Services	380,928	\$62,399
62	Health Care and Social Assistance	777,828	\$49,841
56	Administrative, Support and Waste Svcs	278,535	\$46,782
11	Agriculture, Forestry, Fishing & Hunting	4,383	\$42,412
81	Other (Personal) Services	154,961	\$42,307
44-45	Retail Trade	416,640	\$38,500
72	Accommodation and Food Services	448,709	\$27,162
TOTAL COVERED		4,506,672	\$63,411

Source: BLS QCEW

Exhibit 5: LA County Employment, 2019



Source: BLS QCEW

and momentum pre-pandemic in the interest of assessing where vitality might be reignited as the County contemplates recovery.

Occupational Employment

Many of these industrial growth trends were similarly reflected over the post-Great Recession recovery period in occupational statistics. Healthcare support, community and social service, computer and mathematical, management, business and finance, food service and transportation-related occupations all posted double-digit growth (triple-digit in the case of healthcare support) over the decade (Exhibit 6).

Demographic Overview of Los Angeles County in 2019

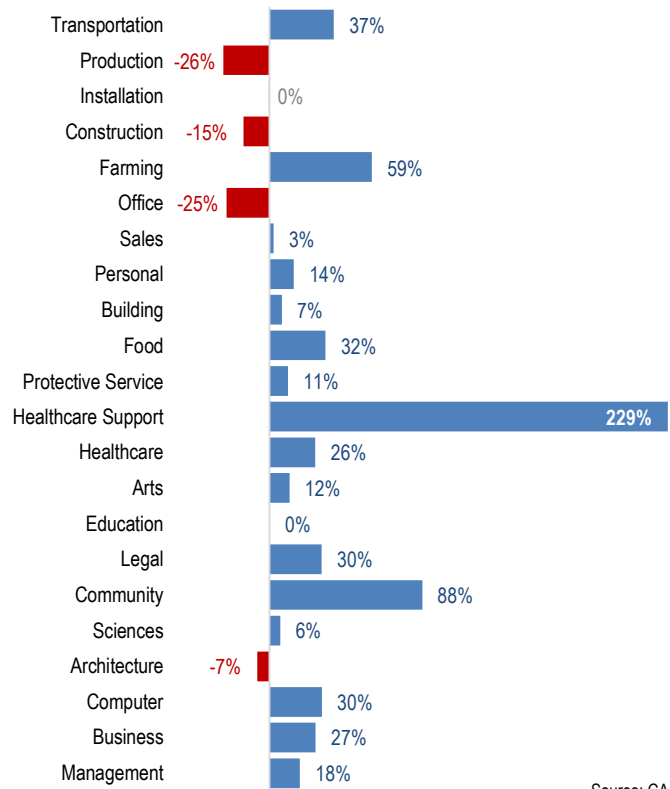
Social and economic characteristics of the residents of Los Angeles County provide context and insight into the strengths and challenges of the community. Based upon this information, trends and patterns are revealed and can be used to target outreach programs and other types of development efforts.

Population by Age

Age distribution analysis is the primary way of determining whether the population of an area is aging. The distribution affects the future provisionary services and workforce needs of the area.

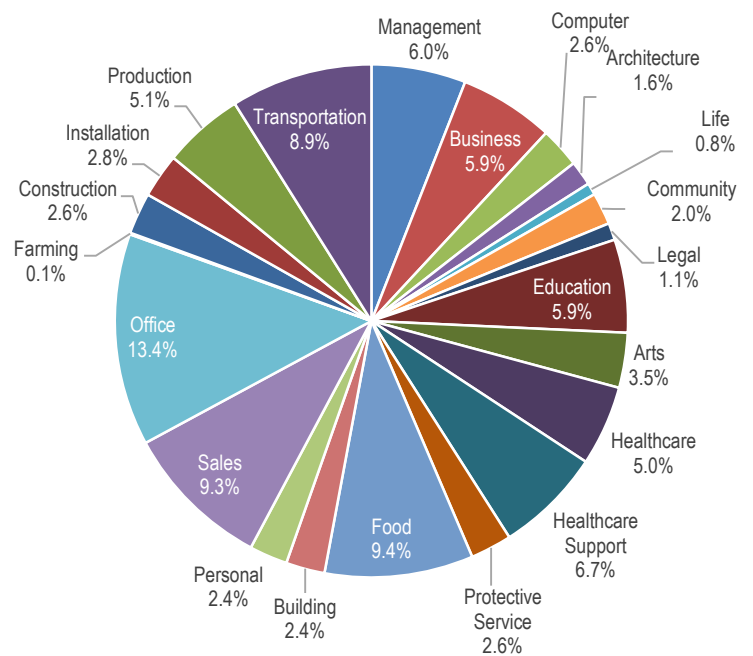
In Los Angeles County, about just over 68 percent of the resident population is of working age (between 15 and 64 years of age). This figure is slightly above the share of working age people in California as a whole, which sits at 66.5 percent. Seniors (those over

Exhibit 6: Occupations in LA County
% Employment Change from 2009 to 2019



Source: CA EDD

Exhibit 7: LA County Occupational Employment, 2019



64 years of age) account for close to 18 percent of the Los Angeles County population (Exhibit 8). This is slightly lower than California as a whole, where Seniors make up 18.7 percent of the population. Los Angeles County has a relatively younger demographic than the rest of the state, which signifies there is no immediate aging workforce issues.

Race and Ethnicity

Los Angeles County as a whole was racially and ethnically diverse in 2019. Approximately half of the resident population identify as having Hispanic/Latinx origins (Exhibit 1-9), while White (25.9%), Asian (14.5%) and Black (7.7%) make up the majority of the remaining population.

However, racial inequality is also quite present, as in the Los Angeles region the poverty rates for Black and Hispanic residents were 24.5% and 23.7% respectively in 2014, compared with 10.6% for White residents¹. Latinx workers had the highest working poverty rate by far at 12.5%, according to the Program for Environmental and Regional Equity at the University of Southern California². Black workers had the second highest rate at 4.3%, while the rate for White workers was just 1.9%³.

Racial economic gaps persist across many measures, as at all levels of education Black workers in Los Angeles County faced higher unemployment than any other race; similarly, at all levels of education White workers commanded the highest median hourly wage. These income gaps are only worsening, as the

¹ PolicyLink and PERE. 2017. "An Equity Profile Of The Los Angeles Region". Los Angeles: Program for Environmental and Regional Equity (PERE). https://www.policylink.org/sites/default/files/LA_County_Profile_Final.pdf.

Exhibit 8
Age Distribution of Population 2019

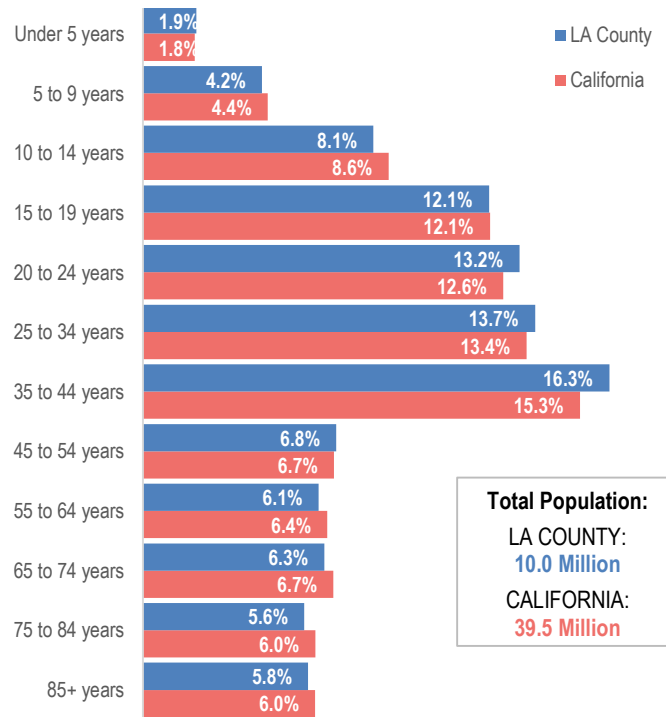
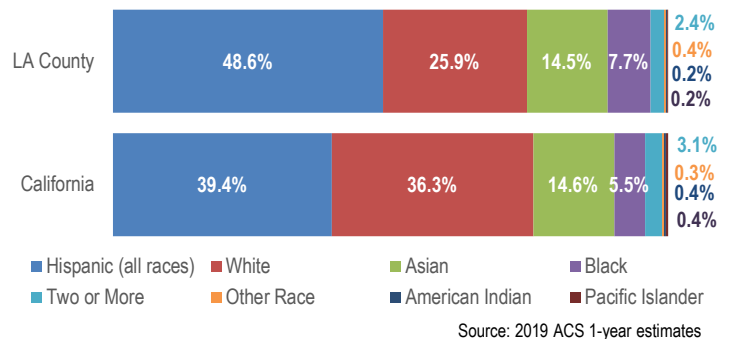


Exhibit 9
Race and Ethnicity 2019



county's income inequality widened in nine out of the last ten years⁴. With the pandemic having an inordinate financial impact on low-income residents and minorities in the region while many higher-paying jobs remain intact, these gaps are likely to continue growing.

² Ibid

³ Ibid

⁴ Federal Reserve Bank of St. Louis Economic Research, *Income Inequality in Los Angeles County, CA*



Source: LA Regional Food Bank <https://pbs.twimg.com/media/EjmmKWxWkAME-iZ.jpg>

Exhibit 10
Educational Attainment 2019
 Population Ages 25+ years

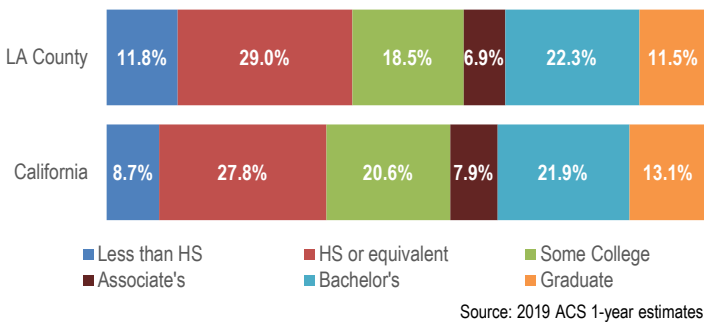
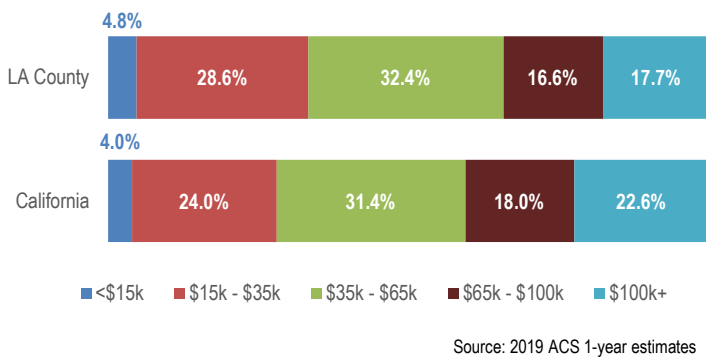


Exhibit 11
Annual Job Earnings of Residents, 2019



Educational Attainment

Educational attainment is a key element in understanding challenges and opportunities present in the workforce, particularly during

periods when many workers must transition between occupations due to layoffs. For an individual, it is a factor in unemployment, earnings potential and poverty status, while from a business perspective, educational attainment of the resident population represents the quality of the labor pool.

Areas with lower levels of educational attainment usually face challenges such as higher rates of unemployment and poverty, therefore using higher levels of public services and resources.

The County has a significant proportion of its resident population with lower levels of educational attainment (Exhibit 10). Almost 41 percent of the population has a high school (or equivalent) education or less. This level of education prevents workers from targeting the majority of jobs in the growing middle-skill occupation pool in Los Angeles, which provide better pay, greater work stability and more opportunities to progress along career ladders in their industry. Furthermore, lower-skilled jobs are most vulnerable to displacement during economic crises, as the COVID-19 pandemic has demonstrated.

However, educational attainment has risen over time; the proportion of the population with a bachelor's degree (22.3%) has risen from 19.0% in 2010 and 16.1% in 2000, and the proportion of the population with a graduate degree has risen from 8.8% to 11.5% in the last twenty years.

Income and Poverty

For many, earnings from employment represent the most significant portion of all income. Job-related earnings provide insight into the population's standard of living.

Identifying specific areas or populations that may need targeted services or programs may increase their efficacy.

Just over a third (34.3 percent) of working residents in Los Angeles County earn more than \$65,000 per year (Exhibit 11). The majority (61 percent) of working residents in the County of Los Angeles earn between \$15,000 and \$65,000 annually. Residents who earned less than \$15,000 per year represented close to 5 percent of the total. Working residents earning \$100,000 or more annually account for close to 18 percent of all employed residents in the County.

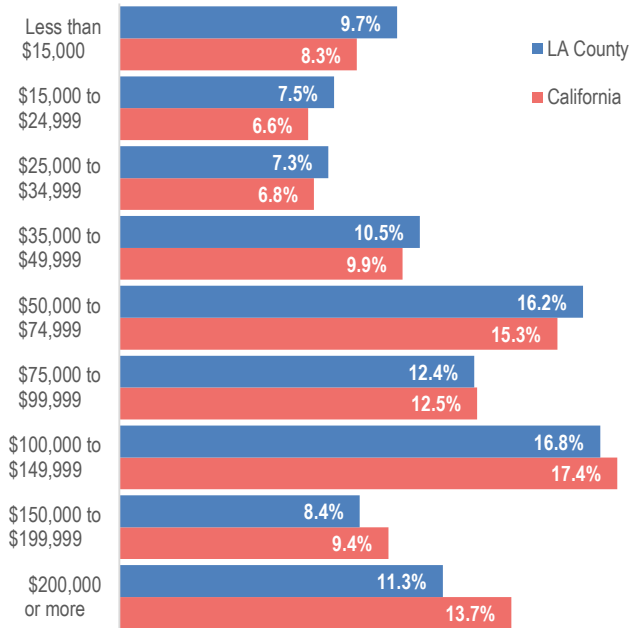
The median household income in Los Angeles County was \$72,797 in 2019, but more than a third (35 percent) of households earn less than \$50,000 per year, while close to 20 percent earn over \$150,000 per year (Exhibit 12).

Poverty is a relative measure of income inequality. Those who live below poverty level face additional challenges as they lack the resources necessary to maintain a certain quality of life; they do not have the same choices and options with regards to nutrition, health care, housing, education, safety, transportation and more.

Over 216,000 families were below the poverty level as of 2019, accounting for 9.8% of all families in Los Angeles County (Exhibit 13). About 14.6 percent of families that had related children were below the poverty level, well above the rate of families without any related children at 9.8 percent.

Over 30 percent of single mothers with related children under the age of 18 were below the poverty level in 2019, while over 20% of

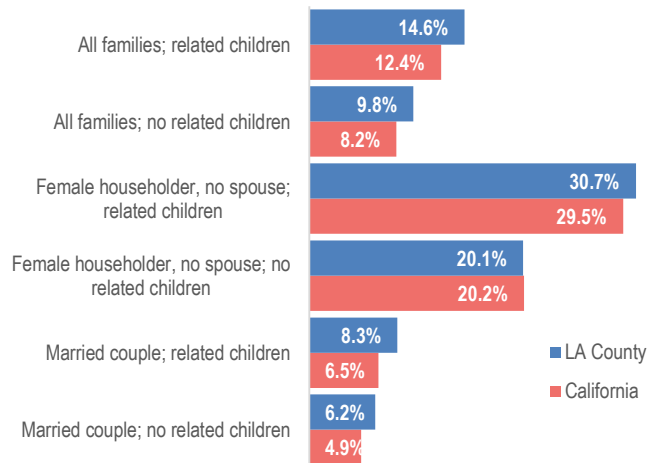
Exhibit 12
Households by Income 2019



Source: 2019 ACS 1-year estimates

Exhibit 13
Poverty Rate of Families 2019

Families Below Poverty Level:
LA COUNTY: 216,062 (9.8%)
CALIFORNIA: 735,757 (8.2%)



Source: 2019 ACS 1-year estimates

female householders without children were also below. Among married couples in Los Angeles County, 8.3 percent of families with related children were in poverty while 6.2 percent of families without children were in the same boat. Across all but one of these metrics, the poverty rate in Los Angeles County was above that of California as a whole.

Los Angeles County “At a Glance”

This section will explore key metrics and population trends in Los Angeles County. These figures are provided by the Environmental Systems Research Institute, or Esri, which supplies GIS software and services internationally.

The infographics will highlight population trends such as number and average size of households, average age, generational distribution, median income, and home values. These figures are meant to give a high-level sense of Los Angeles County before exploring trends by city and census tract.

Additionally, Esri provides a tapestry profile which segments neighborhoods by broad groups with common characteristics. The tapestry segmentation helps to gain a better sense of the fabric of Los Angeles neighborhoods.

Finally, this section will examine income trends for Los Angeles residents. The income overview will show key facts about wealth, work, and spending habits in the county to understand the average financial environment for Angelenos.



Exhibit 14
Population Trends and Key Indicators

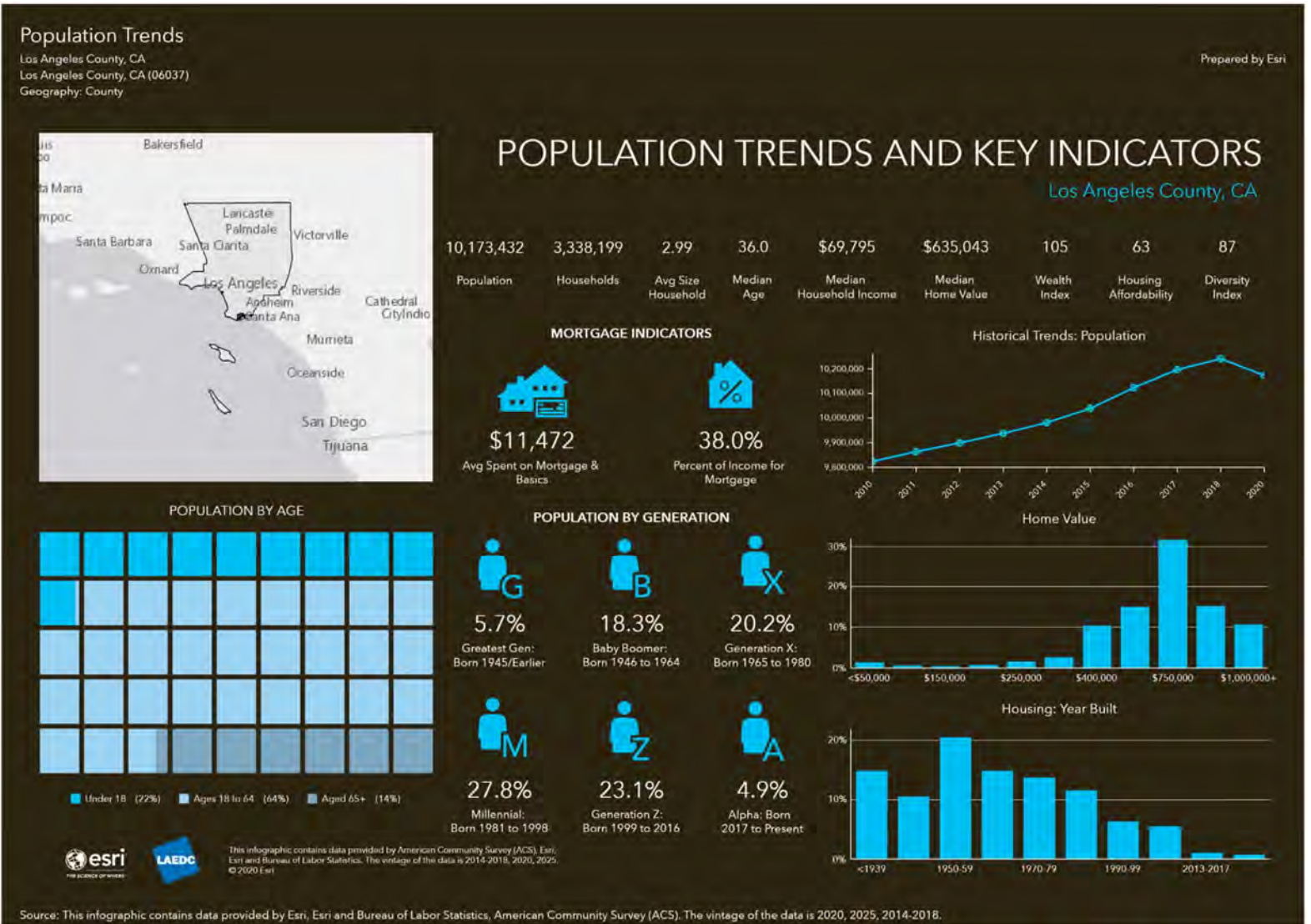
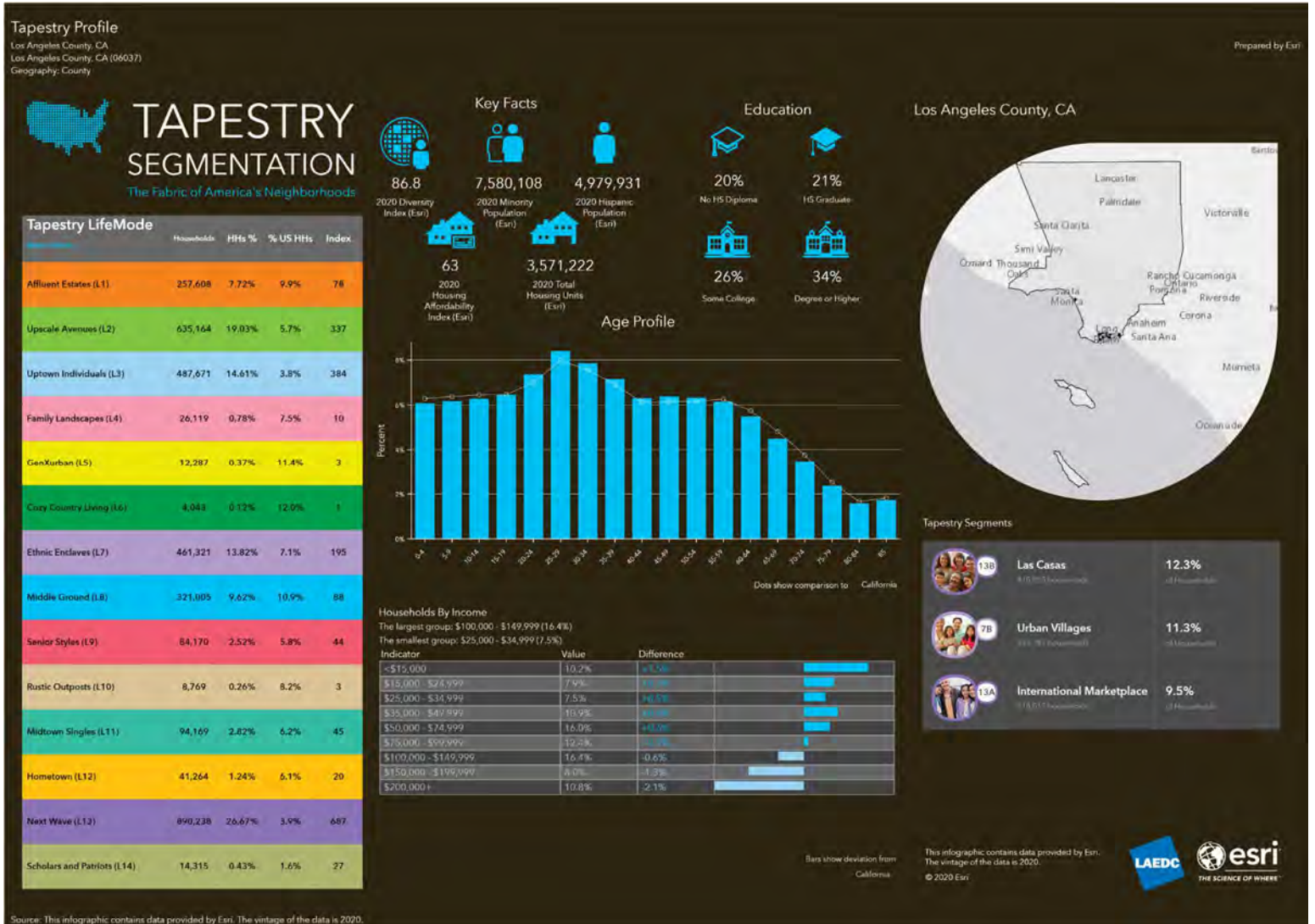


Exhibit 14 summarizes population trends and key indicators for the county of Los Angeles. Over 10 million people live in the sunny region. The largest generational group is Millennial, representing nearly 28 percent of the population. The number of Angelinos has been trending steadily upward since 2010. This last year has shown a decline in population, however. Many people who have homes in other parts of the world have likely returned in the wake of the pandemic.

There are nearly three and a half million households in Los Angeles, with an average size of about three people. Median household income sits at 69,795 dollars. On average, people spend 11,472 dollars annually on their mortgage and basic items essential to life. This figure represents about 40 percent of a person’s annual income in Los Angeles, on average. The median home value is 635,043 dollars. The histogram displaying home value is left skewed, with many highly valuable homes in the region. Much of housing in Los Angeles County was built prior to 1990, as shown by the histogram titled Housing Year Built.



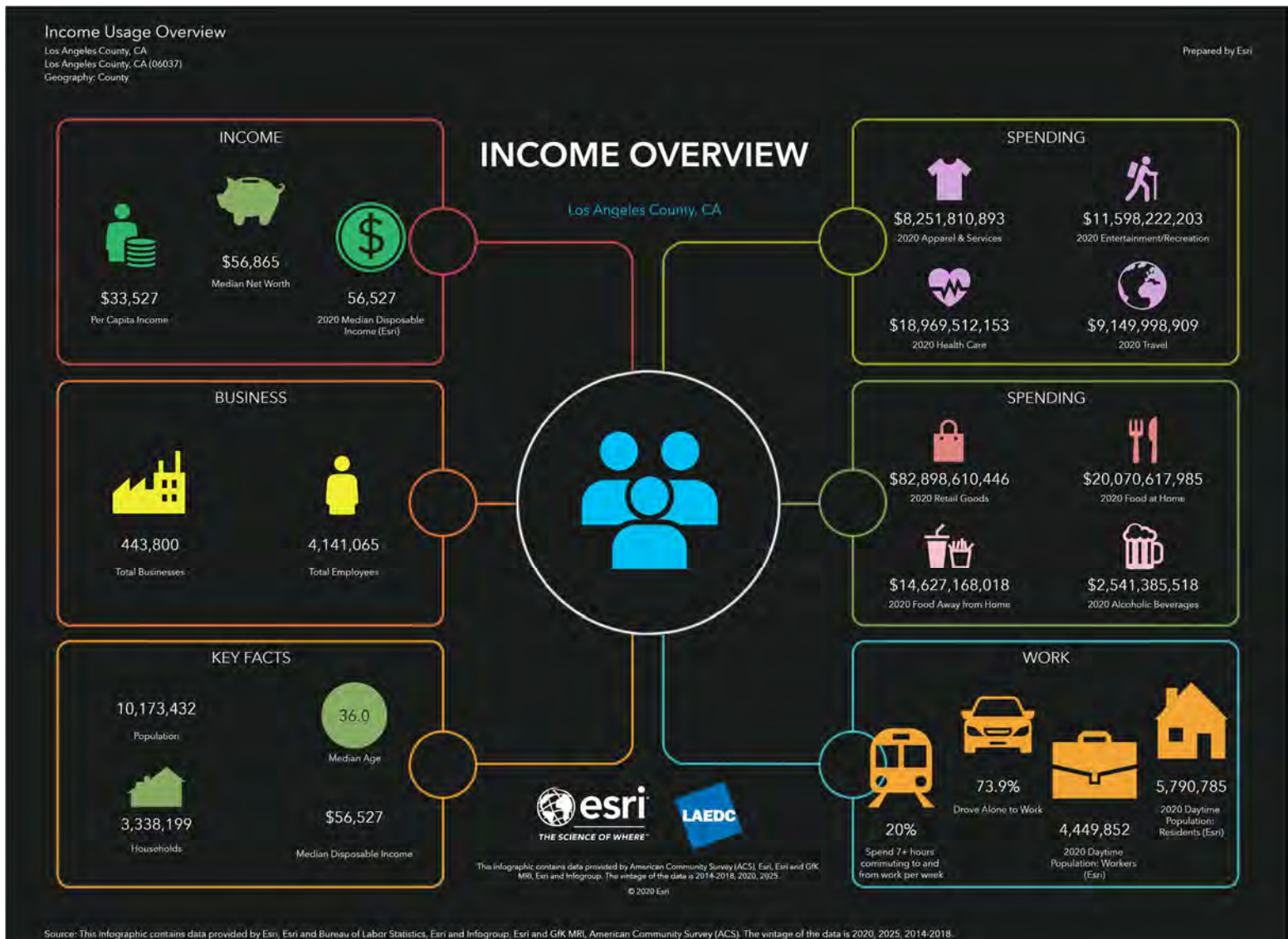
Sources: esri, LAEDC

Exhibit 15 shows a Tapestry Profile for Los Angeles County. This profile breaks out households by lifestyles such as Affluent Estates, Family Landscapes, Middle Ground, and Rustic Outposts to gain a better sense of the distribution of neighborhoods.

The largest group in this region is called “Next Wave,” with 26.67 percent of households. Per Esri, this segmentation is characterized by “urban denizens, young, diverse, hardworking families”⁵ that hold a Hispanic majority. Many of these households are home to multiple generations that speak their native language. The largest subgroup under Next Wave is “Las Casas” with 12.3 percent of households in Los Angeles. Las Casas is characterized by older neighborhoods on the periphery of metropolitan areas. These homes are largely older construction dating before 1960, which are then mostly rented to multigenerational households.

⁵ “Esri Demographics.” *Tapestry Segmentation-Esri Demographics | Documentation*, Esri, doc.arcgis.com/en/esri-demographics/data/tapestry-segmentation.htm.

Exhibit 16
Income Usage Overview



Sources: esri, LAEDC

Exhibit 16 provides a summary of key income facts in Los Angeles County. Median per capita income is 33,527 dollars, median disposable income is 56,527 dollars, and median net worth is 56,865 dollars. There are 443,800 total businesses employing 4,141,065 workers. 20 percent of those workers spend seven or more hours commuting to and from work per week, and 73.9 percent drive alone.

The largest spending in Los Angeles County occurred in retail goods, with almost 83 billion dollars spent in 2020. Spending on food at home was the second largest, with about 20 billion dollars spent in 2020.

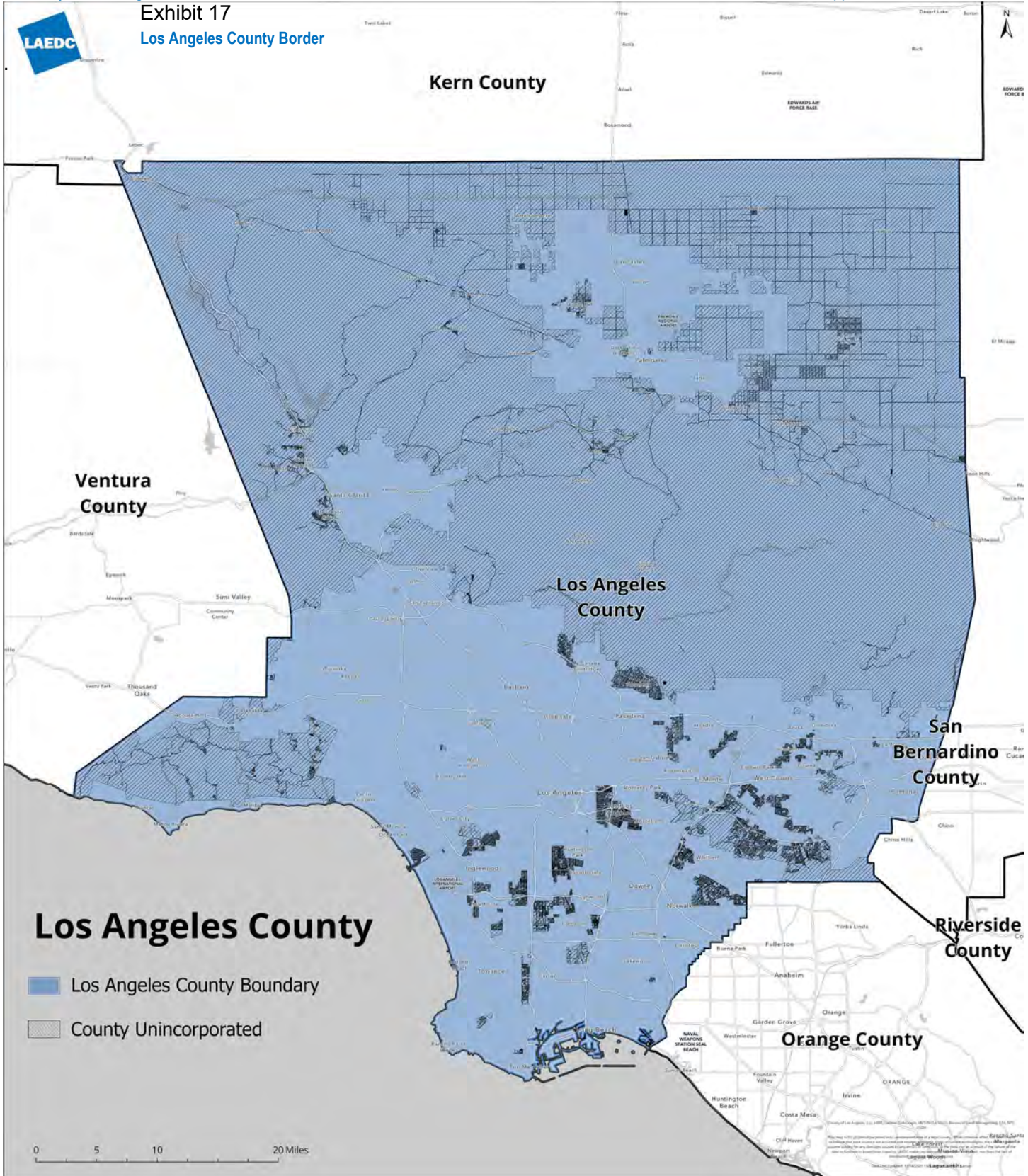
Los Angeles County Boundaries

This spatial analysis will begin by establishing the key boundaries in Los Angeles County. This includes the county border, city boundaries, health districts, supervisorial districts, and workforce regions.

The sections following will display economic trends by city and census tract, which can then be compared to the boundary maps for a richer analysis.



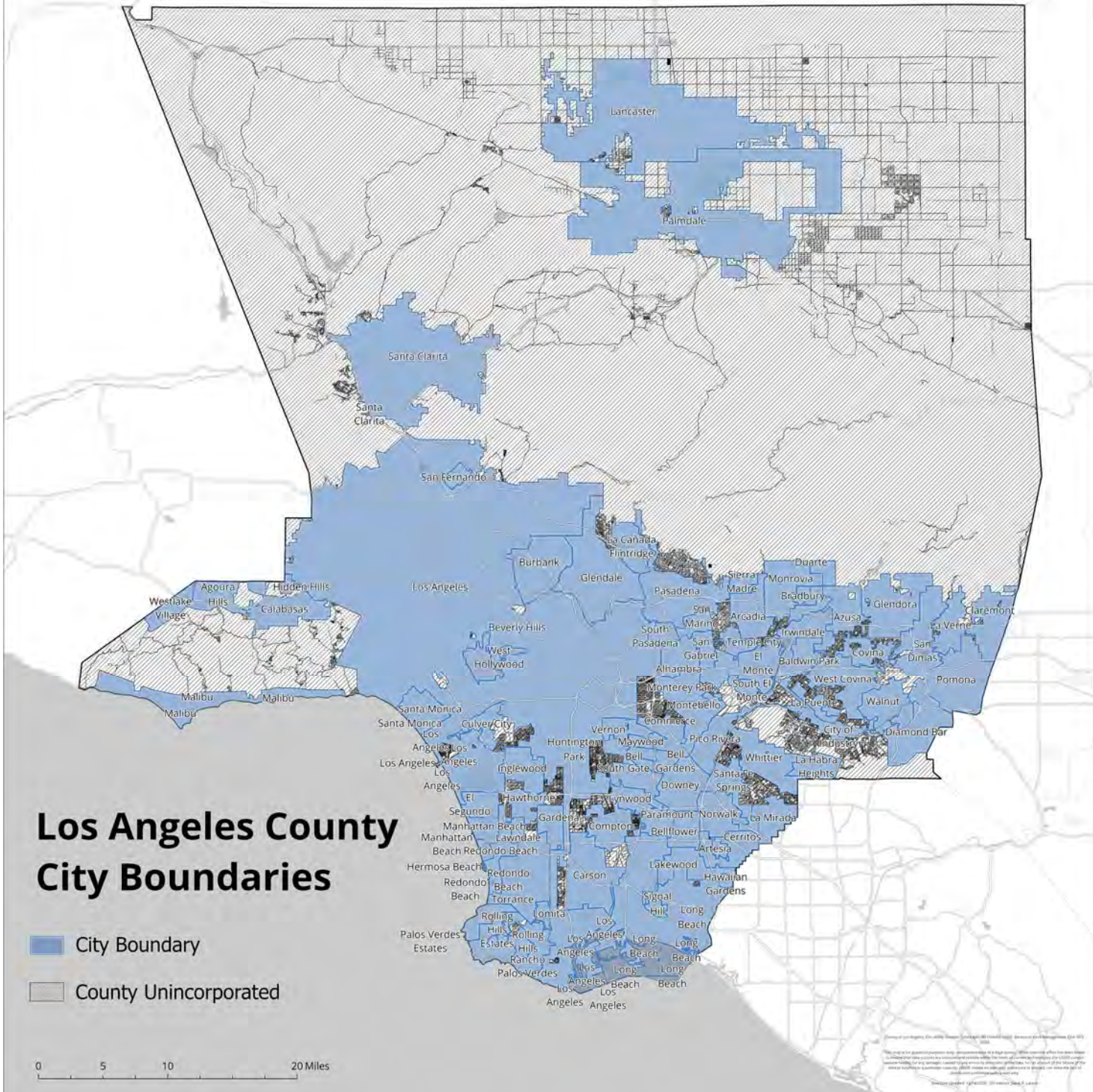
Exhibit 17
Los Angeles County Border



Sources: esri, LAEDC

This map shows the borders that define Los Angeles County. Each of the following visualizations will focus on the region identified above.

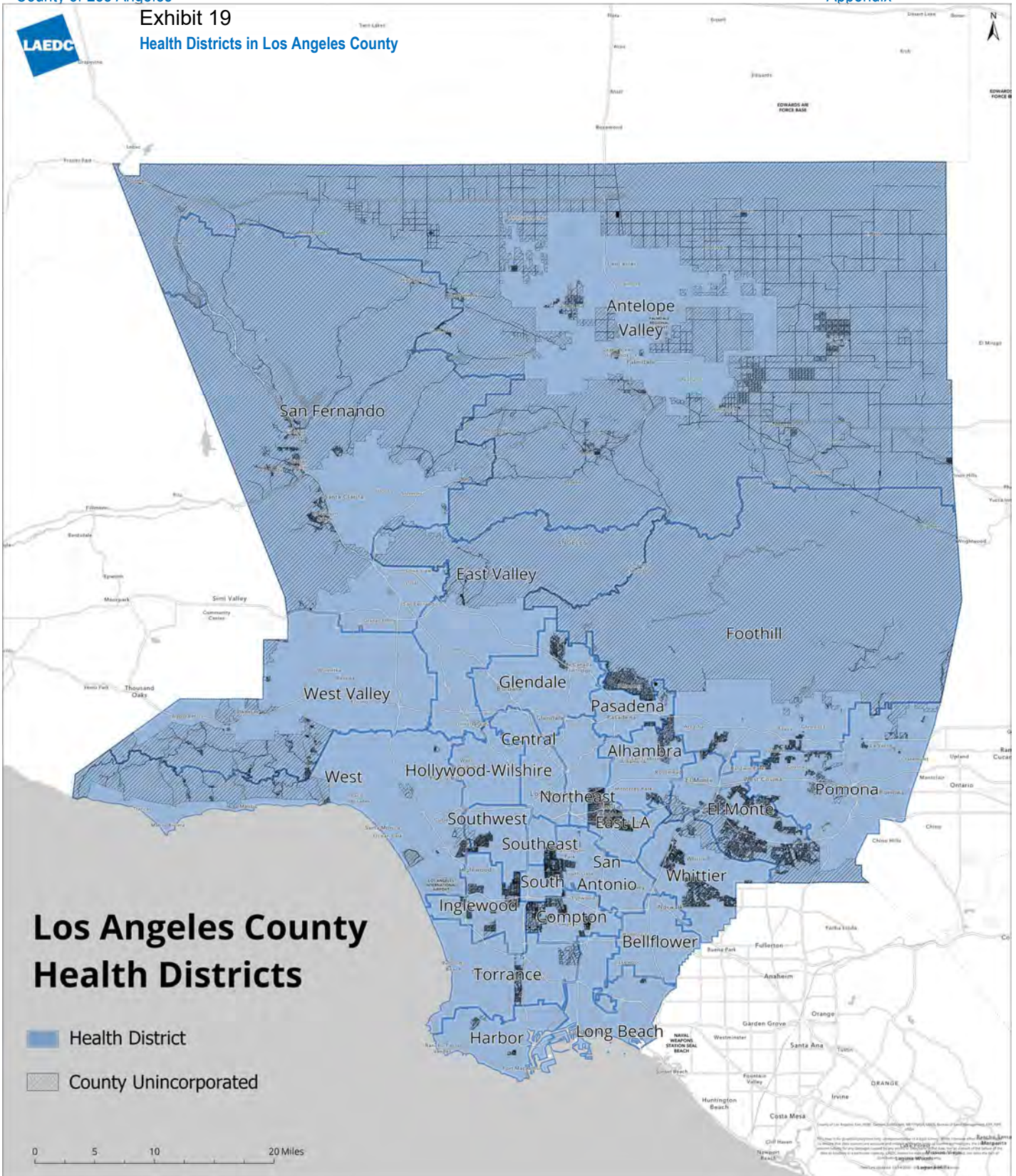
Exhibit 18
Los Angeles County City Boundaries



Sources: esri, LAEDC

Exhibit 18 displays Los Angeles County’s city boundaries. The blue areas show the 88 cities within the county boundaries, while the gray hatched areas show the coverage of unincorporated county areas.

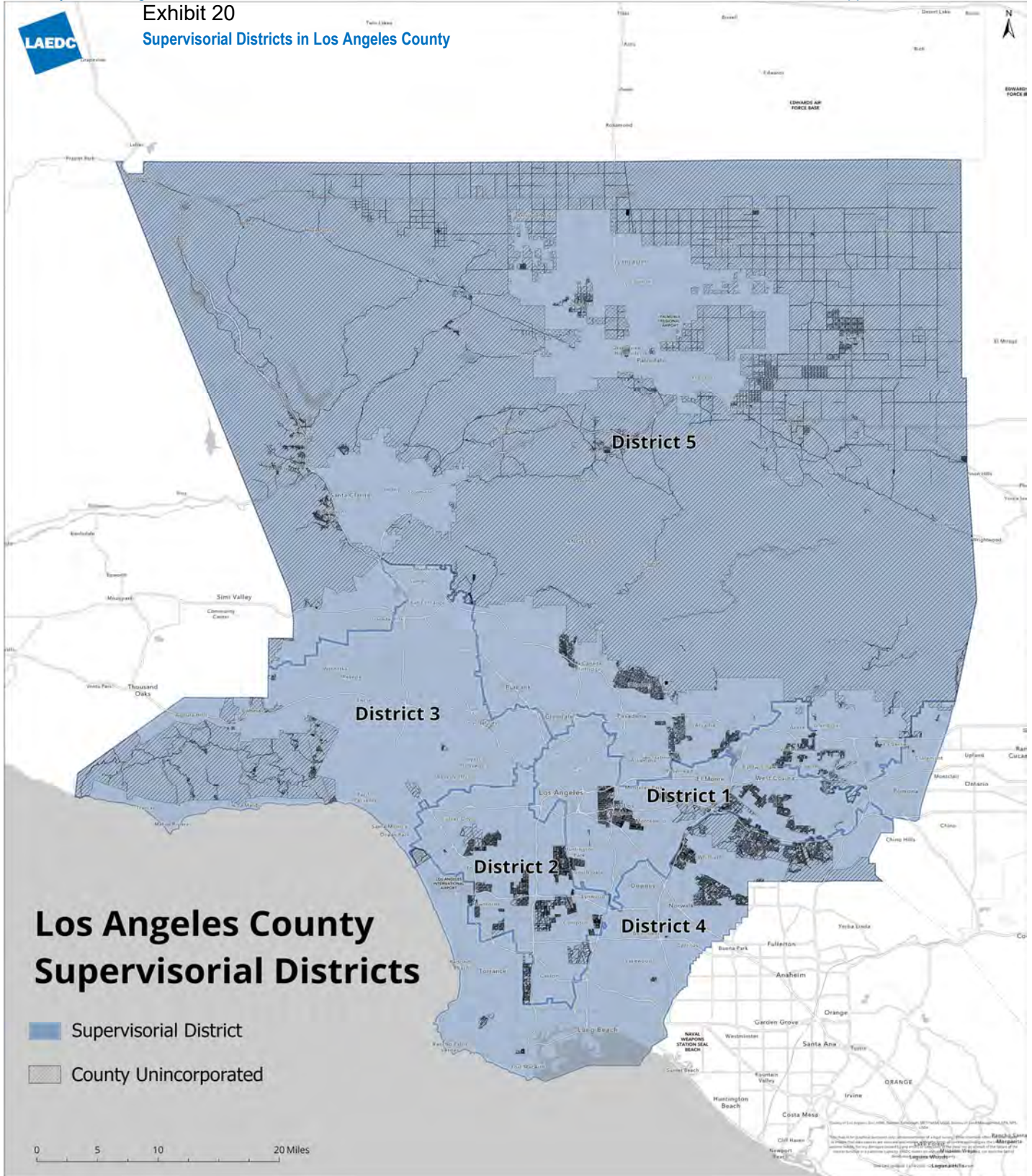
Exhibit 19
Health Districts in Los Angeles County



Sources: esri, LAEDC

Health districts are used as a tool for planning by the Los Angeles County Department of Public Health. These districts, which are aggregates of census tracts, form the building blocks for Service Planning Areas (SPAs).

Exhibit 20
Supervisorial Districts in Los Angeles County



Sources: esri, LAEDC

The five supervisor districts are shown in Exhibit 20. Each of the districts elects a supervisor who serves on a five-member governing body for Los Angeles County. The Los Angeles Board of Supervisors then oversees the operation of the county.

Exhibit 21
Supervisorial District 1

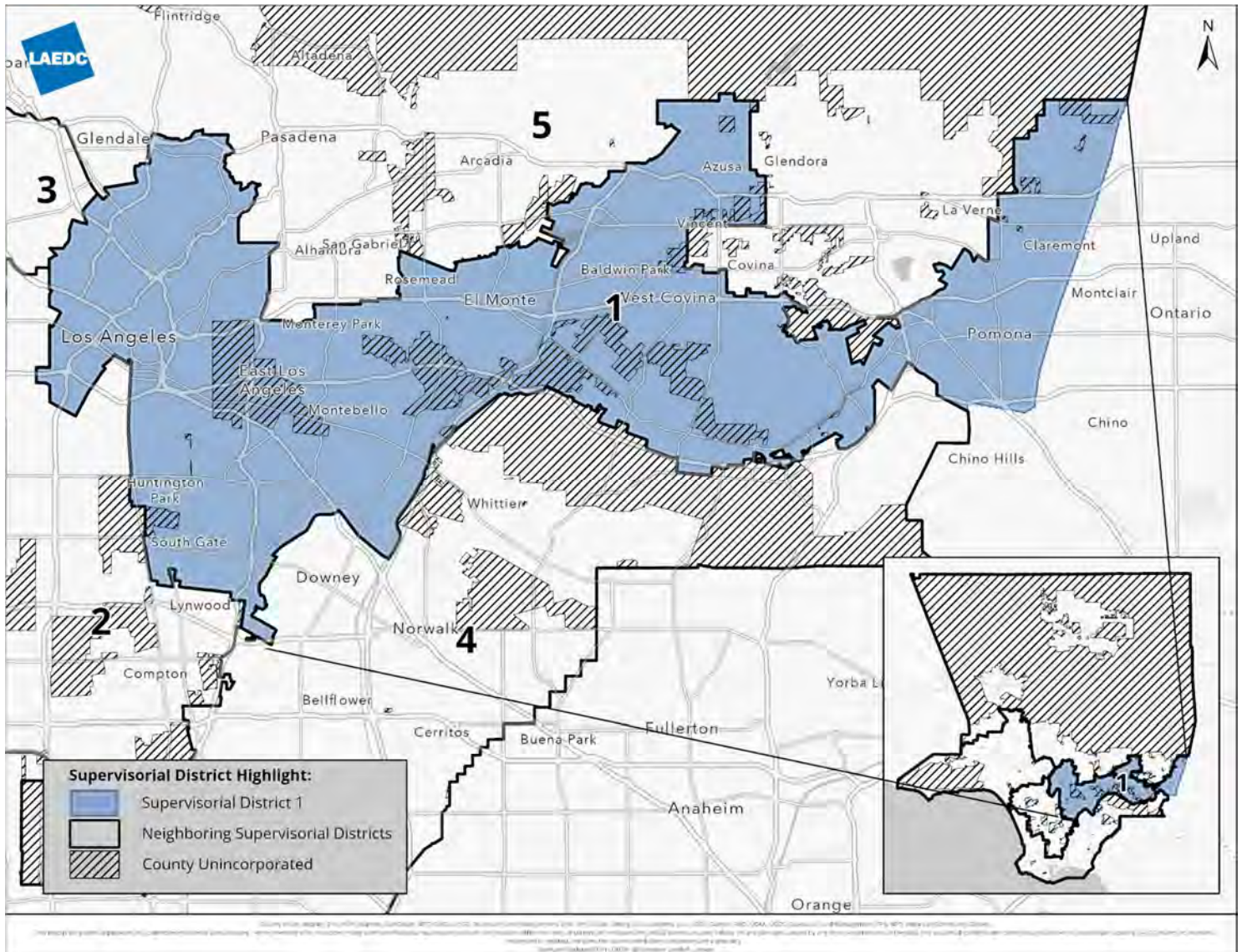


Exhibit 22
Supervisorial District 2

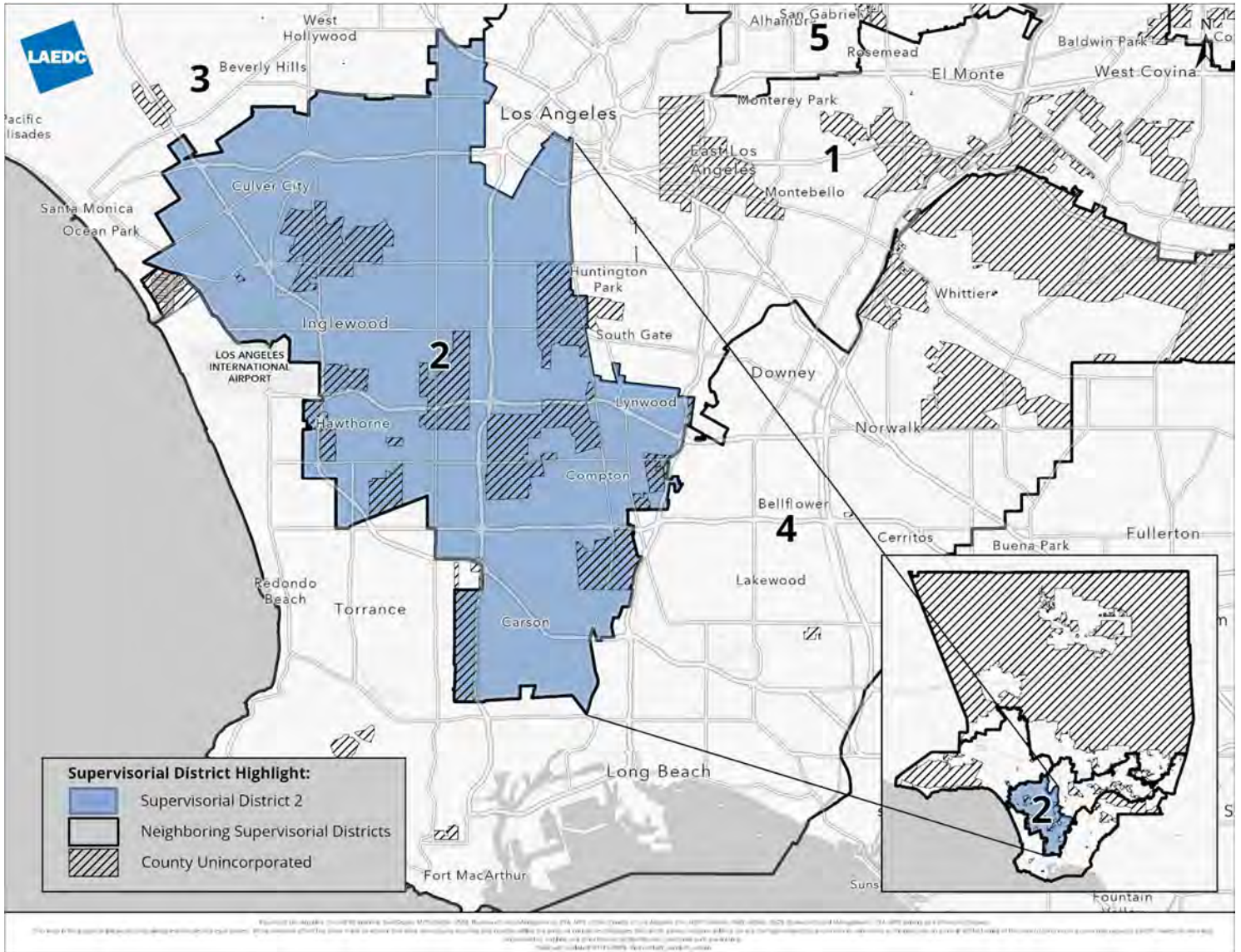


Exhibit 23
Supervisorial District 3

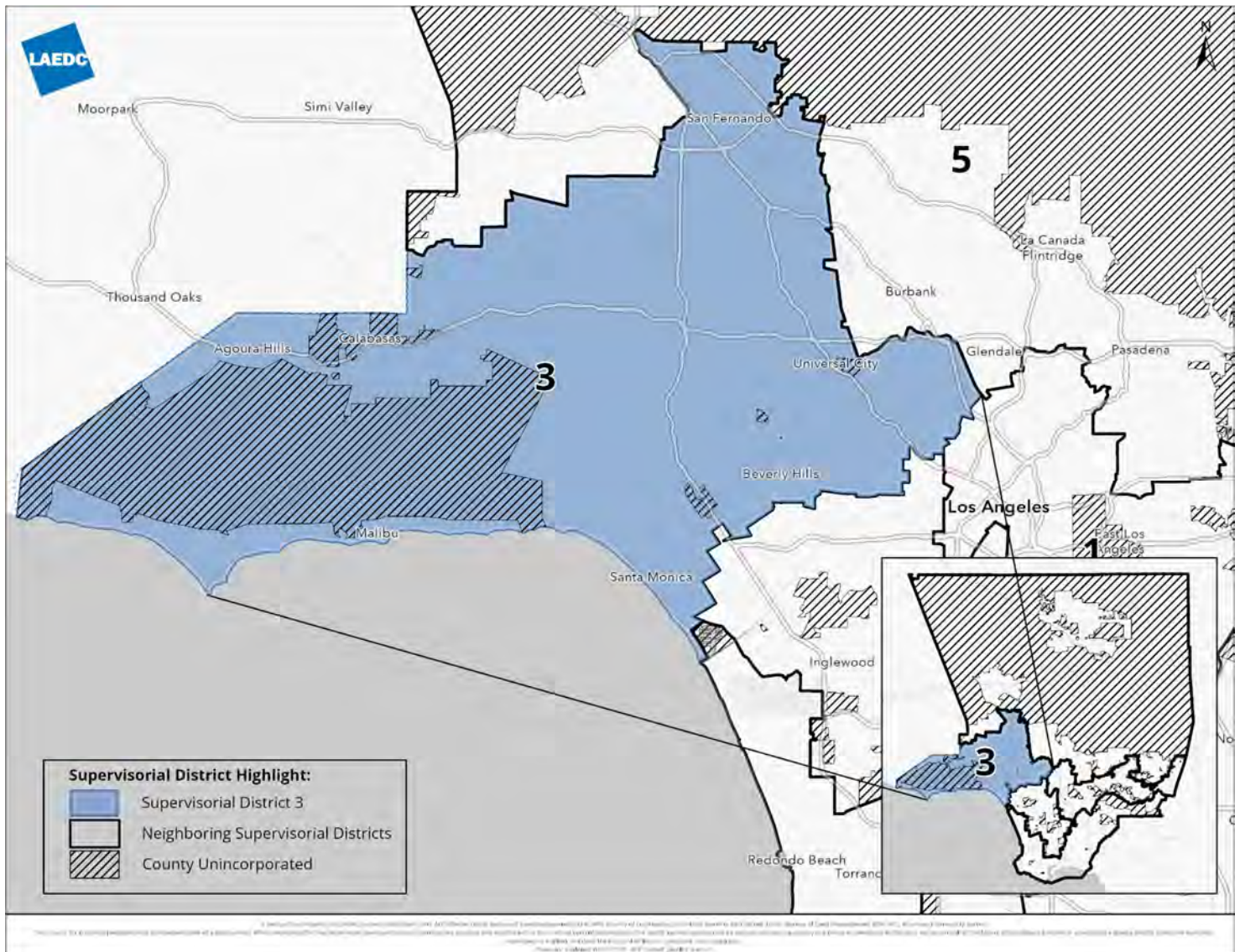
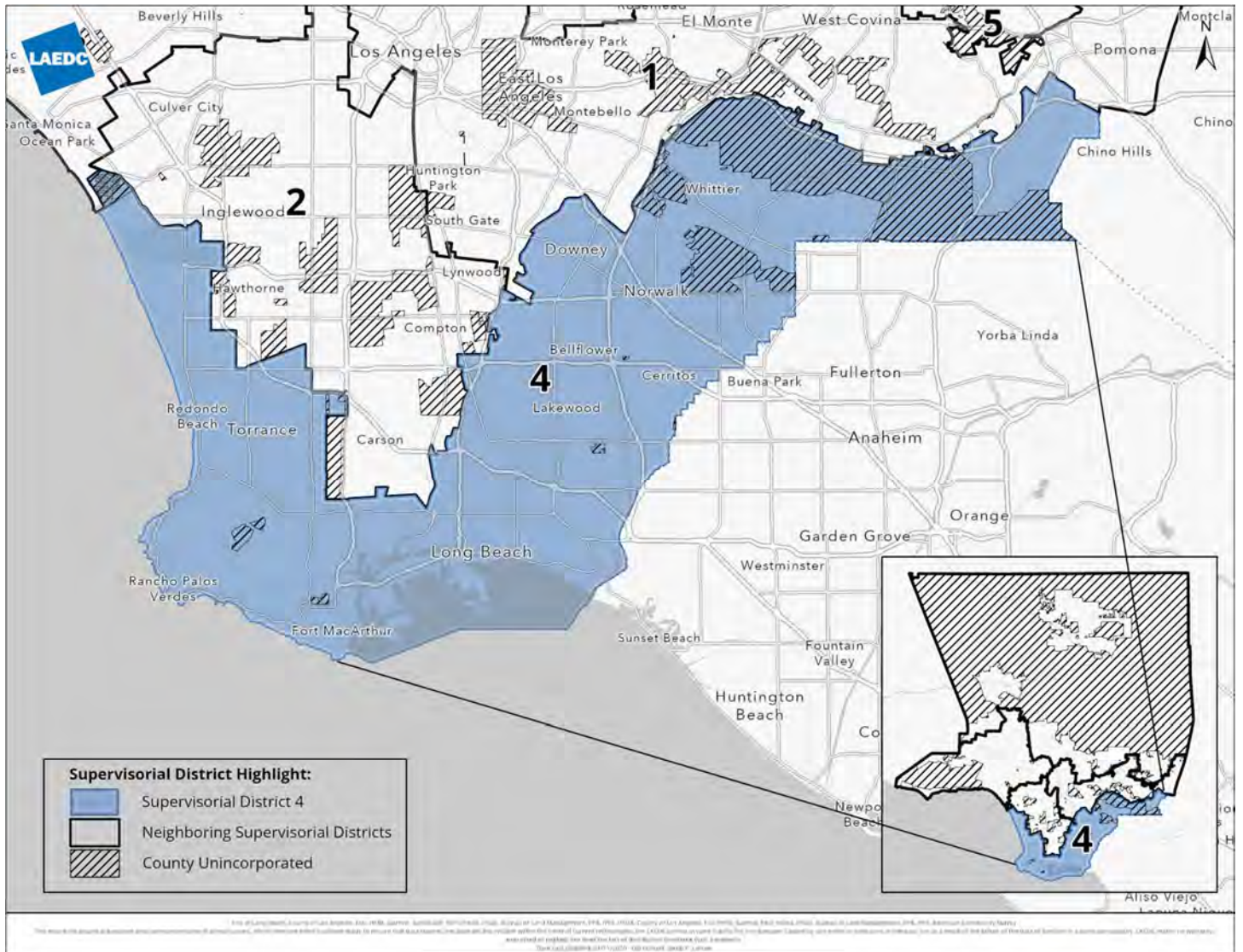
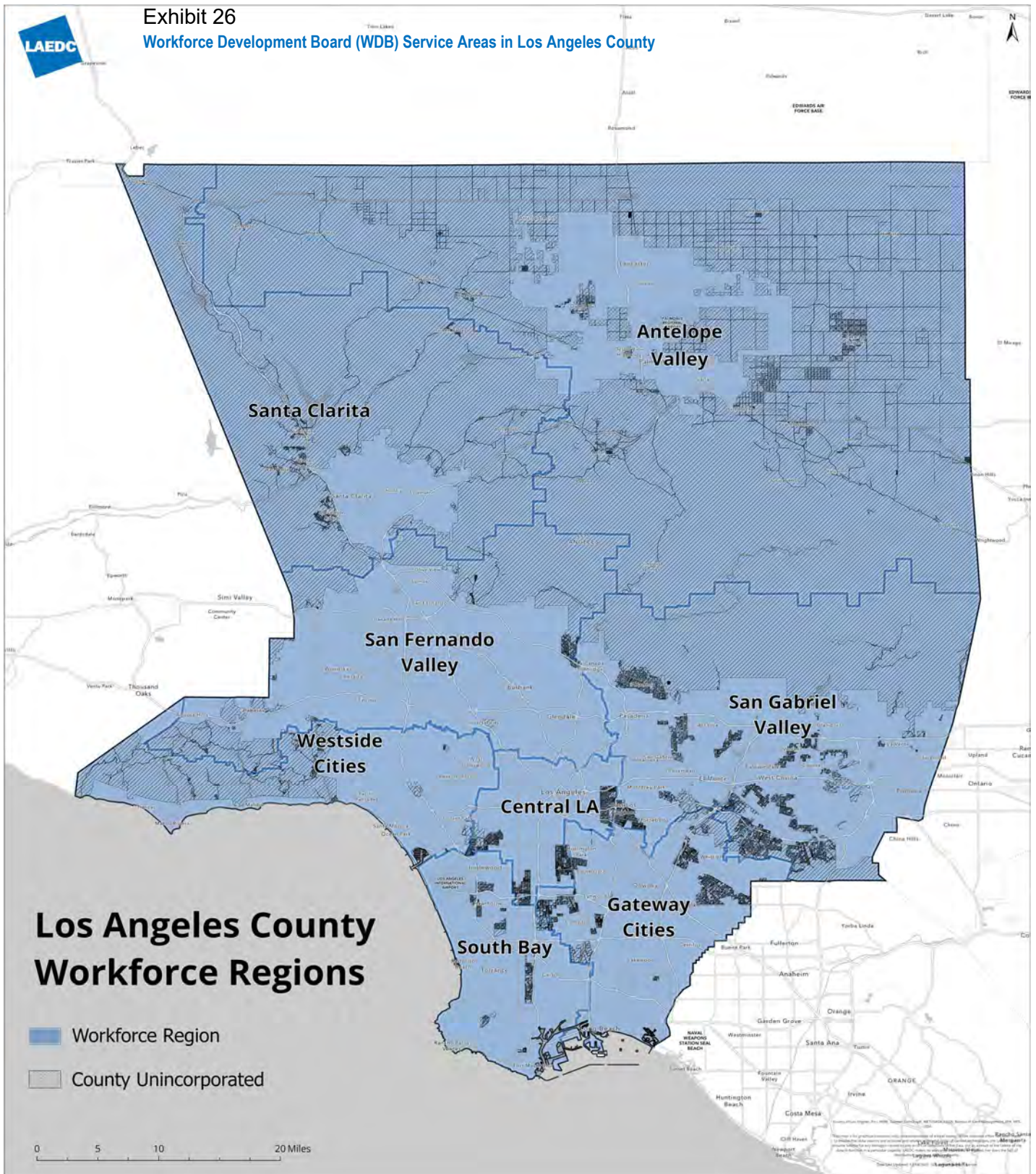


Exhibit 24
Supervisorial District 4





The Los Angeles County Workforce Development Board (WDB) carries out functions mandated by the Workforce Innovation and Opportunity Act at the federal and state level. The WDB operates on behalf of the Los Angeles County Board of Supervisors.

Trends by Census Tracts in Los Angeles

Displaying trends by census tracts in Los Angeles County allows a more detailed picture of key metrics. This section will provide the following topics visualized by census tract:

- **Total Population**
- **Gender**
- **Population Aged 16-24**
- **Minority Population**
- **Minority Groups Population**
- **ACS Poverty Index**
- **American Job Centers of California**
- **High School Education**
- **Community Colleges**
- **Median Household Income**
- **Rent Burden**
- **Average Food Spending**
- **Internet Connectivity**
- **Unemployment**
- **Small Businesses**





Exhibit 27 Total Population in Los Angeles County by Census Tract

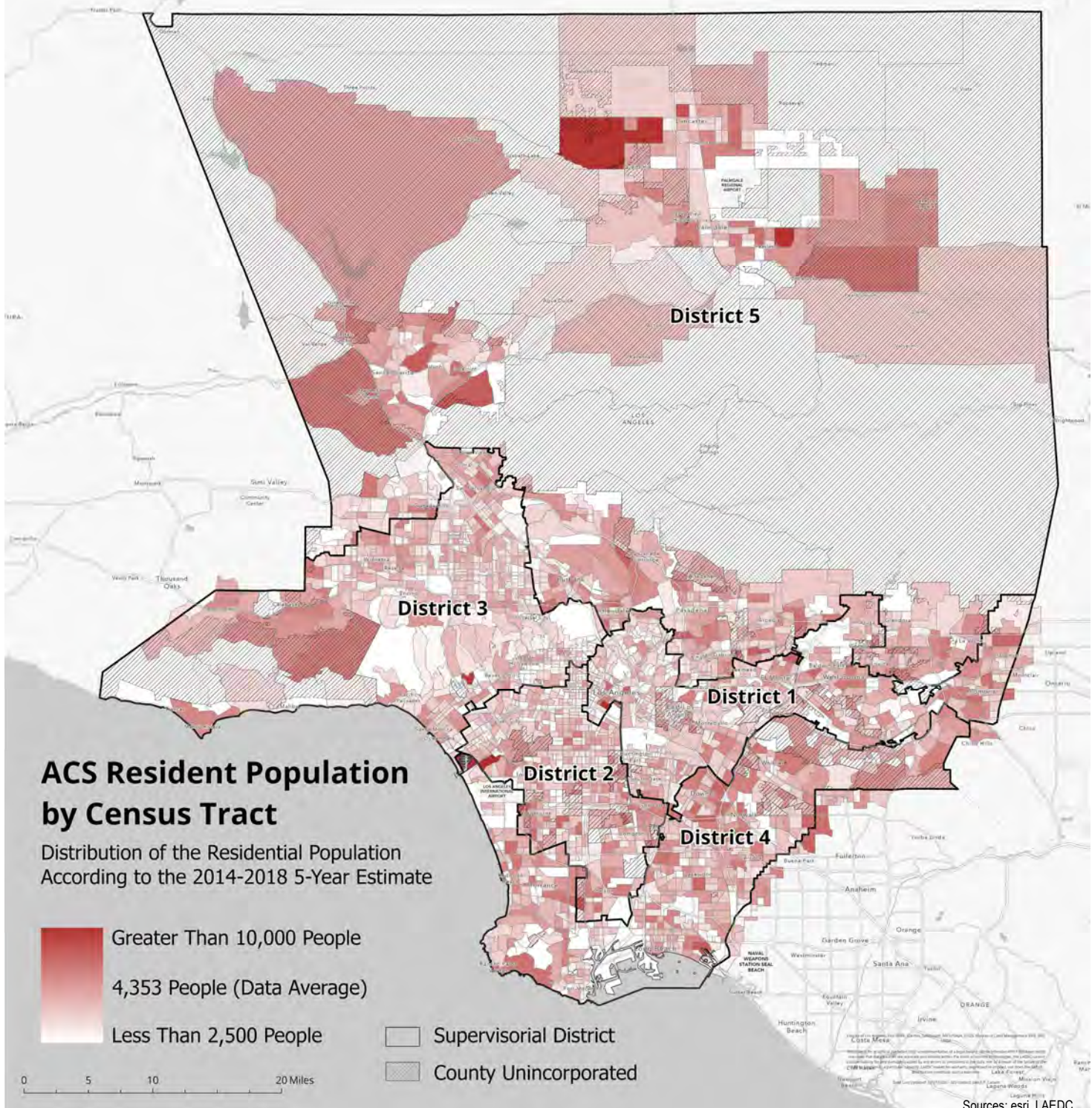


Exhibit 27 presents a visualization of total population count by census tract in Los Angeles County. This map facilitates a better understanding of population density in the region.



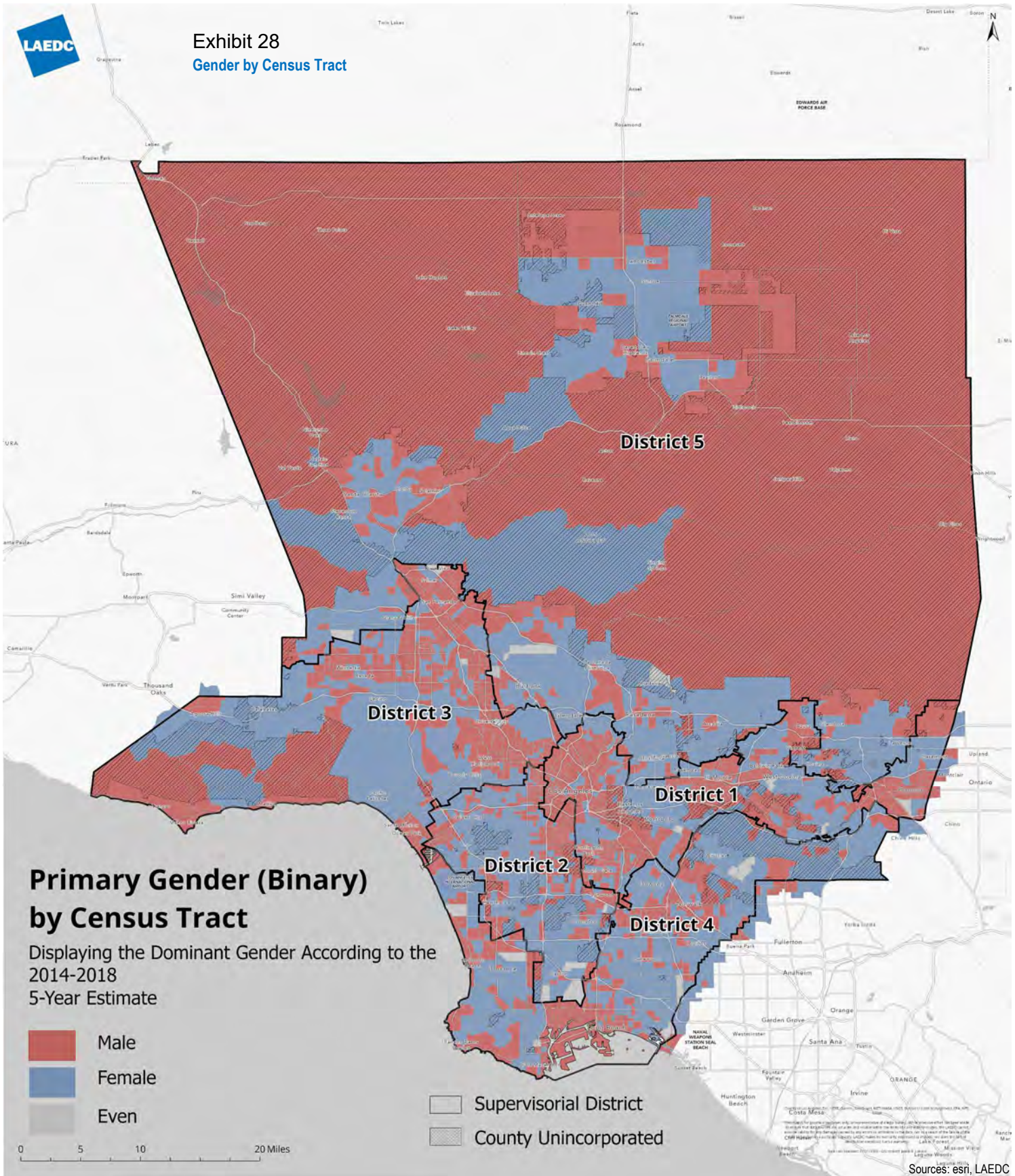


Exhibit 28 shows the dominant gender for each census tract in Los Angeles County.

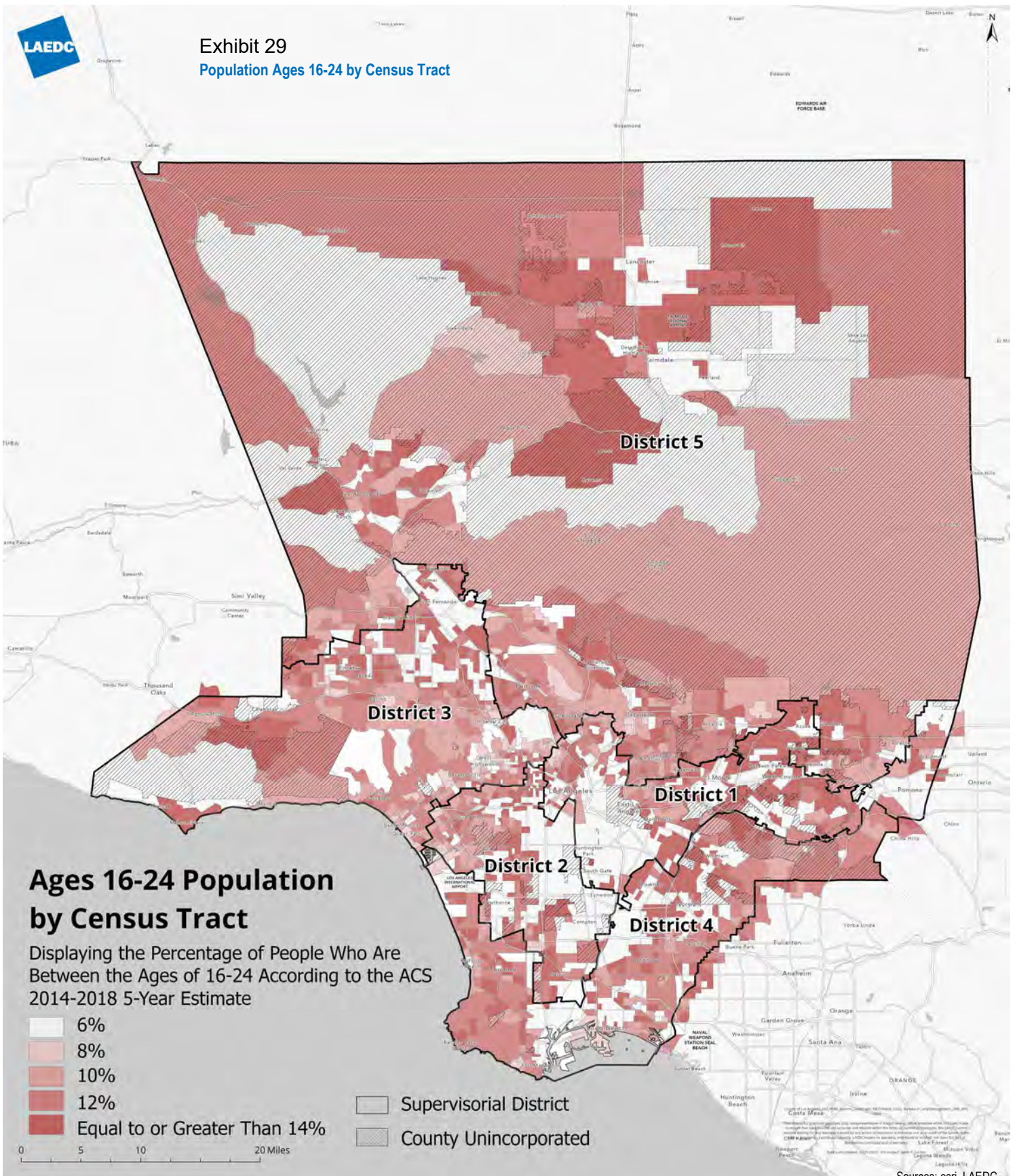


Exhibit 29 displays the population aged 16 to 24 in Los Angeles County by census tract.

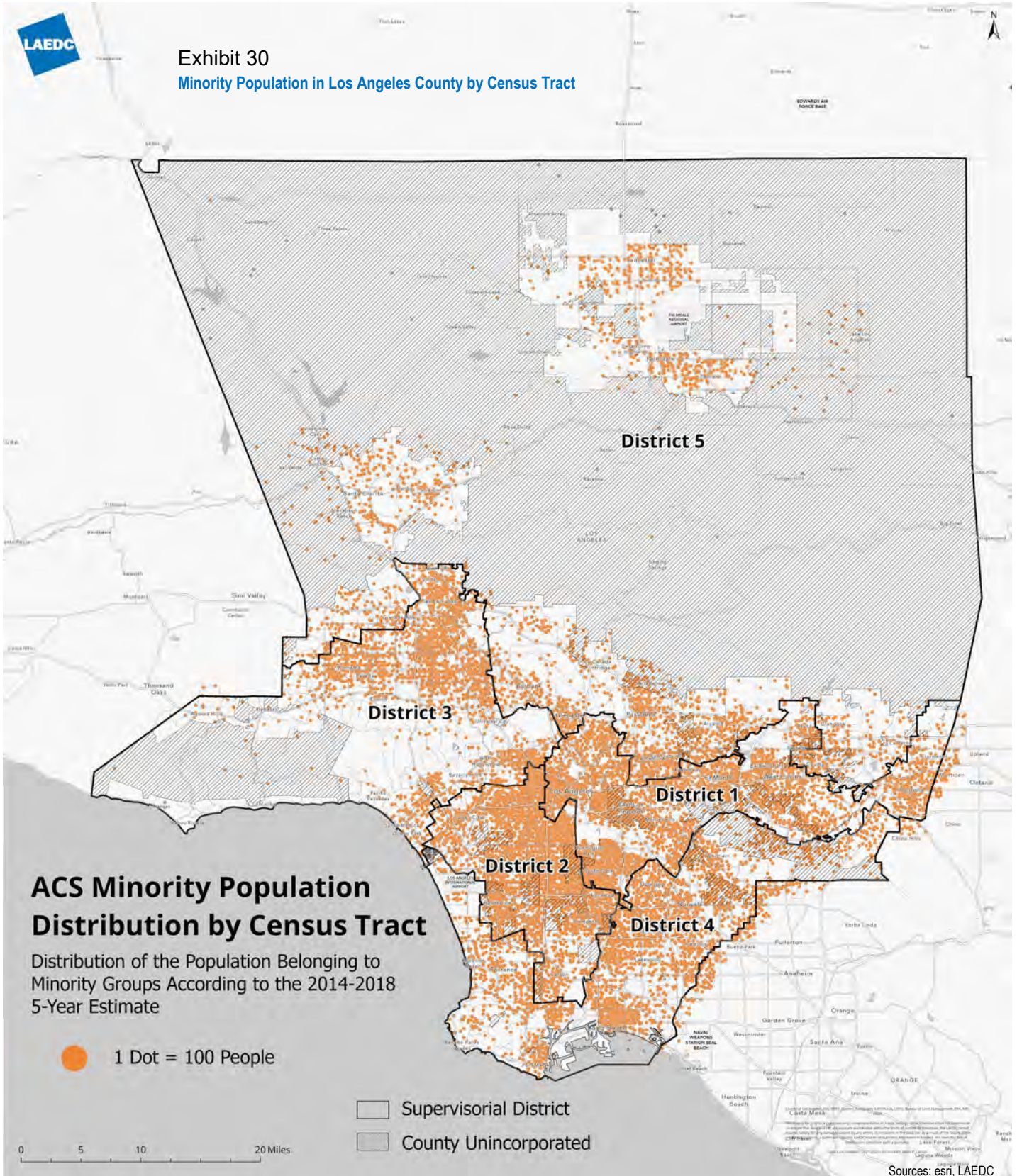
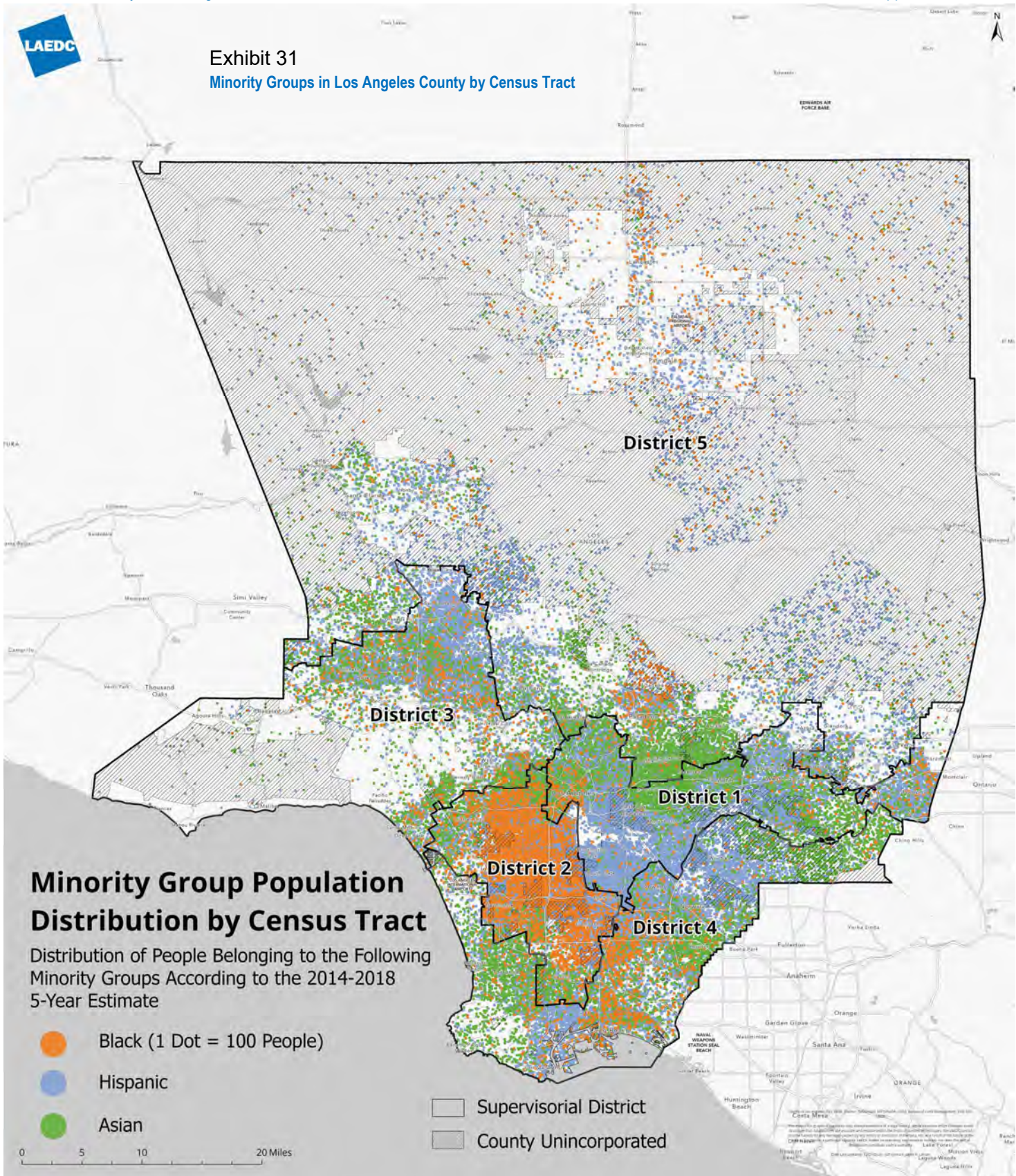


Exhibit 30 displays minority population in Los Angeles County by census tract. The densest minority populations exist in Central LA, Gateway Cities, South Bay, and the San Fernando Valley. This visualization is key to understanding economic trends in Los Angeles County through the lens of racial and ethnic inequality.



Exhibit 31 Minority Groups in Los Angeles County by Census Tract



Sources: esri, LAEDC

Exhibit 31 shows the distribution of the three largest minority groups in Los Angeles County. Reiterating the point above, this map is key to analyzing racial and ethnic economic disparity in the region.

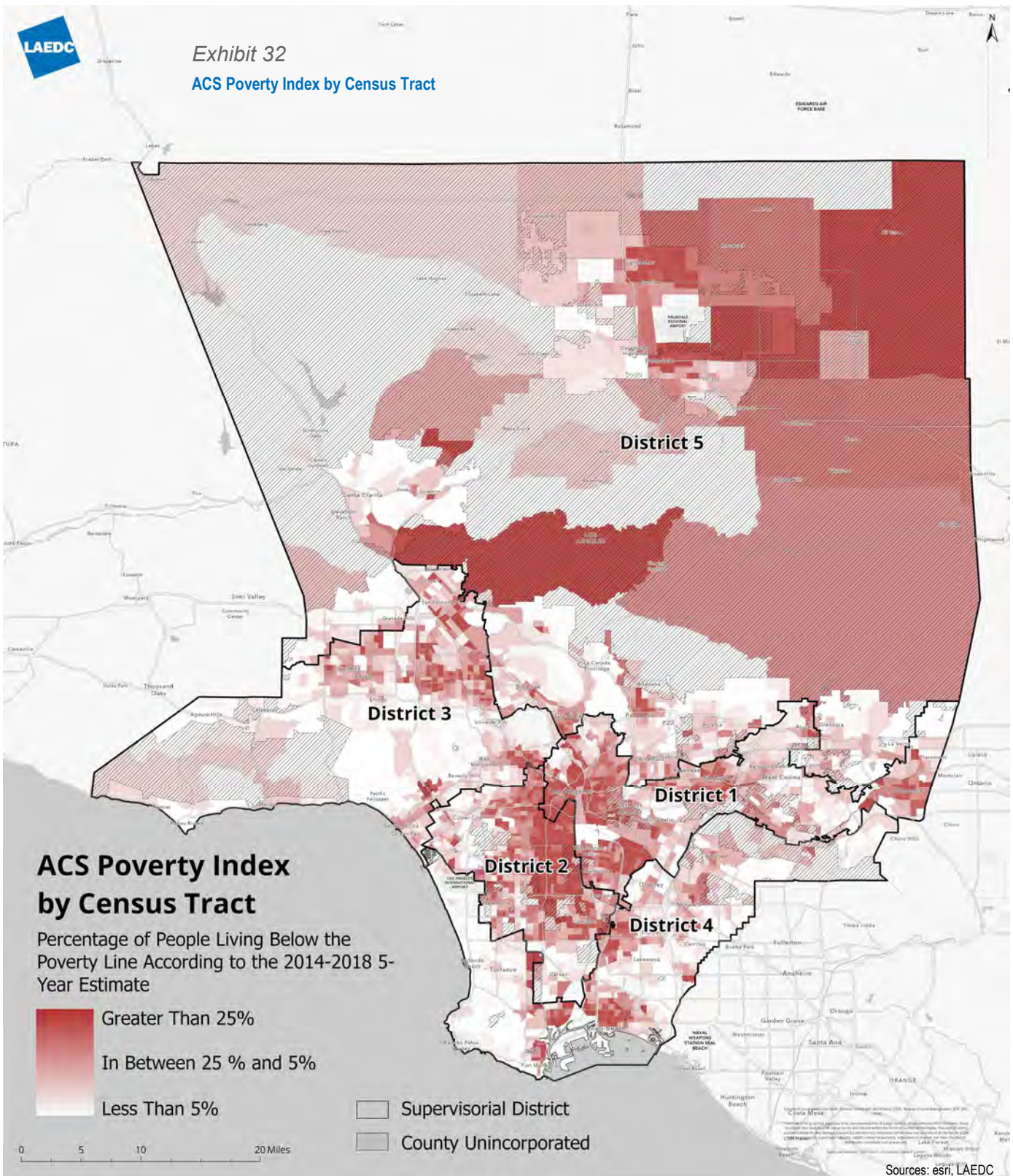
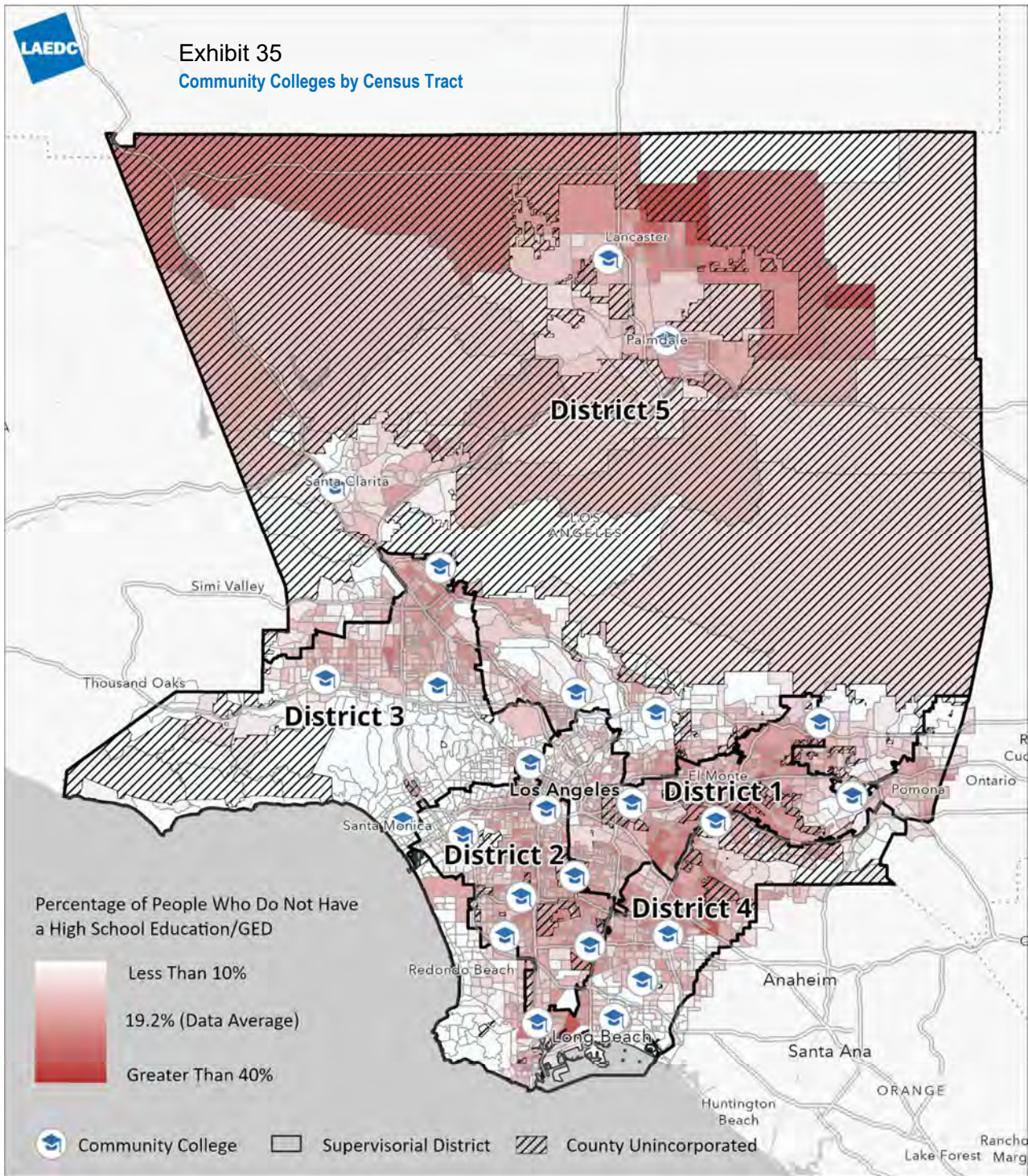


Exhibit 32 displays the percentage of people below the poverty line by census tract. When compared with Exhibit 30 and 31, a key trend becomes clear. There is an inverse relationship between share of minority population and poverty in Los Angeles County. Those urban census tracts with a higher percentage of minority population experience greater levels of poverty, and vice versa.



Community Colleges in Relation to Education (ACS 2014-2018)

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Sources: esri, LAEDC

Exhibit 35 shows the locations of Community Colleges in Los Angeles County overlaid on the high school education data from Exhibit 34. This exhibit highlights access to educational institutions.

Exhibit 36: Median Household Income in Los Angeles County by Census Tract

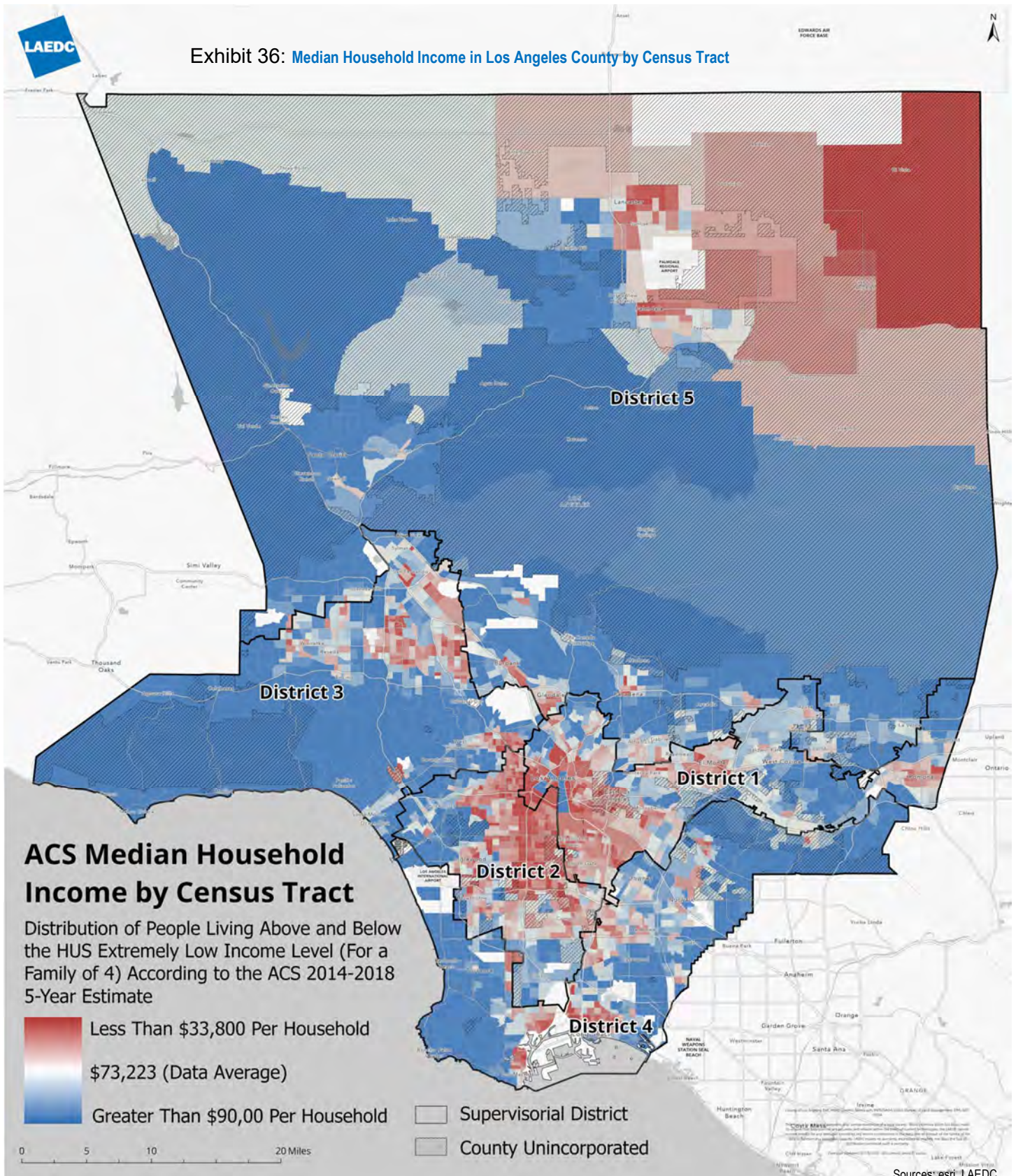


Exhibit 36 shows the median household income in Los Angeles County by census tract. This map is consistent with the findings of Exhibit 29. The same areas that have higher levels of poverty receive lower household income.

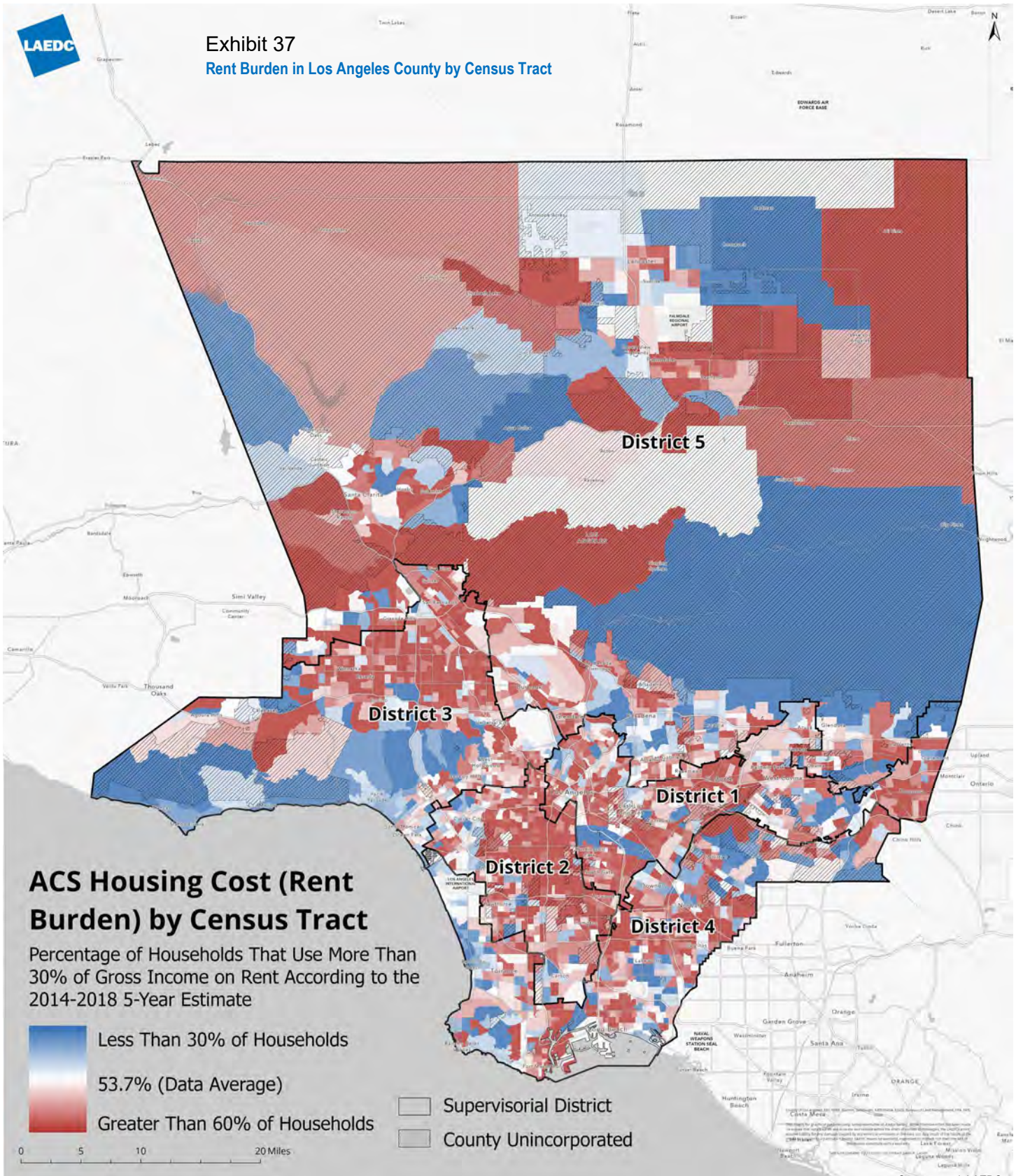


Exhibit 37 shows rent burden in Los Angeles County by census tract. 53.7 percent of households in Los Angeles county experience rent burden, meaning that more than 30 percent of their gross income is spent on rent.

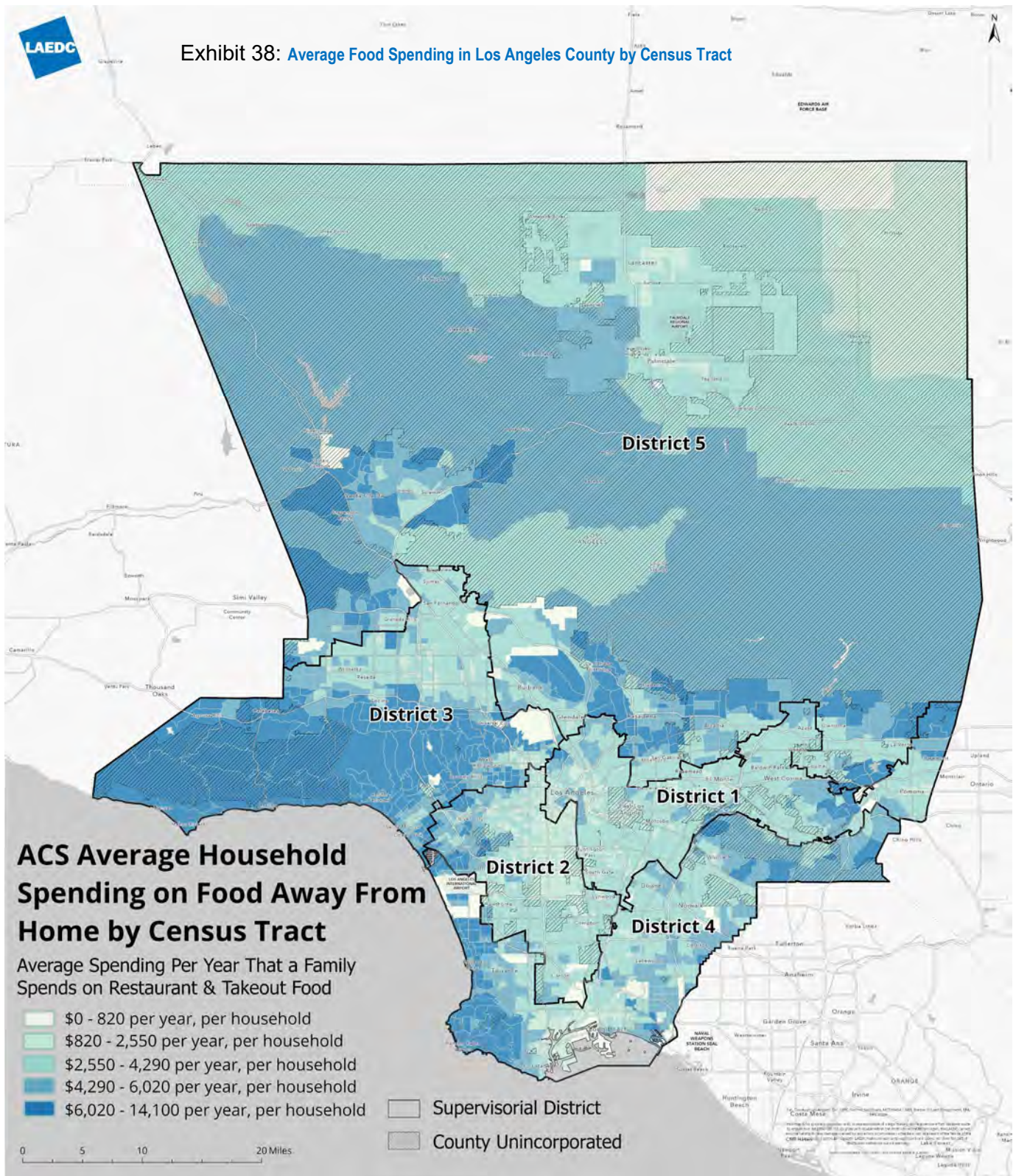


Exhibit 38 shows average food spending away from home in Los Angeles County by census tract. This map tracks with the findings of Exhibit 29 and Exhibit 30. Tracts with lower median income and higher rent burden tend to spend less on food away from home. They also tend to have a higher share of minority populations (Exhibit 28).

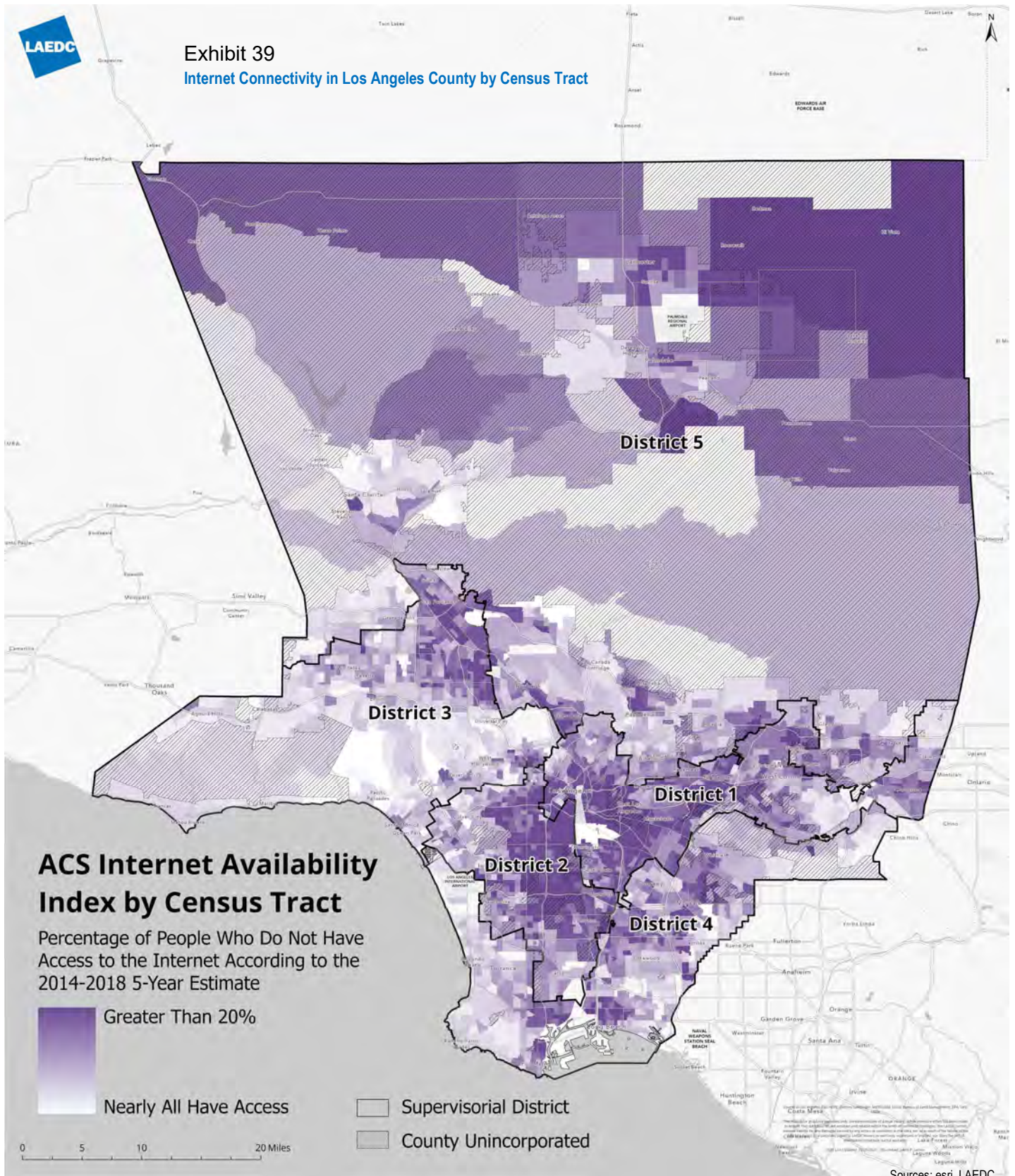


Exhibit 39, which displays the percent of households without internet connection in Los Angeles County by census tract, continues to develop the same spatial trend shown in the previous maps. Tracts with higher shares of minority populations and lower levels of expendable income also have lower internet connectivity.

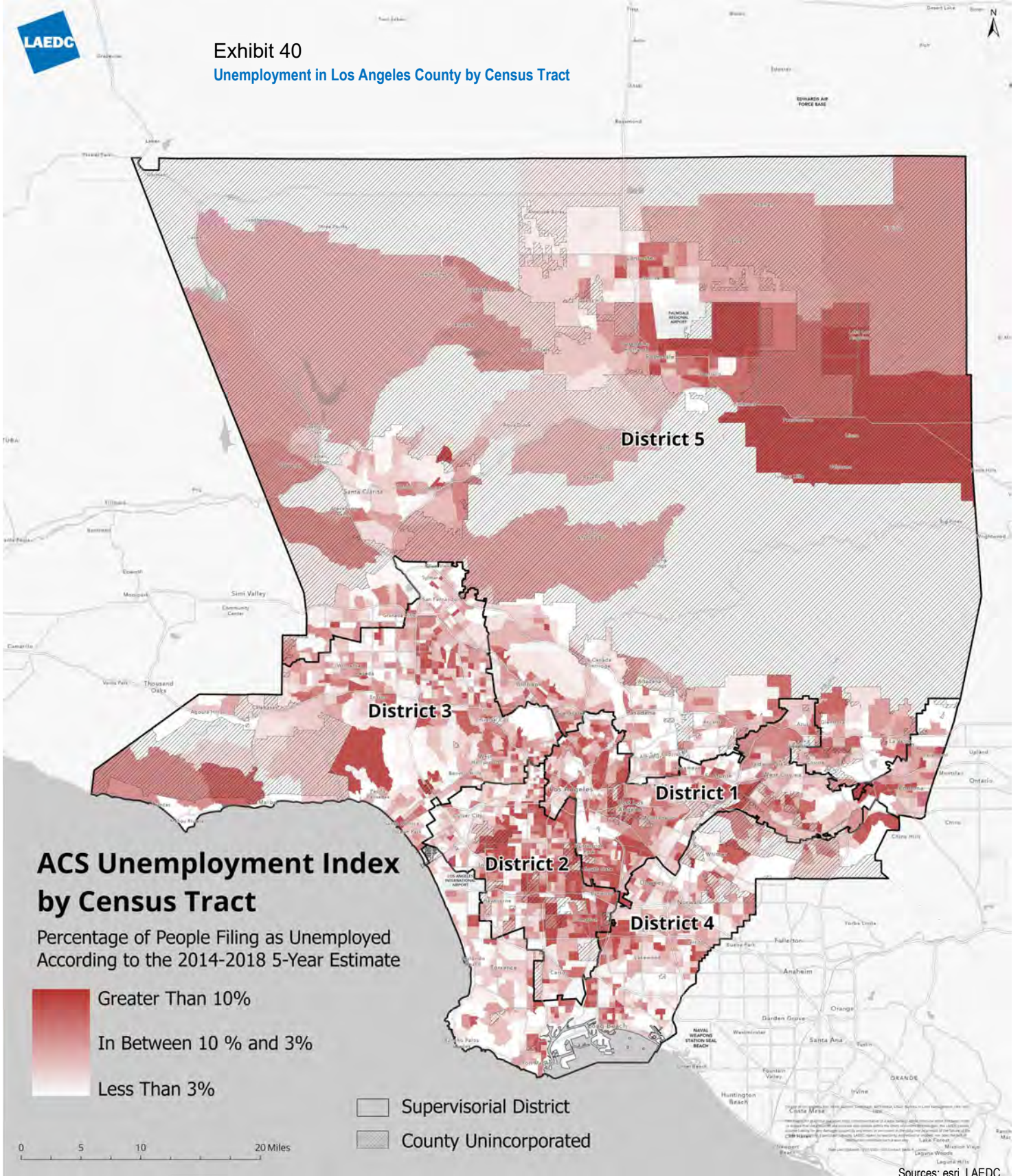


Exhibit 40 displays unemployment status in Los Angeles County by census tract based on the American Community Survey.

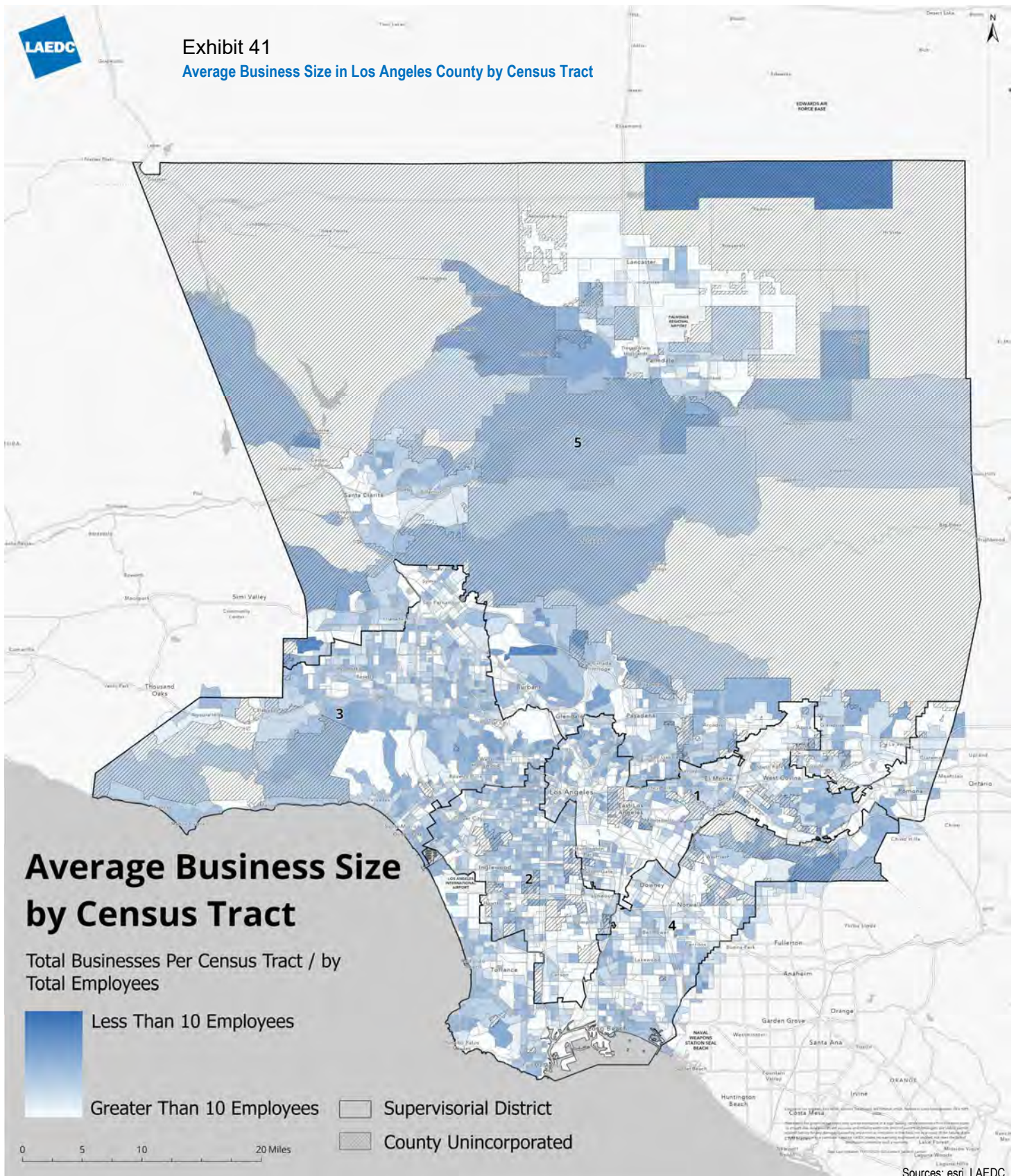
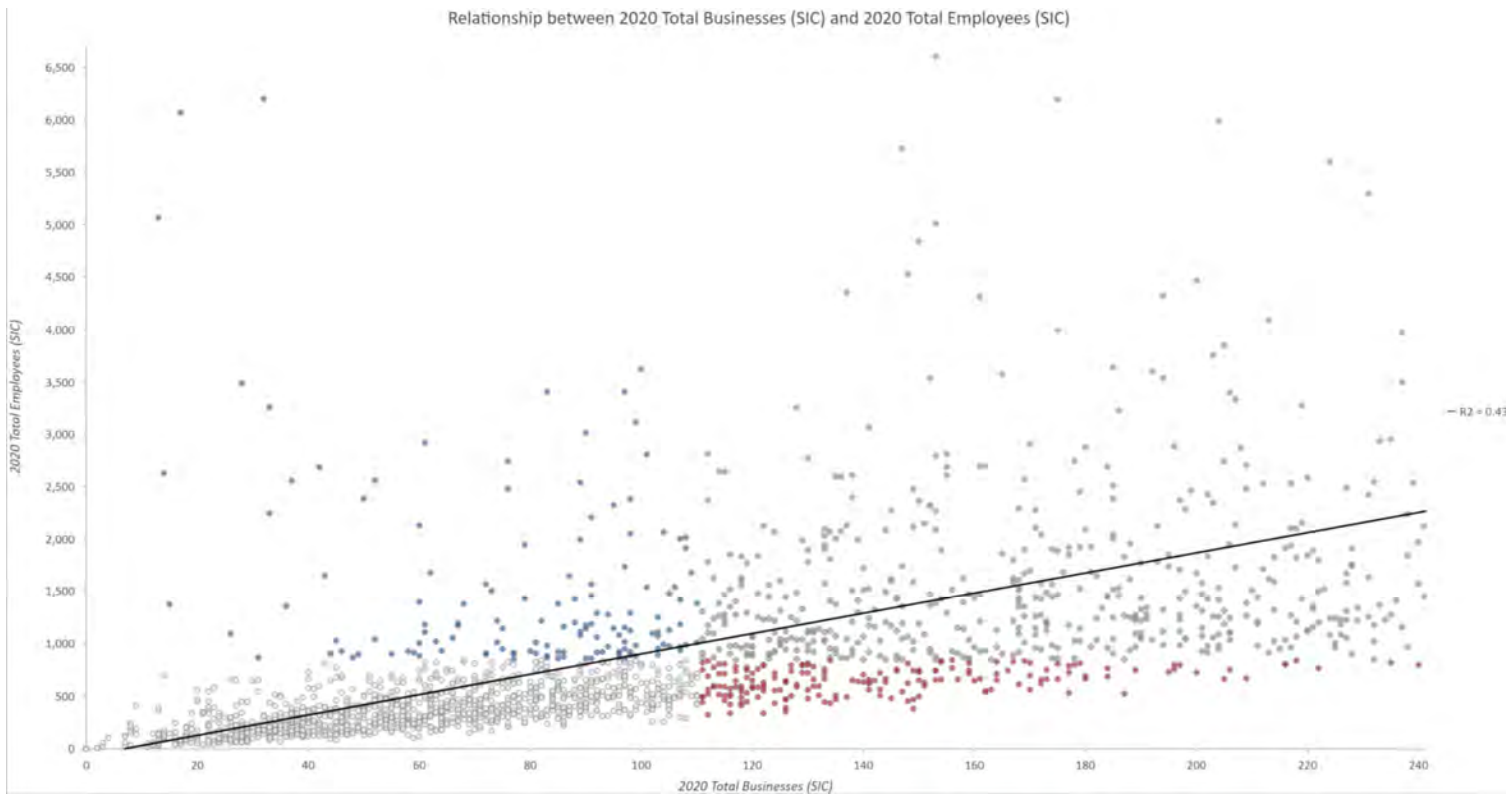


Exhibit 41 displays average business size in Los Angeles County by census tract. The spatial pattern following share of minority population is not as visible in this map than in the previous six.

Exhibit 42

Relationship between Total Businesses and Total Employees



The provided map output is the result of a combining two GIS layers: total businesses and total employees per census tract. The relationship between these two layers results in four groups:

- Both Low, shown by light grey dots
- Low Total Businesses and High Total Employees, shown by blue dots
- High Total Businesses and Low Total Employees, shown by red dots
- Both High, shown by dark grey dots

This analysis is mainly interested in the red areas. Signifying a high-low grouping in the data, the red colored census tracts are observations high in the total amount of businesses and low in total number of employees. In theory, this identifies the census tracts with the most “small businesses”.

When compared in a scatter plot and tested against a simple linear regression, this resulted in an R^2 of 0.43; meaning that about 43 percent of the data in the relationship is explained by this comparison. This is not a particularly high value, but certainly enough to begin researching these areas in further detail. Moving forward, additional variables can be added to the analysis to increase the strength of the relationship. The data used in this analysis is sourced from Esri (in coordination with Infogroup) and has a vintage (date) of January 2020.

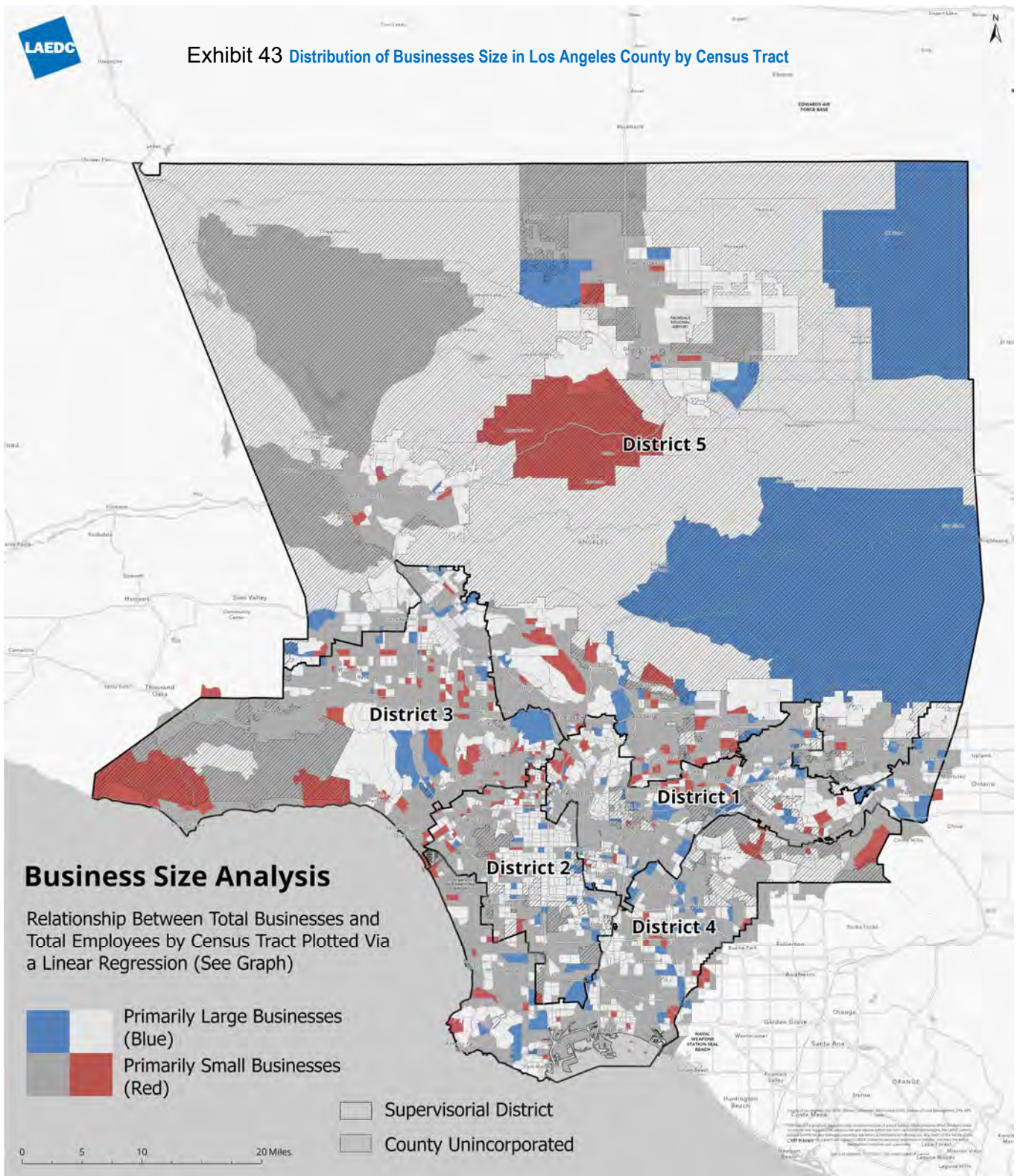


Exhibit 43 uses the results from Exhibit 40 to understand the distribution of businesses size by census tract. The tracts shaded blue have a low number of total businesses and a high number of total employees, suggesting they host primarily large businesses. The tracts shaded in red have a high number of total businesses and a low number of total employees, suggesting they host primarily small businesses.

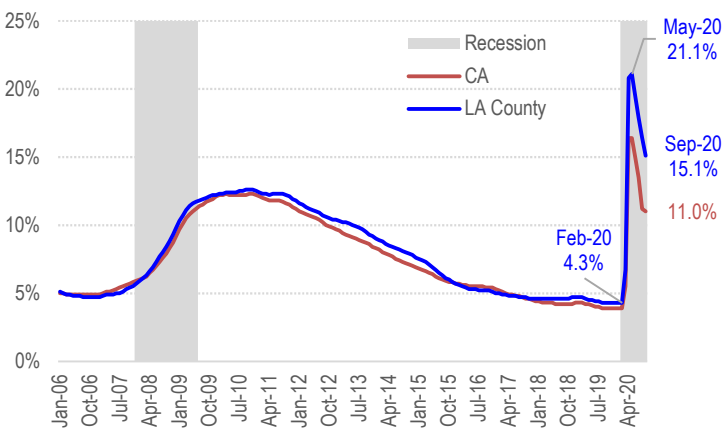
The Los Angeles County Economy in 2020

The pandemic and subsequent crisis initiated immense shifts in the economic performance of Los Angeles County in 2020. All data is not currently available for this year, but key employment facts through September 2020, outlined in subsequent sections, shed light on which industries face the greatest challenges.

The Economy in the Grips of the Pandemic

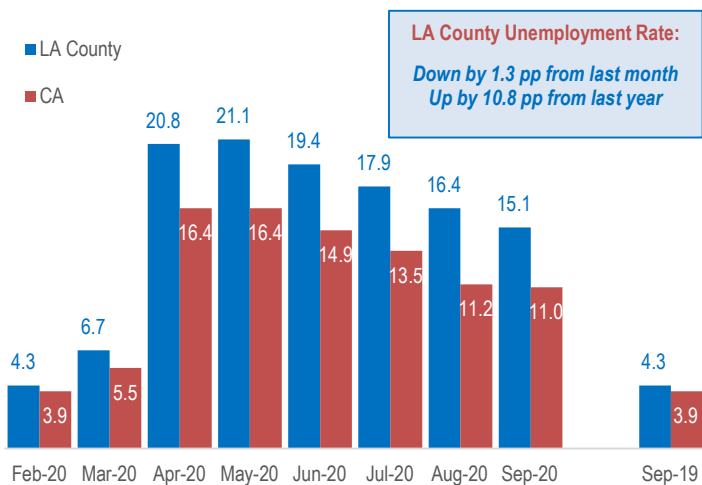
Unemployment in Los Angeles has reached unparalleled levels in 2020 due to the pandemic. Exhibit 44 displays the historical monthly unemployment rate for the County from January of 2006 through September of 2020.

Exhibit 44: Monthly Unemployment Rates
SA, Jan 2006 – September 2020



Source: BLS

Exhibit 45: LA County Unemployment Rate (SA)



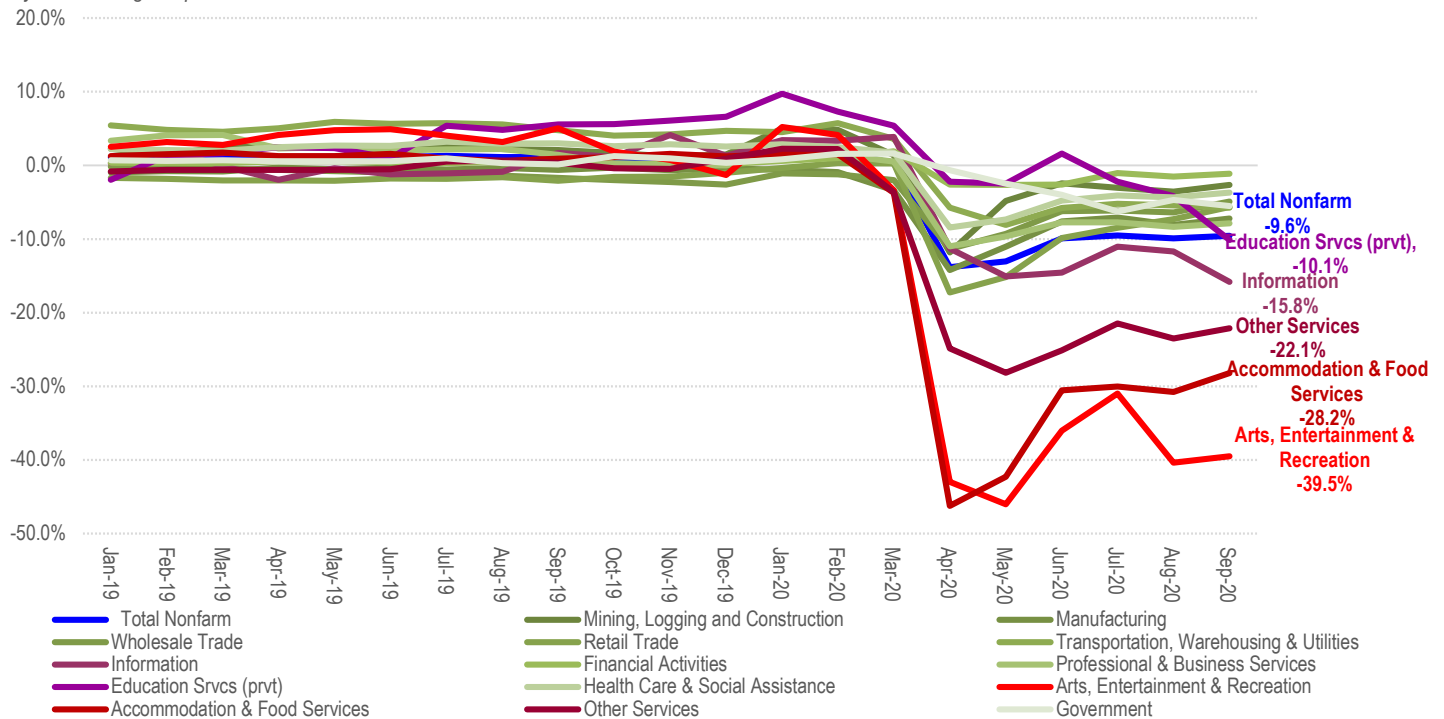
Source: CA EDD

Following a steady decline from 2010 through 2019, unemployment peaked during the height of distress in May 2020 at 21.1 percent (seasonally adjusted). Though that level of unemployment appears to be past, double digit unemployment has persisted and will likely do so into 2021. As of September, Los Angeles County unemployment was 15.1 percent (seasonally adjusted), around 6 percentage points lower than its May 2020 peak (Exhibit 45); statewide this figure trailed only Imperial County with 21.5 percent unemployment.

Despite rapid improvement in the months since May, it will be difficult for a continued decrease in unemployment while virus-related shocks continue. The resurgence of case numbers in the fall and winter have prevented an effective reopening process, and both larger corporations and small businesses alike have been forced to downsize.

The effects of the COVID-19 pandemic on employment were seen most intensely in March and April. An estimated 716,100 nonfarm jobs were lost within those two months (Exhibit 46). Nearly 30 percent of

Exhibit 46
Year-Over-Year Change in Employment in Los Angeles County
 January 2019 through September 2020



those sustained losses have been recovered over the past five months with 213,000 nonfarm job additions from May through September, with a minor setback in July when the governor initiated a second round of mandated closures for certain types of businesses due to a spike in cases within the county — likely due to the reopening process. However, this still leaves more than 500,000 jobs unrecovered.

A Year-Over-Year Comparison

We make year-over-year comparisons to account for seasonal variations; most industries have a peak season skewing the demand for the rest of the year. For example, port activity increases in September and October in preparation of the holiday season, which is also a peak period for the retail industry. Year-over-year comparisons allow

us to identify trends in time series data, such as monthly employment.

Since the first Safer-at-Home orders were issued in mid-March, Los Angeles County has endured severe economic distress. Given existing business and job concentrations in retail, food service, hospitality and personal services, mandated business closures and subsequent restrictions on business activities have led to large employment declines in many important regional industries.

The region continues to recover jobs in the wake of the pandemic, as total nonfarm employment increased by 37,600 jobs between August 2020 and September 2020; however, many industries are still trailing behind in the recovery process including: arts, entertainment and recreation; food services and drinking places; information (with large declines in the motion picture and sound

recording industry); and other services (which include personal care services such as hair and nail salons).

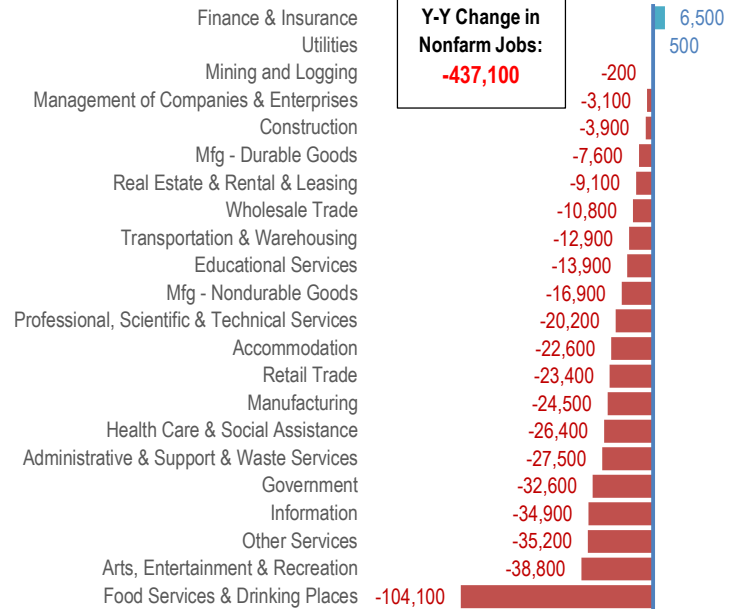
Exhibit 47 displays the year-over-year percentage change in employment from January 2019 through September 2020. Moving into 2020, Los Angeles County was adding jobs to its payrolls. In March, the County added 13,500 jobs year-over-year for a 0.3 percent increase over March 2019. In contrast, between September 2019 and September 2020, Los Angeles County nonfarm employment decreased by 9.6 percent, or 437,100 jobs.

Exhibit 47 compares the year-over-year numerical job change by industry, reinforcing that most industries are still performing well below their pre-pandemic employment levels. As with the economic expansion experienced through 2019, effects of the pandemic-induced recession were not equally distributed across all industries in terms of employment (Exhibit 2-5). The industries that lead employment contractions from September 2019 through September 2020 are below:

- *Leisure and Hospitality* declined by 165,500 in year-over employment. This contraction accounts for 38 percent of the entire nonfarm employment losses. Within this industry, 126,700 jobs were lost in Accommodation and Food Services while the remaining 38,800 jobs were lost in Arts, Entertainment, and Recreation.
- *Professional and Business Services* declined by 50,800 jobs. Many jobs have been lost in these industries as many of these firms have turned to telework and reduced staffing related to the maintenance of offices. Administrative Support and Waste Services lead the contraction with 27,500



Exhibit 47
Year-Over-Year Change in Jobs by Industry
 September 2020 (NSA)



Source: CA EDD

losses. Professional, Scientific, and Technical services were down 20,200 jobs.

- *Trade, Transportation, and Utilities* reported 46,600 job reductions with 23,400 occurring in Retail Trade.
- *Health Services* declined by 40,300 in year-over employment, *Other Services*

contracted by 35,200 jobs, *Information* was down 34,900 jobs, and *Government* lost 32,600 jobs.

Leisure and Hospitality account for 38 percent of the total nonfarm job losses between September 2019 and September 2020. Accommodation and food services also stand out. This is due partially to business restrictions, especially on bars, restaurants and travel, as well as historic declines in foot traffic and household spending on food and recreation outside the home. Around 63 percent of the contractions within this industry were reported in Food Services and Drinking Places. Moreover, domestic and international tourism have fallen by significant amounts, leaving hotels and motels at significantly reduced occupancy.

Only two industries showed year-over employment growth from September 2019 through September 2020:

- *Utilities* added 500 jobs.
- *Finance and Insurance* increased employment by 6,500.

Intuitively, these two sectors are positively impacted by the COVID-19 crisis. With people spending more time in their homes the need for more utility services arose, consequently requiring a larger workforce in the utilities sector. The finance and insurance sector has been similarly stimulated by an increased demand for financial services to protect current assets and an increase in mortgage servicing due to a bump in the housing market.

Exhibit 48
Industry Employment in Los Angeles County

NAICS	Industry Description	Sep-20 (000s)	% Δ from Sep-19
62	Health Care and Social Assistance	684.8	-3.7%
92	Government	553.6	-5.6%
44-45	Retail Trade	387.9	-5.7%
31-33	Manufacturing	338.3	-7.2%
72	Accommodation and Food Services	322.2	-28.2%
54	Professional and Technical Services	279.9	-6.7%
56	Administrative and Waste Services	255.0	-9.7%
42	Wholesale Trade	208.3	-4.9%
48-49	Transportation and Warehousing	190.7	-6.3%
51	Information	185.5	-15.8%
23	Construction	147.2	-2.6%
52	Finance and Insurance	141.1	4.8%
81	Other Services	123.9	-22.1%
61	Educational Services	123.5	-10.1%
53	Real Estate/Rental/Leasing	79.3	-10.3%
71	Arts, Entertainment and Recreation	59.4	-39.5%
55	Mgmt of Co's/Enterprises	58.8	-5.0%
22	Utilities	12.6	4.1%
21	Mining and Logging	1.8	-10.0%
Total Nonfarm		4,129.3	-9.8%

Source: CA EDD, LMID, CES

Looking Ahead: Economic Outlook

Hopes are high for a vaccine or other viable, widespread treatment option for COVID-19 in the first half of the 2021 calendar year, especially after Pfizer’s announcement that early data shows their vaccine is more than 90 percent effective⁶. However, the extent of unemployment, economic displacement and business failures will have ramifications beyond the end of the pandemic; our current projections suggest we should still be feeling the impacts of this economic shock well into the future. The LAEDC forecasts that by 2022 the total employment base of the county will have only returned to 4.4 million (2.3 percent below its level in 2019), after dropping to 4.3 million (3.9 percent below the 2019 level) in 2021 (Exhibit 49).

⁶ Polack, Fernando P., Stephen J. Thomas, Nicholas Kitchin, Judith Absalon, Alejandra Gurtman, Stephen Lockhart, and John L. Perez et al. 2020. "Safety And Efficacy Of The Bnt162b2 Mrna Covid-

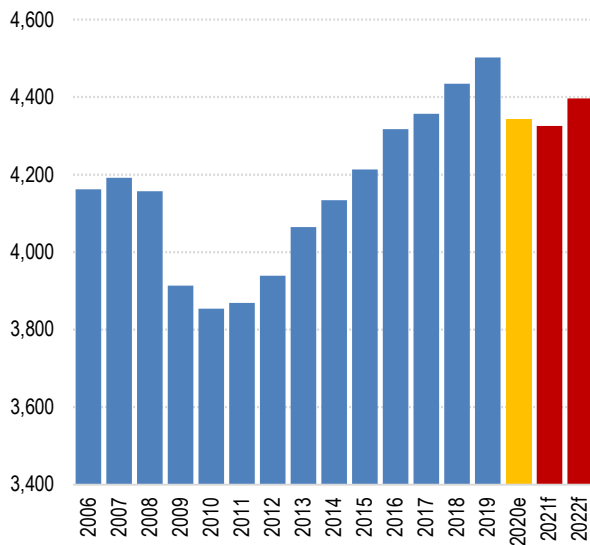
19 Vaccine". *New England Journal Of Medicine*. doi:10.1056/nejmoa2034577.

Between 2019 and 2022, the LAEDC estimates that health care, public administration and transportation and warehousing will lead the way in job recovery (Exhibit 50). This will likely be due to social assistance, ambulatory care and elective medicine recovering the strongest as the post-COVID economy normalizes. Local government budgets will likely recover somewhat as commerce, tourism and business formation return, thus allowing rehires and new hires in damaged industries. Finally, transportation and warehousing will continue to improve as rising consumer and business confidence translate into new orders.

entertainment and recreation exceeds this with a forecasted 35 percent reduction in industry employment from 2019 to 2022; this translates, however, to only 37.8 thousand jobs. By percentage and job count, real estate is estimated to have the least negative outcome over the period, shedding only 0.3 percent, or 200 jobs, of its 2019 employment base by 2022.

Though the adverse impacts of the pandemic and associated economic crisis will be felt throughout the next several years, there are opportunities for local governments, government coalitions, planning authorities and private and nonprofit partners to proactively address and redress many of the

Exhibit 49
Total Employment in LA County (000s)



Source: BLS QCEW; Forecasts by LAEDC

The two-year prognosis for the most negatively impacted industries discussed previously remains grim, with accommodation and food services forecasted to shed 124.3 thousand jobs between 2019 and 2022, or 27.7 percent of 2019 industry employment. By percentage, arts,

Exhibit 50

Industry Employment Growth 2019-2022
Los Angeles County

	Ave Annual % Growth	Employment Job Δ (000s)
Health Care and Social Assistance	12.8%	99.8
Public Administration	14.1%	24.6
Transportation and Warehousing	6.8%	15.7
Other (Personal) Services	6.9%	10.7
Education Services	1.9%	7.4
Construction	2.7%	4.0
Finance and Insurance	1.9%	2.6
Utilities	8.9%	2.5
Real Estate, Rental and Leasing	-0.3%	(0.2)
Management of Enterprises	-1.2%	(0.7)
Mining and Natural Resources	-52.3%	(1.0)
Ag, Forestry, Fishing & Hunting	-26.4%	(1.2)
Professional and Technical Services	-0.4%	(1.2)
Retail Trade	-2.1%	(8.7)
Wholesale Trade	-8.8%	(19.3)
Manufacturing	-6.0%	(20.2)
Information	-13.7%	(28.9)
Admin, Support and Waste Services	-12.3%	(34.3)
Arts, Entertainment and Recreation	-35.0%	(37.8)
Accommodation and Food Services	-27.7%	(124.3)
Total	-2.5%	(110.4)

Sources: BLS, QCEW; LAEDC



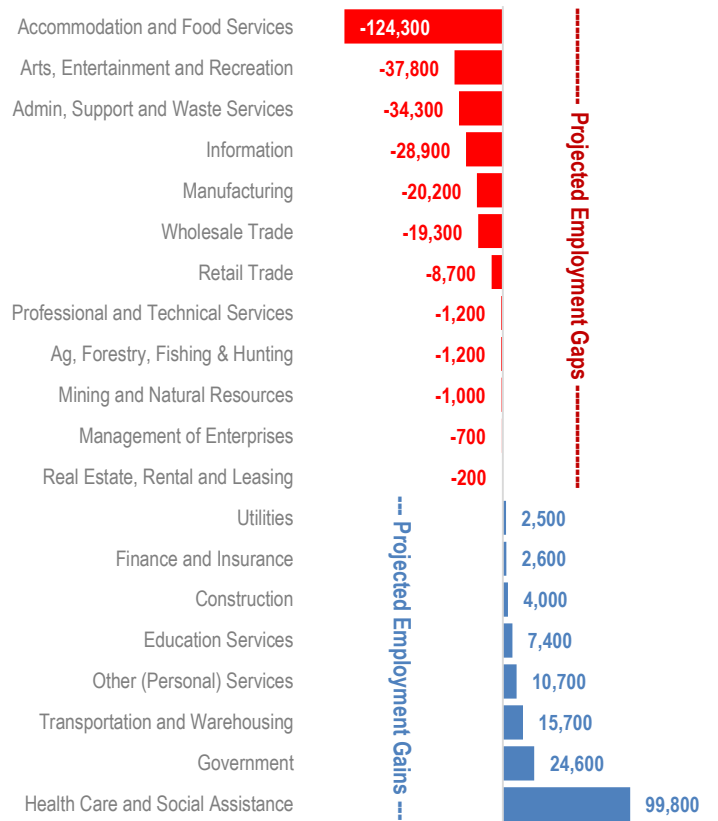
pains being felt by Los Angeles County households and businesses.

Projected Employment Gaps

The net change in jobs between 2019 and our 2022 forecasts represents the anticipated change in employment related to the effects of the pandemic. Employment gaps, where the number of jobs added over the period are still below the pre-pandemic baseline in 2019, exist across the industries that have been hardest hit by the pandemic including: accommodation and food services (124,300 jobs); arts, entertainment and recreation (37,800 jobs); and administrative support and waste services (34,300 jobs). Exhibit 2-9 shows projected employment gaps and employment gains in Los Angeles County by industry sector between 2019 and 2022.

It is important to note that not all of these employment gaps are a result of the COVID-19 pandemic. Sectors such as Agriculture, Forestry, Fishing, and Hunting and Mining and Natural Sources saw major declines in industry employment from 2009 to 2020, a trend pre-existing the pandemic’s economic effects.

Exhibit 51: Projected Employment Gap in LA County
by Industry Sector 2019 - 2022



Trends by Cities in Los Angeles

Unemployment

The unemployment rate in the Los Angeles metropolitan area from January 2000 to October 2020 is displayed in Exhibit 52 for context. The metropolitan area, which includes Los Angeles, Long Beach, and Glendale, experienced a local peak in unemployment of 13.2 percent during the aftermath of the Great Recession. This peak is overshadowed by the current economic crisis. Unemployment hit a new high in May 2020 with 20.8 percent. This twenty-year unemployment trend is included to emphasize the severity of the COVID-19 crisis. The immediate effects of government mandated shutdowns were extreme, but luckily short-lived. Though, the unemployment rate remains high by historical standards.

The following GIS analysis will map unemployment rates by city for February, May, September, and October 2020. This visualization of locational data will reveal which cities were most impacted by the pandemic and which cities rebounded relatively quickly over the summer.

These maps show that cities in Los Angeles were dramatically impacted at the start of the pandemic in May. Employment improved over the course of the year, with the September and October maps showing steady recovery. These maps do not extend through the winter, as this data is currently unavailable. The recent spike in cases in Los Angeles County and the subsequent shutdowns may have another negative impact on employment. Businesses that rely on in-person contact (highlighted in a later section of this report) are unable to support employee paychecks without revenue. The relief provided by relaxed regulations in the summer will likely subside as COVID-19 infections reach unprecedented levels.

WARN Data

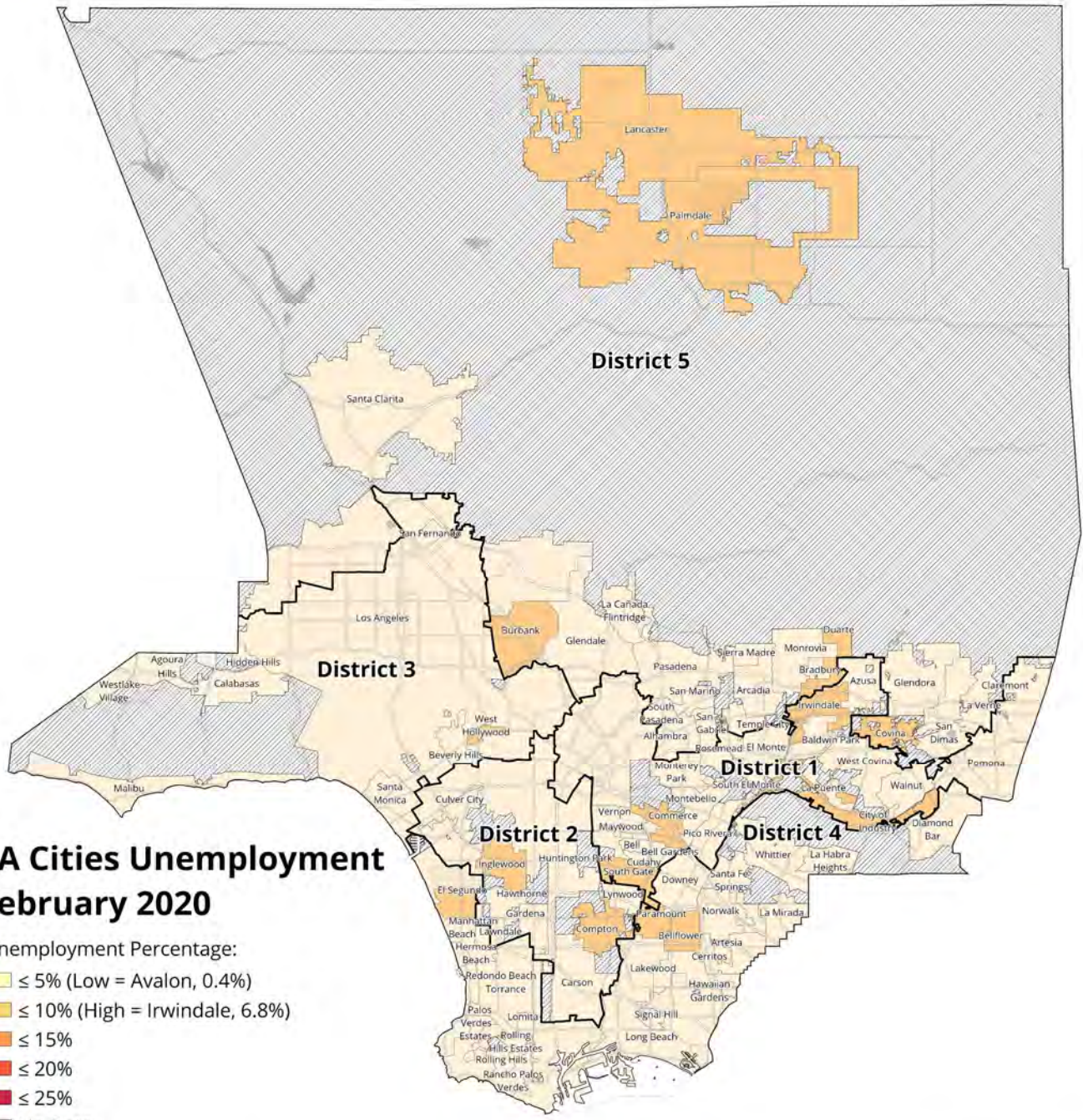
The Worker Adjustment and Retraining Notification (WARN) Act of 1988 requires US employers with over 100 employees to report closures and mass layoffs. Section 3 provides a visualization of employees lost due to both closures and layoffs based on CA EDD WARN data from 2020. These losses are mapped by city to show a more nuanced view of COVID-19 impacts across Los Angeles.

Exhibit 52:
Civilian Unemployment Rate, Los Angeles Metropolitan Area





Exhibit 53
Los Angeles Cities Unemployment in February 2020



LA Cities Unemployment February 2020

Unemployment Percentage:

- ≤ 5% (Low = Avalon, 0.4%)
- ≤ 10% (High = Irwindale, 6.8%)
- ≤ 15%
- ≤ 20%
- ≤ 25%
- No Data

- Supervisory Districts
- County Unincorporated

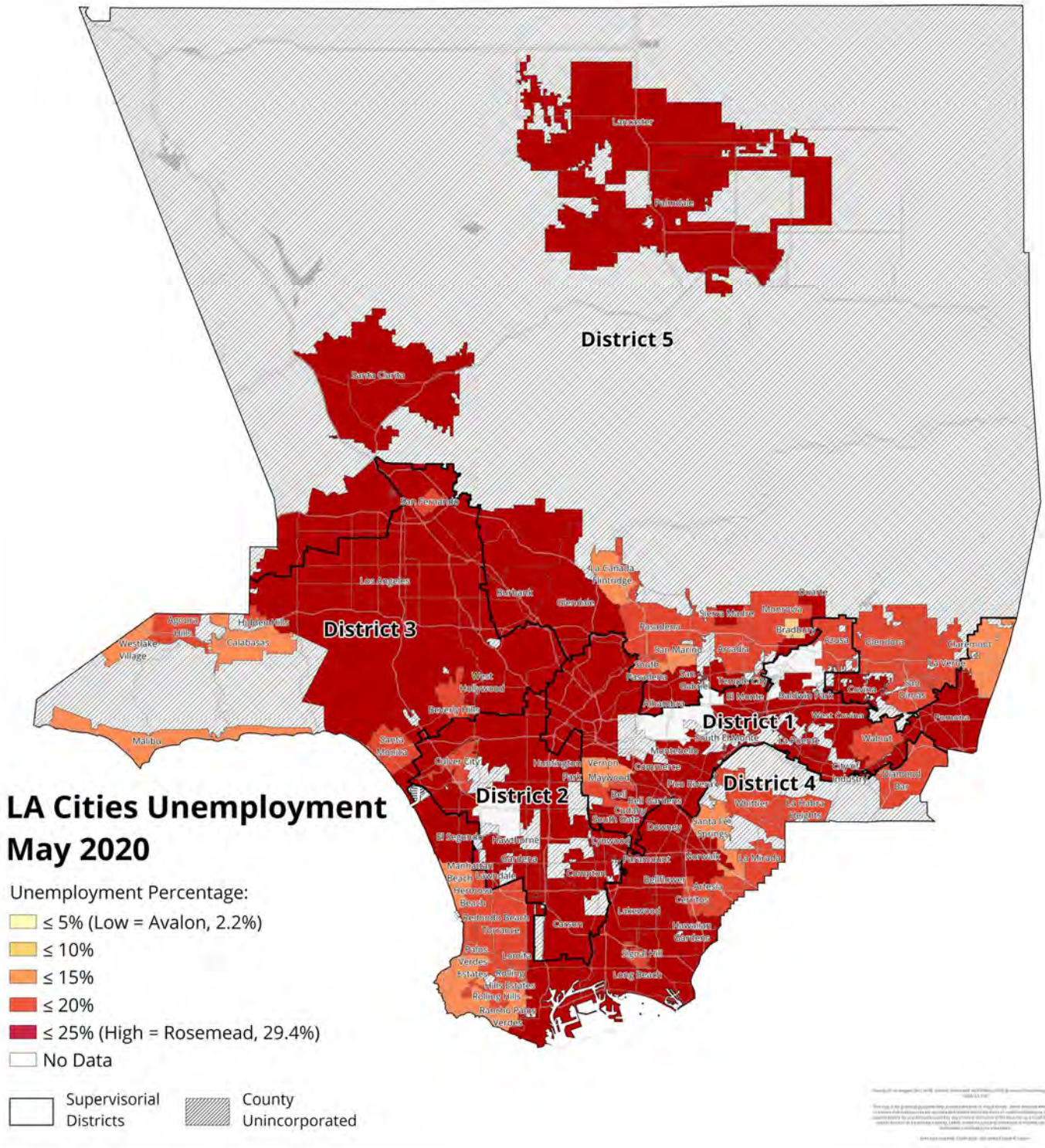
Information is provided as a service to the public and is not intended to constitute an offer of insurance or any other financial product. The information is provided for informational purposes only and is not intended to be used as a basis for investment decisions. The information is provided as a service to the public and is not intended to constitute an offer of insurance or any other financial product. The information is provided for informational purposes only and is not intended to be used as a basis for investment decisions.

Sources: esri, LAEDC

In February, there were no cities with an unemployment rate above 10 percent. The county was experiencing a peak of strong growth, resulting in very low unemployment across the board. The majority of cities in Los Angeles County had unemployment rates at or below 5 percent.



Exhibit 54
Los Angeles Cities Unemployment in May 2020

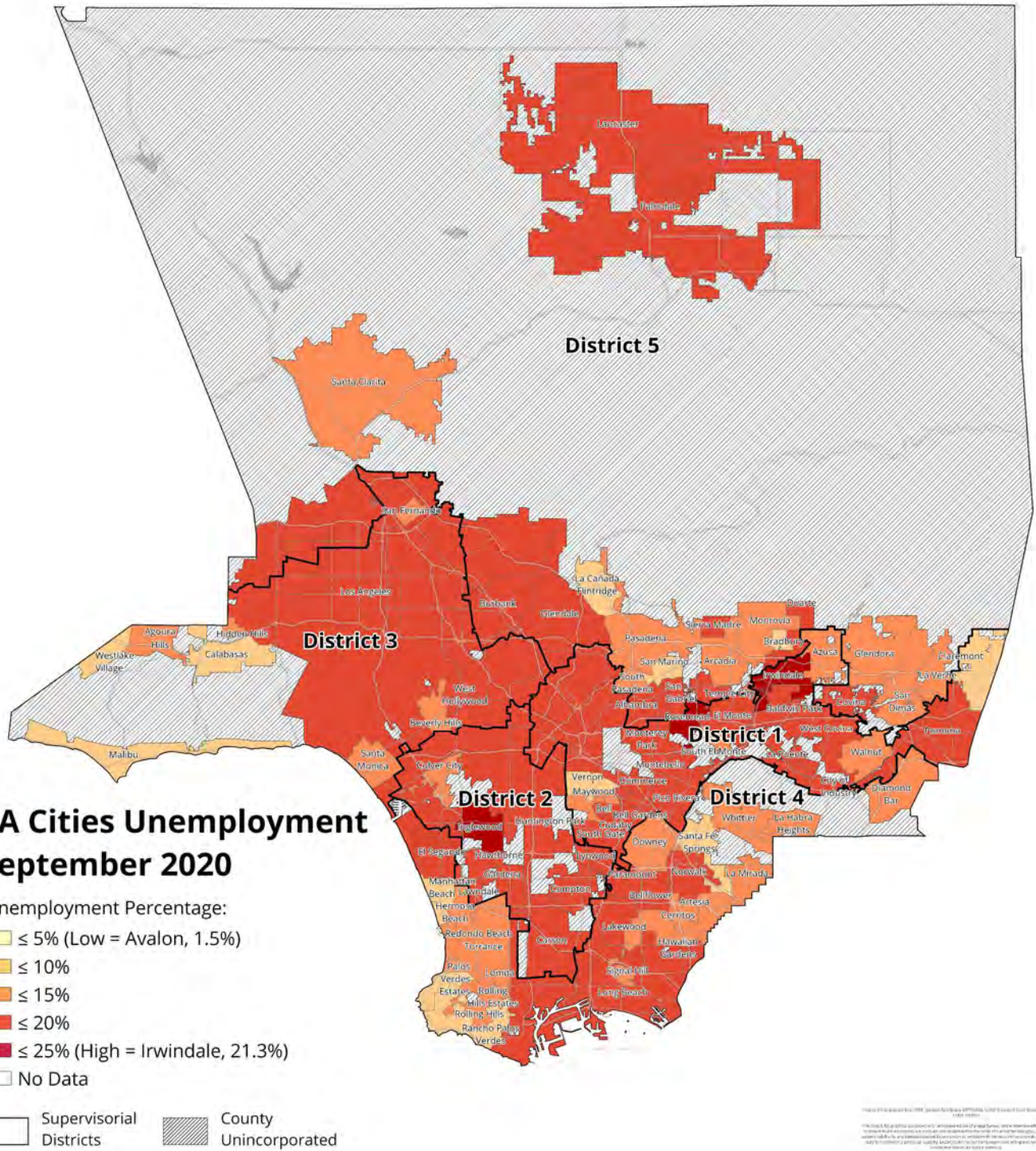


Sources: esri, LAEDC

By May 2020, this picture changed dramatically. At this point, virtually no cities in the county had an unemployment rate below 10 percent. Most cities saw unemployment rates between 20 and 25 percent.

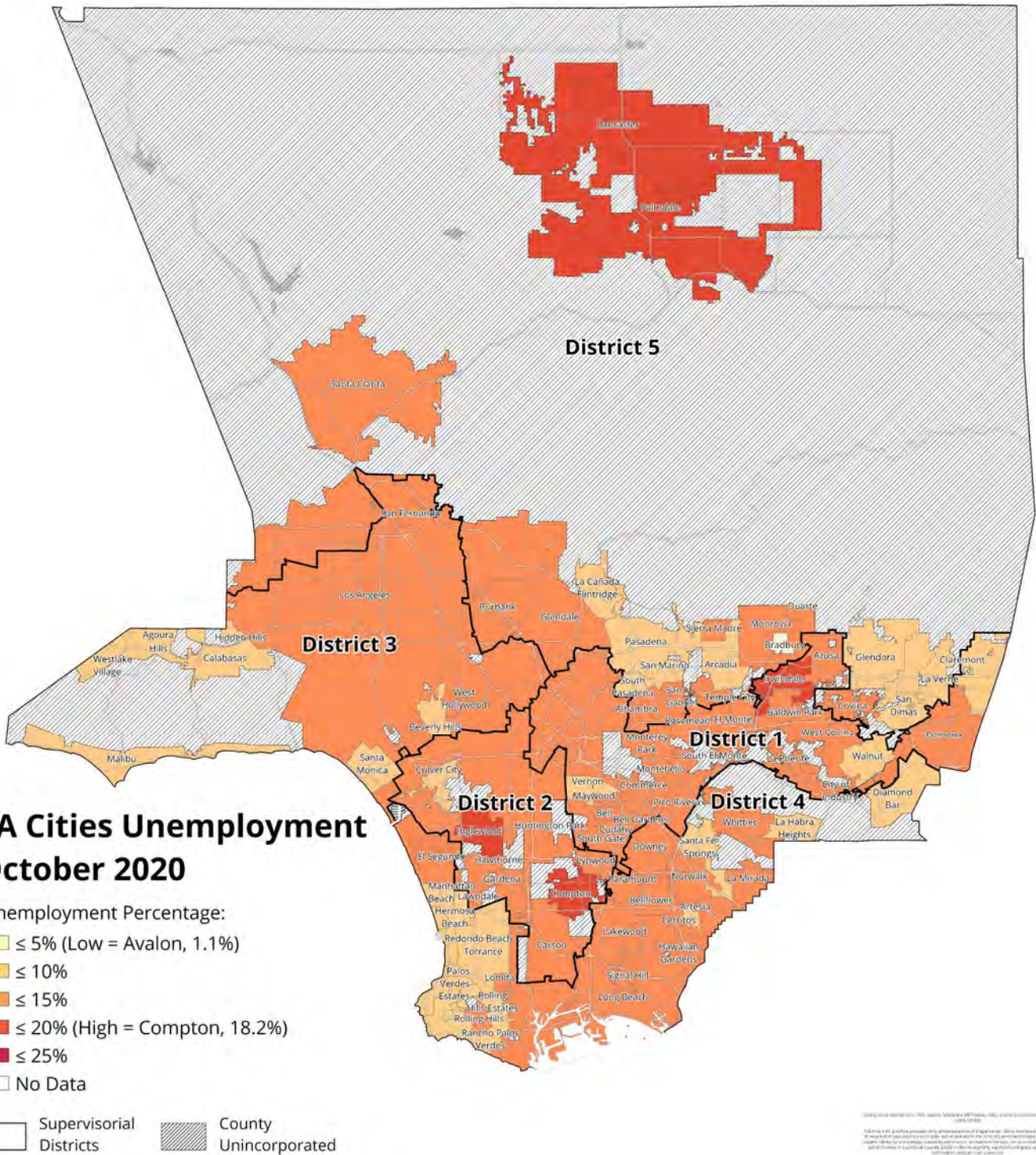


Exhibit 55 Los Angeles Cities Unemployment in September 2020



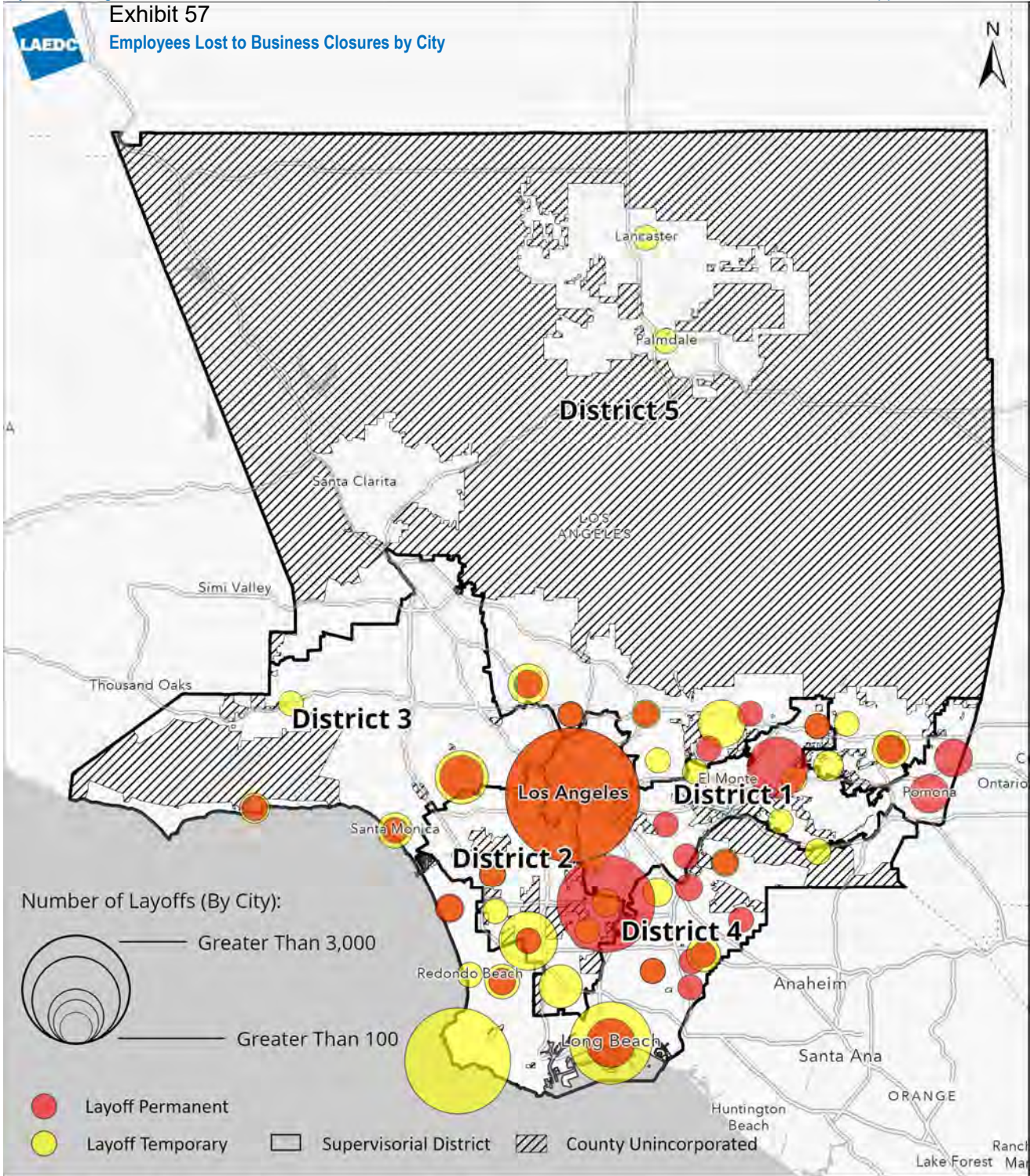
Unemployment rates improved by September 2020. The summer brought relative stability in virus management, thus many businesses could reopen with restrictions. Many cities still experienced high rates of unemployment though, with most falling between 10 and 20 percent.

Exhibit 56
Los Angeles Cities Unemployment in October 2020



Sources: esri, LAEDC

Unemployment continued to fall across Los Angeles Cities through October. A few fell below 10 percent, but most cities maintained relatively high unemployment rates between 10 and 15 percent.

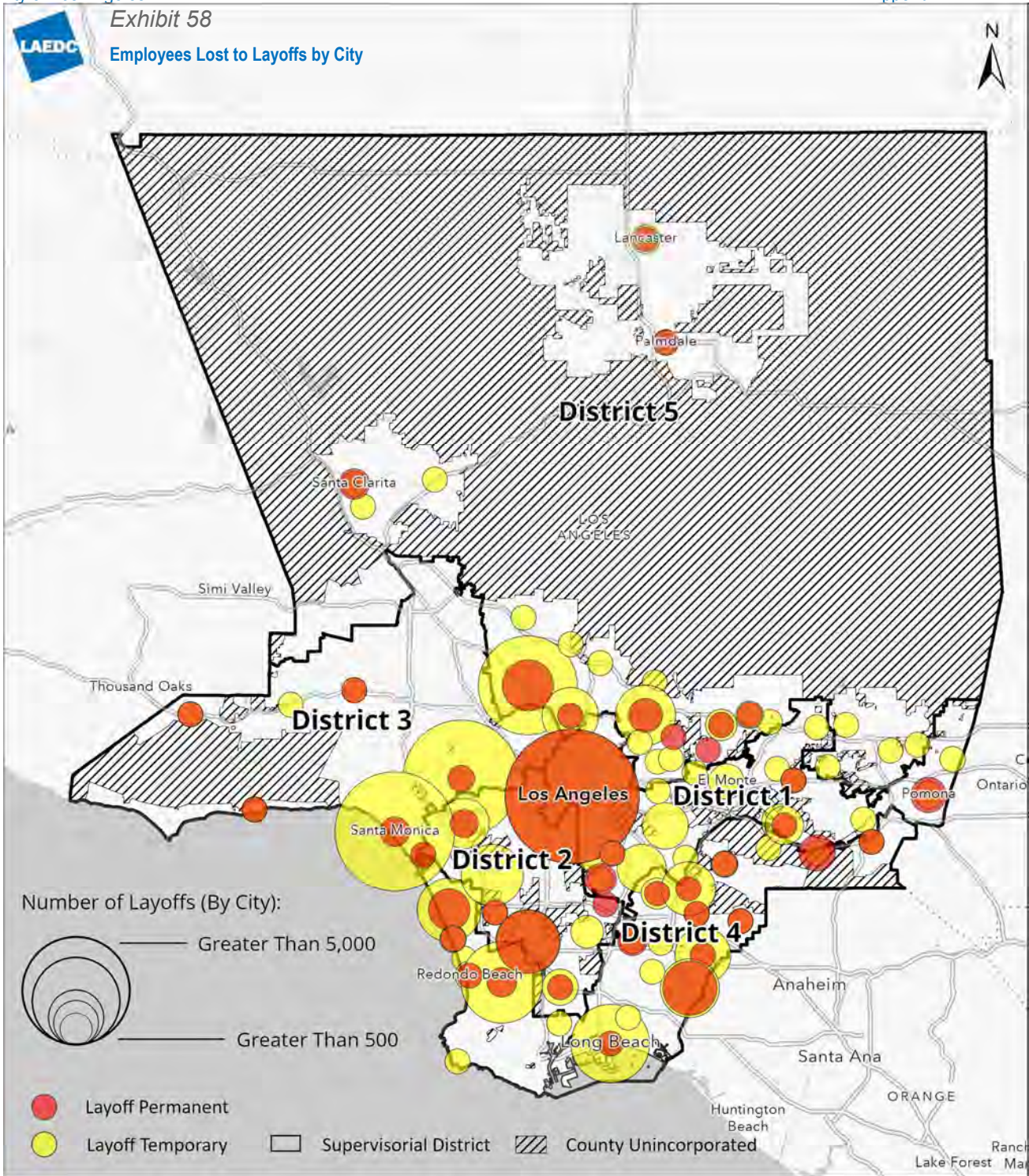


CA EDD WARN Data (2020) - Employees Lost to Closures

County of Los Angeles, 810, Hill, Green, San Gabriel, Pasadena, U.S.G.A. Bureau of Land Management, P.A. NPS

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Exhibit 57 shows employees lost due to business closures across Los Angeles cities. Each city has a red transparent layer for permanent layoffs and a yellow transparent layer for temporary layoffs. In Los Angeles, for example, the amount of permanent and temporary layoffs were both greater than 3,000. The two transparent layers create an orange circle. In Long Beach, however, temporary layoffs outnumbered permanent layoffs.



CA EDD WARN Data (2020) - Employees Lost to Layoffs

County of Los Angeles, ER's, EDD, Census, SanGrap, FRA, WETA/MASA, USDO (Division of State Management), EPA, APD
 This map is for general informational purposes and is not intended to be used for legal purposes. While every effort has been made to ensure that data sources are accurate and up-to-date, the County of Los Angeles does not assume liability for any damages caused by any errors or omissions in this map. The County of Los Angeles is not responsible for any damages caused by any errors or omissions in this map. The County of Los Angeles is not responsible for any damages caused by any errors or omissions in this map.
 Date last updated: 12/30/2020 - GIS contact: Jeff P. Larkin

Sources: esri, LAEDC

Exhibit 58 uses the same red and yellow transparent layers to show permanent and temporary layoffs, respectively, but these employees were lost due to mass layoffs instead of business closures.

Those Who Are Disproportionately Impacted by COVID-19

The economic effects of COVID-19 have not been equally distributed. The pandemic has created starkly different work landscapes for high-income and low-income workers. High-income workers in professional services, management, and computer and mathematical occupations were able to make the transition to remote work more smoothly than others. As these occupations require less physical, on-site labor, they are able to be performed from any location with an internet connection. Along with their jobs being somewhat inoculated, if not protected over the short-term due to the nature of their work and ability to remain productive at a distance, workers in these occupations are likely to have higher savings to fall back on⁷.

In contrast, a significant portion of low-income jobs such as food service and personal care were not able to transition to remote work. Low-income labor is generally more physical and interactive in nature. Many of these low-income jobs are considered non-essential, thus these workers face higher levels of reduced hours, furloughs, and layoffs due to the heightened risk of transmission. These workers are also less likely to have strong savings to get them through periods of financial hardship and reduced income⁸. As a result, the pandemic has affected LA County workers in vastly different ways.

Cohorts Disproportionately Impacted:

- **Unemployment**
 - **High School Education**
 - **Ages 16 to 24 years**
 - **Identify as Latinx/Black/Asian**



- **Small and Micro-Businesses**
- **Low-Income Households**

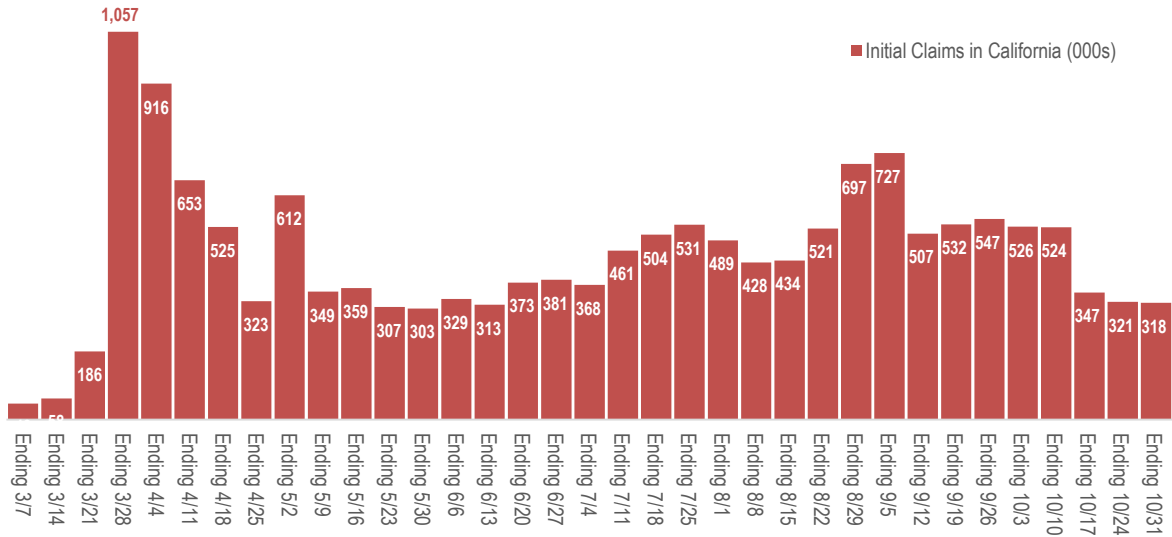
Unemployment Insurance Claims

Monthly releases of traditional labor force and industry employment data obtained through survey by organizations like the Census Bureau have significant lag. Due to the fast-moving nature of the pandemic's economic impact, we looked to unemployment insurance (UI) claims filing data as an early indicator of what may transpire in the labor market prior before more accurate monthly and quarterly figures publications. This data is not subject to the rigorous quality controls applied to official statistics, as they were originally intended for administrative purposes, but they still provide valuable and timely insight into how the pandemic has affected our economy; in particular, they shed light on the magnitude of COVID-19's labor market impacts and how different types of workers feel these effects.

⁷ Bureau of Labor Statistics, Consumer Expenditure 2019 Table

⁸ Ibid.

Exhibit 59: Unemployment Insurance Weekly Claims in California



Starting on April 28th, unemployed individuals who did not qualify for regular UI could apply for the new Pandemic Unemployment Assistance (PUA) program. The vast majority of PUA claimants reported being self-employed. The PUA program expired on December 26, 2020⁹.

Exhibit 59 shows weekly UI claims throughout the pandemic. Over the last seven and half months, from the week ending March 7th through the week ending October 31st, 15.8 million UI claims have been processed by the EDD, including regular UI claims, reopened claims, Pandemic Unemployment Assistance (PUA), and Pandemic Emergency Unemployment Compensation (PEUC) and FED-ED extended claims.

⁹ "Federal CARES Act Provisions For Unemployment". 2020. Edd.Ca.Gov. https://www.edd.ca.gov/about_edd/coronavirus-2019/cares-act.htm.

Exhibit 60
Unique UI Claimants During the COVID-19 Crisis*
in Los Angeles County



Unique UI claimants in LA County from 3/15 to 8/29 represent 45% of the County's labor force (Feb 2020)

* Excludes PUA claims
Source: CA Policy Lab

Exhibit 61
Unique UI Claimants in CA During the COVID-19 Crisis*

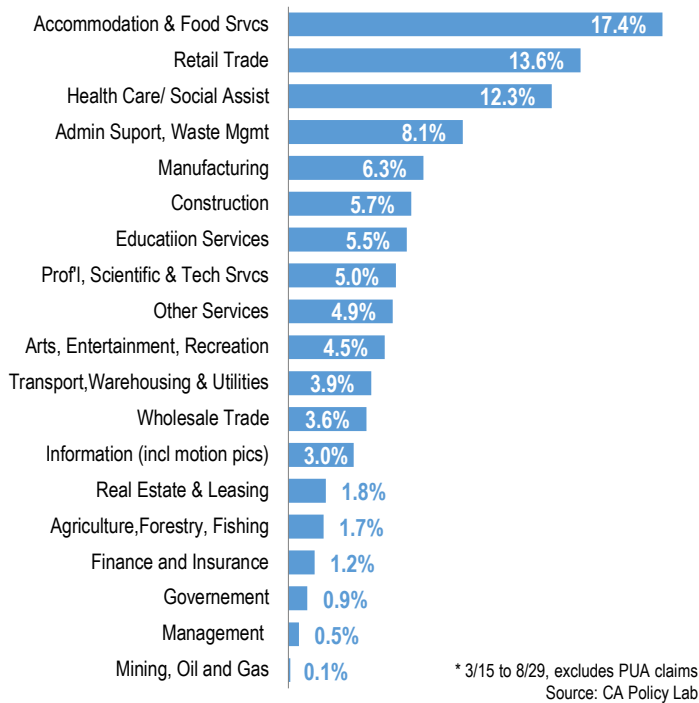


* Excludes PUA claims
Source: CA Policy Lab

Initial claims are how many **new people** have filed for unemployment benefits in the previous week; they are not representative of

Exhibit 62

Initial UI Claims During the COVID-19 Crisis*
distribution of total unique claimants by industry



the number of individuals filing unemployment claims. Unique claimants are the number of **individuals** who have filed UI claims.

Since mid-March through the end of August, close to 6.9 million unique California claimants, just over 39% of the state’s labor force in February, have filed unique initial claims for regular UI benefits related to the COVID-19 pandemic; slightly over 2.3 million laborers or about 33.9 percent of those unique claims were filed in the Los Angeles County (Exhibit 61).

Industry

Looking at unique unemployment claims broken out by industry provides insight into the which industries were hardest hit by unemployment.

Exhibit 63

Initial UI Claims in CA by Industry*
unique claimants as a share of February labor force

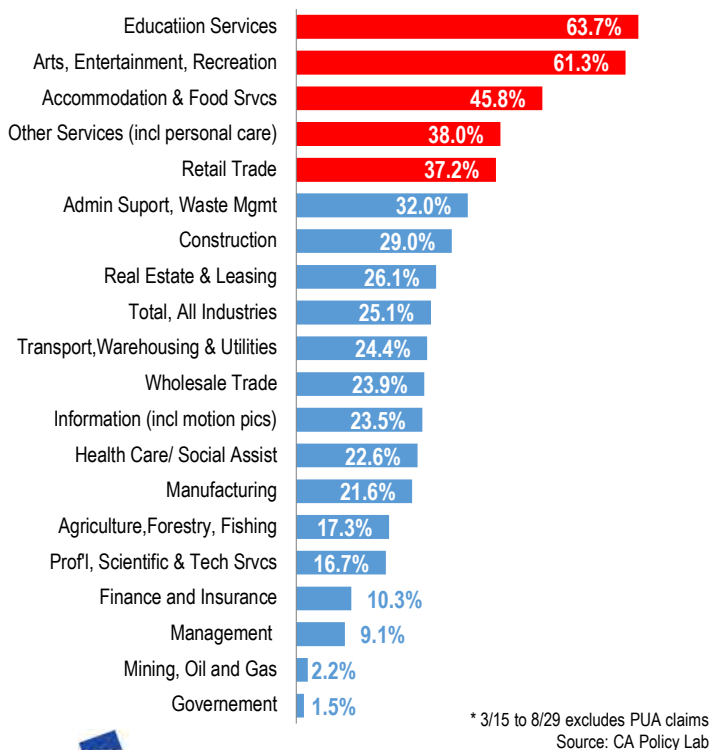


Exhibit 62 shows the distribution of total unique UI claimants in California by industry (excluding PUA claims). Workers in accommodation and food services and the retail trade industries account for the largest numbers of unique claimants who have filed a regular unemployment insurance claim between March 15th through the end of August (the most recent data available); together they account for close to a third of all unique claimants (31 percent) in the state. Hotels and restaurants and other services, which includes personal care services such as hair and nail salons, faced the most severe restrictions including longer mandated closures and stricter restrictions when allowed to open. These industries are less able to operate in remote environments, which led businesses in these industries to be more likely to lay off staff. Industries that have adapted well to technology and stay-at-home orders or



provide essential services include financial services, government services, and the management of companies and enterprises; they account for some of the smallest shares of total unique claimants over the period.

When comparing the number of unique claimants in each industry to the size of its labor force in February, the month prior to when the Safer-at-Home orders were issued, accommodation and food services and retail trade rank in the top five industries with UI claimants accounting for close to 46 percent and just over 37 percent of the sector’s labor force, respectively (Exhibit 63). Claimants filing UI claims in the arts, entertainment and recreation sector represent close to 64 percent of the pre-pandemic labor force in that sector.

Gender

Comparing the number of unique claimants by gender to the size of the labor force in February reveals that the number of female unique claimants represents 30 percent of females in the California labor force (Exhibit 64). Females have been much more impacted by the recession than males (a 30% share of the female labor force in February filed for unemployment benefits, compared to a 23.7% share of the male labor force), as women are typically responsible for childcare duties and have also voluntarily left the workforce at higher rates to care for children who are being homeschooled.

Age

Younger workers have been impacted by the pandemic disproportionately; over 44 percent of unique claimants in California are under 35 years old. Initial UI claimants ages 24 to 34 account for just over 28 percent of total unique claimants in California (Exhibit 65).

Exhibit 64
Initial UI Claims in CA by Gender*
unique claimants as a share of February labor force

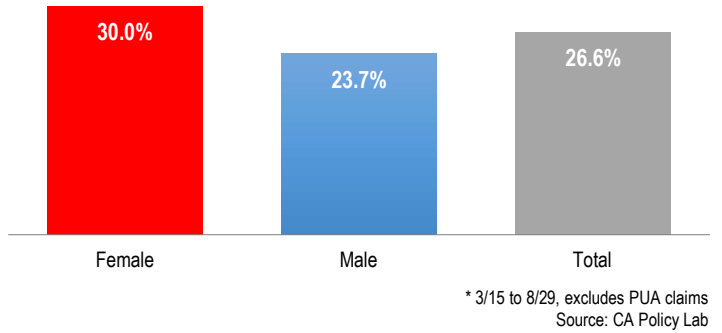


Exhibit 65
Initial UI Claims in CA During the COVID-19 Crisis*
distribution of total unique claimants by age group

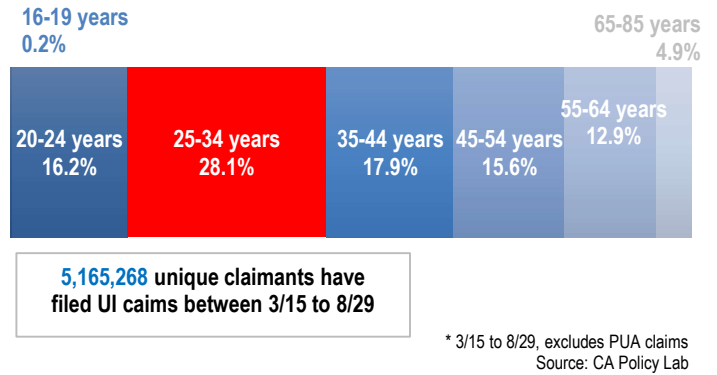
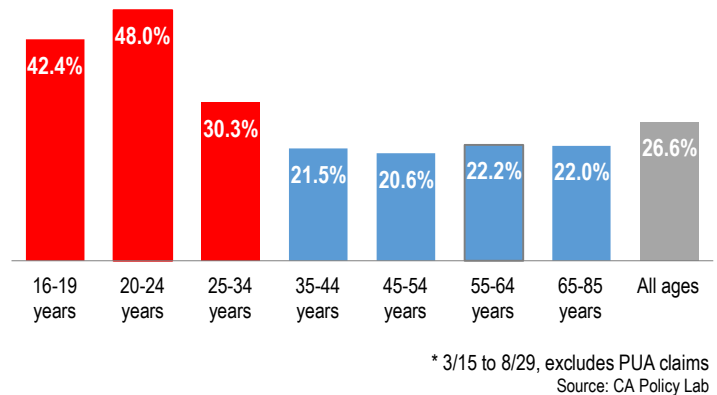


Exhibit 66
Initial UI Claims in CA by Age Group*
unique claimants as a share of February labor force



Comparing the number of unique claimants by age group to the labor force in February reinforces the struggles younger workers face. Unique claimants between the ages of 20 and

24 represent close to half (48 percent) of the labor force in that cohort in California. Unique claimants between the ages of 16 and 19 and the ages of 25 to 34 represent 42 percent and 30 percent of each cohort’s labor force respectively (Exhibit 66). Younger cohorts may represent a higher number of unemployment claims because the online application process is easier for digital natives. The digital application process may be a barrier for older populations.

Race and Ethnicity

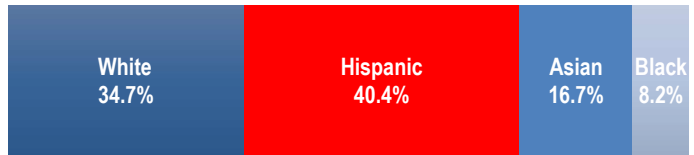
Black, Latinx, and Asian American communities have been heavily affected by the virus and its impacts on employment. Unique claimants who report their ethnicity as Hispanic accounted for just over 40 percent of total unique claimants in California (Exhibit 67). This figure is likely negatively biased due to the immigration status of many Hispanic and Latinx workers. Unofficial residency disqualifies them from applying for unemployment.

Unique claimants who identify as black represent well over a third (37 percent) of the cohort in the labor force in February, and Hispanic and Asian claimants represent more than a quarter (26.3 percent and 26.2 percent respectively) of their cohorts in the labor force in February (Exhibit 68).

COVID-19 has greatly impacted employment for black residents, for as high as 33% of black workers were unemployed in predominantly black neighborhoods in Los Angeles this year.¹⁰ In May, View Park-Windsor Hills, a

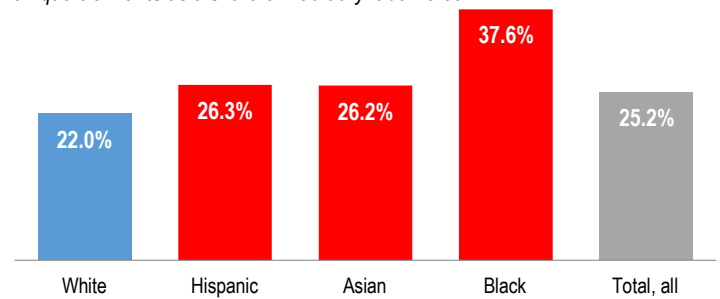
¹⁰ Wagner, D. (n.d.). Unemployment Is Hitting LA's Black Neighborhoods Hard. Retrieved 2020.

Exhibit 67
Initial UI Claims in CA During the COVID-19 Crisis*
distribution of total unique claimants by race and ethnicity



* 3/15 to 8/29, excludes PUA claims
Source: CA Policy Lab

Exhibit 68
Initial UI Claims in CA by Race and Ethnicity*
unique claimants as a share of February labor force



* 3/15 to 8/29, excludes PUA claims
Source: CA Policy Lab

community with 80.1% black residents, recorded an unemployment rate of 32.2%, the

Exhibit 69: Unemployment in LA County
Mapping Unemployment In LA County

Unemployment has climbed to 20.3% in L.A. County. But many neighborhoods with large black populations have even higher rates of joblessness.

Largest Black populations in LA County

City/community	% Black	% White	% Unemployment rate
View Park-Windsor Hills	80.1	6	32.2
Ladera Heights	67.7	14.8	24
West Athens	54.1	0.7	25.7
Westmont	45.5	1.7	27.1
Inglewood	42	4	23.8

Largest White populations in LA County

City/community	% Black	% White	% Unemployment rate
Hidden Hills	0	87.4	17.2
Malibu	1.1	84.6	13.5
Westlake Village	1.6	78.4	11.7
Beverly Hills	1.7	77.6	16.5
Hermosa Beach	1.3	77.2	10.6

greatest in all of urban Los Angeles. This was triple the unemployment rate of Hermosa Beach (10.6%), where more than three-quarters of residents are white (Exhibit 69).¹¹

Educational Attainment

We also examine the number of unique initial claims for regular UI benefits filed by educational attainment to identify how individuals with varying education levels have been impacted by the COVID-19 pandemic. While data at the county level is unavailable, state-level data gives a general picture of which demographics have been hardest hit.

After breaking down the state labor force according to the education level of workers and examining the number of unique, regular initial UI claims filed as a share of each cohort, the data show workers with lower education levels are unemployed at higher rates than those with a postsecondary education (Exhibit 70). Close to 61 percent of those in the labor force with a high school diploma (or equivalent) have filed an initial UI claim. This is about one- and three-quarter times the share of claims filed by those with an associate degree or some college and more than three and a half times the share of claims filed by those with a bachelor’s degree.

Of these initial claims filed in California, close to 3.2 million were filed by those with a high school education or less, accounting for more than half (56.9 percent) of total unique initial claims filed for regular unemployment benefits over the period (Exhibit 71).

Taking a closer look at claimants with only a high school education reveals that unique

Exhibit 70
Initial UI Claims in CA by Educational Attainment*
unique claimants as a share of February labor force

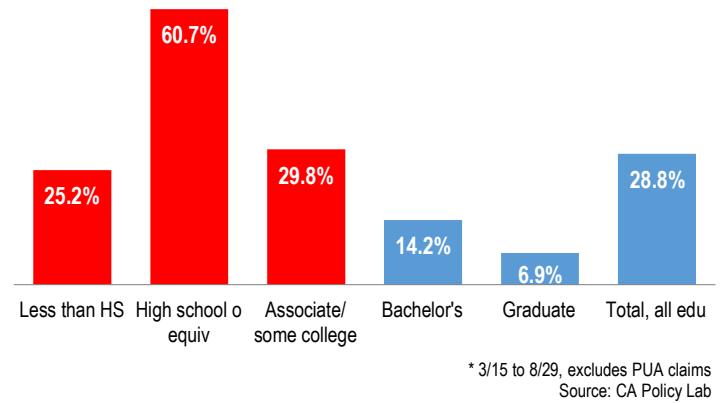


Exhibit 71
Initial UI Claims in CA During the COVID-19 Crisis*
distribution of total unique claimants by educational attainment

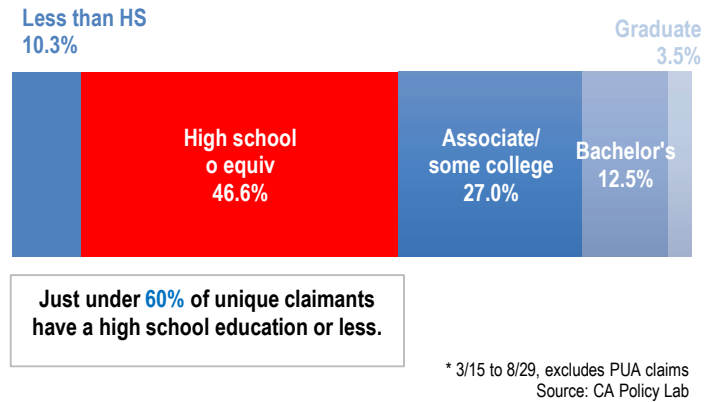
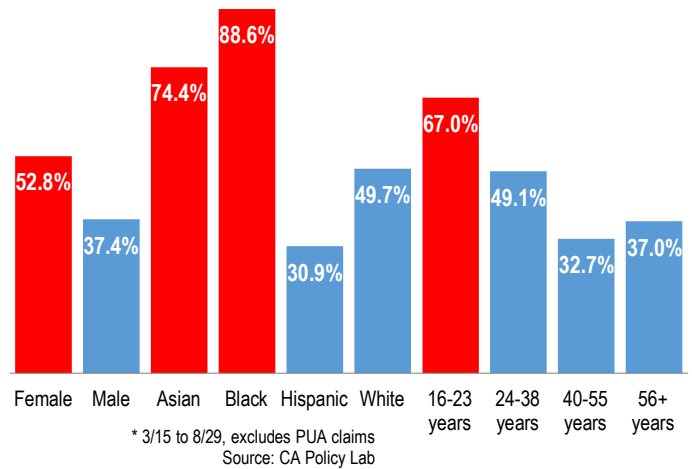


Exhibit 72
Initial UI Claims for those with only a High School Education *
unique claimants as a share of February labor force in CA



¹¹Ibid.

claimants who are women, Asian, Black, and/or who are 16 to 23 years of age are disproportionately impacted by the effects of the pandemic. As the cohort of Black workers with a high school education that has filed for UI represents 88.6 percent of the labor force with these characteristics, it is clear that this demographic has a major contribution to the amount of total UI claims from both black workers overall and workers with a high school education overall (Exhibit 72).

Workers with low educational attainment who have lost their jobs during this global health crisis will find it much more difficult to find new ones in similar sectors so long as the pandemic remains an economic hazard.

The Pandemic’s Impact on Jobs by Industry

The job losses experienced by the LA Basin as a direct result of the economic impacts of the COVID-19 pandemic are astronomical. Los Angeles County is expected to continue adding jobs during the recovery as businesses reopen, however, the pace at which industries rebound will ultimately be dependent upon state and county reopening guidelines combined with consumer behavior. The safer residents feel, the faster recovery will take place.

Comparing the number of jobs lost in the two hardest hit months of March and April with the change in number of jobs can give some insight into which industries are adding jobs back to their payrolls and which are not. In Los Angeles County, payroll jobs have been added back during the phased reopening process, with a minor setback in July when the

Exhibit 73
Monthly Change in LA County Payroll Employment
 Month-over-month change in nonfarm employment

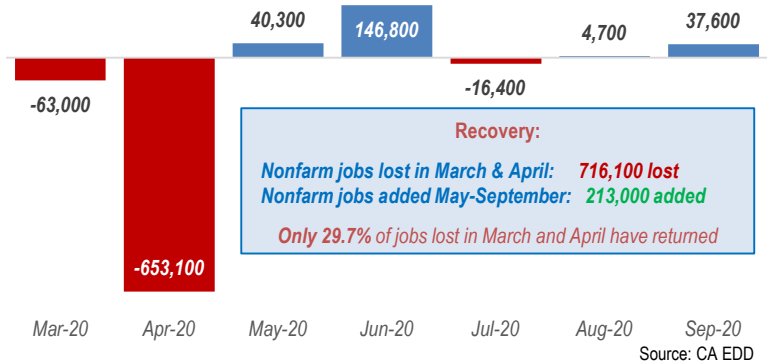
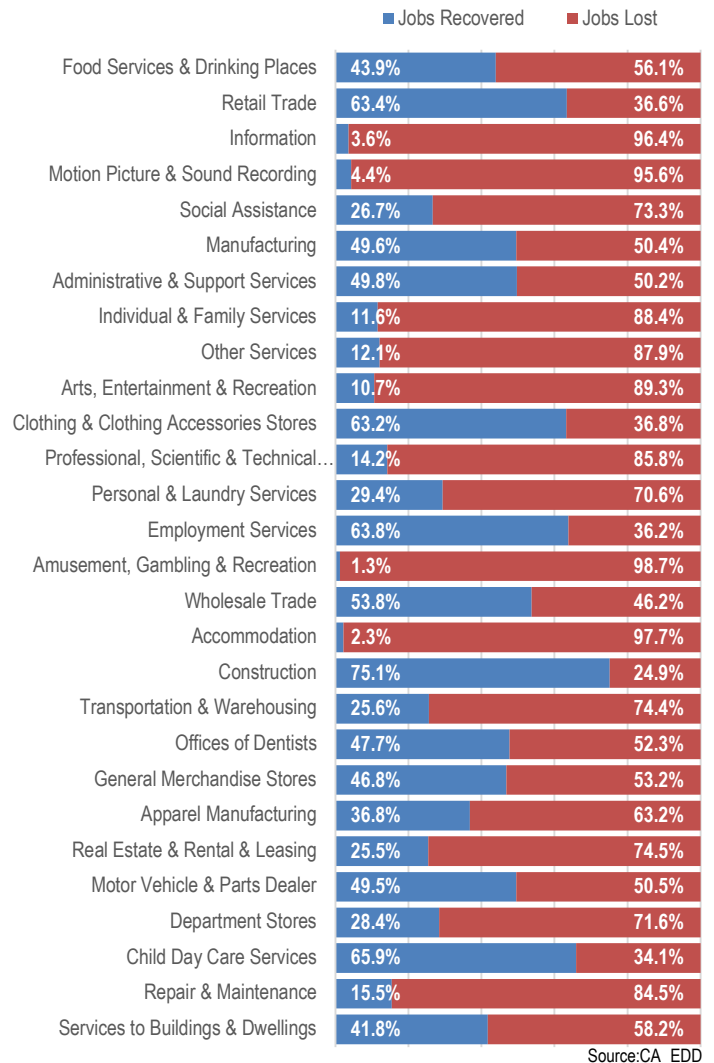


Exhibit 74: How Many Jobs Have Returned in LA County?
 Change in Jobs May-Sept as Share of Jobs Lost Mar-Apr 2020



governor issued a second round of mandated closures for certain of businesses (Exhibit 73).

Los Angeles County has a diverse economic base, and each industry is experiencing recovery differently. The pace of economic readjustment has varied industry to industry, but the majority of industries find themselves in-between recovery and recession, rehiring some portion of the jobs lost during March and April.

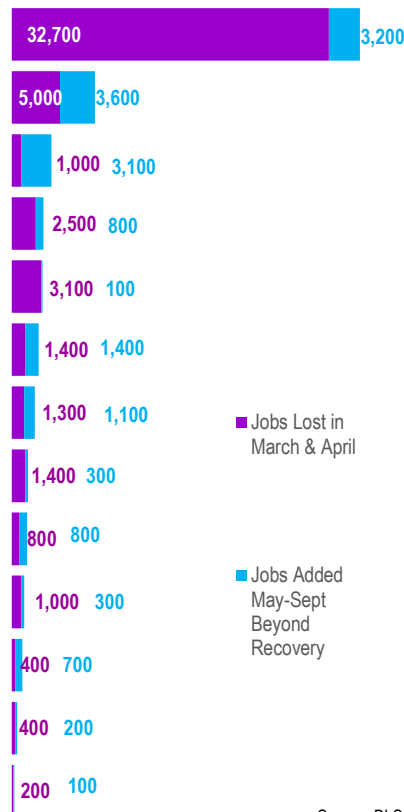
As of September, the most recent data available at the time of writing, the restaurant industry recovered close to 44 percent of the 171,000 plus jobs lost in March and April. Manufacturing recovered nearly half of the 45,000 jobs lost, and construction recovered just over 75 percent of the 21,000-plus jobs

lost. On the other end of the spectrum, accommodation has only recovered about 2 percent of the 22,000 jobs lost in March in April (Exhibit 74).

In some instances, job gains in May through September have pushed modestly past recovery, exceeding their pre-pandemic levels in February (Exhibit 75). These industries include ambulatory health care, couriers and messengers, aerospace manufacturing and non-store retailers such includes ecommerce and general merchandise stores like Costco.

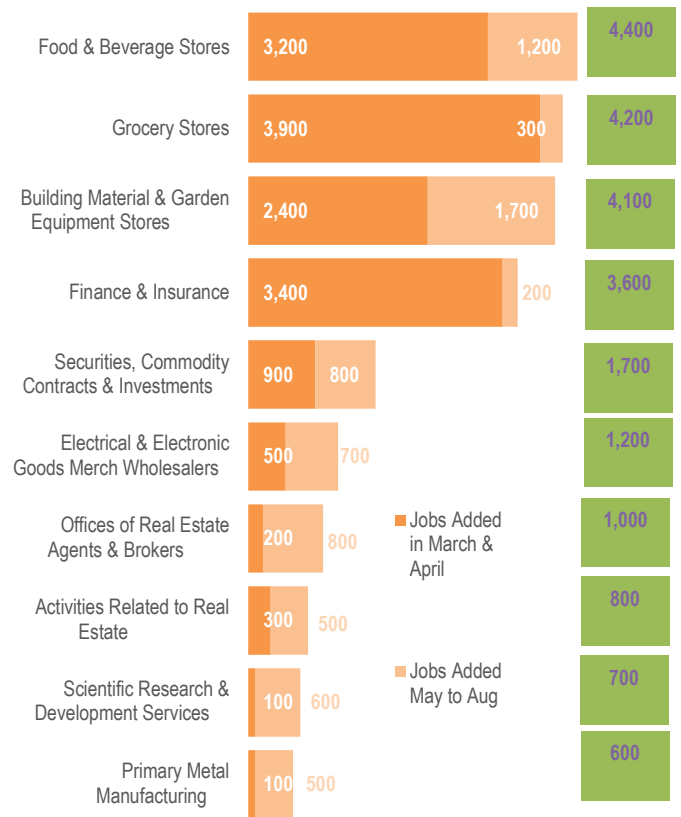
A few fortunate industries in LA County were positively impacted by the pandemic and have posted employment gains throughout (Exhibit 76). The Safer-at-Home order changed consumer spending in many ways; food and

Exhibit 75: Monthly Change in Jobs, March-April 2020 and May-Sept 2020 (NSA)



Source: BLS

Exhibit 76: Monthly Change in Jobs, March-April 2020 and May-Sept 2020 (NSA)

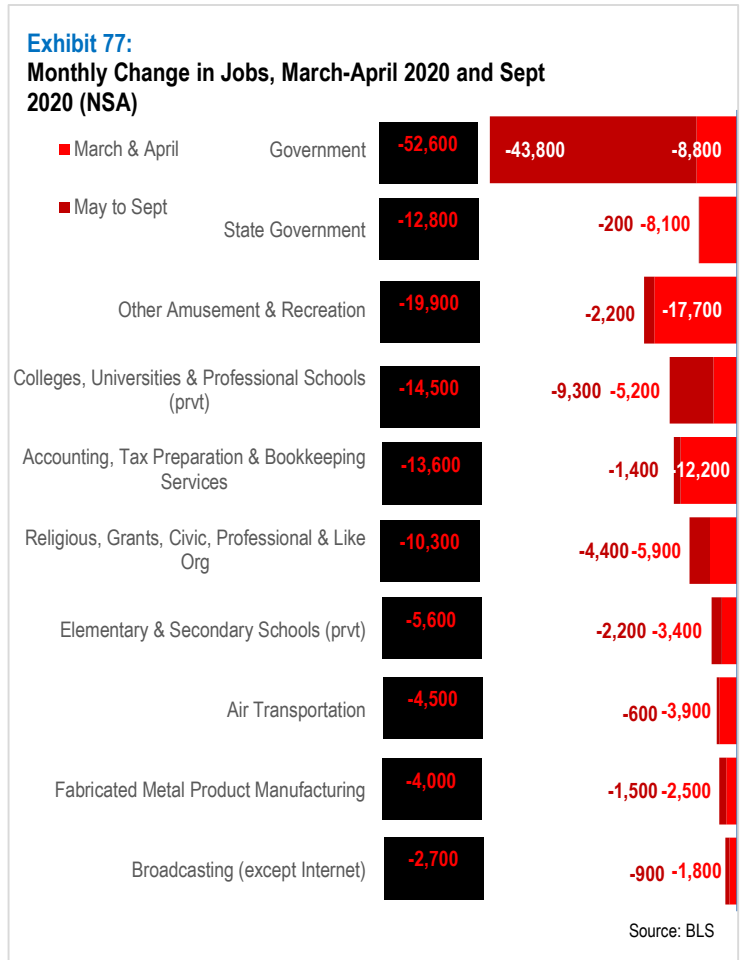


Source: BLS

beverage stores added over 4,400 workers, with most of those gains in grocery stores (4,200 jobs) as consumers shifted towards eating more meals at home. Building materials and garden and equipment stores like Lowes and Home Depot added 4,100 workers to their payrolls as people started improving their homes. Scientific research and development added 700 more people to its payrolls during the pandemic.

There are however several industries that have not experienced any recovery and are still seeing employment losses. Religious, Grantmaking, Civic, Professional, and Similar Organizations are cutting down on workers as indoor services at churches, temples and mosques are still temporarily prohibited. Other amusement and recreation, comprised mostly of fitness and recreational centers, continues its decline and air transportation is shedding jobs as demand for travel has declined significantly.

Meanwhile, critical infrastructure industries that have been much more resilient as their essential employees have continued to work throughout the pandemic. Health care, public works, food and agriculture, energy, water and wastewater, transportation and logistics (other than air transportation), communications and information technology, community-based government operations and essential functions, critical manufacturing, hazardous materials, financial services, clinical services, and the defense industrial base have all remained largely operational throughout the year. As such, these industries have not been hit as hard by the pandemic and subsequent crisis.



Small and Micro-Businesses

Throughout this global health crisis, we have identified small and microbusinesses as extremely vulnerable due to potential liquidity issues resulting from mandated closures, new guidelines for doing business and reduced levels of consumption. Revenues have been impacted, employees have been let go and those who remain often face decreased operational hours. Businesses without a lifeline may not survive.

In order to facilitate a discussion with respect to small business, a prevalent definition must be established. Since the definition can vary from organization to organization, this report shall use the guidelines and interpretation set forth by the Small Business Administration

(SBA). By employment, the SBA classifies small businesses as those with 500 employees or fewer. This groups together micro-organizations, such as local shops, alongside those with large numbers of workers. The varying size of these businesses often relates to drastically different needs during economic shocks like a pandemic.

More often than not, the small businesses receiving assistance are closer to the 500-employee mark. These businesses tend to have more resources and are more familiar with applying for financial assistance programs. For example, in the first round of PPP, banks did not award assistance on a first-come, first-serve basis, but to those with established banking relationships¹². Therefore, despite this funding being earmarked for “small businesses”, micro-enterprises were far less likely to receive funding than larger small businesses.

A Brookings report shows even deeper problems with the initial PPP system, as small businesses in communities of color had unequal access to federal COVID-19 relief. As Exhibit 78 shows, it took businesses with paid employees in majority-Black zip codes an entire week longer to receive loans than those in majority-White communities, and businesses in LatinX communities six days longer. As Black and Hispanic workers had the highest proportion of workers file for UI claims in California, it is clear that PPP loans fell short when it came to keeping small businesses in minority communities afloat.

The LAEDC classifies truly small businesses as those with fewer than 20 employees, and

microbusinesses as those with fewer than 10 employees.

Much of the economic data available for businesses, including their size, is available at the establishment level. An establishment is a single physical location where one predominant activity occurs, meaning each location of a chain will be counted as its own establishment.

The CA EDD releases a size of business report annually that provides insight on the number of businesses and number of employees by size of business. Using the LAEDC definitions, 87.2 percent of businesses in LA County were microbusinesses with fewer than 10

Exhibit 78
Average Days Since PPP Application Started to Loan Approval

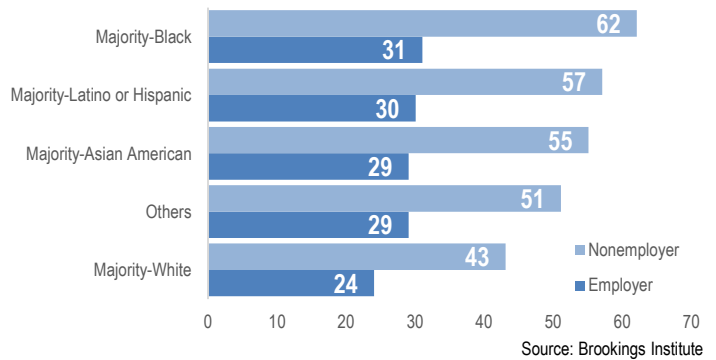
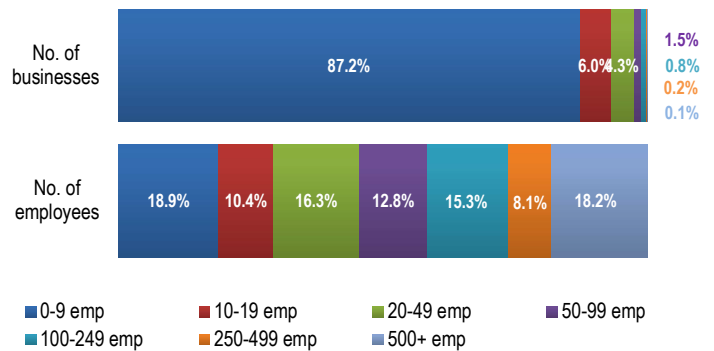


Exhibit 79
Small Businesses in LA County 2019



¹² "Banks Gave Richest Clients 'Concierge Treatment' For Pandemic Aid". 2020. *Nytimes.Com*.

<https://www.nytimes.com/2020/04/22/business/sba-loans-ppp-coronavirus.html>

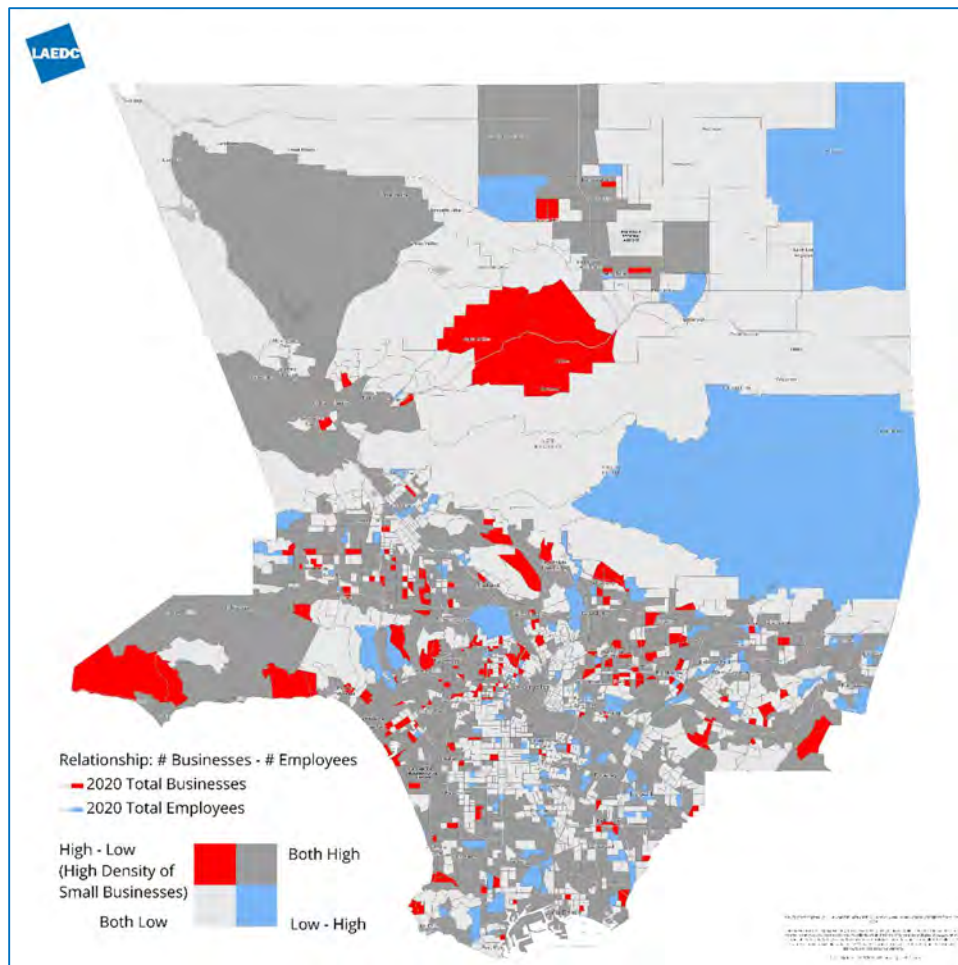
employees and just over 93 percent of businesses were truly small and had fewer than 20 employees (Exhibit 79). By contrast, under the SBA definition of small business, only 0.1 percent of businesses in the County are considered large employers and marked ineligible for their programs.

While 93 percent of businesses have fewer than 20 employees, across the county these small businesses only account for 29 percent of total employment. Over 18 percent of employees work in businesses with 500 or more employees (Exhibit 79).

By displaying relationship between total businesses and total employees by census tract (Exhibit 80), we get the resulting four categories/colors. The both-low category denoted by the light grey coloring displays that the census tract has few businesses and few employees. The low-high (blue) coloring illustrates that the census tract has few businesses but many employees while high-low (red) demonstrates the opposite. The both-high category (dark grey) demonstrates that the census tract has many businesses as well as many employees. We are mainly interested in the high-low grouping (red areas) in the data, as these census tracts are observations with a high total number of

businesses and a low total number of employees. This is one way of spatially identifying census tracts with the most “small businesses.” The data used in this analysis is sourced from ESRI (in coordination with Infogroup) and has a vintage of January 2020.

Exhibit 80: Concentrations of Small Businesses



Sources: ESRI; LAEDC

The Small Business Pulse Survey

In response to the novel coronavirus pandemic, the Census Bureau developed and fielded a completely new survey intended to measure the effect on small businesses. The Small Business Pulse Survey includes information on location closings, changes in employment, disruptions in the supply chain, the use of federal assistance programs, and expectations concerning future operations in the Los Angeles Metropolitan Statistical Area (MSA), what we refer to as the LA Basin. Overall, the survey targets small businesses; specifically, non-farm, single-location small employer businesses in the LA Basin in similar industries as the Economic Census. It uses the restriction that the businesses must have receipts greater than or equal to \$1,000 but 500 employees or fewer in order to qualify as a “small business”. This survey gives an idea of

the economic conditions that small businesses were facing early in the pandemic.

At the end of May, 87 percent of survey respondents reported negative effects (large and moderate) related to COVID-19, with 49 percent of businesses classifying these negative effects as large. At this time, 57.2 percent of respondents reported their operating revenues, sales and receipts decreased, excluding any financial assistance or loans, while only 14.5 percent of respondents reported that these figures increased week over week.

However, data from the survey has shown that conditions had begun to improve for businesses, as the percentage of businesses reporting both negative effects and decreased financials had decreased from the survey’s initially recorded numbers in April, and these figures had been decreasing week-over-week since the survey began (Exhibit 81).

Fewer small businesses were reporting a decrease in the number of employees and fewer were reporting a reduction in hours worked by their paid employees. Businesses were also reporting less disruptions in their supply chain.

The short-term outlook for most companies was still negative; less than a quarter of small businesses in the LA Basin reported 3 or more months of cash on hand for business operations, and close to 30 percent reported they had less than 4 weeks of cash on hand for business operations (Exhibit 82).

Just under 8 percent of responding businesses reported missing a loan payment, not including those that have been postponed or

Exhibit 81
Businesses Experiencing Decreased Operating Revenues/Sales/Receipts by Week

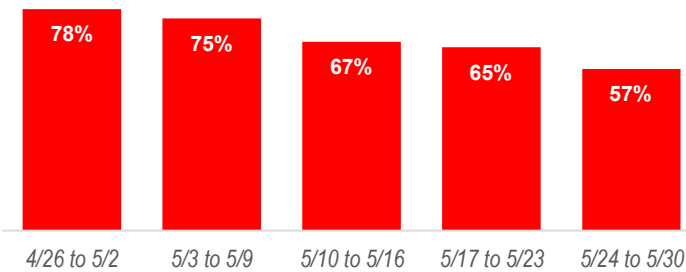
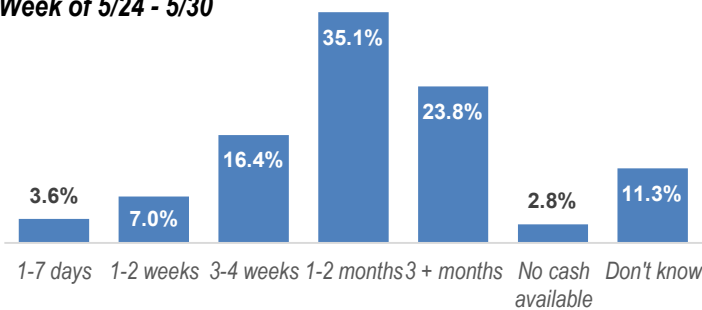


Exhibit 82
Businesses With Cash on Hand to Cover Business Operations For:
Week of 5/24 - 5/30



Source: Small Business Pulse Survey

forgiven, while 20 percent reported missing other scheduled payments such as rent, utilities, and payroll, again excluding scheduled payments that have been forgiven or postponed.

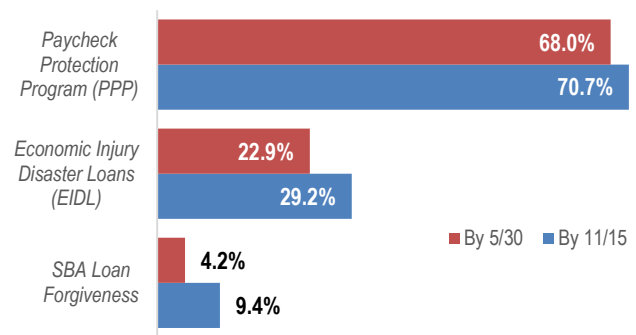
In the LA Basin, from March 13th through May 30th, close to 74 percent of small businesses requested a PPP loan, while approximately 18 percent requested no assistance at all. Approximately 68 percent of the respondents reported receiving financial assistance through PPP with another 29 percent receiving assistance through other federal programs (Exhibit 83).

Even in May, many respondents believed it would take longer than 6 months for their business operations to return to normal.

Week of November 9th to 15th

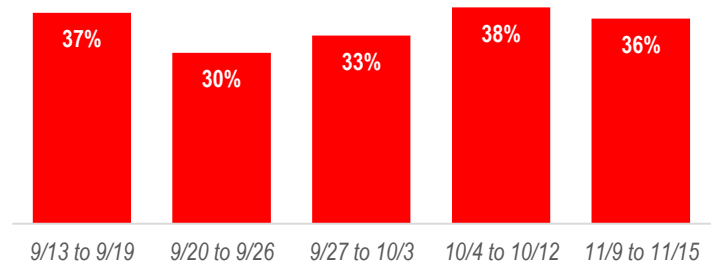
A more recent update to the Small Business Pulse Survey, which collected data in mid-November (11/9 to 11/15) showed that the pandemic’s impact was still quite damaging in the LA Basin; 79 percent of businesses reported negative effects related to COVID-19 with 37 percent classifying the effects as large. Over time small businesses have adapted to the consumer situation. In this period, only 35.7 percent reported a decrease in operating revenues (Exhibit 84), sales or receipts while 57.3 percent reported no change and 7 percent saw an increase. These slightly underperformed national figures from the week, where 33.4 percent of businesses reported a decrease in operating revenues, sales or receipts and 60.3 percent saw no change. The smaller proportion of decreases could also be attributed to weakened businesses shuttering and thus no longer responding to the survey. These closures can

Exhibit 83
Proportion of Small Businesses that have Received Government Assistance, LA County



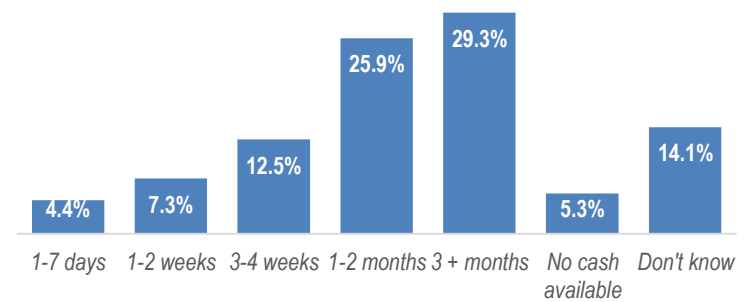
Source: Small Business Pulse Survey

Exhibit 84
Businesses Experiencing Decreased Operating Revenues/Sales/Receipts by Week



Source: Small Business Pulse Survey

Exhibit 85
Businesses With Cash on Hand to Cover Business Operations For: The Week of 11/9 - 11/5



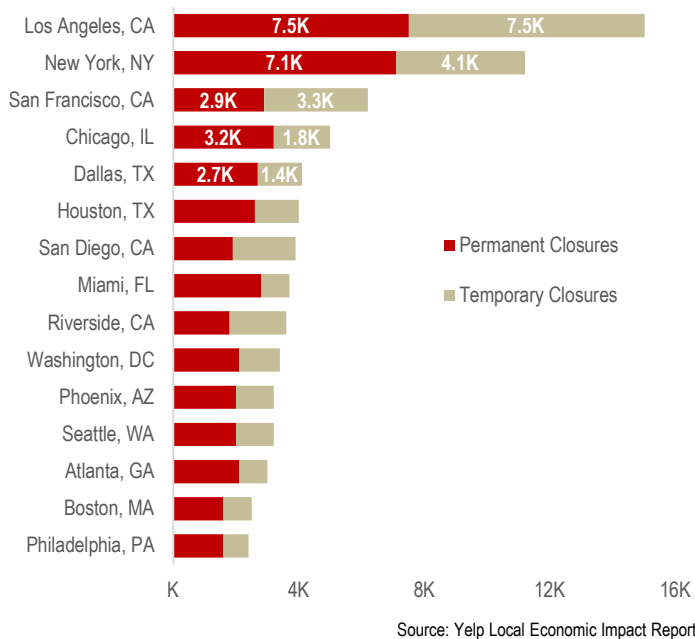
Source: Small Business Pulse Survey

be seen in exhibit 3-29. Additionally, failing to see a decline in sales is not meaningful when sales are below the operational baseline.

Approximately 55.2 percent of businesses reported having cash on hand for at least a month of business operations, while 29.5 percent could support 4 weeks or less or had no cash at all (Exhibit 85).



Exhibit 86
Business Closures by U.S. Metro Since March 1



Meanwhile, 70.7 percent of small businesses in the LA Basin noted that they had received assistance from the PPP since March, 29.2 percent from EIDL and 9.4 percent from SBA Loan Forgiveness. In terms of resiliency, 30 percent of businesses responded that they would need to obtain financial assistance or additional capital in the next six months, and 33.5 percent believed they would need to increase marketing or sales. In the Los Angeles Basin, 6.9 percent of businesses believed they

would need to close permanently in this timeframe.

The Small Business Pulse Survey has demonstrated that small businesses were — and are still — facing tremendous challenges. However, as businesses adapt and gradually reopen, they are reporting improvements in their financial security and future outlook. Many are seeking out financial assistance that has been made available to them under the CARES act to persevere through the longer than expected recovery.

Business Closures

It has been a trying time for all businesses in Los Angeles County – large, medium and small. Indeed, the most impacted businesses were those with less than 20 employees, which have had to adapt and pivot in order to survive in a period with this much uncertainty. Many have found ways of doing their business online, or bringing their operations outdoors, but not all have proved to be so resilient during the COVID-19 crisis, many have had to close their doors either temporarily or for the last time.

Metro areas, like Los Angeles, were more likely to impose stricter guidelines for small businesses throughout the last seven months. These areas experienced more temporary and permanent business closures. As the disruption related to the pandemic continues, more businesses are forced to close. With less places for people to work a slow recovery trajectory is expected to establish itself.

A recent Yelp report detailed the number of businesses on the service reporting a temporary or permanent closure across the US from March 1st to August 31. The Los Angeles Metro Area ranked first in the county, above

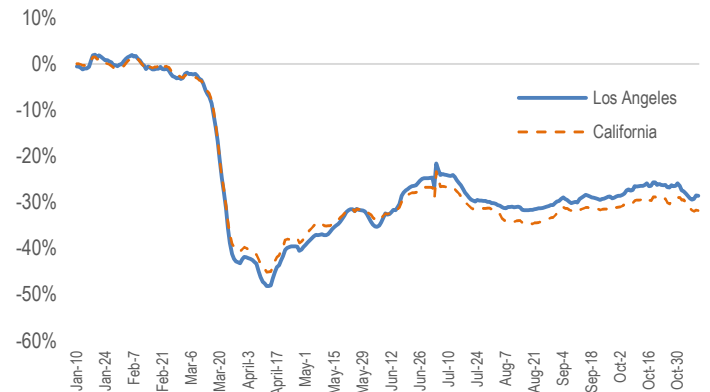
the New York and San Francisco Metro Areas. Since July 10th, both permanent and temporary closures are on the rise across the US, with 60 percent of those closed businesses reporting permanent closure (Exhibit 86).

Exhibit 3-30 displays the percent change in the number of small businesses open in Los Angeles since the first recorded COVID-19 case in the U.S. on January 10. Following initial business restrictions in March 2020, over 40 percent of small businesses closed in the Los Angeles metro, a figure that dropped to nearly 50 percent in mid-April. As the initial reopening process began the numbers improved, but after the second rise in cases and subsequent renewed restrictions on businesses, that progress stagnated. As of November 9th, there has been a 28.6 percent decline in the number of small businesses open in Los Angeles; statewide this figure was -31.8 percent.

It is unlikely that conditions for businesses will improve anytime soon, as on November 22 county public health officials announced a new suspension of outdoor dining at restaurants as a response to the massive surge in cases nationwide and regionally. Businesses will continue to face economic pressure from the lack of operations and revenues for the foreseeable future.

There are multiple programs that businesses can access to help them survive the current round of closures on a reduced payroll, without laying off too many workers. The California Employment Development Department has created a Work Sharing Program as a temporary alternative to layoffs for businesses where production or services have been reduced; it provides unemployment insurance benefits to workers whose hours

Exhibit 87
Percent Change in Number of Small Businesses Open



Source: Opportunity Insights Economic Tracker

and wages have been reduced while allowing these employees to keep their jobs. In effect, this supplements a worker's income with UI benefits even as they remain employed. This can help employers keep their trained employees and avoid the need to recruit and hire in the future, facilitating the reopening process while compensating workers.

Low Income Households

In the midst of the Coronavirus, lower income households have been facing a tremendous amount of difficulty related to the disruption. At the onset of the health orders and business closures, these households were more likely to have low levels of disposable income and little to no savings. This lack of savings stems from the systematic challenges of receiving nominal income. The majority of their paycheck is put toward essentials, with little left over to invest in wealth-building capital. These issues existed prior to the pandemic and have only been exacerbated by the crisis. Their household illiquidity makes dealing with economic uncertainty even more precarious. Often coupled with lower levels of educational attainment, these workers who lose their jobs will find it more difficult to reacquire new ones

Exhibit 88
Percent Change in Employment by Income, LA County

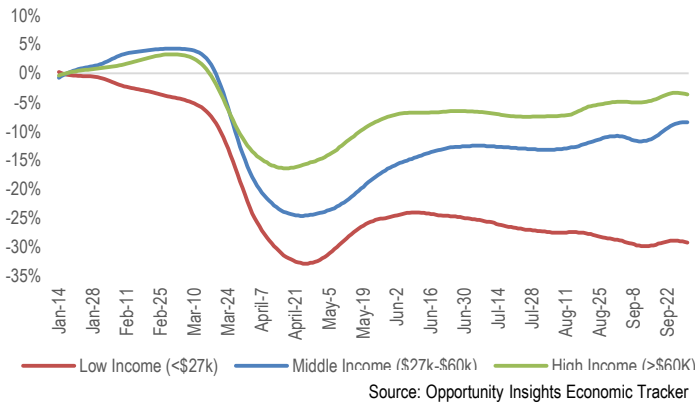
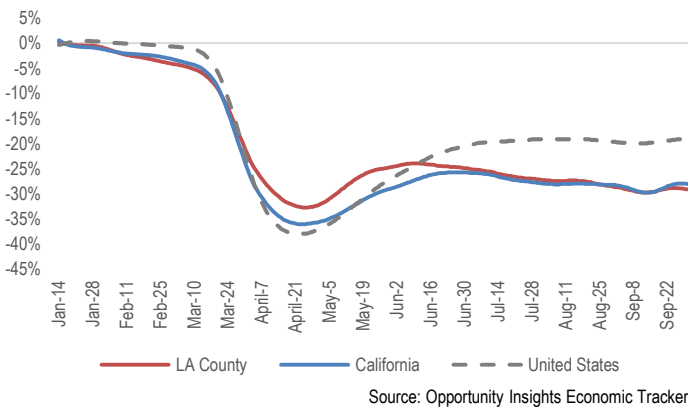


Exhibit 89
Percent Change in Low-Wage Income (<\$27k) Employment



in similar sectors decimated by the economic effects of this pandemic.

Statistics from the Opportunity Insights Economic Tracker, developed by Harvard University and Brown University, show that while high wage (>\$60,000 annually) employment began to rebound expeditiously and efficiently by August while low wage (<\$27,000 annually) employment was down 18 percent from February nationally. These statistics are displayed in exhibit 88.

In LA County from January 2020 to the end of September 2020, employment rates among workers in the bottom wage quartile decreased by 29.2 percent in the County (Exhibit 89). County performance in this

metric has been worse than at the state and national levels, which were 28.1 percent and 19.2 percent respectively at the end of September (Exhibit 89). These figures make it clear that the pandemic has had a disproportionate impact on low-income individuals and households, putting them out of work at a higher rate than those in other income brackets.

At the start of November, job postings classified as requiring “minimal education” had decreased 45 percent since January, and job postings overall decreased 37.4 percent, making it much more difficult for low-skill workers in low-income households to find new opportunities during the pandemic.

Household Pulse Survey

In the most recent release (at the time of writing) of the Census Bureau’s Household Pulse Survey (October 28 to November 9), results found that due to the pandemic, 37.6 percent of adults reported living in households where it had been somewhat or very difficult to pay for usual household expenses. Additionally, 12.4 percent of households reported there was either sometimes or often not enough to eat in the last seven days (Exhibit 90). Approximately 6 percent of adults in the LA Basin were behind on rent or mortgage payments or had little confidence that their household could pay next month’s rent or mortgage on time. Moreover, 26.2 percent of adults reported living in households where eviction or foreclosure in the next two months was very or somewhat likely.

Rent is becoming a larger issue for many Americans as the pandemic drags on and payments stack up. The Center for Disease Control and Prevention issued an emergency

order in September to prohibit new and previously filed evictions from occurring, which has helped keep many in their homes. As the pandemic continues, further measures have been enacted to ensure that growing back rent is treated as consumer debt, not a basis for eviction. This support is critical in Los Angeles County where a significant proportion of adults have marked that they have little confidence in their ability to stay current on rent.

Meanwhile, 32.3 percent of respondents expect someone in their household to have a loss in employment income in the next four weeks. This proportion has decreased slightly from two months prior to the latest data release, where 37.5 percent of respondents expected this, but the figure remains quite high. Losses of income will make staying current on payments even harder, further complicating the issue for struggling households.

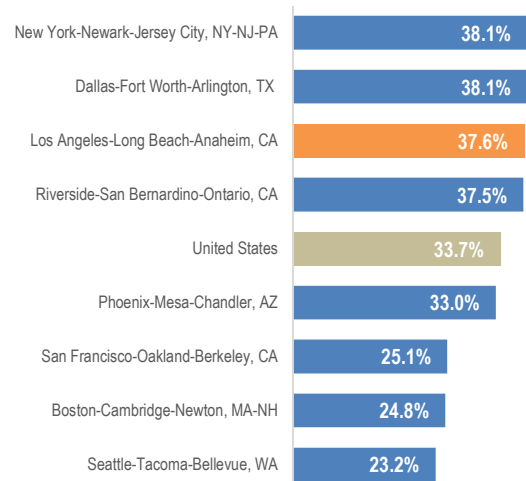
Overall, low-income households are facing a difficult situation due to the COVID-19 pandemic. Many are struggling to cover the costs of living in the LA Basin, and with greatly reduced numbers of lower-skill job openings, there are few opportunities to gain a more secure and stable economic footing.

Homeless

The annual count of individuals experiencing homelessness in Los Angeles County, conducted by Los Angeles Homeless Services Authority (LAHSA), reported that there were

¹³ 2020 Greater Los Angeles Homeless Count Results. (2020, September 03). Retrieved 2021, from <https://www.lahsa.org/news?article=726-2020-greater-los-angeles-homeless-count-results>

Exhibit 90
Percentage of Adults Living in Households with Difficulty Paying for Usual Expenses During the Pandemic



10/28 - 11/9

Source: Census Bureau Household Pulse Survey

66,346 homeless in January 2020, an increase of 12.7 percent year-over-year¹³. Demographic trends from this survey have shown that the number of unsheltered seniors (62+ years old) increased by over 20 percent, and the number of transition age youth or unaccompanied minors rose 19 percent. Two-thirds of those counted in January 2020 were experiencing homelessness for the first time, up from 23 percent in 2019.

The LAHSA count demonstrates that homelessness was a growing crisis in the county even before the pandemic exacerbated this issue. From February to November of 2020, it is estimated over 20,000 additional Los Angeles County residents became homeless¹⁴.

¹⁴ Von Wachter, Till, et al. California Policy Lab, 2020, Employment and Earnings Among LA County Residents Experiencing Homelessness.

In terms of employment, the pandemic has also negatively affected employment figures in several industries where homeless workers are concentrated. Exhibit 91 shows the breakdown of recent industry employment in Los Angeles County’s Homeless Management Information System through the years of 2010 to 2018.

Homeless service clients are largely concentrated in low wage jobs; 7.6% last worked in retail trade occupations, 6.9% in health care and social assistance, and 6.5% in accommodations and food services. Another 17.5% were located in administrative and support or waste management and remediation jobs. Meanwhile, higher-skill, high wage opportunities were nearly unattainable for these workers. The pandemic’s effect on the industries that many homeless service clients are working in — shutting down business locations and forcing layoffs — undoubtedly has made the situation more difficult for this subset of the population.

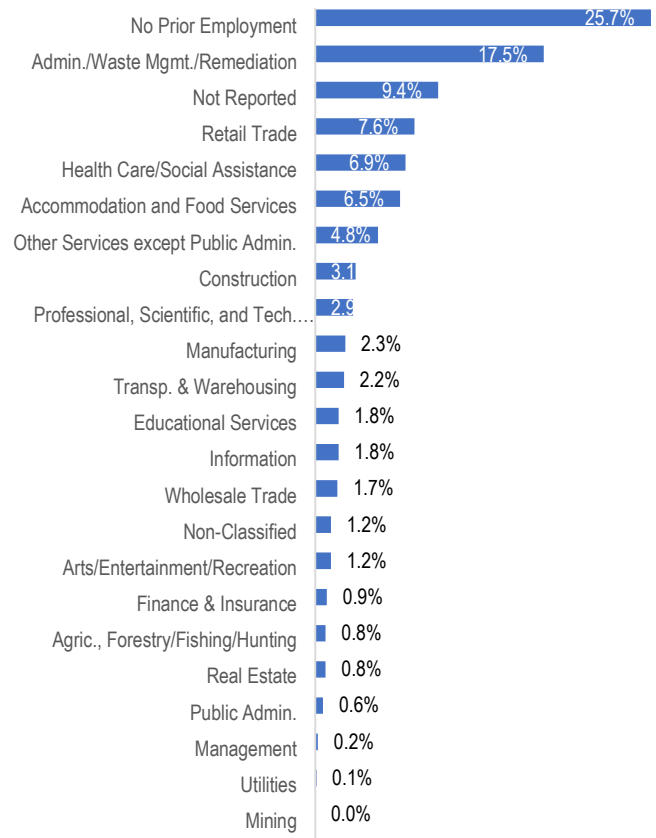
A Growing Foster Youth Population

In December 2019, Los Angeles County’s Department of Children and Family Services reported 17,919 children in out-of-home placement. By December 2020, that number had risen by 5 percent to 18,799¹⁵. The COVID-19 pandemic is said to have worsened preexisting problems in the foster care system, including the inability to retain a quality workforce, the lack of families willing to foster and adopt children and the inadequate services for both children and

¹⁵ DCFS Data and Monthly Factsheets. (n.d.). Retrieved January 12, 2021, from <https://dcfs.lacounty.gov/resources/data-and-monthly-fact-sheets/>

¹⁶ Font, S. (2020, July 29). The Impact of the COVID-19 Pandemic on Children in Foster Care. Retrieved January 12, 2021,

Exhibit 91
Most Recent Industry Employed at Time of HMIS Entry
by Industry, 2010 to 2018



Source: CA Policy Lab

biological parents¹⁶. Additionally, foster or group homes have a high risk for viral spread of COVID-19, making care an even larger challenge.

High Cases in Criminal Justice

According to data collected by the Vera Institute, the daily jail population in Los Angeles County declined from the pre-COVID average of 17,000 people to around 12,000 from April to June 2020. This was the result of active steps taken by the Los Angeles criminal

from <https://covid-19.ssri.psu.edu/articles/impact-covid-19-pandemic-children-foster-care>

justice system to limit arrests, as transmission of the virus in jails and prisons became a major concern¹⁷. This did not last however, as recent data shows that the daily jail population sits around 15,450 as of December 9.

The virus has impacted the prison population, as there have been over 45,000 cases of COVID-19 in California state facilities (a 37% cumulative case rate) and nearly 4,500 in

federal facilities (a 39% cumulative case rate)¹⁸. These case rates are far higher than that of all California residents, which was around 7% in mid-January. There have been slightly over 200 deaths due to the virus among incarcerated people in California since the onset of the pandemic.

¹⁷ COVID-19 and Criminal Justice: City and State Spotlights - Los Angeles. (n.d.). Retrieved January 13, 2021, from <https://www.vera.org/covid-19/criminal-justice-city-and-state-spotlights/los-angeles>

¹⁸ UCLA Law COVID-19 Behind Bars Data Project. (n.d.). Retrieved January 13, 2021, from <https://uclacovidbehindbars.org/>

Unemployment Benefits

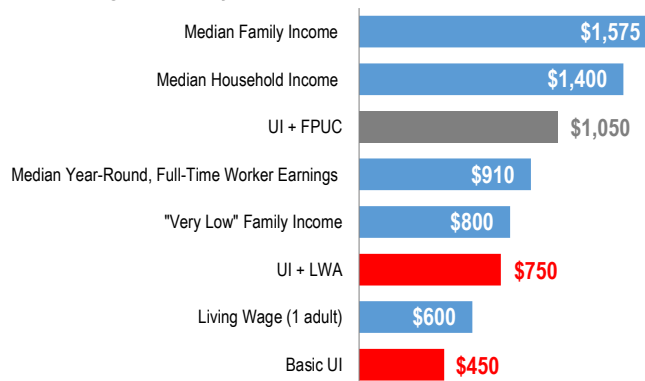
More than seven months have passed since the arrival of the pandemic, and Unemployment Insurance (UI) benefits paid from mid-March through the end of October have reached \$107 billion with regular state-provided UI benefits accounting for \$56.3 billion — greater than twice the benefits paid in the three worst years of the Great Recession combined. According to the California EDD, the average daily benefits paid in the week ending October 31 (\$221.1 million) is 254 percent higher than the average paid during the same week at the peak of the Great Recession (\$62.5 million in the week ending October 30, 2010).

The CARES Act enacted in late-March expanded unemployment insurance coverage to those not normally eligible, including self-employed and gig workers, and increased benefits by adding an additional \$300 to \$600 in Federal Pandemic Unemployment Compensation (FPUC) to every recipient’s weekly check. Without FPUC, the maximum weekly benefit in California is \$450 a week. For context, the Department of Housing and Urban Development (HUD) defines “very low income” as 50 percent of the median family income (California median family income was \$91,377 in 2019); without the FPUC or other supplemental benefits, all claimants are below this threshold. With close to 80% of low-income workers in California estimated to spend more than half their income on rent, for unemployed households, meeting basic needs became much harder with just regular unemployment benefits. These additional \$300 to \$600 stimulus payments ended on July 25th.

Starting September 10, 2020, some UI claimants, eligible to receive at least \$100 per week in benefits and who self-certified their status as due to disruptions caused by COVID-19, began receiving \$300 per week in additional benefit payments through the federal Lost Wages Assistance (LWA) program for claimants. An estimated \$6 billion of additional benefit payments through the LWA program were issued, with more than 3.4 million claimants receiving the final 6th payment the week ending September 5th. Currently, there are no supplemental UI benefit payments.

The aid response following FPUC has been lackluster, as the LWA program was not extended to all claimants who received the FPUC, and combined unemployment insurance plus LWA benefits still placed beneficiaries below the “very low” family income classification (Exhibit 92). Without any supplements, the basic unemployment insurance is just three quarters of the living wage for a single person in LA County; not enough for an individual to support themselves or a family.

Exhibit 92
Weekly Unemployment Benefits Compared to Weekly Wages in Los Angeles County



Source: ACS 2019 1-year estimates

The initial FPUC supplemental unemployment benefits were not only beneficial for many households with individuals out of work, it helped to reduce the secondary effects of the pandemic on businesses. FPUC benefits helped to limit some of the economic damage that would have taken place as a result of the efforts taken to mitigate the spread of the virus during the Safer-at-Home orders and through the phased/tiered reopening thus far. Supplemental benefit payments helped to prop up consumer spending for businesses while providing much needed funds for households whose earnings have been negatively impacted by the virus. Though some have argued that FPUC rewards served to undercut the labor market and dissuade workers from searching for new jobs, in the midst of an easily transmissible pandemic this can also be seen as a positive for reducing the spread of the virus. Without these benefits, further reductions in spending have resulted in more negative effects for businesses already struggling, and many low-income households are just scraping by.

A resumption of these benefits at the federal level would be extremely beneficial for workers and the overall economy. From the standpoint of individuals, the payments could keep many from running down their savings and incurring debts while facing a dismal job market. For the economy as a whole, putting money in the hands of consumers allows for more consumer spending and reduced economic damage related to decreased demand during a prolonged period of high unemployment. While it is by no means a perfect fix, it provides a measure for keeping struggling households and businesses afloat.

It is important to note that unemployment benefits are available only to documented residents. Many Hispanic and Latinx workers with complicated immigration status do not qualify for government assistance despite facing financial hardship stemming from the pandemic.

Meeting the Challenge of Housing LA County's Workforce

Pre-Pandemic Housing Landscape in LA County

Even before the onset of the COVID-19 pandemic and consequent economic crisis, Los Angeles County struggled to provide affordable housing. In 2019, 53.8 percent of LA County households were classified as rent burdened — paying 30 percent or more of their income on rent.¹⁹ The exhibit 4-1 demonstrates that the burden of high rents fell disproportionately on the communities of urban east and south Los Angeles with many communities in the San Gabriel, San Fernando, Santa Clarita and Antelope valleys also dealing with this challenge. Areas marked in purple denoted that less than 30 percent of renters are rent burdened. Areas marked in teal indicate this percentage has increased to between 30 and 60 percent, while areas marked in yellow see over 60 percent of renters considered burdened.

Due in part to this lack of affordability, nearly a quarter of Los Angeles County's workforce commuted daily into the county prior to the pandemic. The majority of these commuting workers lived in the counties of Orange, San Bernardino, Riverside, Ventura and San Diego.²⁰

Los Angeles County has also struggled to add housing volume in sufficient-enough quantity to meet its allocations under the Regional Housing Needs Assessment (RHNA). RHNA is mandated by state law and overseen in the county by the Southern California Association of Governments. As was reported in 2019, the

Exhibit 93: Rent Burden in LA County

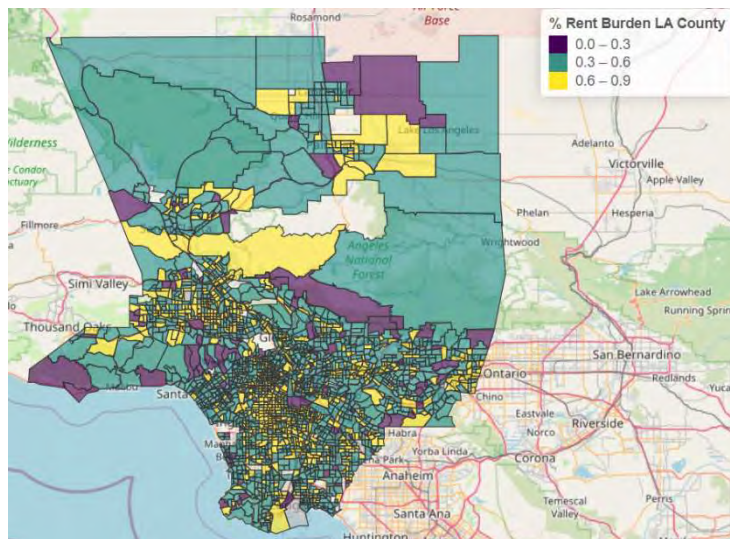


Exhibit 94: Daily Commuting Patterns



county had only permitted 79.2 percent of its total allocation.

The allocation is further broken down by housing reserved for incomes below or just

¹⁹ U.S. Census Bureau American Communities Survey.

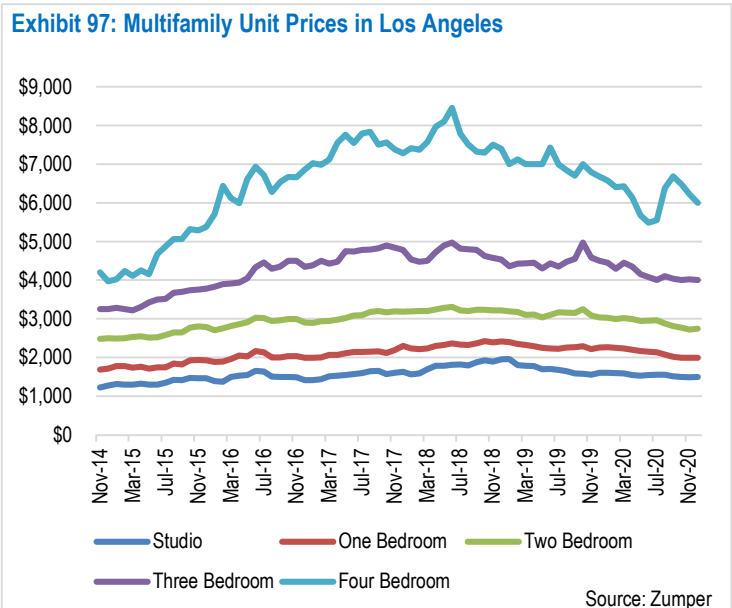
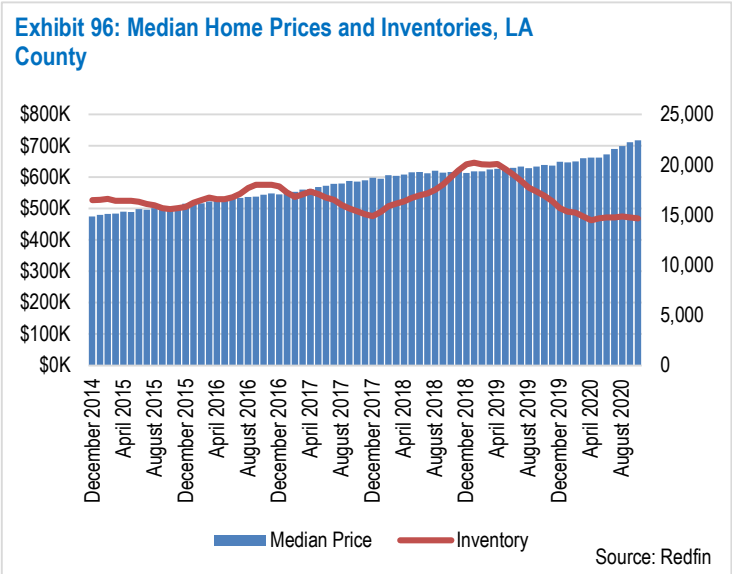
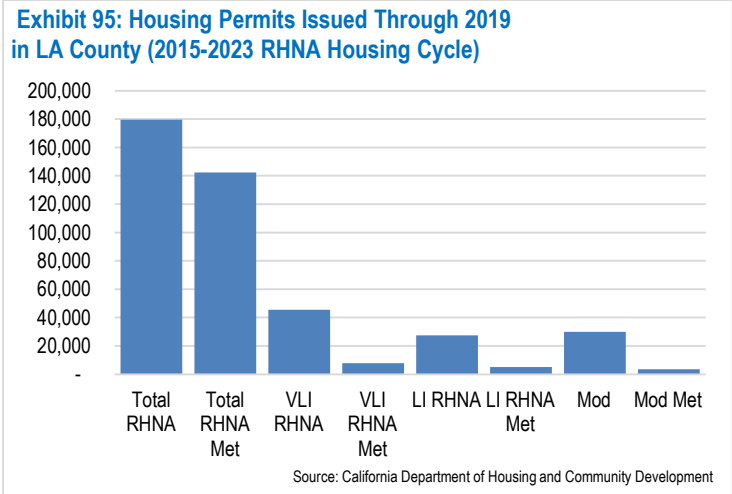
²⁰ 2018 Longitudinal Employer-Household Dynamics On the Map.

slightly above the area median income (AMI), either by pricing or deed restriction. Very low income (VLI) housing is intended to meet the needs of households making 30 to 50 percent of the area’s median while low income (LI) housing the needs of households earning between 50 and 80 percent of AMI. Moderate or workforce housing is intended for households making 80 to 120 percent of AMI. As of 2019, planning agencies in the County had only permitted 17.2 percent of its VLI allocation, 18.4 percent of its LI allocation and 12.1 percent of its moderate-income housing allocating. By contrast, planning authorities in Los Angeles County had permitted over 164 percent of the County’s above moderate, or market rate, housing allocation.

In total, Los Angeles County had been given the goal of 179,698 units in the 5th (2013-2021) RHNA Cycle. As of the writing of this report, SCAG is currently developing its plan for the 6th RHNA cycle, which will last from October 2021 to October 2029. The draft allocations for Los Angeles County would increase by over 350 percent to 813,082 units. Similar increases are drafted for VLI units (377 percent), LI units (349 percent) and moderate-income units (338 percent). However, in the present-day housing needs are not being met for many County residents.

Housing in Los Angeles County during COVID-19

Since the onset of the pandemic and now several rounds of Safer-at-Home orders, homes have doubled if not tripled their role to serve as offices and school rooms in addition to domiciles. Therefore, space has been at a premium, particularly with all social activities relegated to the home as well. This premium is reflected in the growth of median home prices.



Year over year, median home prices in Los Angeles rose 12.3 percent in October 2020, reflecting similar double-digit growth in August and September. However, inventories have comparatively collapsed, with year-over-year reductions in excess of 20 percent between December 2019 and July 2020.

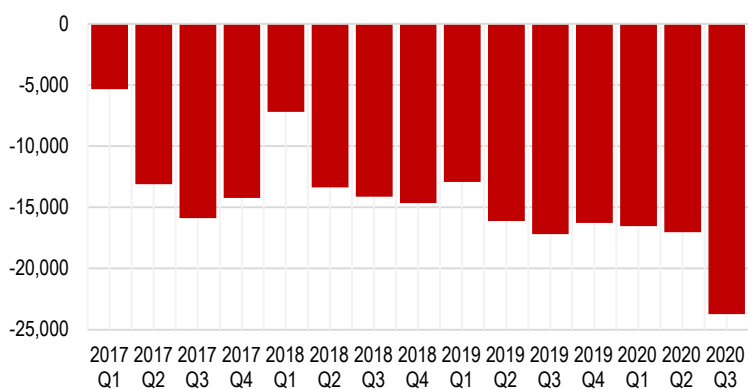
To some extent, this premium on space was seen with a bump in prices for four-bedroom multifamily units. However, prices in multifamily units across the board had begun to stagnate, if not decline, as early as 2018. Prices for two-, three- and four-bedroom units had declined since June 2018, while studio prices have declined since January 2019 and one-bedroom prices since October 2018. Year-over-year declines, however, demonstrate that recent declines in multifamily unit prices have been more pronounced since the pandemic. One-, two- and three-bedroom unit prices have declined by double digits since September 2020, and studio prices declined year-over-year by double digits between September 2019 and May 2020. Even four-bedroom units experienced year-over-year price declines in excess of 10 percent between April and July 2020, and again as of December 2020.

As a result, it could possibly be inferred that the multifamily housing market had reached its apogee well before the pandemic in 2018, an indication that price had exceeded what renters were willing to pay. However, the recent decline in prices since the pandemic began indicates two likely phenomena. Some renters who could afford a home likely chose to make that transition, either in Los Angeles County or elsewhere. Other renters likely chose to leave Los Angeles County if they could afford the move and had the opportunity for employment or other means of support.

It is likely that both homeowners and renters are choosing to leave the county permanently even if they are capable of still working for County businesses remotely. As the pandemic and business restrictions continue, net outmigration has accelerated. As Exhibit 4-6 demonstrates, Los Angeles County is estimated to have been losing residents since at least 2017. However, the net outmigration accelerated as of third quarter 2020 with an estimated 23 thousand residents leaving the county.

Passed in August 2020, the COVID-19 Tenant Relief Act of 2020, California renters are protected from eviction if they declare to their landlord an inability to pay rent due to COVID-19-related reasons. Renters merely have to declare their inability to pay for foregone rent payments between March and August 2020. However, for missed rent from September 2020 to January 2021, at least 25 percent of that rent must be repaid under the law either monthly or in a lump sum by January 31st, 2021. Rent must start to be paid in full beginning February 1st, 2021 unless local governments extend eviction protections past that date.

Exhibit 98: Estimated Net Migration to Los Angeles County



Source: Redfin

These protections, however, may be the difference between housing security and eviction for many Los Angeles County, especially as the county continues to experience double digit unemployment, a reduced labor force and grim employment prospect for many typically lower-income industries. With these conditions in mind, a UCLA study estimated that 365,000 renter households in the County could be immediately vulnerable to eviction upon the expiration of eviction moratoria.²¹ A joint study from UCLA and USC estimated that 16 percent were late on rent between April and July 2020; 10 percent did not pay any rent in full between May and July; and 2 percent were three months behind on rent. The report also estimated that 20 percent of households had used their savings to pay rent, and 22 percent paid late at least one month between April and July. Finally, late payment and nonpayment were more prevalent among VLI households (earning less than \$25,000 yearly) as well as black and Hispanic households.²²

In July, the City of Los Angeles allocated \$103 million to provide a maximum of \$2,000 per household to families living in a multifamily unit making at or below 80 percent of AMI. The subsidy was paid directly to landlords on a tenant's behalf.²³ Enrollment lasted from July 13th to 17th; however, the program was quickly exhausted and not renewed.

As such, we can conclude that Los Angeles County is not only in the midst of an income and employment crisis but also a housing crisis, one which predates the pandemic but has only been exacerbated by the economic



trauma inflicted this public health crisis. Over fifty percent of county residents were already burdened by their housing costs prior to 2020; this crisis of affordability has only worsened in 2020. In order to ensure a sustainable, equitable and inclusive recovery, state and local policy makers must allocate additional financial resources to assist vulnerable households and landlords. Without ensuring housing security to County residents, especially the most economically vulnerable, many more residents will risk homelessness. Moreover, Los Angeles County will continue to see the outmigration of present and future generations of talent who would have otherwise been part of the story of economic regrowth and renewal as the region looks past the pandemic and seeks to reclaim its future.

²¹ Blasi, G. (2020). UD Day: Impending Evictions and Homelessness in Los Angeles. UCLA: Institute on Inequality and Democracy. Retrieved from <https://escholarship.org/uc/item/2gz6c8ev>.

²² Manville, Michael et. al. "COVID-19 and Renter Distress: Evidence from Los Angeles." Report. UCLA Lewis Center for

Regional Policy Studies and USC Lusk Center for Real Estate. August 2020.

²³ City of Los Angeles Emergency Renters Assistance Program. City of Los Angeles Housing and Community Development Investment Department.



Occupational Losses and Living Wage Gap

KEY TAKEAWAYS

- *Customer-facing occupations with high levels of personal interaction experienced larger job losses within impacted industries.*
- *Very few occupational groups will see growth by 2022, but most will meet or exceed pre-pandemic employment by 2024.*
- *Stopping the spread of COVID-19 resulted in the loss of roughly one million living wage jobs in Los Angeles. We do not anticipate a full recovery of these jobs until 2024.*

MIT’s definition of a living wage is the minimum amount of income necessary for the “basic needs of a family.” This metric assumes all working adults in the given household work 2,080 hours annually. In Los Angeles County, the living wage for one adult with no children is \$14.83.

In 2019 there were about 4.16 million living wage jobs in Los Angeles County and approximately 85 percent of workers in Los Angeles County earned a living wage. The occupations that on average did not earn this wage included fast food and counter workers, cashiers, amusement and recreation attendants, and production workers. These jobs are predominantly located in the accommodation and food services, retail trade, and arts and entertainment industries.

Exhibit 99: Estimated Living Wage Jobs in Los Angeles County

2019	2020e	2021f	2022f	2023f	2024f
4,160,000	3,768,000	3,806,000	3,920,000	4,077,000	4,159,000

As a result of the pandemic, roughly one million living wage jobs were initially lost in the county. A significant proportion of these were service occupations in industries that were forced to close: cooks, bartenders, waiters and waitresses, barbers, massage therapists and skincare specialists are all examples of occupations which on average earned at or above the living wage and were significantly hit by the pandemic. While the initial job losses were devastating, some of these occupations have since been able to resume, and an estimated sixty percent of were recovered in some capacity as of November 2020.

Exhibit 99 displays the estimated number of living wage jobs in Los Angeles County, Overall, an estimated 392,000 of these jobs were lost year-over-year, and our forecast projects these will not be fully recovered until 2024. Jobs paying below the living wage which were lost in large numbers at the onset of the pandemic, such as waiters and waitresses and amusement and recreation attendants will be added back to the economy more rapidly once industries begin resuming full operation. However, many living wage jobs in industries like information or business and finance will take longer to recover.

Occupational Losses by Groupings

- *Restaurant occupations were most impacted with over 25,000 waiters and waitresses, 13,000 restaurant cooks, and nearly 5,000 fast food and counter workers lost.*

In order to better understand the effects of COVID-19 and the stay-at-home orders on the local economy, we analyzed five different groups of occupations that were hardest hit by the COVID-19 pandemic, as measured by their employment changes from February to October 2020. Please note that the jobs in this figure do not represent the total number of workers in this occupation across the entire county, but rather the number of these employees working in these hardest-hit groups which we have identified.

Exhibit 100 shows the breakdown of these losses. Restaurant occupations suffered the most, with waiters and waitresses losing over 25,000 jobs and restaurant cooks over 13,000, while fast food and counter workers declined in employment by close to 5,000. Occupations in the retail trade industry struggled as well,

with over 10,000 retail salespersons and about 4,600 cashiers losing jobs.

In film and television, an industry that stalled out for many months, 6,600 producers and directors and over 4,600 actors lost employment. Meanwhile, labor-intensive occupations were fourth-hardest hit, as laborers and material movers suffered an employment decline of 6,300 and nearly 4,000 janitors and cleaners lost jobs.

Projecting Occupational Recovery

- *Most occupational groups will meet or exceed their pre-pandemic employment level by 2024, with a few exceptions related to trends outside of the pandemic.*

During the recovery process, certain occupations will rebound more quickly than others—and some will continue to shrink due to economic trends outside of the pandemic.

In 2022, most occupations are still forecasted to be at an employment level below the beginning of 2020 (Exhibit 101). Protective service and related occupations are projected

Exhibit 100
Job Losses by Detailed Occupation Groupings in LA County
 Feb 2020 - Oct 2020

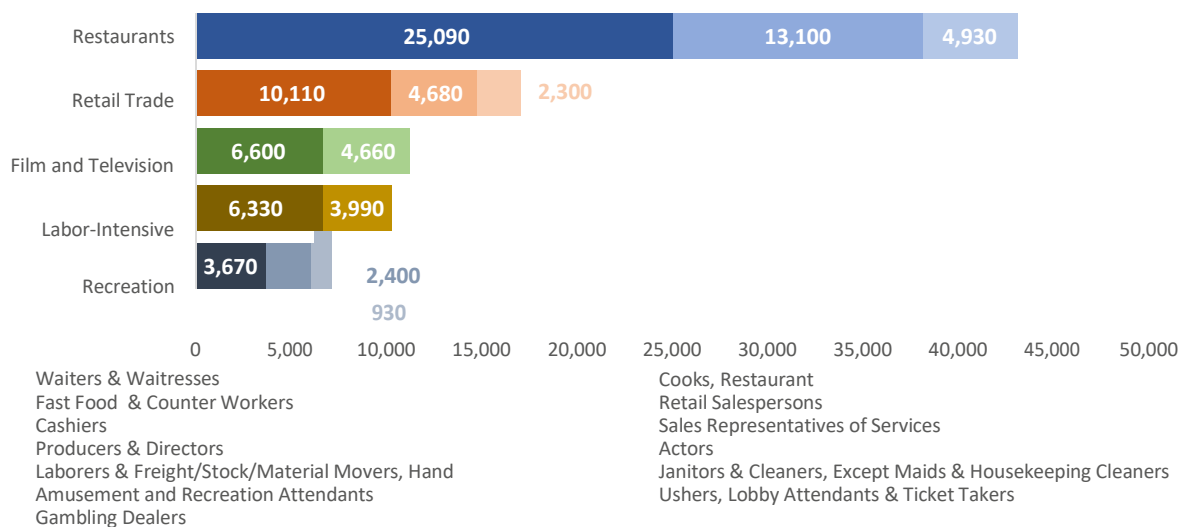
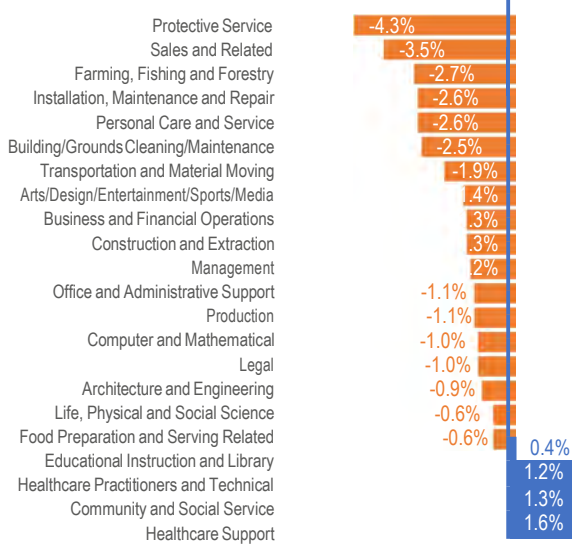


Exhibit 101

Projected Change in Employment By Occupation

2020 to 2022

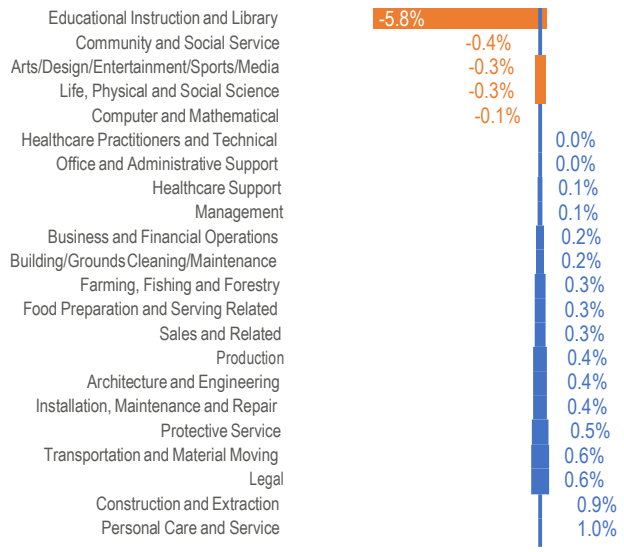


Source: CA EDD

Exhibit 102

Projected Change in Employment By Occupation

2020 to 2024



Source: CA EDD

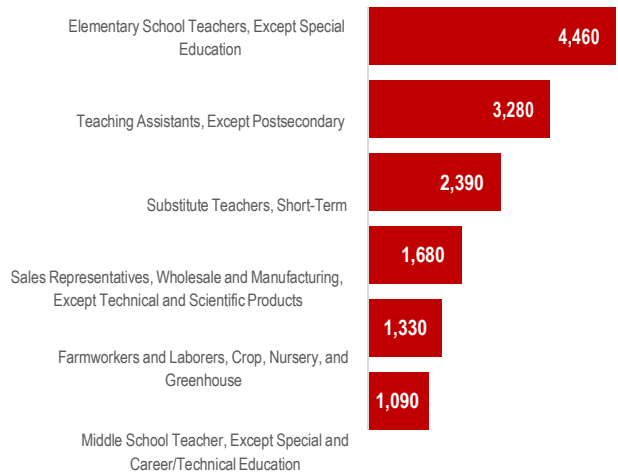
to witness the greatest decline at -4.3 percent of employment, while sales and related and farming, fishing and forestry are also in the top three. Just four major occupational groups are expected to have a higher employment than their 2020 level. Healthcare support, community and social service and healthcare practitioners and technical occupations will be the strongest, as is expected during the recovery from a global health crisis and economic recession.

By 2024 however, most major occupational groups are forecasted to have a higher employment level than the pre-pandemic baseline, with personal care and service,

construction and extraction and legal occupations leading the way (Exhibit 102). For most, the growth will be smaller than one percent of total employment, but this will still be much better than their 2022 figures.

Exhibit 103:

Selected Detailed Occupational Groups by Projected Jobs Lost 2020-2024



Source: Burning Glass

Just five major occupational groups will see an employment decline across the four-year span, led by educational instruction and library occupations with nearly six percent less jobs. We can see the cause of this

decline when drilling down into projected losses by detailed occupations in Exhibit 3-5. Elementary school teachers are expected to lose nearly 4,500 jobs in Los Angeles County by 2024, and teaching assistants over 3,200. Substitute and middle school teachers are also highlighted on this list, demonstrating an

alarming decline in educators in the near future. Sales representatives for wholesale and manufacturing products and farmers and laborers are other detailed occupations expected to see job declines in the region that are not caused by the pandemic and its economic impact.

Hardest Hit Industries in Los Angeles County

Based on employment data, we identified five industries that have been the *hardest hit* during the pandemic. In this section we look how each has been impacted and how they are performing through the phased reopening process.

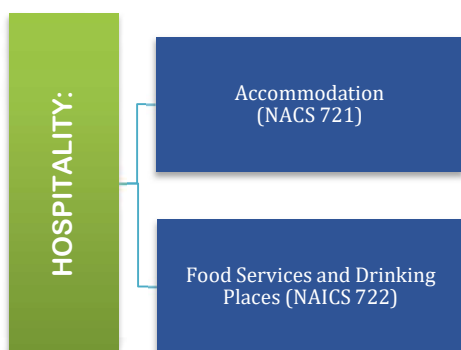
Hardest Hit Industries in Los Angeles County:

- **Hospitality**
 - Accommodation (NAICS 721)
 - Food Services (NAICS 722)
- **Arts, Entertainment and Recreation (NAICS 71)**
- **Personal Care & Laundry Services (NAICS 812)**
- **Motion Picture and Sound Recording (NAICS 512)**
- **Non-Essential Retail (NAICS 442, 448, 451, 4522)**

Hospitality

The hospitality industry, primarily the sectors of accommodation and food services, has been

Exhibit 104: Hospitality Industry Definition

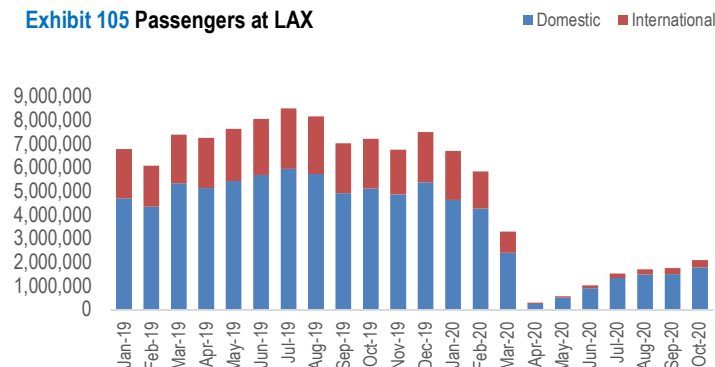


²⁴ Kang, Matthew, and Farley Elliott. 2020. "A Running List Of LA Restaurants That Have Closed During The COVID-19 Pandemic". *Eater LA*. <https://la.eater.com/2020/5/8/21252137/los->

one of the hardest hit industries by the pandemic in Los Angeles County.

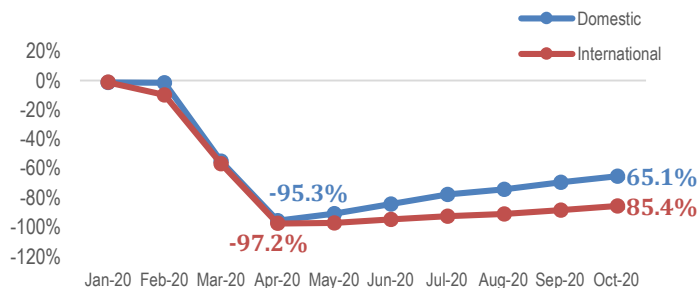
Millions of employees working in restaurants, bars and hotels are struggling to continue their labor and balance food and rent costs with safety and social distancing protocols. The restrictions on indoor dining have proved too great for some locations, resulting in the closures of even renowned dining venues in Los Angeles such as the Pacific Dining Car locations in Santa Monica and Downton, Jun Won in Koreatown, and Cliff's Edge in Silverlake²⁴.

Exhibit 105 Passengers at LAX



Source: LAWA

Exhibit 106 Year-Over-Year Change in Passengers at LAX



Source: LAWA

angeles-la-restaurant-bar-permanently-closed-coronavirus-crisis-pandemic.

At the beginning of 2020 there were 442,900 people employed in hospitality but even by February this industry, particularly the accommodation sector, had begun feeling the impacts of the novel coronavirus stemming from reduced international and then domestic travel due to both growing fears of infection and international travel bans. The number of passengers travelling through the Los Angeles International Airport (LAX) plummeted (Exhibit 105, 106) and has yet to recover. Although the number of travelers beginning to increase again, it is well below the marks of previous years. The decrease in tourism is projected to continue as COVID-19 case numbers spike in the United States and abroad. As tourism is estimated to have generated 1 in 8.5 jobs in the County last year, the secondary effects related to a decrease in activity of this magnitude stands to be significant moving forward. Moreover, the longer this trend persists, the larger the negative economic impact becomes, including permanent layoffs and business closures, not

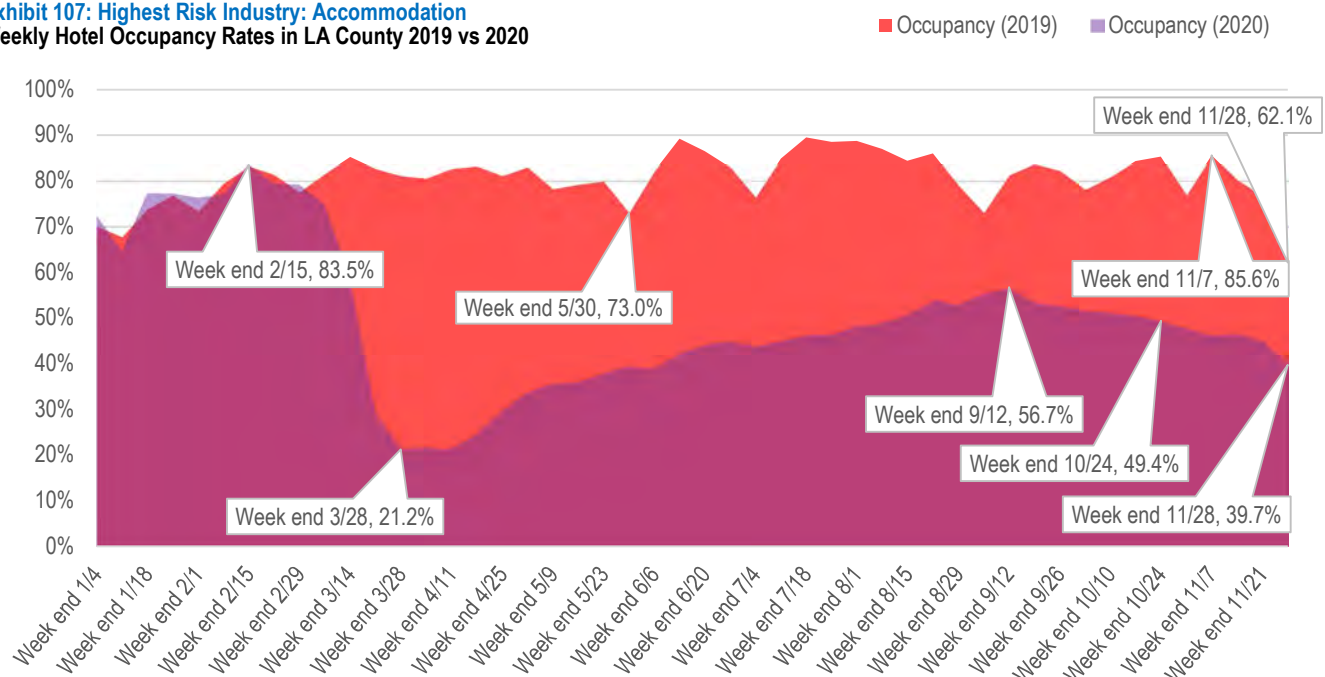
only in the industry itself but also in its supply chain.

Accommodation

Hotels started seeing a severe decline in occupancy starting late February, followed by a very gradual recovery over the warm summer months. As a result of post-Labor Day weekend festivities and rising COVID-19 cases, hotels are yet again seeing a decline in occupancy. As of October 2020, hotel occupancy and demand has fallen by 32 percent in Los Angeles County since the beginning of 2020.

Occupancy rates are gradually climbing but remain considerably lower than those last year. Exhibit 107 compares the weekly hotel occupancy rates in LA County between 2019 and 2020. June, being the first month of summer, usually averages occupancy rates above 80 percent; this year, occupancy rates are averaging about half that. As a major destination for tourists from around the

Exhibit 107: Highest Risk Industry: Accommodation
Weekly Hotel Occupancy Rates in LA County 2019 vs 2020



Source: LA Tourism

world, the County has suffered greatly from travel restrictions. Hotels began losing guests in the last week of February, well before the initial stay-at-home orders in March. Moving forward, the speed in which this industry recovers is dependent upon the feeling of public security regarding their travels.

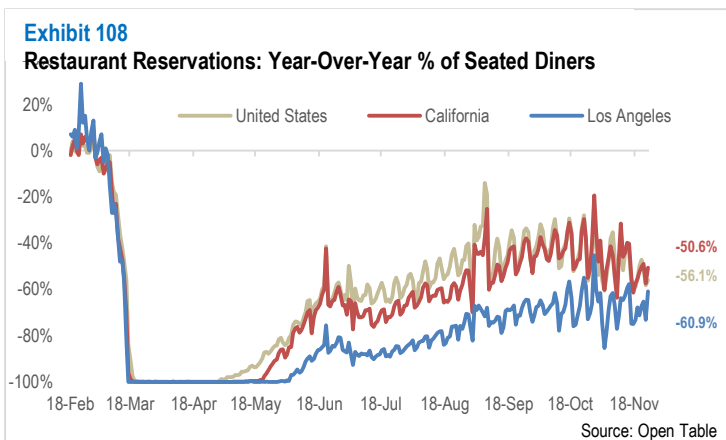
Food Services and Drinking Places

Though restaurants were allowed to reopen in Los Angeles County with new guidelines for doing business throughout the summer, reservations were still down 60.9 percent from the previous year—and the new round of closures will bring down seatings once again (Exhibit 108). The industry is also impacted by pandemic related changes in consumer behavior. As long as there is fear of contracting the virus, many consumers will refrain from putting themselves in situations where they perceive the risk of infection to be greater.

November 2020 COVID Restrictions on Food Services and Drinking Places

The onset of flu season brought with it a third spike in the number of new cases of COVID-19. A new health order released by the County of Los Angeles Department of Public Health on November 25, 2020 stated that restaurants, bars, wineries, and breweries will once again only offer food and beverage via take-out, drive thru or other delivery options effective November 25 through December 21, 2020. While this was overturned, the state level restriction, which the county level restrictions mirrored, remain in place.²⁵ While ICU beds in the Southern California region remain below 12.5 percent capacity, these new stay-at-home orders remain in place.

²⁵ Winton, Richard. 2020. "L.A. Restaurateur Sues Newsom Over Outdoor Dining Ban". *Los Angeles Times*.



The newly adjusted stay-at-home orders pose additional economic risks for restaurant owners and their staff. Based on the number of jobs added between May 2020 and October 2020 when outdoor dining options were allowed, the 88,800 jobs recovered stand to be the most vulnerable with the suspension of on-site outdoor dining options in L.A. County.

On December 2nd, Mayor Eric Garcetti announced an \$800 stipend to a small number of local restaurant and food service workers impacted by COVID-19. The plan is expected to benefit 4,000 people who work at eateries, food stands, breweries, wineries, bars, and other mobile food units in the city.

<https://www.latimes.com/california/story/2020-12-21/1-a-restaurateur-sues-newsom-over-outdoor-dining-ban>.

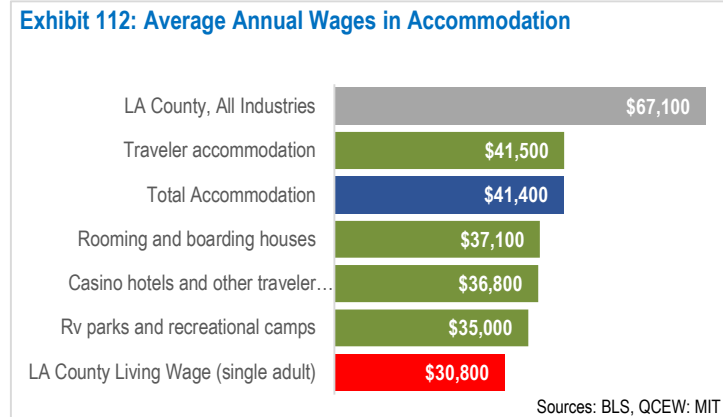
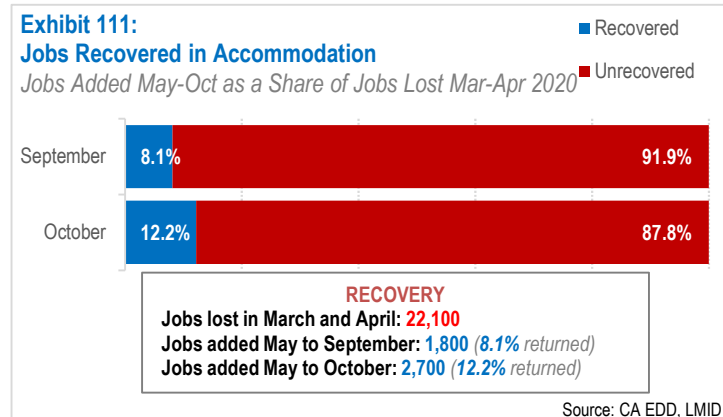
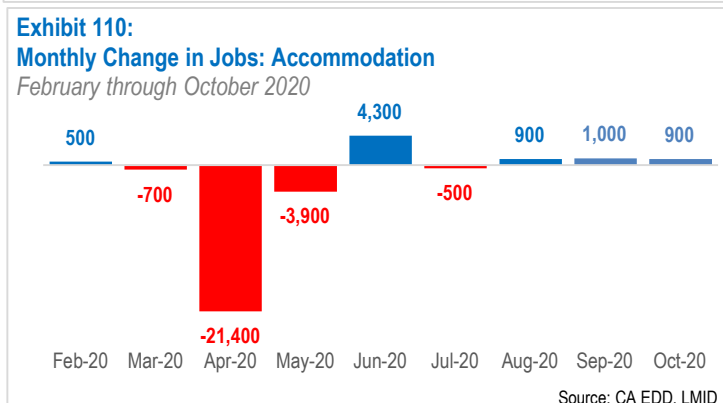
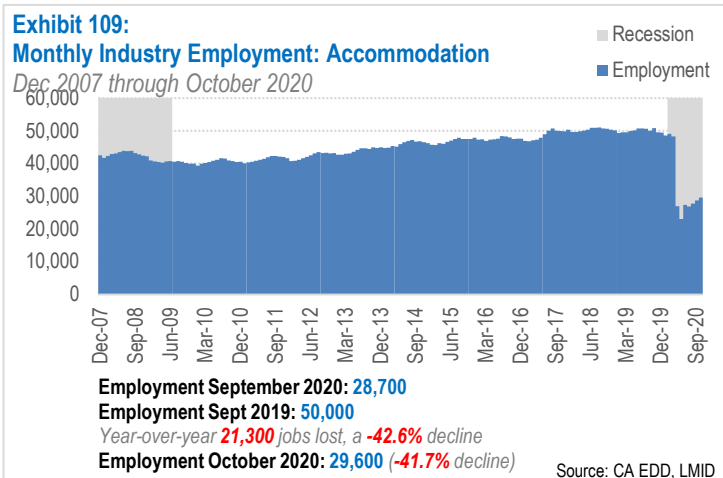
Accommodation

Los Angeles County’s accommodation employment from December 2007 through October 2020 is displayed in Exhibit 109. The negative effect the pandemic has had on travel and entertainment have led to September 2020 employment falling by more than 42 percent year-over-year, a contraction of more than 21,000 jobs. The employment levels currently experienced in the accommodation industry during the pandemic are lower than those seen during the Great Recession by an average of 20,000 jobs.

The largest declines in accommodation employment occurred the months of March, April and May. However, four of the last seven months were met with positive job growth, with 4,300 jobs added in June, and an average of 1,000 jobs added each month since August. That being said, employment numbers have still not recovered fully from April job losses (Exhibit 110).

Across Los Angeles County, the largest number of jobs lost were reported for the months of March and April. When comparing the number of jobs added from May through October of 2020 to the number of jobs lost in March and April, we can gain some insight on where the industry stands in its recovery process. The accommodation industry lost over 22,000 jobs between March and April of this year, and only 12.2 percent of the jobs lost have been recovered (Exhibit 111). As of October 2020, the accommodation industry is still 19,400 jobs shy of its pre-pandemic employment level.

The average annual wage in the accommodation industry is \$41,400; more than \$25,000 less than LA County’s average annual wage across all industries of \$67,100



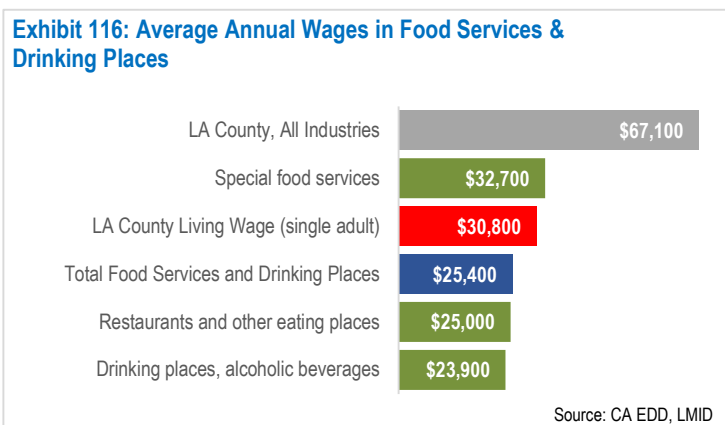
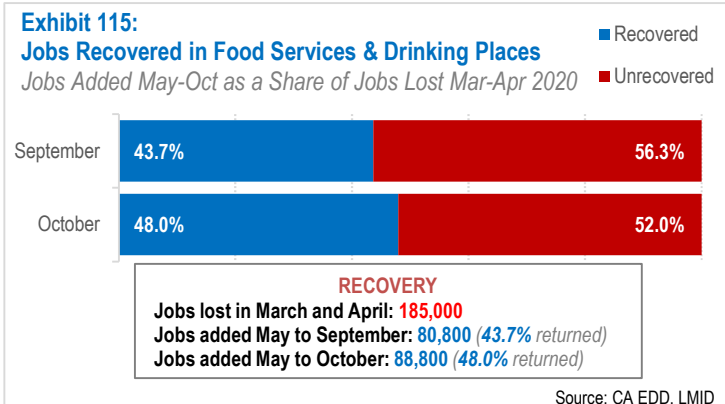
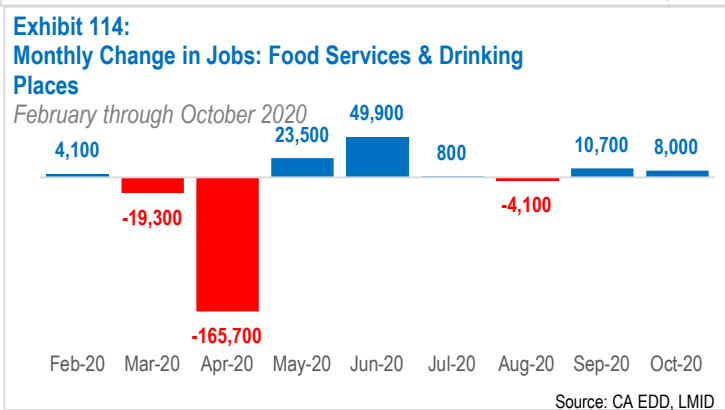
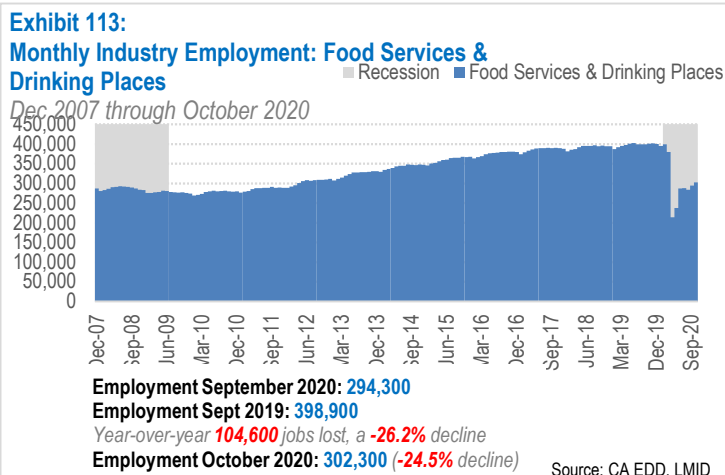
(2019), but \$10,000 above the living wage in Los Angeles County for a single adult (Exhibit 112). Wages of its component industries are mixed, with traveler accommodation having the highest average annual wage (\$41,500) and workers at RV parks and recreational camps having the lowest (\$35,000).

Food Services and Drinking Places

Los Angeles County’s food services and drinking establishments employment from December 2007 through October 2020 is displayed in Exhibit 113. This industry has been subject to severe restrictions including mandated closures for indoor operations. Indoor restaurants and bars were allowed to reopen only briefly before a spike in the number of cases resulted in a second wave of mandated closures and restrictions in late June and early July. Additionally, with state regulations in place restricting outside dining, more jobs are expected to jettison. The continuing restrictions have led to September 2020 employment falling by more than 26 percent year over year, a drop of more than 104,000 jobs. Some jobs returned in the industry while restaurants were allowed to operate outdoors, but employment levels are still well below those before the pandemic (Exhibit 114).

The largest monthly declines in food services and drinking places employment occurred the months of March and April. In early July, the City of Los Angeles released a jobs study that reported the food service industry had shed 75,000 jobs between March and May 2020 in the City alone.²⁶ Reimposed restrictions in July

²⁶ M. (2020). LA Restaurants and Hotels Shed Over 75K Jobs in March and April, With Overall Unemployment at 20 Percent. Retrieved 2020.



impacted the trajectory of recovery, leading to a decline of 4,100 jobs in August. In September and October, jobs in the accommodation industry grew by close to 19,000, but until restrictions ease, it is unlikely for a full recovery to take place (Exhibit 115).

Across Los Angeles County, the largest number of jobs lost were reported for the months of March and April. When comparing the number of jobs added from May through October of 2020 to the number of jobs lost in March and April, we can gain some insight on where the industry stands in its recovery process. The food services and drinking places industry lost over 185,000 jobs between March and April of this year, and 48.0 percent of the jobs lost have since been recovered. As of October 2020, the accommodation industry is still 96,200 below its pre-pandemic employment level.

The average annual wage in the food services and drinking places industry is \$25,400. This is far below LA County's average annual wage across all industries of \$67,100 (2019), and over \$5,000 below the living wage in Los Angeles County for a single adult (Exhibit 5-13). While the special food services industry has the highest wages (\$32,700), restaurants

and drinking places both offer average wages of \$25,000 or below.

Workforce Characteristics

Key Takeaways

- There is a high proportion of workers under the age of 24 in hospitality; this demographic was disproportionately affected by unemployment.
- Nearly half of the hospitality workforce is Hispanic; Hispanic workers accounted for 40.4% of all initial UI claims in the county.

There are several communities that have been identified as high risk for disruption and insecurity during the pandemic, representing a disproportionate share of both confirmed cases and unemployment figures. By looking at the composition of the workforce in the industry going into the pandemic, by race and ethnicity, educational attainment, and age, we can gain insight into the extent of unemployment in this industry and determine how workers have been negatively affected by the pandemic. In this section we profile the demographics of the hospitality industry.

When examining this industry, it is easy to tell that its business closures contributed heavily to unemployment in the county. Hospitality

Occupations Most Impacted in the Hospitality Industry

Each industry is comprised of workers across many occupations. Occupations are grouped according to criteria such as job duties, skills, education and on-the-job training. Based on the occupational composition of this industry, the LAEDC has identified the top-five occupations likely to have been impacted by the pandemic and provides estimates of the change in jobs from February through October of 2020.

1. (SOC 35-3031) Waiters and Waitresses: *an estimated 25,090 jobs lost*
2. (SOC 35-2014) Cooks, Restaurant: *an estimated 13,100 jobs lost*
3. (SOC 35-2011) Cooks, Fast Food: *an estimated 7,830 jobs lost*
4. (SOC 35-2021) Food Preparation Workers: *an estimated 5,550 jobs lost*
5. (SOC 35-3023) Fast Food and Counter Workers: *an estimated 4,930 jobs lost*

provides a large number of jobs at all skill levels, but the majority are low-skill occupations with relatively low wages. Many positions are part-time, and it is common to find workers in the industry who rely upon their hospitality job as a supplemental income or who work multiple part-time positions in order to make ends meet in an area with a high cost of living.

In 2019, the hospitality workforce in Los Angeles County was predominantly Hispanic (48.8%), followed by White (23.2%), Asian (14.9%), and Black (7.2%) employees (Exhibit 5-14). There are a much larger proportion of Hispanic workers in the hospitality industry than in the County workforce at large.

Just under a quarter (24 percent) of the workforce was under the age of 24. Another 25.4% was between 25 and 34 years old, indicating that this industry has a very young workforce compared to other industries.

In terms of educational attainment, just 14.7% of workers in hospitality had achieved a bachelor's degree or higher, while roughly two thirds of the workforce had no college education at all. (Exhibit 118)

In the previous section, it was examined that younger cohorts filed the most unemployment insurance claims in the state since the pandemic began in mid-March. Hispanic workers were heavily affected as well, filing for 40.4% of all initial claims (Exhibit 119). These factors, along with the relatively low skill of many workers in the hospitality industry, left a good number of employees vulnerable to unemployment and layoffs, which can partially explain why job loss has been so severe in accommodations and food services.

Exhibit 117
Age of Workers 2019

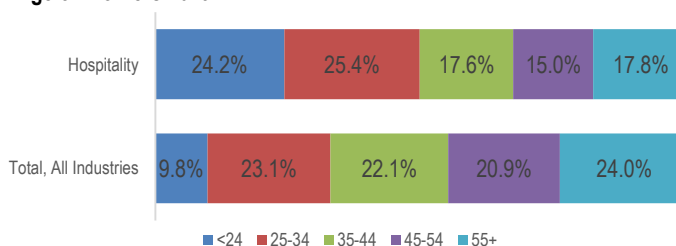


Exhibit 118
Educational Attainment of Workers 2019

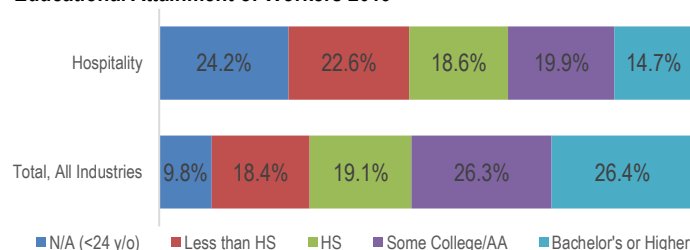


Exhibit 119
Race of Workers 2019

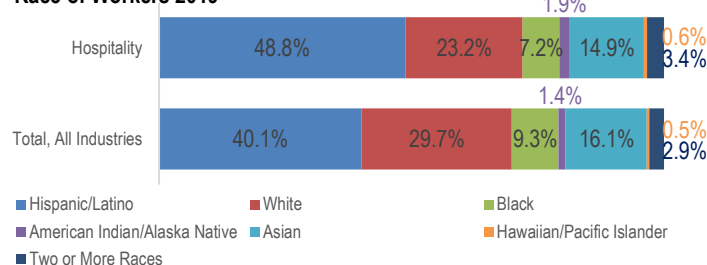
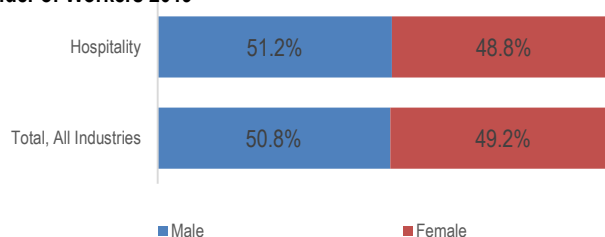


Exhibit 120
Gender of Workers 2019



Arts, Entertainment and Recreation

This industry contains a wide range of entertainment activities, some of which has weathered the effects of the pandemic better while others have been severely damaged. The sector includes establishments involved in producing, promoting or participating in live performances, events or exhibits for public viewing (ex. concert venues and sports arenas); establishments that preserve and exhibit objects and sites of historical, cultural or educational interest (ex. museums and zoos); and establishments that operate facilities which enable patrons to participate in recreational activities (ex. bowling alleys and amusement parks).

Under tier 1 business restrictions, many of these operations remain completely closed, including amusement and theme parks, concert venues and festivals. While sporting events are being held, the lack of in-person audiences removes the majority of gameday jobs meant for spectator interaction such as vendors, ticket agents, and security. Establishments such as museums, zoos and family recreation centers were allowed to operate outdoors only and with strict restrictions until this was reversed in winter as cases rose. As Los Angeles enters potentially the worst chapter of the pandemic yet, the holiday season, these operating limitations may become even more severe.

Current restrictions have been massively damaging for revenues in the arts, entertainment, and recreation industries. The California Association of Museums estimated that museums have been losing over \$22



Source: Hollywood Bowl, <https://dola.com/venues/hollywood-bowl>

million a day statewide and warned that without increased funding or the ability to reopen many would close permanently²⁷.

Even if Los Angeles County manages to progress to lower tiers of risk, theme park and sporting attractions are subject to strict guidelines upon reopening. Venues like Universal Studios Hollywood could reopen at 25% capacity only, while professional live sporting events in the county (such as events held at the new SoFi Stadium) would only be allowed to fill 20% of capacity in the first allowed stage of in-person spectating. Capacity limits would greatly reduce revenue from ticket sales and concessions. Fewer patrons would additionally result in fewer jobs opened to support their experience. Therefore, growth in the arts, entertainment, and recreation industries will likely be slow even after Los Angeles County reaches a lower risk tier.

Industry Employment and Wages

Employment and average wages in arts, entertainment and recreation vary significantly across its component industries. Average wages in a single industry vary across

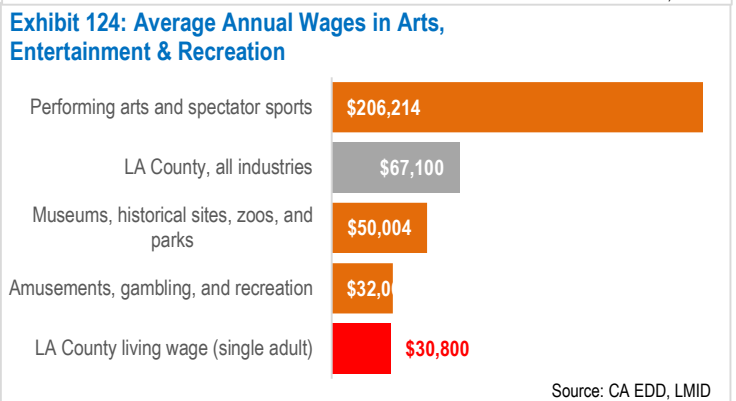
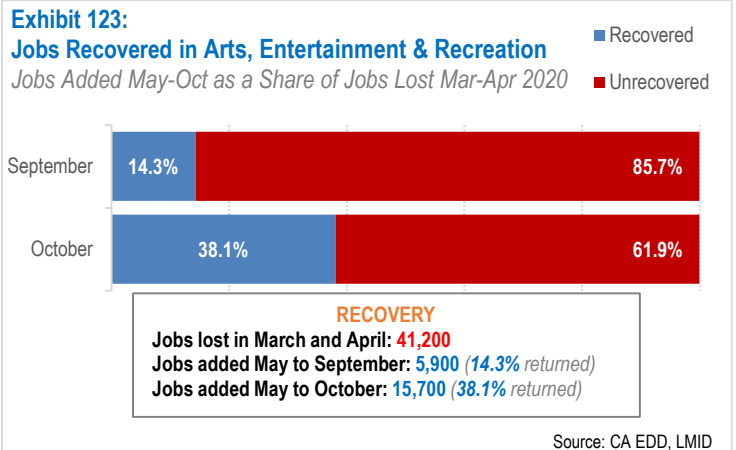
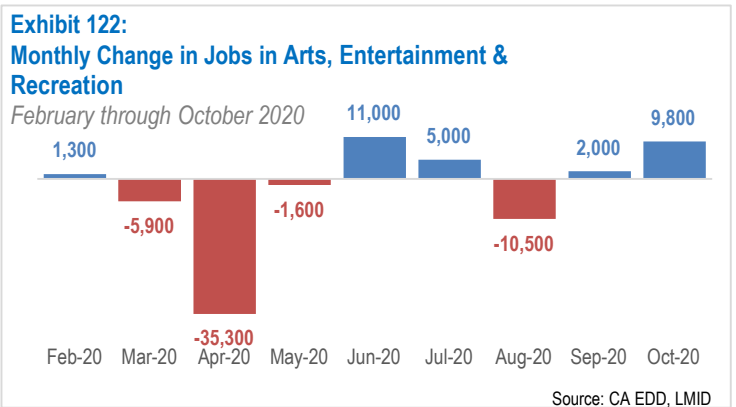
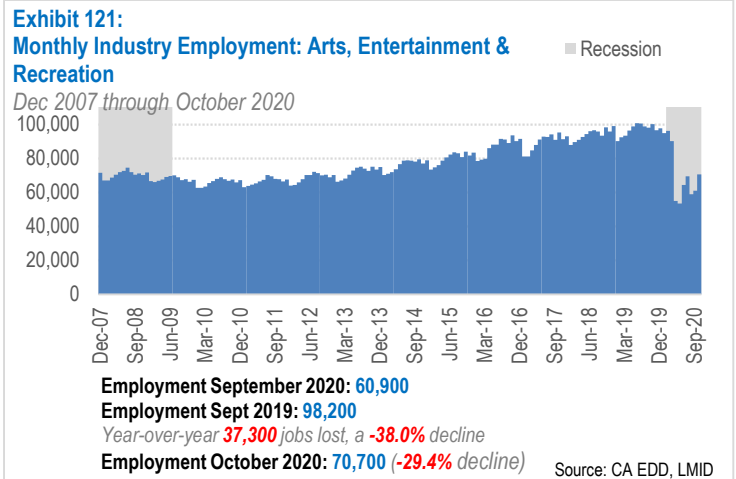
²⁷ COVID-19 Advocacy Efforts & Resources. (2020, April 3). Retrieved November 23, 2020, from <https://www.calmuseums.org/COVID-19>

the different occupations as well, which will be discussed further in Phase II.

Los Angeles County’s arts, entertainment and recreation employment from December 2007 through October 2020 is displayed in Exhibit 121. The continued closure of major industry operations has led to September 2020 employment falling by 38.0 percent year-over-year, with 37,300 jobs lost. The employment levels we are experiencing now in arts, entertainment and recreation during the pandemic are lower than those seen in the Great Recession by over 10,000 jobs.

The largest monthly declines in this industry’s employment occurred the months of April and August. In particular, business closures at the end of March put 35,300 out of work during the month of April (Exhibit 122). Though recovery began over the summer, new restrictions in July due to a resurgent number of daily cases caused a decline of another 10,500 arts, entertainment and recreation jobs in August. In September, jobs in the industry began rising again, but most major operations in this industry remain closed or open at severely reduced capacity in outdoor settings.

When comparing the number of jobs added from May through October of 2020 to the number of jobs lost in March and April, we can gain some insight on where the recovery process stands in this industry. Arts, entertainment and recreation lost over 41,200 jobs between March and April of this year, and only 38.1 percent of the jobs lost have been recovered (Exhibit 123). As of October 2020, the accommodation industry is still 25,500 jobs below its pre-pandemic employment level, which represents over 60 percent of the workers that originally lost their jobs.



The average annual wages across the component industries of arts, entertainment and recreation highly as a result of the high salaries earned by sports teams and musical artists (Exhibit 124). The salaries for low-skill occupations in this industry fall closer to the LA County living wage, well below the average county wage across all industries. There are many low-skill, low wage jobs that have been lost to the pandemic, which will not be recovered until case numbers decline dramatically and some of which will likely never return as operations have closed for good.

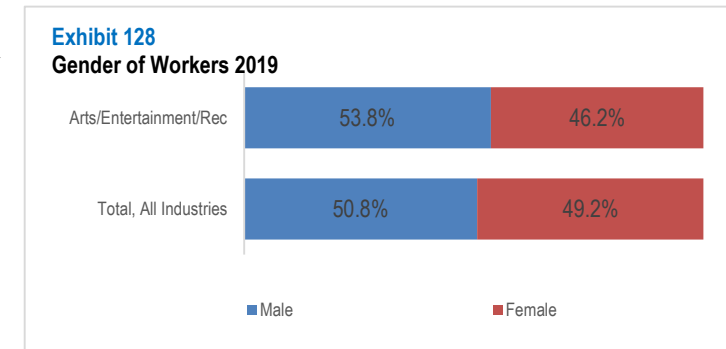
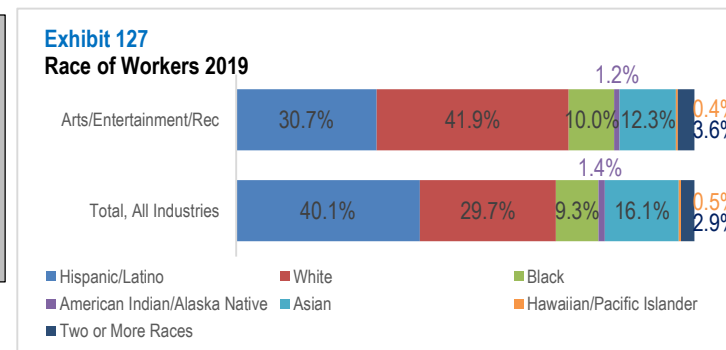
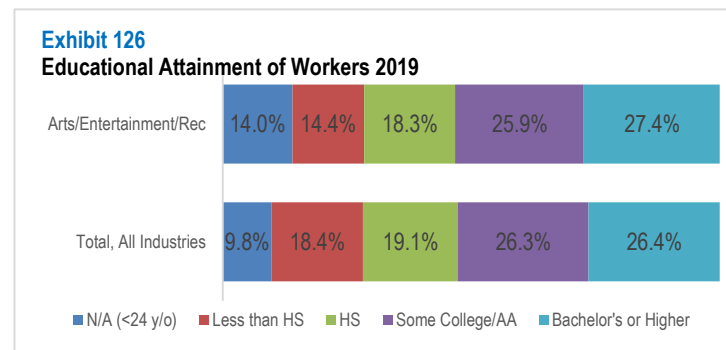
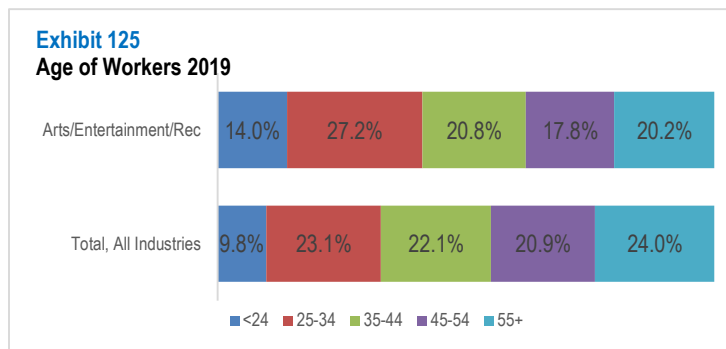
Workforce Characteristics

Key Takeaways

- There are many white workers in this industry, mostly due to the prevalence of this demographic in independent artists.
- The arts, entertainment and recreation industry has a slightly younger workforce than County averages.

Many of the jobs that have been lost in this industry are in low-skill occupations with relatively low wages — vendors, security guards and the like which keep arts and entertainment venues operational day-to-day. This is not to say higher-skilled positions were unaffected. Industry occupations such as business operations specialists and information and record clerks were also affected by the closures, just at a lower rate than their lower skilled counterparts.

In 2019, the arts, entertainment and recreation workforce in Los Angeles County was predominantly White (41.9%), followed by Hispanic (30.7%), Asian (12.3%), and Black (10.0%) employees (Exhibit 127). There are is



a higher proportion of White workers in this industry than in the county workforce at large. This is due to the overwhelming prevalence of White independent artists, writers and performers (NAICS 7115), as this grouping's 9,330 white workers account for 81 percent of the industry. With independent artists, writers



and performers removed, Hispanic workers account for 32.4 percent of the arts, entertainment and recreation workforce while White workers account for 39.2 percent (Exhibit 127).

In this industry, just 46.2 percent of the workforce was female, three percent below the overall county workforce's female

proportion (Exhibit 128). The most common age demographic was between 25 and 34, and the average age of employees was younger overall than the County workforce at large (Exhibit 125). As younger workers were much more likely to file unemployment insurance claims, juveniles in the arts, entertainment and recreation industry likely suffered more job losses resulting from business closures.

Over half of workers in this industry had at least some college education, and just 14.4 percent had less than a high school education; this indicates that the workforce has many higher skilled employees (Exhibit 126). However, most of the jobs that were lost fall at the lower end of the educational spectrum and are unlikely to be replaced soon, particularly with the new business restrictions in place.

Occupations Most Impacted in the Arts, Entertainment & Recreation Industry

Each industry is comprised of workers across many occupations. Occupations are grouped according to criteria such as job duties, skills, education and on-the-job training. Based on the occupational composition of this industry, the LAEDC has identified the top-five occupations likely to have been impacted by the pandemic and provides estimates of the change in jobs from February through October of 2020.

1. (SOC 39-3091) Amusement and Recreation Attendants: *an estimated 3,670 jobs lost*
2. (SOC 39-3031) Ushers, Lobby Attendants, and Ticket Takers: *an estimated 2,400 jobs lost*
3. (SOC 39-3011) Gambling Dealers: *an estimated 930 jobs lost*
4. (SOC 35-3031) Waiters and Waitresses: *an estimated 850 jobs lost*
5. (SOC 37-2011) Janitors/Cleaners, not Maids/Housekeeping Cleaners: *an estimated 820 jobs lost*

Motion Picture and Sound Recording

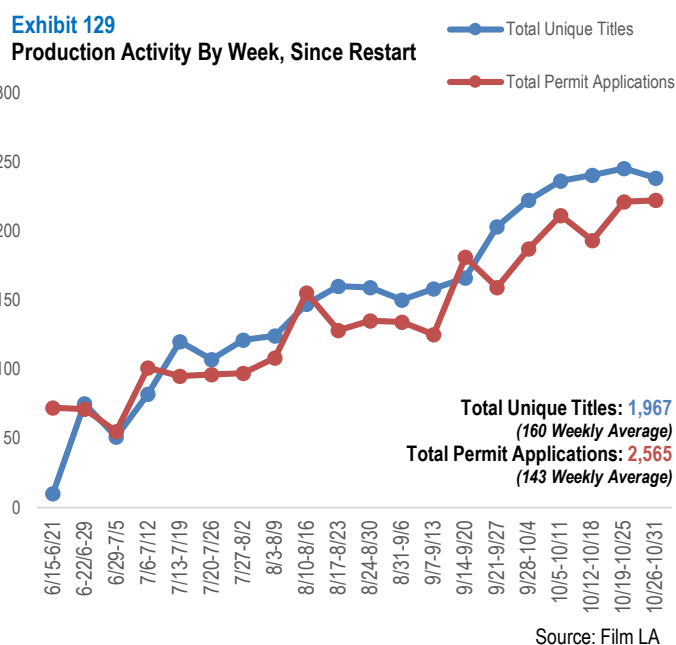
The motion picture industry in Los Angeles County felt the pain for most of the summer, losing tens of thousands of jobs when filming was suspended through the Safer-at-Home orders and remained stalled as productions deliberated how and when to safely return to work. Based on the number of permit applications received in mid-August, we expect to see the recovery start to show in the forthcoming data.

The motion picture and sound recording workforce has a large number of freelancers, self-employed and gig workers. Many of these independent contractors were left relying on unemployment benefits to provide for themselves and their families. Moreover, the sporadic nature of their work prevented a lot of these workers from accessing full PUA benefits. Creative professionals working in unions also struggled, as social distancing requirements and battles between studios and unions about the safest approach to resuming production have left them out of jobs for an extended period of time. These negotiations include the volume of testing required for productions, the appointment of on-site health coordinators, and whether staffers should be paid during a positive case similarly to sick leave or replaced altogether.

However, filming activity is on a path to recovery since the restart in mid-June. FilmLA, the official film office of the City and County of Los Angeles, released statistics in late October showing that it had received 2,565 permit applications encompassing 1,967 unique projects over the last twenty weeks (Exhibit 129). Activity levels have been rising, though they are around 47 percent of the expected total under typical filming conditions.

Advertising accounted for 44 percent of the local permit requests, while television content production represented 25 percent. Feature film production only accounted for four percent of permits.

This leads to another concern for the motion picture industry: backlog of planned shoots. The shutdown of movie theaters has prompted some to hold off on releasing large pictures or released directly to streaming platforms, and the make-up of lost production time at a period where filming was at a high point will inevitably conflict with shoots planned for 2021 and beyond. Studio facilities are expecting a rush for available space and inevitable logjams on production. This could represent a potential opportunity to regain a good amount of lost industry employment in the future, but it is likely that the pandemic’s effects have not been fully felt by the motion picture and sound recording industry.



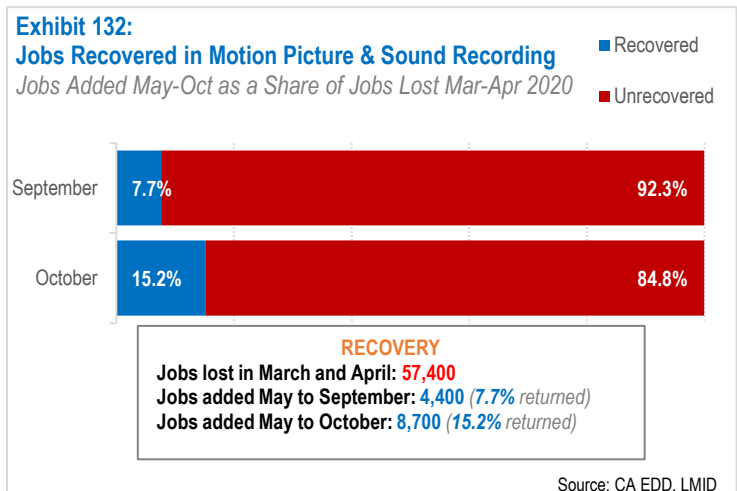
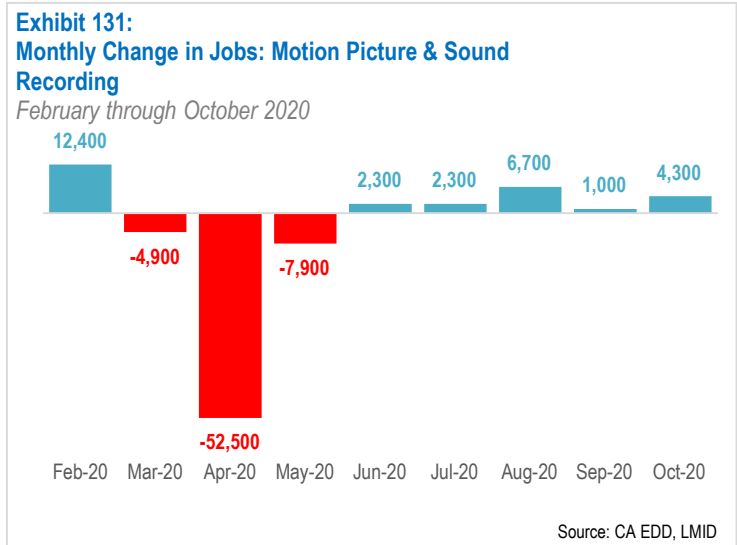
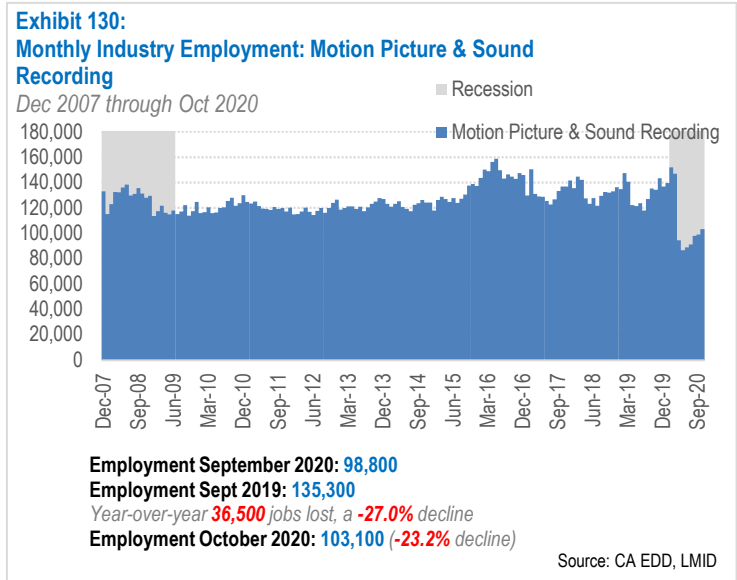
Industry Employment and Wages

To see how the industry has been affected by the pandemic, we examine wage and employment data in motion picture and sound recording.

Los Angeles County’s motion picture and sound recording employment from December 2007 through October 2020 is displayed in Exhibit 130. The effects of the pandemic and resulting stay-at-home orders have led to September 2020 employment falling by 27.0 percent year-over-year, with jobs 36,500 jobs lost. This level of employment is well below figures from the Great Recession, where the motion picture industry in Los Angeles County maintained employment numbers comparable to pre-pandemic levels in 2019.

The largest monthly declines in this industry’s employment occurred the months of April and May. The suspension of productions and projects led to the loss of 52,500 jobs in April, and another 7,900 in the following month. The issuing of film permits restarted in June, which allowed the industry to regain some of the jobs lost in the spring. Hiring slowed again in September as the pandemic dragged on and negotiations on returning to work in the motion picture industry continued.

This paints a grim picture for recovery. When comparing the number of jobs added from May through October of 2020 to the number of jobs lost in March and April, we can gain some insight on where the recovery process stands in this industry. Motion picture and sound recording lost 57,400 jobs between March and April of this year, and only 15.2 percent of the jobs lost have been recovered. As of October 2020, the industry is about 49,000 workers below its pre-pandemic employment level,



with an uncertain timetable on when the recovery of the rest of these jobs can begin.

The average annual wage in the motion picture and sound recording industry is \$130,100, as there are high salaries for many key positions in its component sectors. All of these smaller industries have average wages above the average county wage, some by a high margin. Motion picture and video distribution is prominent at \$192,900 while record production and distribution follows with \$138,600.

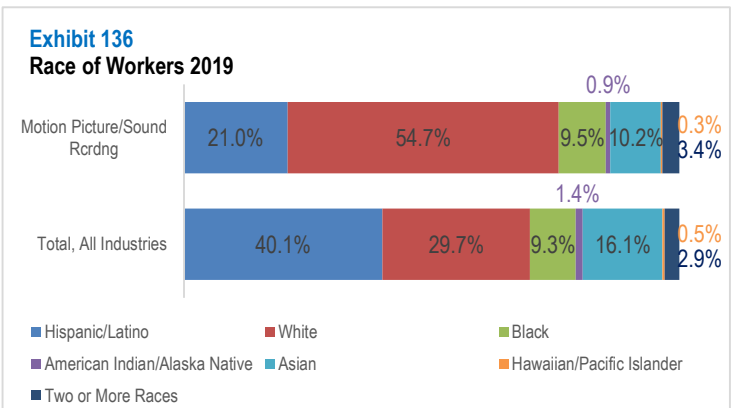
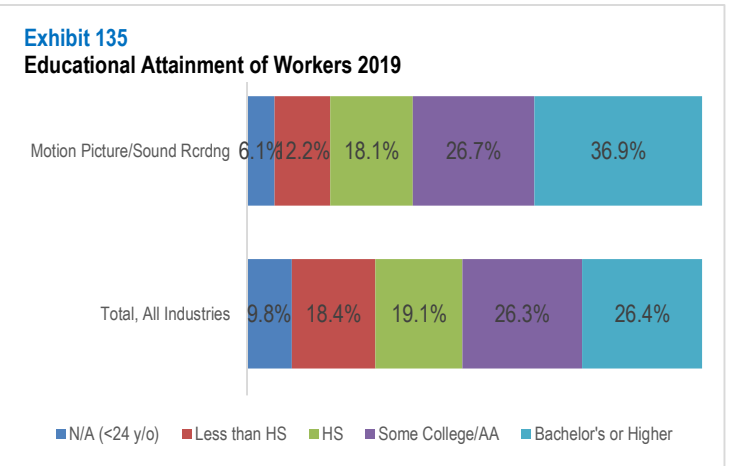
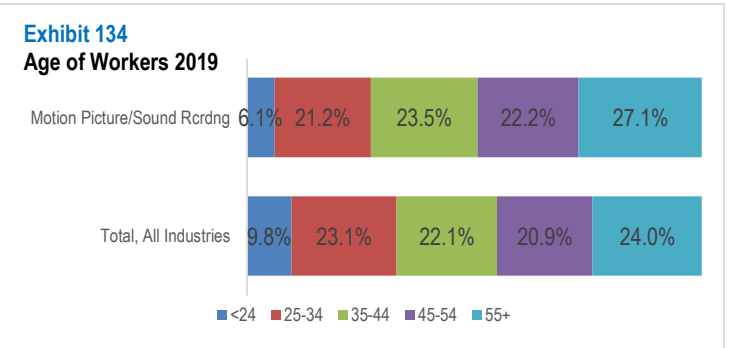
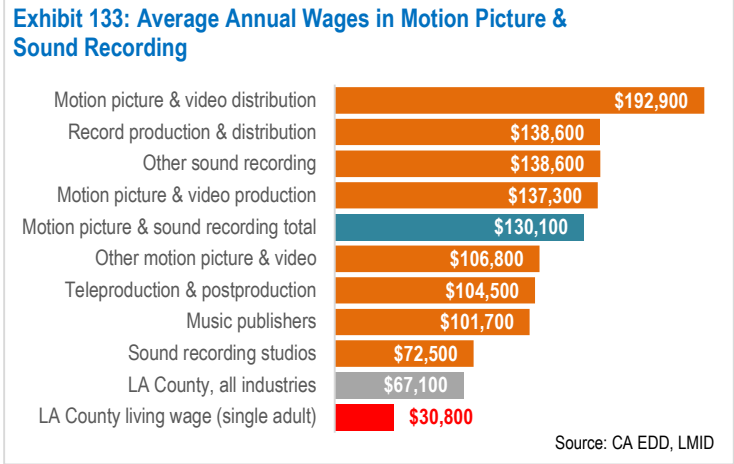
Workforce Characteristics

Key Takeaways

- There are high levels of education in the motion picture and sound recording industry, but this has not prevented many from losing employment.
- Over half of the workforce are White workers, as all other races are not as represented.

In 2019, motion picture and sound recording workforce in Los Angeles County was predominantly White (54.7%), followed by Hispanic (21.0%), Asian (10.2%), and Black (9.5%) employees (Exhibit 136). Nearly 55 percent of workers in this industry are white, which is extremely high compared to their respective proportion across all industries in the County (29.7 percent). Conversely, there were just 21 percent Hispanic workers in the industry compared to their 40.1 percent total representation in the workforce.

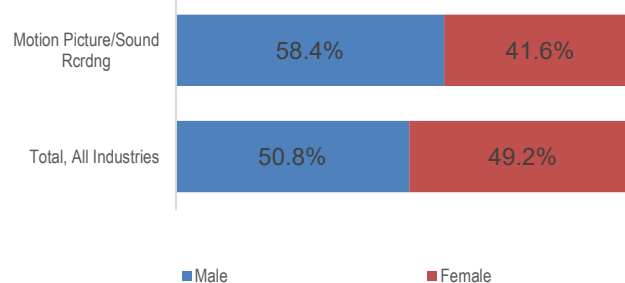
In the motion picture and sound recording industry, the workforce is slightly older than average; nearly three quarters of workers are above the age of 35, and just 6.1 percent were below 24 (Exhibit 134). Education is important to break into this industry for most



employees, as 36.9 percent of workers had a bachelor's degree or higher (in the overall county workforce, just 26.4 percent had achieved this level of education). Another 26.7 percent had some college education or an associate degree, while only 12.2 percent of workers in the industry were over 24 years old and had not completed high school (Exhibit 135). The industry is 58.4 percent male, which is a rather high proportion compared to the county workforce as a whole (Exhibit 137).

One might assume that the relatively older age and higher education of the workforce would lead to less job losses. However, the shutdown of film production affected industry jobs across the entire spectrum of skill and education levels by preventing occupations from director to sound technician from working. It is unclear when activity will return to normal levels, but as long as negotiations

Exhibit 137
Gender of Workers 2019



continue between unions and studios on a safe return to work many will remain out of work.

Furthermore, there are extremely high levels of independent workers in this industry, such as gig workers and independent contractors. These types of workers have struggled due to the shutdown and lack of production activity in Los Angeles County, and many have been forced to file for unemployment benefits.

Occupations Most Impacted in the Motion Picture & Sound Recording Industry

Each industry is comprised of workers across many occupations. Occupations are grouped according to criteria such as job duties, skills, education and on-the-job training. Based on the occupational composition of this industry, the LAEDC has identified the top-five occupations likely to have been impacted by the pandemic and provides estimates of the change in jobs from February through October of 2020.

1. (SOC 27-2012) Producers and Directors: *an estimated 6,600 jobs lost*
2. (SOC 27-2011) Actors: *an estimated 4,660 jobs lost*
3. (SOC 27-4032) Film and Video Editors: *an estimated 2,740 jobs lost*
4. (SOC 39-3031) Ushers, Lobby Attendants, and Ticket Takers: *an estimated 2,340 jobs lost*
5. (SOC 35--3023) Fast Food and Counter Workers -: *an estimated 1,880 jobs lost*

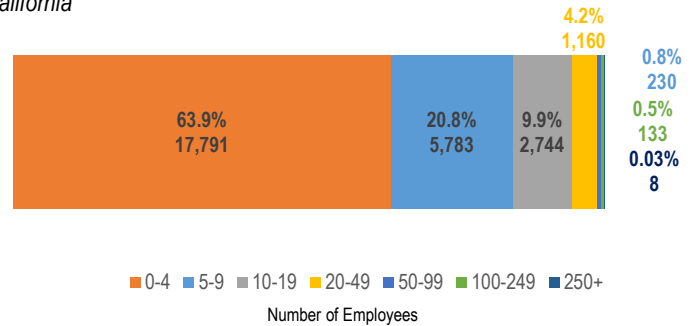
Personal Care and Laundry Services

Personal care and laundry services in Los Angeles County include estheticians, skin care and cosmetology services, tattoo parlors, nail salons, hair salons and barbershops, massage therapy and more. Due to the close proximity between customers and employees in the vast majority of these activities, the personal care industry has faced strict restrictions on operation since the pandemic became widespread in March. Even in November, the maximum occupancy for personal care establishments is limited to 25 percent. Services that require a customer to remove their mask are not permitted and all services must be offered by appointment only.

For the majority of the pandemic thus far, personal care service establishments were unable to operate indoors, but services could not move their operations outdoors. This has forced many businesses, such as barber shops and nail salons, to close entirely. The industry got some relief in October when indoor services were allowed to resume, but this was short lived as late in the following month this was postponed indefinitely.

In an earlier section we noted that businesses with less than 20 employees found it harder to receive funding from the initial Payroll Protection Program, as they were often passed over in favor of larger companies with stronger financial ties. This was quite detrimental for businesses in Personal Care Services, as 94.6% of these establishments in California had 19 employees or less (Exhibit 138). Although they had less employees on payroll, restrictions on foot traffic prevented most from capitalizing on their main source of revenue, and the lack of timely financial

Exhibit 138:
Count of Businesses by Number of Employees,
Personal Care and Laundry Services
California



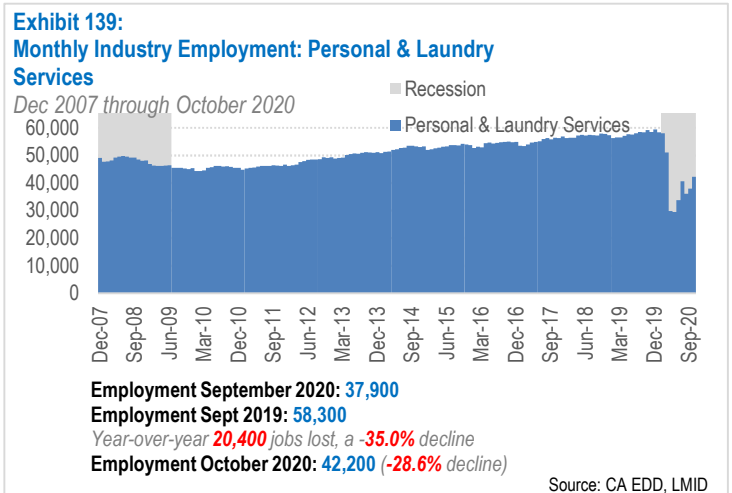
Source: CA EDD

support from the government compounded on these struggles.

Industry Employment and Wages

To see how the industry has been affected by the pandemic, we examine wage and employment data in personal care and laundry services industry.

Los Angeles County’s non-essential retail employment from December 2007 through October 2020 is displayed in Exhibit 139. The effects of the pandemic and resulting stay-at-home orders have led to September 2020 employment falling by 35.0 percent year-over-year, with jobs 20,400 jobs lost. This level of

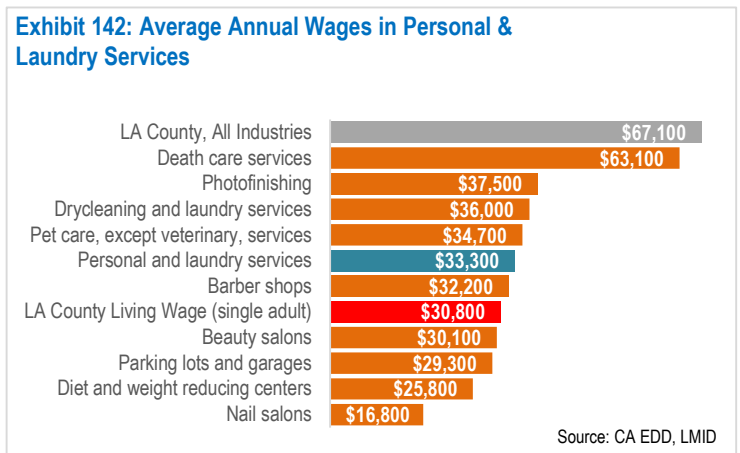
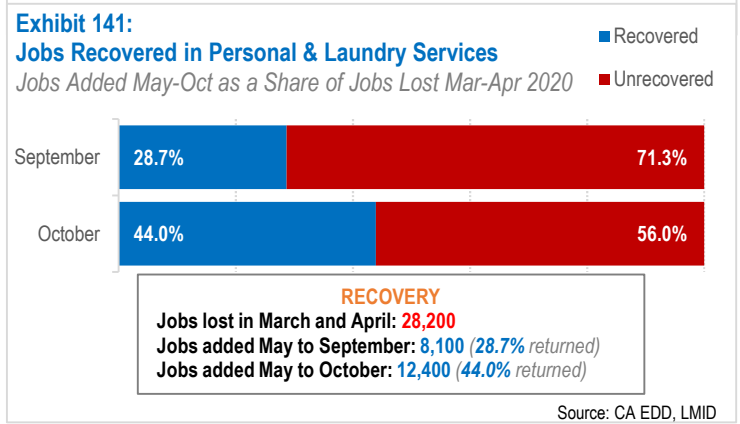
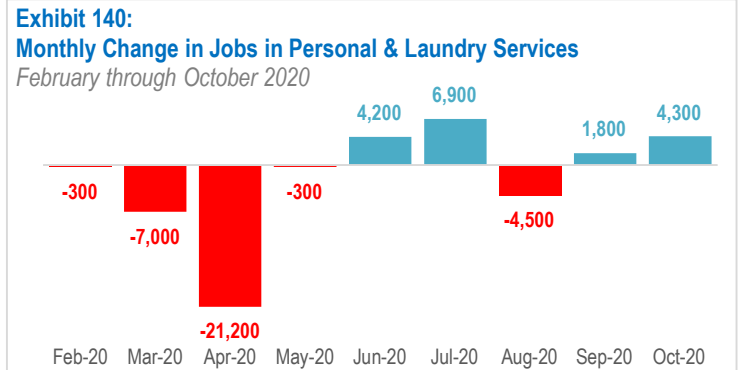


employment is around 20,000 jobs below the figures from the Great Recession.

The largest monthly declines in this industry’s employment occurred the months of March and April, where personal care services lost nearly 28,200 workers in those two months. The industry was able to regain some jobs in June and July as operations were allowed to reopen under steep restrictions, bringing over 11,000 jobs back. Employment has fluctuated in the months since with a slight net gain (Exhibit 140).

When comparing the number of jobs added from May through October of 2020 to the number of jobs lost in the worst months of March and April, we can gain some insight on where the recovery process stands in this industry. Personal care and laundry services lost 28,200 jobs in March and April, and added 12,400 back, meaning that 44.0 percent of the jobs lost have been recovered (Exhibit 141). The economy is still at a net loss of 15,800 jobs.

The average annual wage in the personal care services industry is \$33,260, which is well below the Los Angeles County average wage of \$67,100 and just slightly above the county living wage of \$30,800. Funeral homes and funeral services, as well as cemeteries and crematories, are the two component industries that pay average wages above \$60,000, while employees in barber shops and beauty salons only make just over \$30,000 (Exhibit 142).



Occupations Most Impacted in the Personal & Laundry Services Industry

Each industry is comprised of workers across many occupations. Occupations are grouped according to criteria such as job duties, skills, education and on-the-job training. Based on the occupational composition of this industry, the LAEDC has identified the top-five occupations likely to have been impacted by the pandemic and provides estimates of the change in jobs from February through October of 2020.

1. (SOC 39-5012) Hairdressers/Hairstylists/ Cosmetologists: *an estimated 2560 jobs lost*
2. (SOC 39-5092) Manicurists and Pedicurists: *an estimated 1970 jobs lost*
3. (SOC 53-6021) Parking Attendants: *an estimated 1500 jobs lost*
4. (SOC 31-9011) Massage Therapists: *an estimated 970 jobs lost*
5. (SOC 39-2021) Animal Caretakers: *an estimated 810 jobs lost*

Workforce Characteristics

Key Takeaways

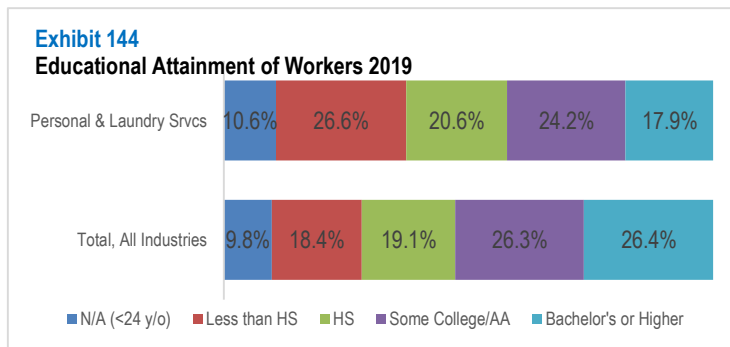
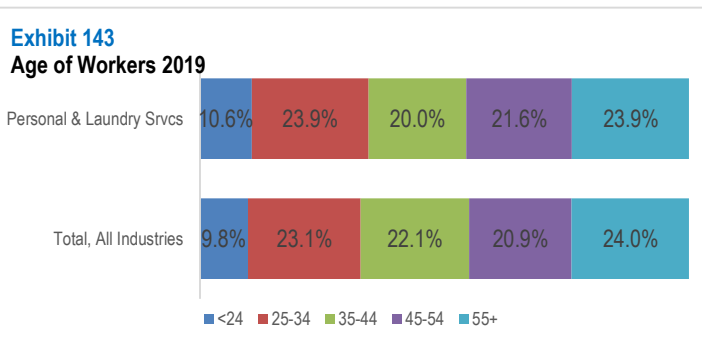
- Many workers in personal care and laundry services have a low level of education, which is contributing to the high level of unemployment during the pandemic.
- There is a much higher share of Asian workers in this industry, over 6% above the county average.

By looking at the composition of the workforce in this industry by race, ethnicity, educational attainment and age, we can determine how this industry has been impacted by unemployment and disruption.

In 2019, the age of the workforce in the personal care and laundry services industry is quite representative of the overall county demographics; 23.9 percent is between 25 and 34 years old, 20 percent between 35 and 44, 21.6 percent between 45 and 54, and 23.9 percent above the age of 55 (Exhibit 143). In terms of education, just 17.9 percent of the workforce had achieved a bachelor’s degree or higher. 26.6 percent of the workforce had less

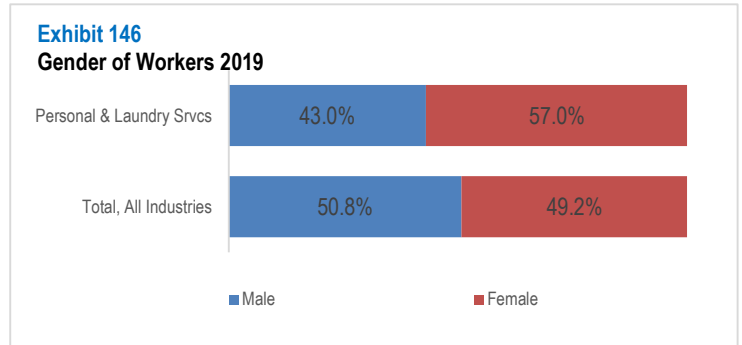
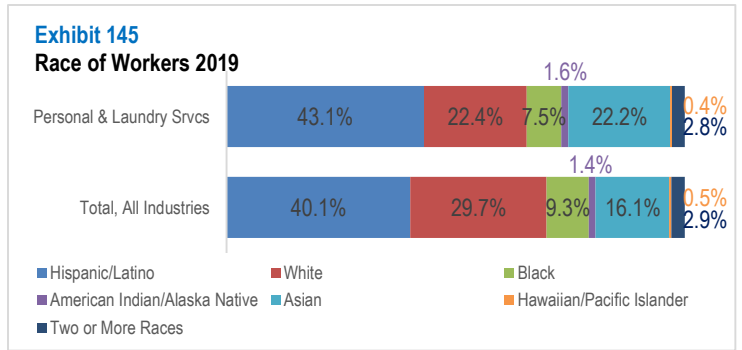
than a high school education and 20.6 percent had finished only high school (Exhibit 144).

The industry is majority female with 57 percent of the workforce. Personal care establishment employees in Los Angeles County are predominantly Hispanic (43.1%), followed by White (22.4%), Asian (22.2%), and Black (7.5%) employees (Exhibit 145). Compared to the overall county workforce,



Asian workers were more common in this industry by 6 percent, and White workers less common by over 7 percent. Nearly a quarter of the Asian American workforce is employed in industries such as restaurants, retail, and personal services like nail and hair salons (Exhibit 145).

Figures from earlier in this report showed that unique unemployment claims from Asian workers with just a high school education were equal to 74.6 percent of that labor force. The personal care and laundry services industry likely played a large role in how this demographic has been affected by the pandemic, as the initial business closures and lack of stable revenue throughout the pandemic has put many out of work. The low levels of education in this industry are concerning during this public health crisis, as it is unlikely that workers who lose their jobs in personal care will be able to transition into more secure higher-skilled occupations elsewhere. These jobs will take a while to return, and many are struggling in the meantime.



Non-Essential Retail

Retail stores that are typically brick and mortar operations rely upon foot traffic as the main source of revenue. These storefronts have struggled mightily in the face of Safer-at-Home orders and business closures in conjunction with consumers’ recessionary spending habits.

Yelp’s September 2020 Economic Impact Report painted a grim picture for the Los Angeles County retail industry, as 7,500 businesses closed permanently since March 1st and another 7,500 were temporarily closed; this was the highest of any United States metropolitan statistical area by far.

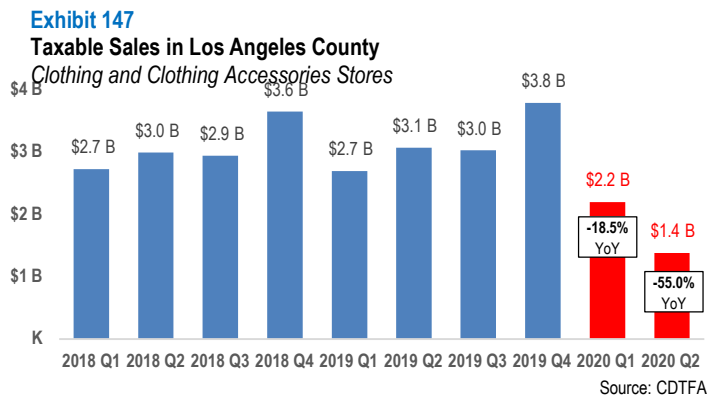
This resulted from a few different factors. Orders for citizens to remain home pushed many away from shopping at traditional brick-and-mortar retailers onto an array of digital platforms. The grim economic situation also caused problems, as disposable income that would have gone towards the non-essential retail industry fell. In response to the economic uncertainty, a tendency for households to save more also drove down consumption.²⁸

Additionally, many of the consumers that would have traditionally frequented shopping malls and in-person retail operations have moved online. Many major brands had already been closing brick-and-mortar retail locations in Los Angeles County, and the pandemic has accelerated this online transition. With businesses unable to sustain themselves in the face of renewed lockdowns and restrictions, it



is likely that many will close up shop for good. It will take time for new businesses to develop and for investors to regain confidence brick and mortar storefronts. Ergo, workers that became unemployed will find that fewer and fewer non-essential retail spaces are looking to hire.

Clothing and clothing accessories stores saw a major decline in taxable sales in the first two quarters of 2020, as year-over-year sales decreased 19 percent in the first quarter and a devastating 55 percent in the second quarter (Exhibit 147). Home furnishings and appliance stores struggled as well, particularly in the second quarter of 2020 where year-over-year



²⁸ U.S. Bureau of Economic Analysis, Personal Consumption Expenditures [PCE], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/PCE>

taxable sales declined almost 32 percent (Exhibit 148). General merchandise stores (which include department stores, warehouse clubs and supercenters) did not fare as poorly, but they still decreased in taxable sales (Exhibit 149). While sales in the first quarter of 2020 were comparable to the year prior, they decreased over 18 percent year-over-year in quarter two.

Certain types of retailers, particularly those that specialize in home upkeep and maintenance, have done rather well given the circumstances. In the building material and garden equipment and supplies dealers industry, year-over-year taxable sales in quarter two actually increased 7.5 percent in 2020, as consumers began spending more time at home. Large retailers that have a large online presence as well, such as Target, Walmart and others, have weathered the pandemic as well. Clothing retailers and smaller establishments have felt the primary economic impacts of the pandemic.

Industry Employment and Wages

To see how the industry has been affected by the pandemic, we examine wage and employment data in the non-essential retail industry.

Los Angeles County’s non-essential retail employment from December 2007 through October 2020 is displayed in Exhibit 5-47. The effects of the pandemic and resulting stay-at-home orders have led to September 2020 employment falling by 22.1 percent year-over-year, with jobs 23,400 jobs lost. This level of employment, dipping to 54,700 at its worst, is well below figures from the Great Recession, where non-essential retail stayed afloat and averaged above 100,000 jobs in Los Angeles

Exhibit 148
Taxable Sales in Los Angeles County
Home Furnishings and Appliance Stores

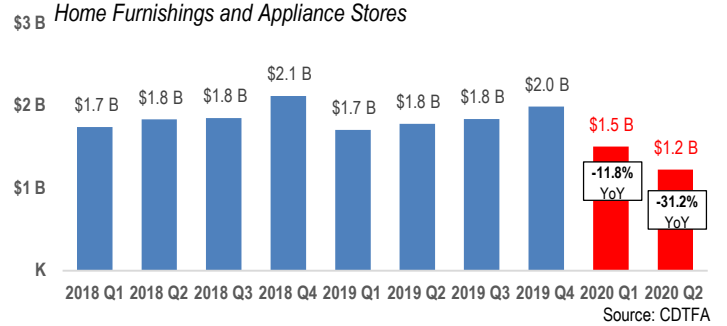


Exhibit 149
Taxable Sales in Los Angeles County
General Merchandise Stores



Exhibit 150:
Monthly Industry Employment: Non-Essential Retail
Dec 2007 through October 2020

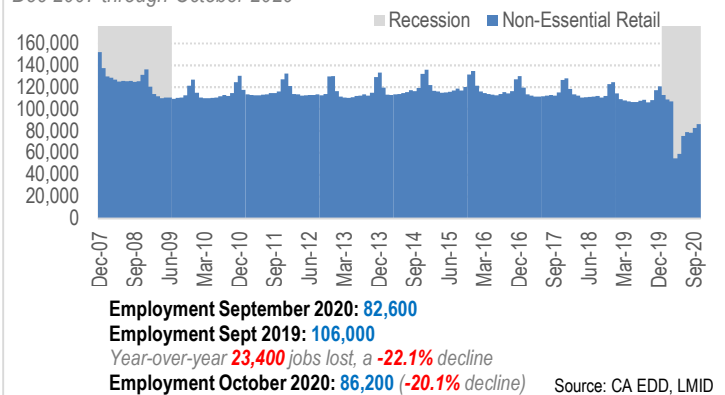
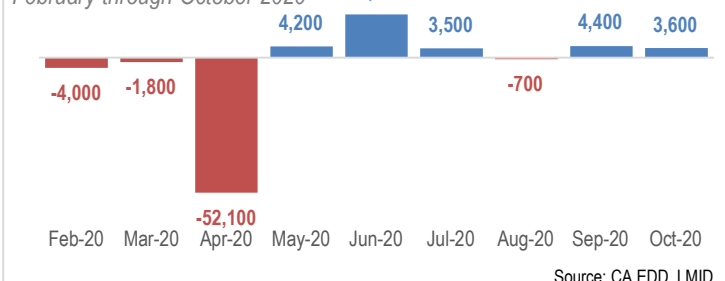


Exhibit 151
Monthly Change in Jobs: Non-Essential Retail
February through October 2020

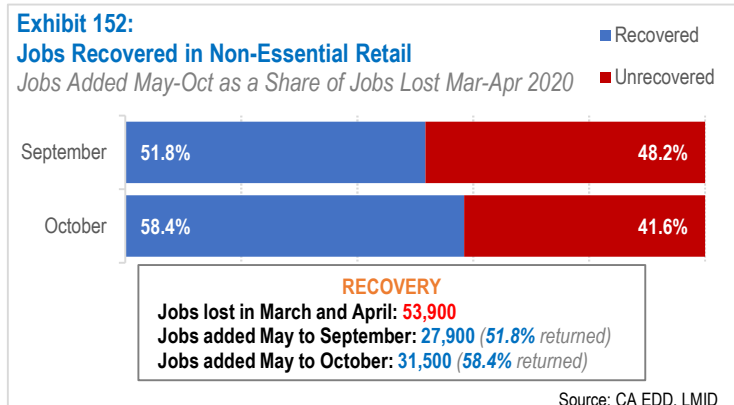


County throughout; it is clear that the unprecedented non-essential retail business closures have had a devastating impact.

The largest monthly declines in this industry’s employment occurred the months of March and April, where non-essential retail lost nearly 53,900 in these two months (Exhibit 151). The reopening process and its provisions for in-person shopping (including mask wearing at all times) allowed storefronts to begin reopening. Some 16,500 workers regained their jobs in June and another 10,800 workers over the four months following.

When comparing the number of jobs added from May through October of 2020 to the number of jobs lost in the worst months of March and April, we can gain some insight on where the recovery process stands in this industry. Non-essential retail lost 53,900 jobs in March and April, and although it has added jobs in five out of the last six months, just 58.4 percent of the jobs lost have been recovered (Exhibit 152). With only 31,500 jobs returning as of September 2020, the industry is about 22,400 workers below its pre-pandemic employment level, and it is still unclear when these lost jobs will return to the County.

The average annual wage in the non-essential retail industry is rather low, ranging from a high of \$40,300 in furniture and home furnishings stores to \$18,100 in department stores. These wages are well below the Los Angeles County average wage, and in some sectors below even the living wage of \$30,800 in the county (Exhibit 153).



Workforce Characteristics

Key Takeaways

- The low educational attainment of many workers in this industry is correlated with the high unemployment rates.
- The workforce is majority female and Hispanic, demographics that have struggled economically during this recession in the County.

In 2019, the non-essential retail industry in Los Angeles County was predominantly Hispanic (46.5%), followed by White (24.4%), Asian (15.4%), and Black (8.3%) employees. Compared to the overall County workforce, Hispanic workers were more common in this industry by about 6 percent, and White workers less common by about 5 percent (Exhibit 156).

In non-essential retail, the workforce is quite young. 22 percent of workers were under the age of 24, and another 25.4 percent between the ages of 24 and 35. In contrast, just 35.2 percent of employees were older than 45 years; by comparison, LA County, 45 percent of all workers are aged 45 and above (Exhibit 154).

The industry is overwhelmingly female, with just 39 percent of the workforce identifying as male. In terms of education, only 16.6 percent of the workforce had achieved a bachelor's degree or higher. Nearly 61 percent of employees were either under 24 years old (thus no educational attainment data having been disclosed) or had a high school education or less (Exhibit 155). When combined with the age demographics, we can tell that non-essential retail has a workforce extremely vulnerable to the employment effects of the pandemic. It has a great deal of young, low-skill workers that have no experience with higher education, often in retail or customer

Exhibit 154

Age of Workers 2019

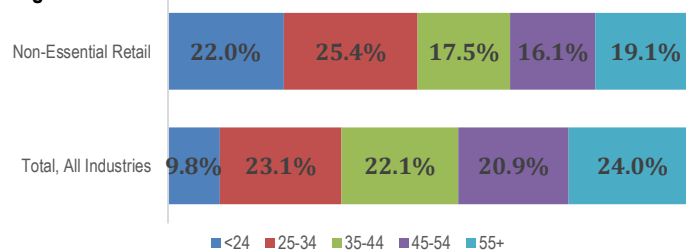


Exhibit 155

Educational Attainment of Workers 2019

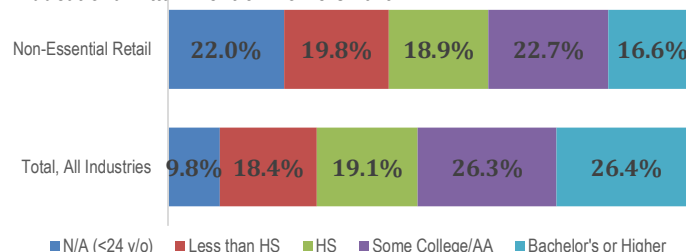


Exhibit 156

Race of Workers 2019

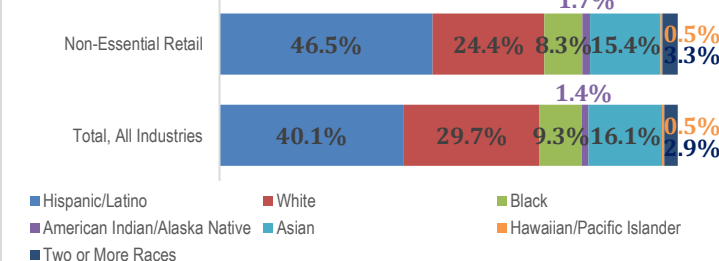
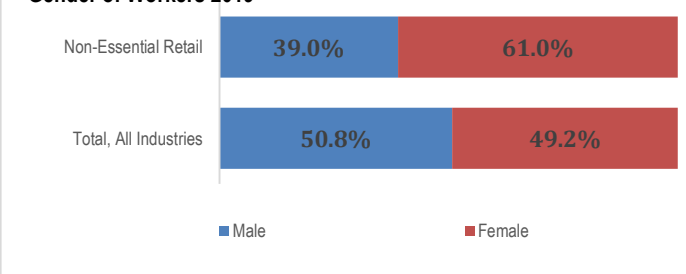


Exhibit 157

Gender of Workers 2019



service jobs that disappeared with business closures in the recent months.

The highest proportions of the workforce by race and gender are also Hispanic and female, which are two demographics that have been most affected by unemployment in Los Angeles County (Exhibit 157).

It is difficult for these types of workers to find employment after losing their initial job, as similar positions in other industries that require the same educational attainment levels and age groups are also likely to remain closed along with non-essential retail. As the high school only educated cohort in Los Angeles County was most likely to file for unemployment insurance benefits, many workers that formerly had jobs in non-essential retail have clearly struggled and will have a difficult time picking up work again in this industry as operations continue to stay closed.



Occupations Most Impacted in the Non-Essential Retail Industry

Each industry is comprised of workers across many occupations. Occupations are grouped according to criteria such as job duties, skills, education and on-the-job training. Based on the occupational composition of this industry, the LAEDC has identified the top-five occupations likely to have been impacted by the pandemic and provides estimates of the change in jobs from February through October of 2020.

1. (SOC 41-2031) Retail Salespersons: *an estimated 10,570 jobs lost*
2. (SOC 41-2011) Cashiers: *an estimated 5,160 jobs lost*
3. (SOC 53-7065) Stockers and Order Fillers: *an estimated 2,430 jobs lost*
4. (SOC 41-1011) First-Line Sups of Retail Sales Workers: *an estimated 2,130 jobs lost*
5. (SOC 11-2022) Sales Managers: *an estimated 500 jobs lost*

Fiscal Impacts of Hardest Hit Industries

A decline in travel and tourism, accommodations and dining services, retail sales and more due to state mandated closures has the state government and local governments seeing significant reductions in tax revenues for parking, transit occupancy, and sales taxes.

Exhibit 158 shows taxable sales data from all retail and food services operations in Los Angeles County from 2018 to 2020. Taxable sales follow a similar cycle in normal years; it is at its lowest in the first quarter of the new year prior to it ramping up to a peak in the fourth quarter due to holiday season. In the last quarter of 2019, this measure reached a high point of \$33.1 billion. While the pandemic did not have a dramatic impact on quarter one of 2020, taxable sales were down \$900 million from 2019 and \$500 million from 2018.

As expected, in the second quarter of 2020 taxable sales tumbled. Taxable sales in retail and food services dropped \$7.3 billion from a year prior, representing a 24 percent decline year-over-year. Taxable sales data in the previous section showed how certain industries in the non-essential retail sector contributed to these declines. In addition, exhibit 159 shows just how damaging the pandemic has been for taxable sales in the food services and drinking places industry. The second quarter of 2020 saw a decline of \$3.3 billion, which accounted for a year-over-year decrease of 51 percent.

The decrease in tourism and travel has also impacted the taxable sales of many enterprises dramatically, such as gasoline

stations. Sales from gasoline stations came out to \$1.56 billion in Los Angeles County in the second quarter of 2020, compared to \$3.29 billion in the second quarter of 2019. This represents a 52.5% decline in taxable sales year-over-year as a result of stay-at-home orders and travel bans keeping citizens confined to their homes.

Sharp revenue declines, in part from these losses, combined with major investment into

Exhibit 158
Taxable Sales in Los Angeles County
Total Retail and Food Services

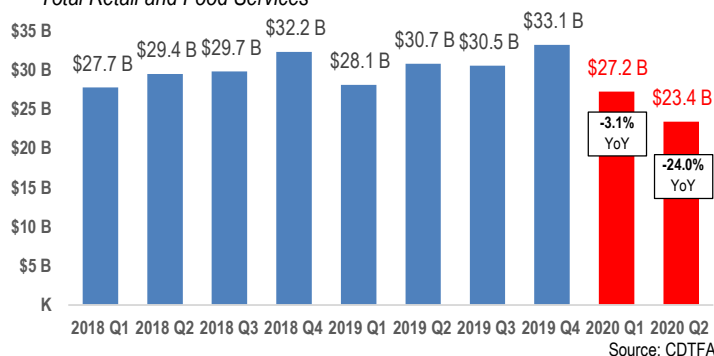


Exhibit 159
Taxable Sales in Los Angeles County
Food Services and Drinking Places

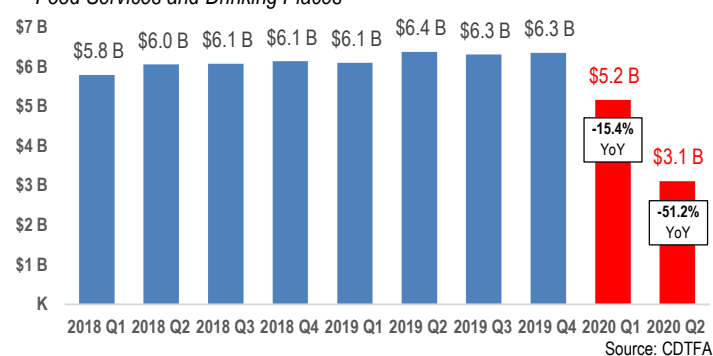
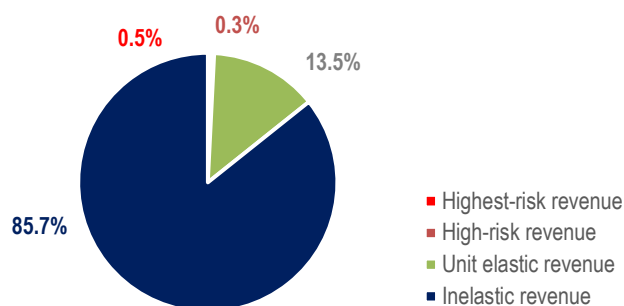


Exhibit 160
Los Angeles County Fiscal Exposure



response and reopening activities has left many governmental bodies in a precarious place. The biggest sources of the decrease this fiscal year are Transient Occupancy Tax and Licenses, Permits, Fees and Fines, which together are reduced by \$110 million, as accommodation demand has fallen by more than 70 percent and city office operations have been largely closed during the crisis. Shut down orders and a lack of tourism have resulted in a fall in sales tax and parking taxes (roughly 2.5 percent and 18 percent, respectively) (Exhibit 160). The Transient Occupancy Tax, which is a tax charged to transient guests in hotels, motels and properties rented through home sharing services, is experiencing over \$60 million in lost revenues for 2020, while sales tax is declining by roughly \$50 million and parking tax is down by about \$26 million. Unless travel and business activity rebound considerably, Los Angeles will continue to experience rough revenues similar to (or worse than) those during the Great Recession from 2008 to 2010.²⁹

LAEDC's earlier report on municipal budget exposure and fiscal vulnerability in the county because of COVID-19 found that roughly 85.7 percent of the county's over \$30 million budget comes from revenue sources considered inelastic and low-risk (for example, property taxes, interest, grants and government transfers)³⁰. Approximately 13.5 percent of this budget comes from fees, fines, forfeitures and charges which is classified as



medium risk. This leaves just 0.8 percent of county general revenue derived from elastic, higher-risk sources like the aforementioned sales, use and transient occupancy taxes.

At the city level, 58 out of the 88 cities in Los Angeles County depend on consumption taxes for 30 percent or more of their general revenues, which is unsurprising for a region bolstered by commerce and tourism. The consumption decrease resulting from the pandemic has negatively impacted the fiscal standing of these cities. Over half of cities in the county rely on property taxes for 30 percent or more of their budget, which represents a more inelastic and safer source of revenue. However, short-run inelasticity can often transform into long-run elasticity, and as the current climate persists, fiscal vulnerability will mount further. For example, grants and transfers may become subject to cutbacks and households and landlords may push for property tax relief, cutting into these seemingly secure revenue streams.

²⁹ Revised Revenue Forecast. (2020). Retrieved 2020.

³⁰ This report can be found at <https://laedc.org/download/51348/>

Threats and Opportunities in Hardest Hit Industries

New cases in Los Angeles reached an unprecedented peak as of mid-November. The County of Los Angeles Department of Public Health reported 4,328 new cases on November 17th, nearly 22 percent higher than the July 13th peak of 3,557 new cases³¹. This recent data is an indicator of the difficulty that lies ahead in the holiday season. Despite the CDC's urging against traveling for the holidays³², many Americans will likely visit loved ones.

COVID-19 testing is currently, as of November 23rd, experiencing dramatically rising demand³³. Those seeking tests are likely doing so due to increased probability of exposure and plans to visit family with a negative test result in hand. With new daily cases on the rise and higher instances of traveling and group gatherings, the rest of the holiday season is likely to be extremely challenging for businesses and individuals alike.

The County of Los Angeles Public Health Department issued a modified Health Officer Order to restrict dining at restaurants, breweries, wineries, and bars effective November 25th, 2020. This modification is the result of the most recent five-day average topping 4,000 new cases. As daily cases increase, lockdown orders are likely to

become more severe to stop the spread of the virus.

With the recent surge of COVID-19 cases in October and November, we expect that the hardest industries in Los Angeles County will continue to struggle in the short-term. Jobs in tourism, retail, food services, personal care and more that were starting to return have been thrown into jeopardy once again due to the prolonged spread of the disease in Los Angeles.

Any additional surges in case numbers stand as a major threat to these industries. Subsequent lockdowns will complicate and lengthen the reopening process. Increasing case numbers will also have longer-term effects. Despite the fact that some businesses have managed to get by with government assistance, each month that cases continue to rise will force more businesses to close down permanently.

Prospects of prosperity remain in spite of the dismal outlook for impacted industries in Los Angeles County. The following sections will outline both threats and opportunities within the five hardest hit industries in Los Angeles County.

Hospitality

³¹ Los Angeles County Department of Public Health COVID Data Dashboard

³² Korn, M., Calfas, J., & McKay, B. (2020, November 19). CDC Urges Americans Not to Travel for Thanksgiving. The Wall Street Journal. Retrieved 2020.

³³ Krouse, S. (2020, November 20). Covid-19 Testing Demand Surges Again, From Thanksgiving Travelers and Rising Infections. The Wall Street Journal. Retrieved 2020.

The hospitality industry, including both accommodations and food services, is highly threatened by lockdown orders from the County. The most recent order, issued 17 County of Los Angeles Department of Public Health. (2020). Public Health to Modify Health Officer Order to Restrict Dining at Restaurants, Breweries, Wineries and Bars Amid Surge in Cases - 5-Day Average of New Cases is 4,097. Listing of department of public health press releases. Retrieved 2020.

November 23rd, will suspend outdoor dining for three weeks beginning November 25th. This does not bode well for food services establishments that are barely holding on even with limited outdoor dining. The largest threat to the hospitality industry remains the lockdown orders issued in response to rapidly rising daily case rates.

The hospitality industry is also dependent on travel and tourism. Travel contractions therefore represent a strong threat. Travel is likely to decline due to government issued restrictions such as curfews, and increasingly negative sentiments stemming from the fear of transmission. The landscape of vacation has dramatically changed, as well. Travelers are more concerned with the safety of their trip. This will likely impact the way people move and the places they stay, preferring private experiences over communal spaces. As a result, some travel services, such as Airbnb and car rentals will fare better than others, such as hotels and airlines.

There will be many new opportunities when operations are allowed to resume, particularly in the recreation and entertainment space. Venues for festivals and other events that have been postponed or cancelled (ex. Coachella, Stagecoach), as well as sports arenas and fields

(such as the newly built SoFi stadium which has yet to house an in-person audience) will need to bring on a large number of new staff to support the events.

Non-Essential Retail

The pandemic has caused online shopping and electronic commerce to become more prevalent. As a result, the need for smaller warehouses and storage facilities for “last-mile” local shipping is rising in necessity. This may provide retailers, particularly storefronts associated with larger brands, with an opportunity to function as both an in-person store and a storage facility working in conjunction with the transportation and logistics industry to coordinate and deliver online purchases.

However, the overarching threat to the retail industry is the accelerated shift of the modern consumer to electronic commerce over traditional brick-and-mortar retail. Storefronts across the country had been closing up shop over the past few years, and the COVID-19 pandemic and its resulting Safer-at-Home orders have reinforced the convenience and efficiency of online shopping compared to traditional retail. It is likely that many of the businesses that closed during this pandemic will have done so permanently. Those that managed to hold on will struggle mightily during the reopening process and after to attract consumers accustomed to avoiding the risks of in-person shopping. As these operations shutter, there will be fewer and fewer jobs left for those who attempt to return to work in this industry.

Motion Picture and Sound Recording

The largest opportunity for this industry lies in the fact that people are consuming more content during the pandemic. Demand for

television, movies, and music is heavily stimulated by lockdowns.

Despite sustained demand for content, traditional revenue channels have been altered by the pandemic. Movie theater box office sales are no longer a viable option to recoup production costs for films. Streaming services have become even stronger during the pandemic, as people are forced to enjoy the most recent media from their own homes. This dynamic explains why feature films are not picking up production at the same rate as television content. According to FilmLA, since the industry restarted in June, 25 percent of local permit requests were for production of television content represents. Only four percent were for feature films³⁴.

COVID-19 safety protocols present a threat to the motion picture and sound recording industry. Production costs are rising as more safety measures are taken to protect workers. The industry is facing slow growth resulting from both the financial and logistical challenges of maintaining a safe working environment for complicated productions. The negotiations between unions and studios about returning to work will play a large role in determining how and when employees in this industry can safely return to work.

Personal and Laundry Services

Personal care services will fluctuate with the course of the virus in Los Angeles County. Unemployment in this industry fell during the summer reopening period, suggesting that consumers are still demanding these services even during times of financial strain and general fear of transmission. This subsector faces opportunities for growth when in-person operations are allowed to continue.

This industry requires a physical closeness between patrons and employees. Rising case numbers pose a massive threat, as these services present a high risk of transmission. Businesses that require person-to-person contact and maintain indoor operations are likely to close once more — a necessary action that would prove fatal for many businesses.

Arts, Entertainment, and Recreation

The arts, entertainment, and recreation industry has been heavily impacted by Safer-at-Home orders. Nearly all subsector of this industry depend on non-essential, in-person operations, which have been largely halted to stop the spread of the virus.

The largest opportunity for this industry lies in the fact that many people have become antsy for stimulus due to the pandemic. As lockdown restrictions were lifted over the summer, unemployment rates in this industry decreased. This effect will likely become more pronounced when lockdown measures are lifted once again.

This upcoming holiday season presents a threat to this industry, however, as case numbers are on the rise. Los Angeles is entering a difficult chapter in the pandemic with unprecedented levels of infection. Although this industry faces high growth potential when in-person operations are permitted, lockdown measures are only going to become stricter in the coming months. Many businesses may not have the means to endure shutdowns during a season that typically brings about stronger revenues.

³⁴ FilmLA Issues Fifth Update on Production Restart Progress. (2020, November 10). FilmLA. Retrieved 2020.

Foot Traffic - Target Industries in Los Angeles County

Section Overview

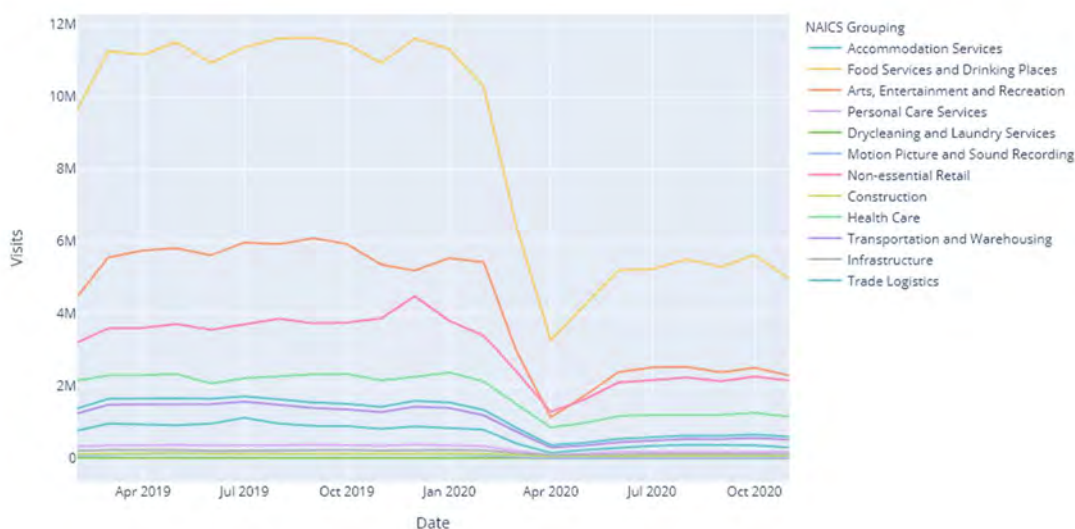
SafeGraph takes individual points-of-interest in the greater Los Angeles region which people visit and tracks daily visitors to these establishments. In our analyses, we broke these establishments apart by North American Industry Classification System (NAICS) Code for a more granular look at inter-industry foot traffic changes. Visits in these selected industries by month are summarized below. These industries will be explained in detail and have their trends analyzed in the present section.

With the SafeGraph data it is important to note these “visits” are not representative of the total number of visits for each industry, just a representative subset to determine trends over time. Per SafeGraph, this data is collected through mobile phone Application

Programming Interfaces (APIs) as well as through Software Development Kits (SDKs)³⁵. While it is not possible to track every visit to each establishment in the Greater Los Angeles Region, the sample SafeGraph provides is more than statistically significant enough to accurately determine trends.

While SafeGraph tracks data regarding business closures, the messy process became nearly impossible with the onset of COVID-19. Per the SafeGraph Places Documentation: “Temporary closures are not captured in open/close tracking, and it became difficult to distinguish permanent closures from temporary closures at the onset of COVID-19”. Additionally, many points of interests do not have reliable enough patterns to “provide the metadata needed to determine opened on or closed on dates”.

Exhibit 161:
Visits by Month for Selected Industries



³⁵ SafeGraph, *Privacy Policy*.
<https://www.safegraph.com/privacy-policy>

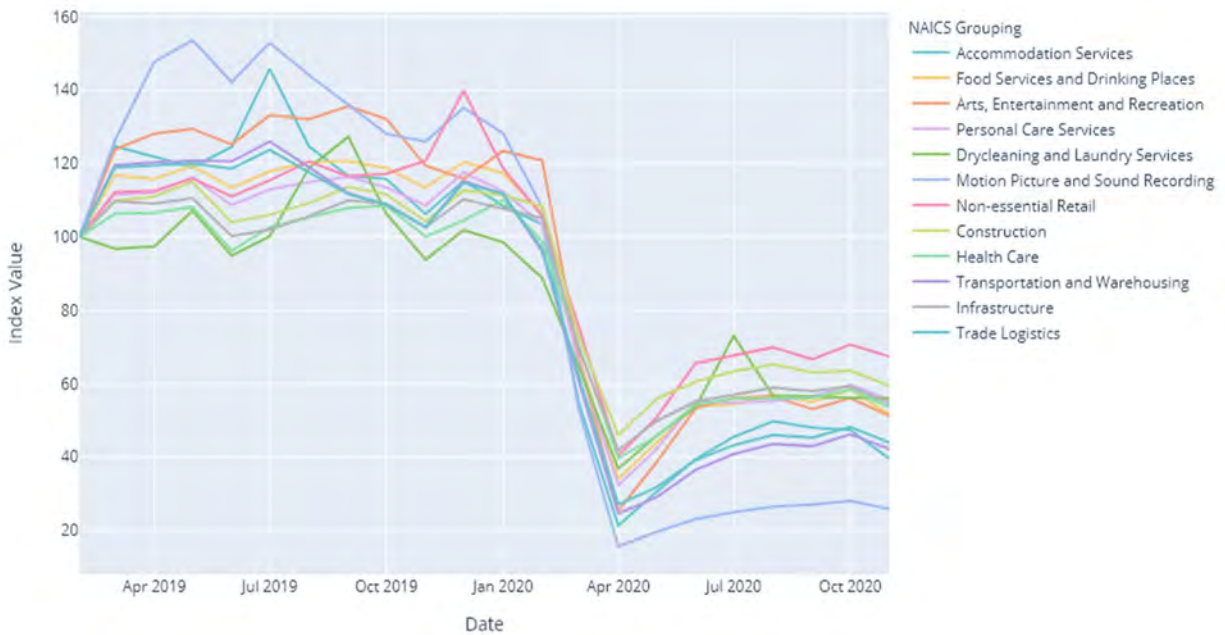
Ergo, defined a metric in which establishments were “temporary closed” in which traffic to the establishment was equal to or less than five percent of the pre-COVID mean foot traffic for seven consecutive days. Days where establishments saw zero patrons were few and far between, even when establishments were temporarily closed. This is resulting from SafeGraph’s tracking mechanism picking up employee’s cell phones or stray signals at nearby businesses. These findings are summarized in exhibit 162 at the industry level.

Aside from the raw industry visit values, foot traffic was indexed with February 2019 as the base month. This allows for intra-industry comparisons relative to each industry’s base value. Exhibit 163 displays the similar trend the analyzed industries faced post-COVID-19 breakout. With these tools, each of the industries have their foot traffic analyzed in the following pages.

Exhibit 162: Key Closure Metrics by Industry

Industry	Establishment-Days with <= 5% Pre-COVID Traffic	Establishments with 7+ Consecutive Days of Closure
Food Services and Drinking Places	272,620	1,320
Arts, Entertainment and Recreation	17,230	750
Non-essential Retail	10,500	480
Health Care	3,870	150
Accommodation Services	3,300	140
Motion Picture and Sound Recording	2,070	90
Personal Care Services	1,820	80
Trade Logistics	890	30
Infrastructure	730	30
Transportation and Warehousing	540	20
Construction	310	10
Drycleaning and Laundry Services	70	-

Exhibit 163
Visits Index by Month for Selected Industries



Accommodation Services

- NAICS 7211: Traveler Accommodation
- NAICS 7212: RV Parks and Recreational Camps

The Accommodation Services Industry provides short-term accommodations for travelers visiting the Greater Los Angeles Region. The subsector (NAICS 721) is split into two groups: Traveler Accommodation (NAICS 7211) and RV Parks and Recreational Camps (NAICS 7212)³⁶. Both industry groupings have been especially hit by COVID-19 as residents both locally and abroad hunker down and avoid travel to remain safe.

The traveler accommodation grouping includes common lodging services such as Hotels (except Casino Hotels), Motels, and Bed and Breakfast places. The top visited places in the traveler accommodation grouping were intuitively dominated by major hotel chains such as Courtyard by Marriott, Best Western, and Hilton International. While not included in the table, smaller motels and bed and breakfasts represented a significant portion as well. Both pre- and post-COVID-19 breakout 98 percent of industry visits were to traveler accommodation establishments.

Recreational Vehicle Parks and Recreational Camps make up a minute portion of the Accommodation services industry. Pre-pandemic these visits represented approximately 1.03 percent of industry visits during the pandemic these visits represented 1.36 percent.

As explained in the previous phases, the accommodation services industry has been hit especially hard economically by COVID-19,

³⁶ Rooming and Boarding Houses (NAICS 7123) are not tracked by SafeGraph and thus are not included in the analysis

³⁷ Flock, Jeff. 2020. "Hotels Are Tapping Into Work-From-Home, Transforming Rooms Into Office Spaces". Fox Business. <https://www.foxbusiness.com/lifestyle/covid-19-hotels-office-space>.

Exhibit 164: Top Accommodation Services Industry Points-of-Interest in the Greater Los Angeles Region

#	<u>Traveler Accommodation</u>	<u>RV Parks and Recreational Camps</u>
1	Courtyard by Marriott	Shell Vacations Club
2	Best Western	Serenity Surgical Recovery
3	Hilton International	Sunset Vista Camping
4	Marriott Hotels	Waterfront RV Park
5	Motel 6	Orangeland RV Park

with foot traffic data falling by approximately 79.1 and 59.87 percent for the traveler accommodations and RV parks and camps respectively from April 2019 to April 2020. Hotels around Los Angeles have tried numerous pivot strategies to repurpose their structures including transforming hotel rooms into office space³⁷ as well as housing homeless³⁸. While these attempts did not bring industry visits back to their pre-COVID levels, in conjunction with increased travel the industry saw a rise in visits of 50 percent from April 2020 to December 2020.

As seen by Exhibit 165, July was the most popular month for accommodation services in both 2019 and 2020. While travel is popular in the Winter, many holidaymakers stay with family and friends leaving these lodging establishments quieter than the hectic summer months. While hotels did see an uptick in July of 2020, the rate of occupation was nearly 35 percent of the prior years.

The Traveler Accommodation segment saw 137 establishments closing in the Greater Los Angeles Region for 7 or more days during the COVID-19 pandemic. Overall, these establishments closed, either temporarily or permanently, for a total of 3,226 establishment-days. RV Parks and Recreational Camps saw three of the 82 establishments tracked temporarily or permanently closing. Overall, there were 69

³⁸ Kendall, Marisa. 2020. "Federal Funding Extended For California's COVID Hotel Program". Mercurynews.Com. <https://www.mercurynews.com/2020/12/18/fema-to-fund-californias-project-roomkey-hotels-until-covid-crisis-ends-newsom-says/>.

Exhibit 165:

Visits by Month for the Accommodation Services Industry
(Naics Codes: 7211, 7212)



establishment-days of pandemic related closures in the industry. The lack of closures in recreational vehicle parks and recreational camps follows state and local guidelines as these areas can stay open during the stay-at-home order³⁹. Additionally, lack of enforcement prevents effective shutdown of these campsites.

Deloitte foresees four industry scenarios which are most likely in the recovery of the travel and accommodation industries⁴⁰. Titled “The Passing Storm”, the first scenario is denoted by a relatively ephemeral pandemic marked successful vaccines or successful social distancing. In this state, accommodation services would recover quickly in the coming years as both travelers and workers feel safe returning to their pre-COVID-19 routines.

The second and third scenarios titled “The Good Company” and the “Sunrise in the East” see a slightly prolonged pandemic in which large companies become key to the solution through seeking partnerships with accommodation companies. The former concludes increased globalization will result from these partnerships so long as COVID-19 can be contained in the western world whereas the latter positions that these relationships will be built in Asia as the western world fails to adequately contain the coronavirus.

The final and grimmest scenario projects a permanent decline in travel and accommodation resulting from the lack of control over COVID-19. Titled “Lone Wolves” the state sees travel centered around local and regional destinations which require little to no planning. In this scenario, many

³⁹ “COVID-19 INDUSTRY GUIDANCE: Campgrounds, RV Parks, Ski Operators, And Other Outdoor Recreation”. 2020. Files.Covid19.Ca.Gov. <https://files.covid19.ca.gov/pdf/guidance-campgrounds-outdoor-recreation--en.pdf>

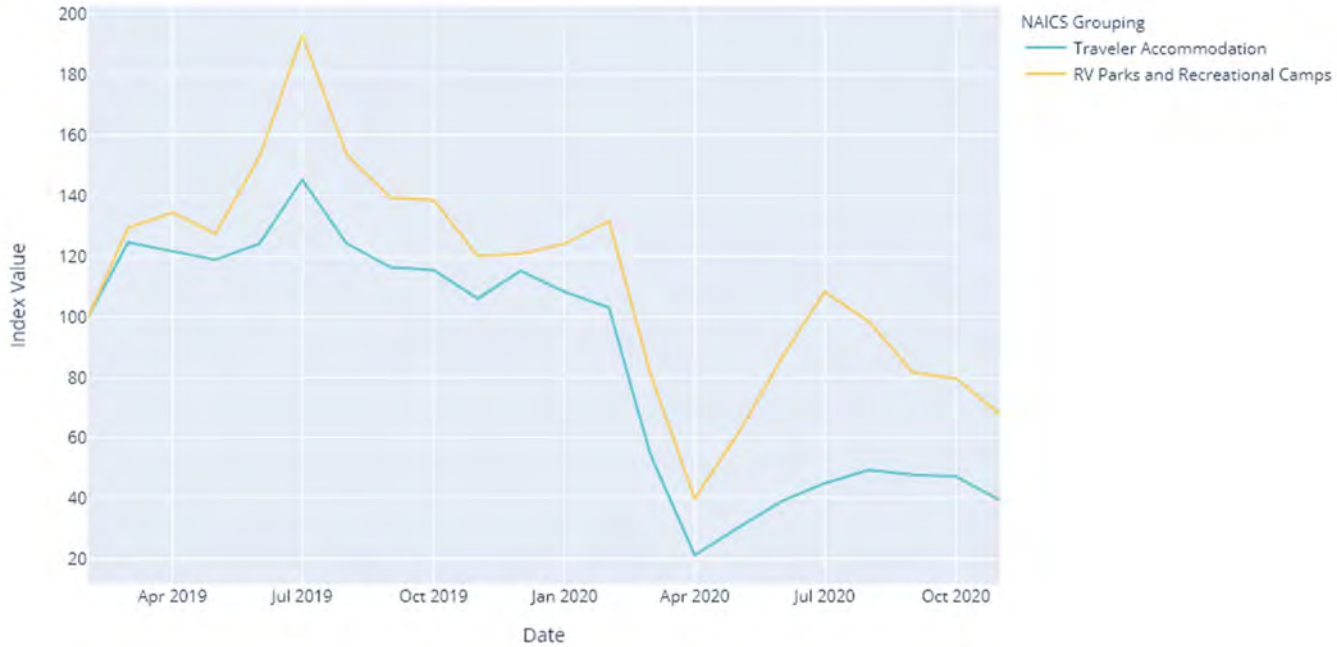
⁴⁰ Bowman, Karen, Eileen Crowley, and Ramya Murali. 2020. “The World Remade By COVID-19 For Travel And Hospitality |

Deloitte Global”. Deloitte. <https://www2.deloitte.com/global/en/pages/about-deloitte/articles/covid-19/the-world-remade-by-covid-19-for-travel-and-hospitality.html>.

accommodation services institutions would

Exhibit 166:

Visits Index by Month for the Accommodation Services Industry
(Naics Code: 7211, 7212)

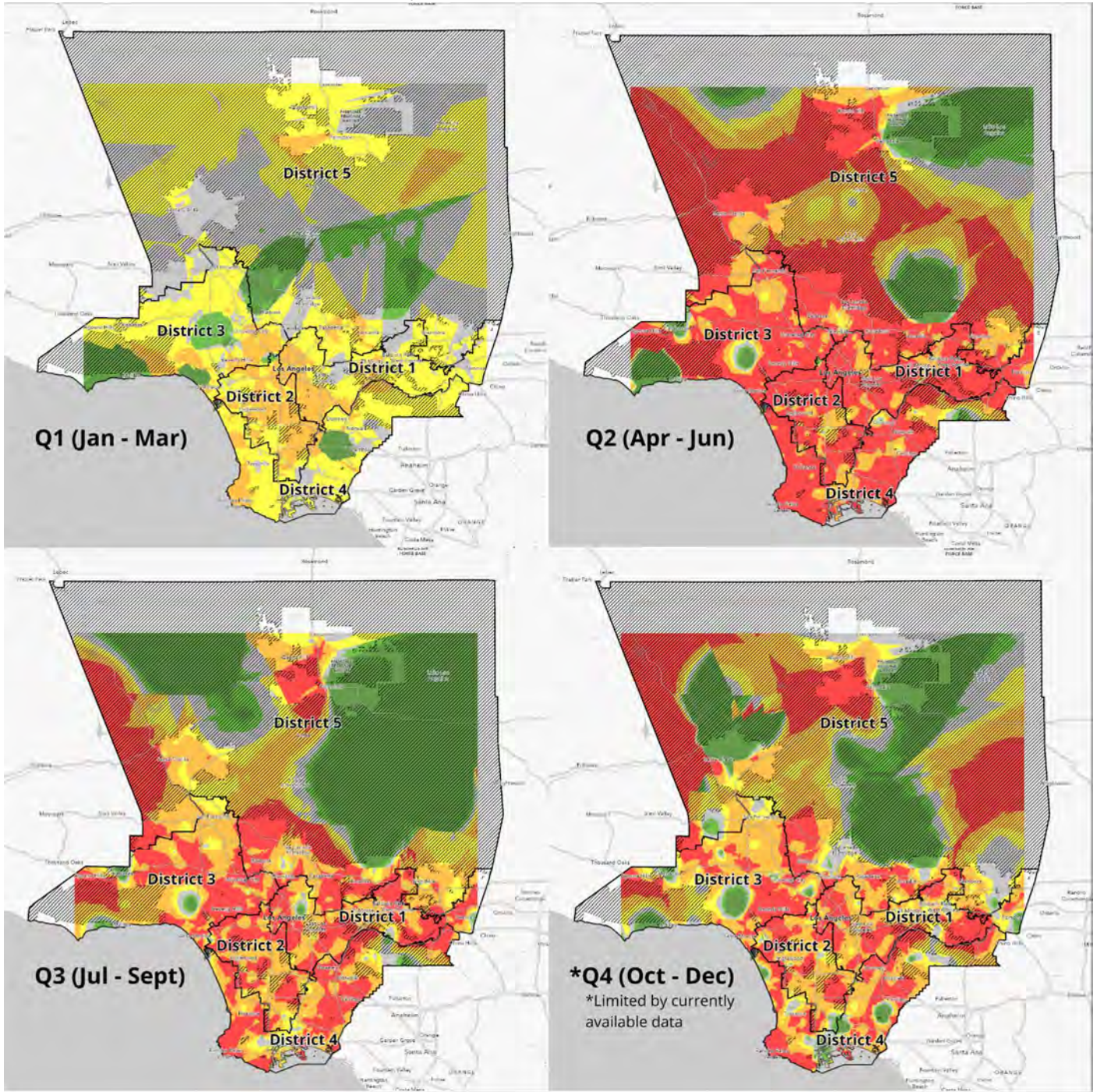


shut their doors permanently.

As seen in Exhibit 166, after April 2020, RV parks have a stronger recovery relative to the traveler accommodation grouping. Indeed, during July 2020, RV parks see more visitors than the base month of February 2019. The former of the two industry groupings also saw a slight summer peak, but with many national international travel restrictions in place, visits to these establishments were far weaker than one year prior.

When looking at the Greater Los Angeles Region specifically, stringent COVID-19 measures have been taken to ensure traveler safety. Major attractions such as Disneyland, Dodger and SoFi stadiums, and the LACMA have yet to reopen. Should the accommodation services industry recover in adequate time, Deloitte’s first scenario would need to transpire. Should this not be the case, a lengthened pandemic will cripple the already weakened accommodation services industry.

Exhibit 167:
Accommodation Services Foot Traffic Mapped by Quarter



Accommodation Services

	<p>Annual Percent Change in Foot Traffic:</p> <p> -50 -25 -10 10 25 % </p> <p> ≥ Between ≥ -10 - 10 </p>	<p> Supervisorial Districts County Unincorporated </p>	<p><small>County of Los Angeles, Eric HERR, Gábor Székely, FAC, METNUSA, UNRS, Bureau of Land Management, EPA, NPS, SafeGraph</small></p> <p><small>This map is for graphical purposes only; unrepresentative of a legal survey. While intensive effort has been made to ensure that data sources are accurate and reliable within the limits of current technologies, the LAEDC cannot assume liability for any damages caused by any errors or omissions in this data, nor as a result of the failure of the data to function in a particular capacity. LAEDC makes no warranty, expressed or implied, nor does the fact of distribution constitute such a warranty.</small></p> <p><small>Open Last Updated: 1/23/2020 GS contact: Jakob P. Larson</small></p>
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Food Services and Drinking Places

- NAICS 7223: Special Food Services
- NAICS 7224: Drinking Places (Alcoholic Beverages)
- NAICS 7225: Restaurants and Other Eating Places

The Food Services and Drinking Places subsector (NAICS 722) prepares snacks, beverages, and meals for customers to consumer immediately on-premises and off-premises. This industry sector is split into three groups: Special Food Services (NAICS 7223), Drinking Places (Alcoholic Beverages) (NAICS 7224), and Restaurants and Other Eating Places (NAICS 7225). These groupings have been devastated by the stay-at-home order and social distancing required for patron safety. Regulations intended to stop the spread of the virus have focused on the restrictions of Food Services and Drinking Places, as these businesses can be conducive to transmission. Many establishments could reopen with outdoor dining under capacity restrictions over the summer. This relief was short-lived, however as daily cases in November and December have dwarfed those from the spring and summer. Thus, Food Services and Drinking Places are once again forced to halt all on-premises services⁴¹.

Special food services consist of food service contractors, caterers, and mobile food services. The most visited businesses in this sector, shown by Exhibit 168, are event caterers that provide contract-based services for clients' events.

These special service providers made up a small portion of the NAICS 722 subsector visits both pre- and post-COVID-19. Caterers, contractors, and mobile food services represented only 1.11 percent of Food Services and Drinking Places visits prior to the pandemic, and 1.05 percent

after. This group experienced a 69 percent decline in visits from April 2019 to April 2020,

Exhibit 168: Top Food Services and Drinking Points-of-Interest in the Greater Los Angeles Region

#	<u>Special Food Services</u>	<u>Drinking Places (Alcoholic Beverages)</u>	<u>Restaurants and Other Eating Places</u>
1	Studio Catering	Studio Bar	Starbucks
2	Park Catering & Events	Dave & Buster's	McDonald's
3	Arry's Sweetness	189	Subway
4	Rosies Party Treats	The Lobby Bar & Lounge	Jack in the Box
5	Tropicana Bakery & Cuban Cafe	Everson Royce Bar	In-N-Out Burger

which continued to contract by 3.09 percent from April to December 2020 (Exhibit 17-9).

Drinking places (alcoholic beverages), including bars, night clubs, and locations that sell alcoholic drinks to be consumed on premises, made up 5.45 percent of the total visits to businesses in the NAICS 722 prior to the pandemic. The three top establishments in the Greater Los Angeles region, as shown by Exhibit 5-8 are centered around popular Los Angeles bars, with the addition of the Dave and Buster's chain. The number of visits to drinking places fell by 79.45 percent from April 2019 to April 2020 and increased by 49.81 percent from April to December 2020. The share of visits to these industries has fallen to 4.91 percent post-COVID.

Restaurants and other eating places (NAICS 7225) include full-service and limited-service restaurants, cafeterias, grill buffets, buffets, and snack and nonalcoholic beverage bars. This industry is unsurprisingly dominated by convenient fast-food chains such as Starbucks, McDonald's, and Subway in Los Angeles (Exhibit 168). Drive-through restaurants have likely

⁴¹ Wigglesworth, Alex. *Stay-at-Home Order Will Be Imposed in Southern California and San Joaquin Valley*. 5 Dec. 2020,

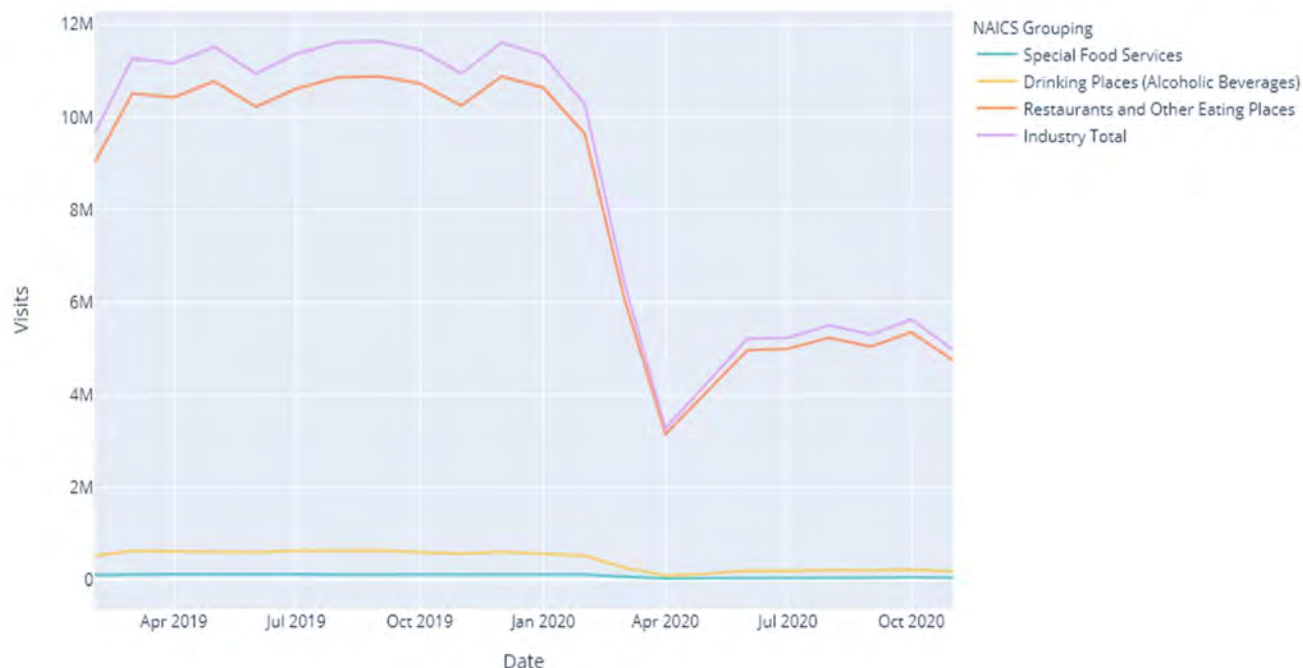
www.latimes.com/california/story/2020-12-05/la-me-coronavirus-stay-home-order-sunday-southern-california-covid-19-highs.

gained in popularity throughout the pandemic as customers avoid person-to-person contact.

Special food service businesses saw 1 year of establishment closure dates during the COVID-19 pandemic. Sixteen companies saw

Exhibit 169

Visits by Month for the Food Services and Drinking Places Industry
(Naics Codes: 7223, 7224, 7225)



As shown by Exhibit 169, restaurants and other eating places accounted for 93.44 percent of visits to the NAICS 722 subsector prior to the pandemic. These establishments experienced a decline in visits of 65.34 percent from April 2019 to April 2020, and an increase of 36.48 percent from April to December 2020. Currently, this industry accounts for 94.04 percent of the total visits to food services and drinking places.

temporary closures of 7 days or longer. A similar pattern was examined in the drinking places industry grouping, in which businesses were estimated to be closed for a combined 3,970 establishment-days. One-hundred and seventy-eight of these drinking establishments saw seven or more consecutive days of business closures. Certain drinking establishments have begun to serve food outdoors and/or serve cocktails to go to reel in customers.

Restaurants and other eating places have experienced an increase in their share of foot traffic despite contractions in total visits to the NAICS 722 subsector. This is a result of Safer-at-Home orders prohibiting large gatherings and on-premises dining and drinking. Restaurants and other eating places have could maintain take-out and delivery orders despite virus management. Special food services and drinking places, on the other hand, are not as easily able to maintain operations with these restrictions.

Out of the three industry groupings NAICS 7225, Restaurants and Other Eating Places, fared the worst. In the Greater Los Angeles Area, restaurants saw 5 percent or less than their pre-COVID mean foot traffic a total of 26,830 establishment days. Additionally, 1,130 restaurants closed either temporarily or permanently for 7 or more days. The overwhelming majority of these closures were in the six-digit NAICS grouping 722511, Full-Service Restaurants. Fast food restaurants saw

a decrease in foot traffic but did not experience this to the degree of full-service restaurants.

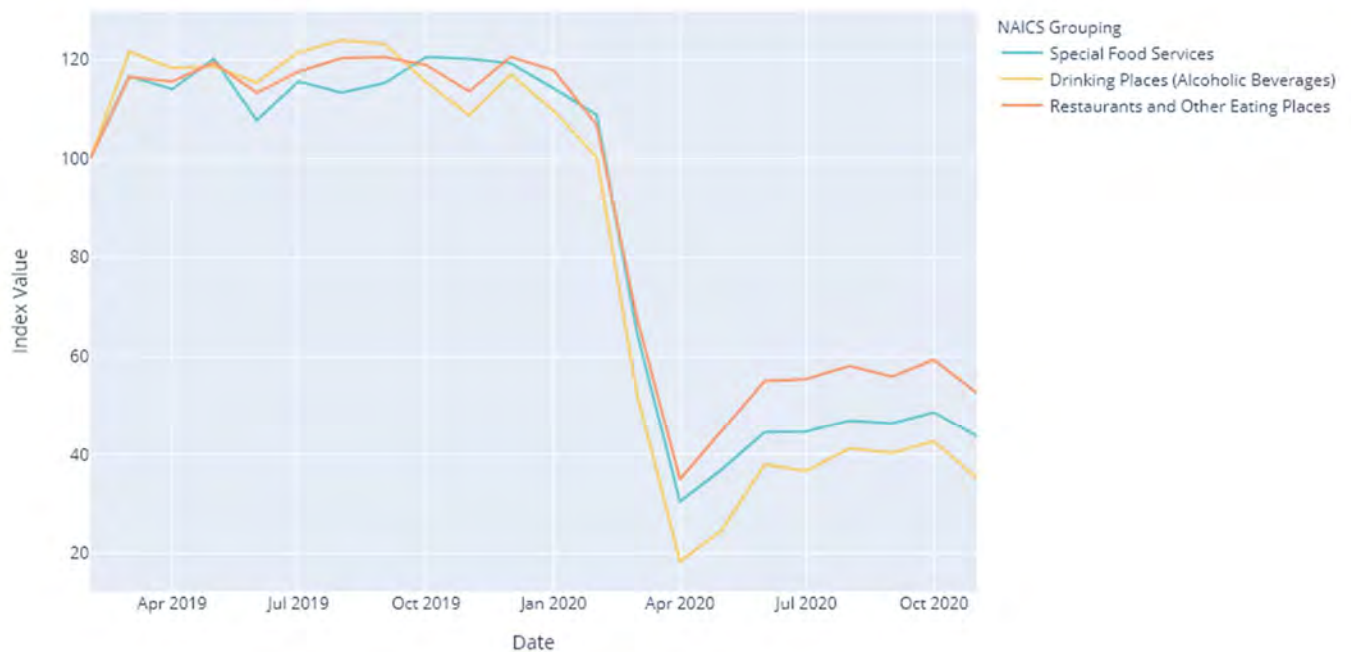
Relative to bars and caterers, the restaurants and other eating places grouping somewhat recovered. While it appears that restaurants are in a better position compared to drinking places and caterers and other special food places, there is a massive disunion between quick and non-quick service restaurants. Even in April of 2020, just after the outbreak, quick service pizza places saw a slight year over year increase in nation-wide sales⁴². Other fast food and quick service restaurants saw a decrease in sales between 25 and 35 percent in April, a stark contrast of the 70 to 80 percent decrease in

sales in the casual dining space or the 75 to 85 percent decrease in the fine dining space. With outdoor dining disallowed once again by the County of Los Angeles, non-quick service restaurants will continue to struggle near the level of April and May of 2020.

These data demonstrate the importance of COVID-19 eradication for the restaurant industry, especially establishments in casual and fine dining. While fast-food and other quick service restaurants have drive-through lanes which help offset the lack of indoor dining, full-service restaurants must make do with outdoor dining when safety permits.

Exhibit 170

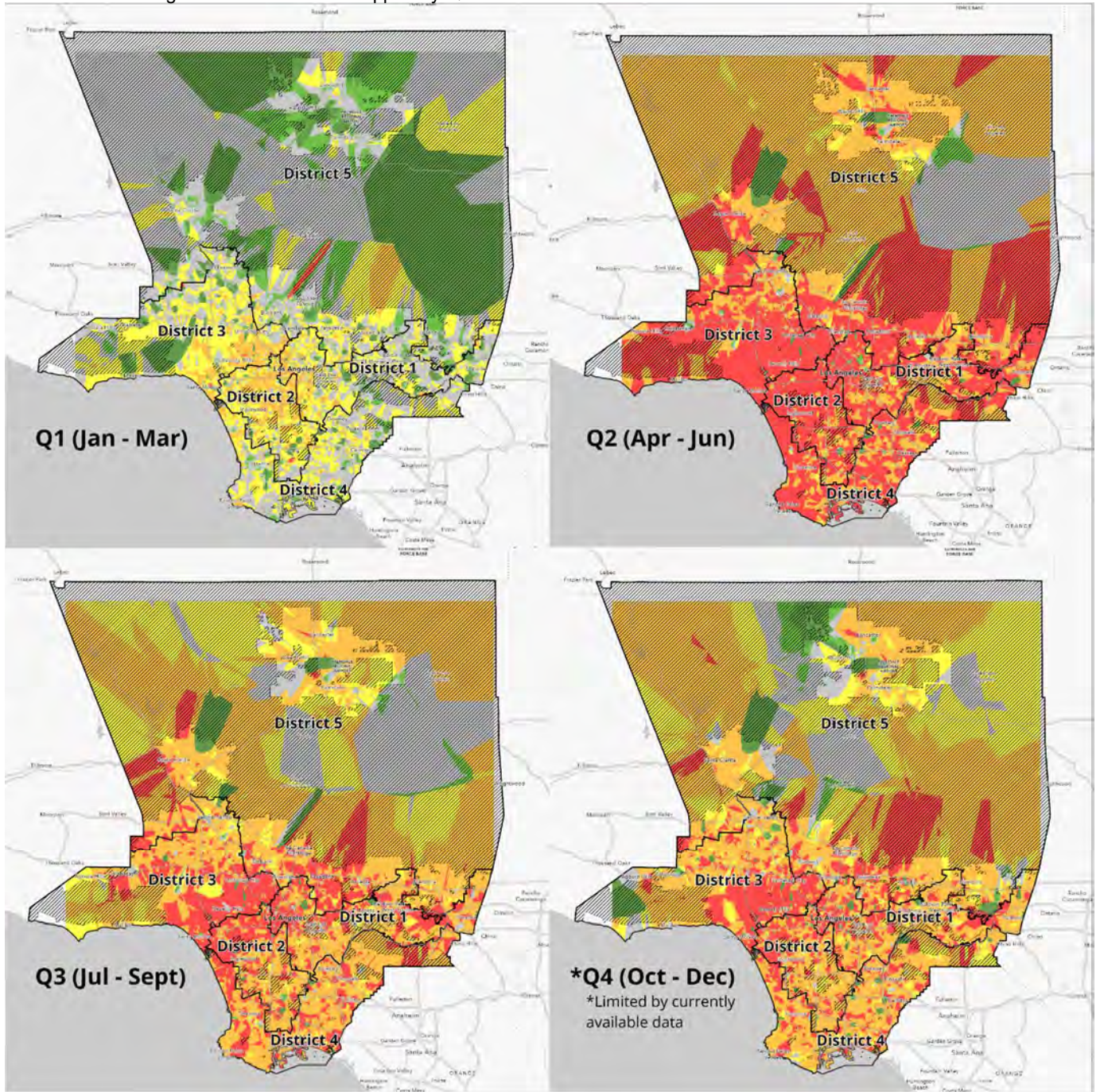
Visits Index by Month for the Food Services and Drinking Places Industry (Naics Code: 7223, 7224, 7225)



⁴² Haas, Stacey, Eric Kuehl, John Moran, and Kumar Venkatarama. 2020. "How Restaurants Can Thrive In The Next Normal". McKinsey and Company. <https://www.mckinsey.com/~/media/McKinsey/Industries/Retail/Our>

%20Insights/How%20restaurants%20can%20thrive%20in%20the%20next%20normal/How-restaurants-can-thrive-in-the-next-normal-v3.ashx.

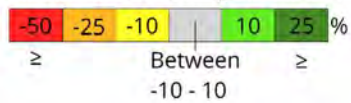
Exhibit 171:
Food and Drinking Places Foot Traffic Mapped by Quarter



Food Services and Drinking Places



Annual Percent Change in Foot Traffic:



- Supervisory Districts
- County
- Unincorporated

County of Los Angeles, Esri, HERE, Garmin, SwireGroup, PNO, METI/WASA, USGS, Bureau of Land Management, EPA, NPS, SafeGraph

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Date Last Updated: 12/29/2019 - 08:00 AM PST, LAEDC



Arts, Entertainment and Recreation

-NAICS 711: Performing Arts, Spectator Sports, and Related Industries

-NAICS 712: Museums, Historical Sites, and Similar Institutions

-NAICS 713: Amusement, Gambling, and Recreation Industries

The Arts, Entertainment, and Recreation sector is a broad category encompassing a variety of establishments that provide services and facilities to meet the cultural, entertainment, and recreational interests of their patrons. This includes the production, promotion, and participation in live events, the preservation and exhibition of historical, cultural, or educational materials, and the facilitation of recreational activities. The NAICS 71 subsector is further split into Performing Arts, Spectator Sports, and Related Industries (NAICS 711); Museums, Historical Sites, and Similar Institutions (NAICS 712); and Amusement, Gambling, and Recreational Industries (NAICS 713). These three groups have been heavily impacted by the pandemic as they depend on large group gatherings in public spaces.

The performing arts, spectator sports, and related industries consist of theater companies, dinner theaters, dance companies, musical groups and artists, and other performing art companies. Exhibit 172 shows that the largest businesses within this group are large sport venues such as the UCLA basketball center, Dodger Stadium, Auto Club

Raceway. These venues rely on large gatherings, which have been prohibited to control the spread of COVID-19. Thus, the performing arts, spectator sports, and related industries experienced an 86.46 percent decline in foot traffic year over year from April 2019 to April 2020 (Exhibit 173). The summer brought some relief with relaxed regulations, causing visits to increase by 66.28 percent from April to December 2020. While a silver lining, visits are still about a quarter of their value one year ago. The NAICS 711 group represented 13.14 percent of total visits to the NAICS 71 subsector prior to the pandemic, which then fell to 11.14 percent.

Museums, historical sites, and similar institutions also include zoos, botanical gardens, and nature parks. Four of the five top institutions for this group in the greater Los Angeles area facilitate patrons’ enjoyment of nature (Exhibit 172). The NAICS 712 group accounted for 36.24 percent of total NAICS 71 subsector visits prior to the pandemic. This number increased to 41.1 percent after the pandemic, as many outdoor facilities can still be safely utilized. Foot traffic for this group declined by 63.08 percent from April 2019 to April 2020 but rebounded with a 53.9 percent increase from April to December 2020. This came as a result of state and local authorities reopening these locations in recent months with safety protocols in place.

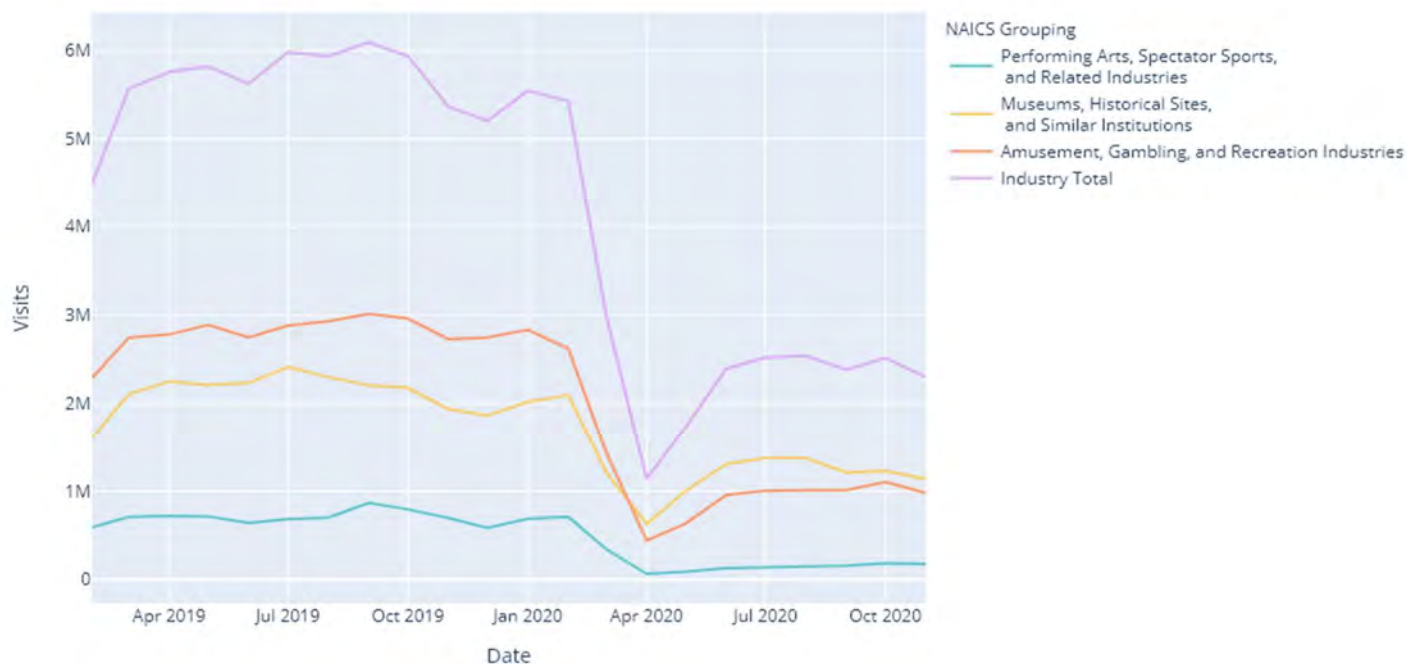
Amusement, gambling, and recreation industries encompass amusement and theme parks, arcades, casinos (except casino hotels), golf courses, country clubs, skiing facilities, marinas, and fitness and recreational sports centers. In the greater Los Angeles Region, the

Exhibit 172: Top Arts and Recreation Industry Points-of-Interest in the Greater Los Angeles Region

<u>Performing Arts, Spectator Sports, and Related Industries</u>	<u>Museums, Historical Sites, and Similar Institutions</u>	<u>Amusement, Gambling, and Recreation Industries</u>
UCLA Mo Ostin Basketball Center	Griffith Park	24 Hour Fitness
OnePiece Work Hollywood	Santa Monica State Beach	LA Fitness
Dodger Stadium	Surfing Heritage Museum at South Coast Plaza	Planet Fitness
Auto Club Raceway at Pomona	Huntington City Beach	CrossFit
Orange County Soccer Club Championship Soccer Stadium	Orange County Great Park	Chavez Ridge Disc Golf Course

Exhibit 173

Visits by Month for the Arts, Entertainment and Recreation Industry
(Naics Codes: 711, 712, 713)



top businesses in this group are mostly fitness centers (Exhibit 172). The NAICS 713 group was greatly impacted by the pandemic, experiencing an 81.14 percent decline in visits between April 2019 and April 2020. As with many other industries, this group recovered some of that lost foot traffic over the summer. Between April and December of 2020, visits to establishments in NAICS 713 increased by 57.99 percent.

Foot traffic for all businesses within the Arts, Entertainment, and Recreation subsector in the greater Los Angeles region peaked in October 2019 with a little over 6 million visits counted by SafeGraph⁴³. This was dramatically affected by COVID. Visits decreased to just over 1 million in April 2020 and have been slowly growing since. Post-COVID foot traffic peaked in October 2020 with around 2.5 million visits – less than half of the prior year’s peak. The fall and winter will likely not fare

well for this subsector, as many of these businesses rely on large gatherings. With cases dramatically rising in Los Angeles County, large gatherings will not be feasible until the vaccine is widely available. Fortunately, essential healthcare workers and the most vulnerable populations have already begun to receive the vaccine in Los Angeles⁴⁴.

In the meantime, some industries within this subsector can offer virtual substitutions. Live concerts and sporting events are being streamed without live audiences. Many of these businesses cannot offer substitutions, however. Gyms and museums, for example, offer specific experiences that are not easily replicated via streaming websites. The best hope for such institutions remains in the vaccine.

In terms of business closures, amusement, gambling, and recreation establishments were

⁴³ These numbers do not indicate all visits in the region, just a representative sample of cell phone owners in order to determine and analyze trends.

⁴⁴ "LA County COVID-19 Vaccine". 2020. Publichealth.Lacounty.Gov. <http://publichealth.lacounty.gov/media/Coronavirus/vaccine/>.

some of the most impacted in the region. With 12,900 establishment-days of closures in the county and 561 establishments closed for 7 or more days, this grouping was hit harder than most. Museums, historical sites, and similar institutions followed with roughly 2,500 establishment-days of closures and 106 establishments closing for a consecutive week or longer. The performing arts, spectator sports, and related industries grouping saw the least number of closures, but these should be interpreted with caution. Stadiums and performing arts centers established abnormal means as it was commonplace for these establishments to see no patrons for days or weeks at a time.

These trends are also exhibited in 174. While the performing arts, spectator sports, amusement, and gambling establishments

have not been able to adequately recover, places which are outdoor and are naturally distanced have allowed for the museums, historical sites, and similar institutions grouping to see a decent amount of foot traffic.

Galvanized by the warm summer months, local beaches and parks saw near pre-COVID levels of visitors. Griffith park and Santa Monica state beach remained popular destinations even when technically closed by the stay-at-home order. While the visits to these destinations have tapered in the cooler months, outdoor activities will continue to be less affected by the pandemic than its other industry grouping counterparts. For establishments such as spectator sports and many performing arts, social distancing will need to be deracinated from our way of life.

Exhibit 174

Visits Index by Month for the Arts, Entertainment and Recreation Industry (Naics Code: 711, 712, 713)

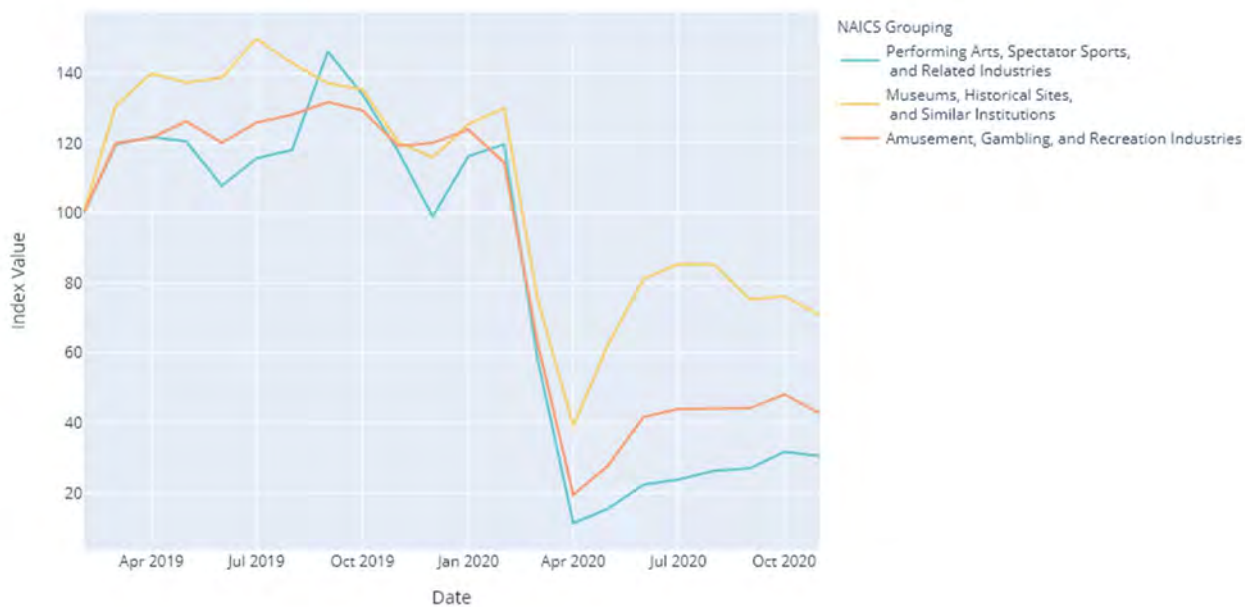
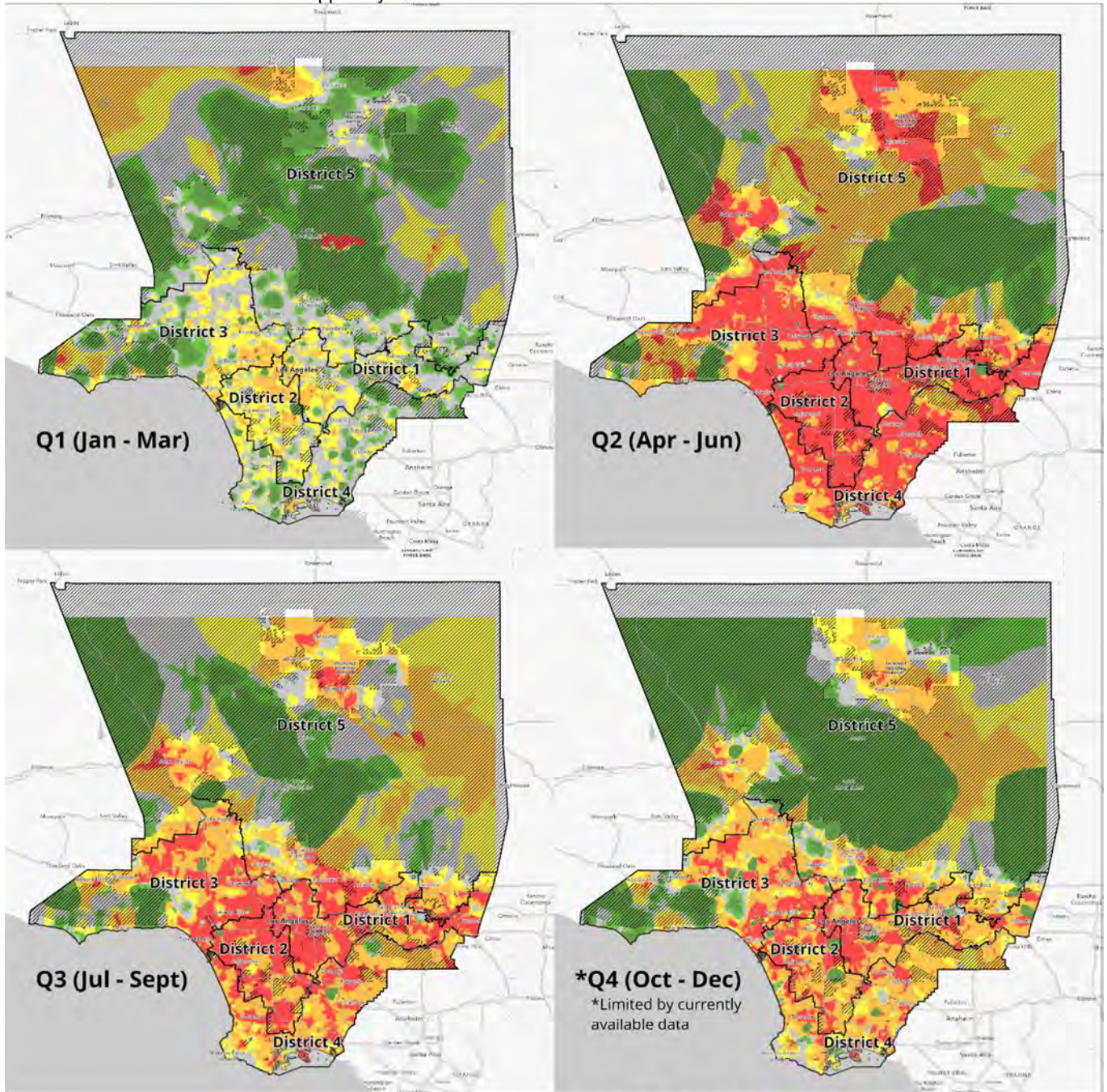


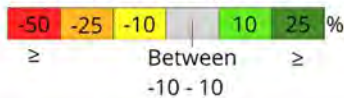
Exhibit 175:
Arts and Recreation Foot Traffic Mapped by Quarter



Arts, Entertainment, and Recreation



Annual Percent Change in Foot Traffic:



- Supervisorial Districts
- County Unincorporated

County of Los Angeles: EMS, HERE, Garmin, SafeGraph, FANG, METANASA, LAGIS, Bureau of Land Management, EPA, NPS, Subdivisions

This map is for general purposes only. It is not a representation of a legal boundary. While reasonable efforts have been made to ensure that data sources are not obsolete and reliable across the limits of current technologies, the LAEDC does not assume liability for any damages caused by any errors or omissions in the data, nor in a result of the failure of the data to function or its excessive frequency. LAEDC makes no warranty, expressed or implied, nor does the fact of contribution constitute such a warranty.

Date Last Modified: 12/23/2020 | CG contact: Jacob N. Larson



Personal Care

- NAICS 8121: Personal Care Services
- NAICS 8122: Death Care Services
- NAICS 8129: Other Personal Services

The Personal Care subsector encompasses a variety of services broken into three main groups: Personal Care Services (NAICS 8121), Death Care Services (NAICS 8122), and Other Personal Services (NAICS 8129). Due to the relative closeness required in many industry services, this subsector was heavily impacted by the pandemic.

Personal care services consist of hair, nail, and skin care services, barber shops, beauty salons, nail salons, diet and weight reducing centers, and other personal care services. In the greater Los Angeles area, the top visited businesses in this group are fairly varied with barbers, salons, and spas (Exhibit 176). This group represented 68.71 percent of visits to the Personal Care subsector prior to the pandemic. This share remained relatively stable at 67.42 percent following the pandemic. Due to the close physical interaction, inherent in personal care services,

Exhibit 176: Top Personal Care Services Industry Points-of-Interest in the Greater Los Angeles Region

#	Personal Care Services	Death Care Services	Other Personal Services
1	The Golden Scissors	Forest Lawn Memorial Park	Diamond Massage Westfield Culver City
2	Phenix Salon Suites	Chinese Cemetery Pacific View	Buena Park Place
3	Riviera Beach and Spa	Memorial Park	Park Place
4	Happy Nails & Spa	Holy Cross Mortuary	Standard Parking
5	Vogue Beauty Studio	Peek Funeral Home	Balboa Metered Lot

the group experienced a 63.91 percent decline in foot traffic between April 2019 and April 2020. Between April and December 2020, reduced regulation increased visits by 22.63 percent (Exhibit 177).

Death care services includes funeral homes and services, cemeteries, and crematories. This group's share of total subsector visits also remained stable, with 4.45 percent prior to the pandemic and 4.53 percent after. Foot traffic to death services businesses declined by 60.48 percent from April 2019 to April 2020,

Exhibit 177

Visits by Month for the Personal Care Services Industry (Naics Codes: 8121, 8122, 8129)



followed by a slight rebound of 3.26 percent from April to December 2020 (Exhibit 177).

Other personal services is a miscellaneous category for groups that do not otherwise fit in. Included are pet care (except veterinary) services, photofinishing, parking lots and garages, and all other personal services. This group accounted for 26.84 percent of the visits to the personal care subsector prior to the pandemic, which increased to 28.05 percent afterwards. The most visited businesses in this group in the greater Los Angeles areas were quite largely parking services. Intuitively, with activity restricted to only essential errands, the NAICS 8129 experienced a 66.17 percent decline in visits from April 2019 to April 2020. These businesses experienced higher foot traffic through the summer, resulting in a 41.41 percent increase in visits from April to December 2020 (Exhibit 177).

Business closures were heavily centered in the personal care services grouping, with these businesses closing for a total of 1,350 recorded establishment days and 66 businesses closing for days or more consecutive days. Death care services and other personal services remained largely unaffected establishment closure-wise.

These closure metrics are low compared to the other analyzed industries. This is likely resulting from these service-oriented businesses defying shut-down orders⁴⁵. While not Los Angeles, the nearby town of Solvang has encouraged service-based establishments and restaurants to remain open⁴⁶. City Councilman Robert Clarke stated in an interview with Associated Press: "The original bottom line was to join Santa Barbara, Ventura and San Luis Obispo counties asking the



⁴⁵ "Some Southern California Business Owners Will Defy Governor's Coronavirus Shutdown Order – Orange County Register". 2020. Ocregister.Com. <https://www.ocregister.com/2020/12/06/some-southern-california-business-owners-will-defy-governors-coronavirus-shutdown-order/>.

⁴⁶ "Two Weeks After Defying A COVID-19 Stay-Home Order, Solvang Reverses Course". 2020. Los Angeles Times. <https://www.latimes.com/california/story/2020-12-19/2-weeks-after-solvang-defied-stay-home-order-the-central-coast-tourist-town-reverses-course>.

governor to remove the tri-county region from Southern California”. Despite Governor Newsom’s recent statewide shutdown, it should be expected many service-based establishments continue to operate in a black market-esque operation.

Exhibit 178 indexes visits in order to easily compare each industry grouping’s relative industry impacts. All three industry groupings followed extremely similar patterns and impacts throughout 2020, with death care services remaining the least impacted of the three. In contrast to the recreational

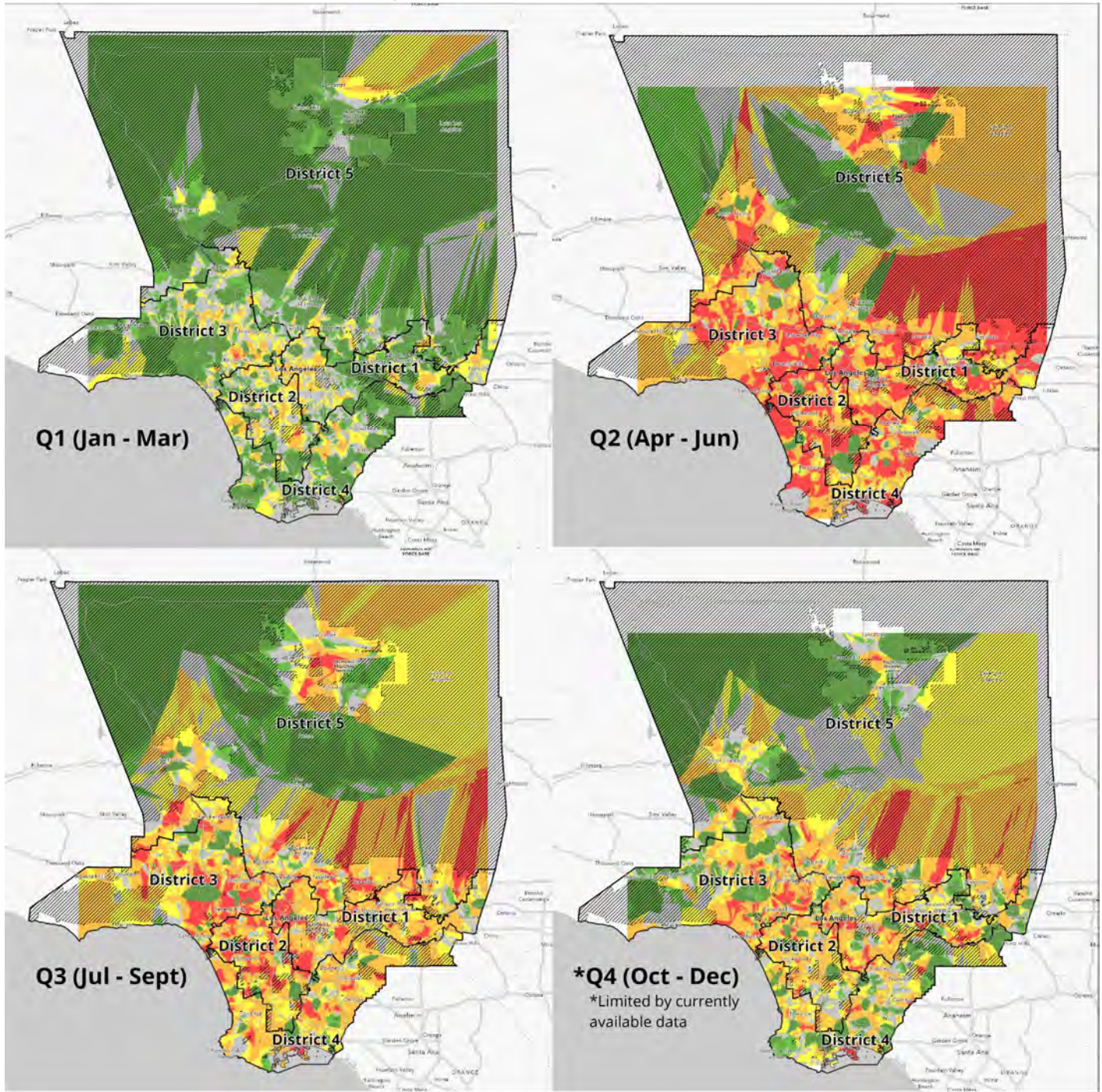
industries examined prior, these services businesses did not see a similar summer spike. Rather, business remained relatively stagnant from May 2020 onward.

The outlook for the personal care service industry is grim but improving. So long as COVID-19 lingers as a threat to patrons’ health and safety, personal care services will likely remain closed due to local and state mandates. That being said, many of these businesses will continue to operate under the guise of being closed so long as proper enforcement is not put in place.

Exhibit 178
Visits Index by Month for the Personal Care Services Industry
(Naics Code: 8121, 8122, 8129)



Exhibit 179:
Personal Care Services Foot Traffic Mapped by Quarter



Personal Care Services

	<p>Annual Percent Change in Foot Traffic:</p> <p> -50 -25 -10 10 25 % </p> <p> ≥ Between ≥ -10 -10 10 10 </p>	<p> Supervisorial Districts County Unincorporated </p>	<p>County of Los Angeles, Erik HERR, Gunnar, Salsburgh, FACI, MET/ASA, USGS, Bureau of Land Management, EPA, NPS, SafeGraph</p> <p>The map is for graphical purposes only; unrepresentative of a legal survey. While intensive effort has been made to ensure that data is as accurate and reliable within the limits of current technology, the LAEDC cannot assume liability for any damages caused by any errors or omissions in the data, nor as a result of the failure of the data to function in a particular capacity. LAEDC makes no warranty, expressed or implied, nor does the fact of distribution constitute such a warranty.</p> <p>Date Last Updated: 12/23/2020 GIS contact: Jakob P. Larson</p>
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Laundry Services

-NAICS 8123: Dry-cleaning and Laundry Services

Dry-cleaning and Laundry Services (NAICS 8123) includes coin-operated laundries and drycleaners, dry-cleaning and laundry services (except coin-operated), linen and uniform supply, and industrial launderers. This group experienced a 49.68 percent decline in visits from April 2019 to April 2020. The recovery of foot traffic between April and December 2020 was meager.

The transition to remote work and massive layoffs likely reduced the need for dry-cleaned uniforms. Additionally, people were leaving the house less frequently and therefore requiring less laundry services. These shocks to demand for laundry in combination with the fear of transmission in public spaces negatively impacted the foot traffic for this industry. The silver lining in regard to dry-cleaning establishments was exclusively for those who had contracts with city and county public servant departments such as police

Exhibit 180: Top Laundry Services Industry Points-of-Interest in the Greater Los Angeles Region

#	Laundry Services
1	Cleaner by Nature
2	Sherman Oaks Dry Cleaners
3	Park La Brea Cleaners
4	Clean King Laundry
5	LaundrHouz

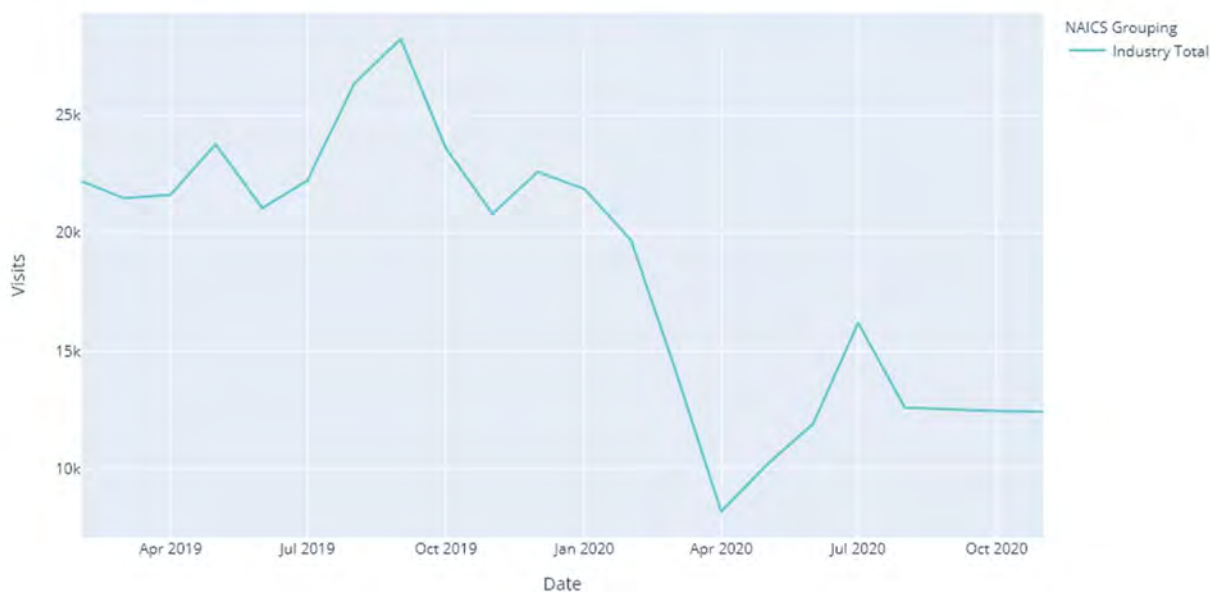
forces who continued to have their uniforms laundered.

Dry-cleaning and laundry services experienced a 49.68 percent decline in visits from April 2019 to April 2020. As with many impacted industries, relaxed restrictions through summer caused an increase in foot traffic. Between April and December 2020, the NAICS Code 8123 sector saw an increase of 6.58 percent.

Most coin-operated remained operational as residents opted to do their laundry in larger batches. As a result, industry closures were minimal, as the majority of establishments were coin-operated laundry facilities.

Exhibit 181

Visits by Month for the Drycleaning and Laundry Services Industry (Naics Code: 8123)



Motion Picture and Sound Recording

-NAICS 5121: Motion Picture and Video Industries
 -NAICS 5122: Sound Recording Industries

Motion Picture and Sounds Recording Industries consist of Motion Picture and Video Industries (NAICS 5121) and Sounds Recording Industries (NAICS 5122). This sector experienced a sharp decline because of the pandemic. Production of audio and visual material ground to a halt due to the physical nature of the work. These businesses did not easily transition to remote work, and instead had to wait until restrictions were lifted to resume production in the summer.

Motion picture and video industries accounted for 90.35 percent of foot traffic to the NAICS 512 subsector prior to the pandemic. While visual production requires more labor and therefore creates more foot traffic than audio production, the majority of

foot traffic in the industry results from movie

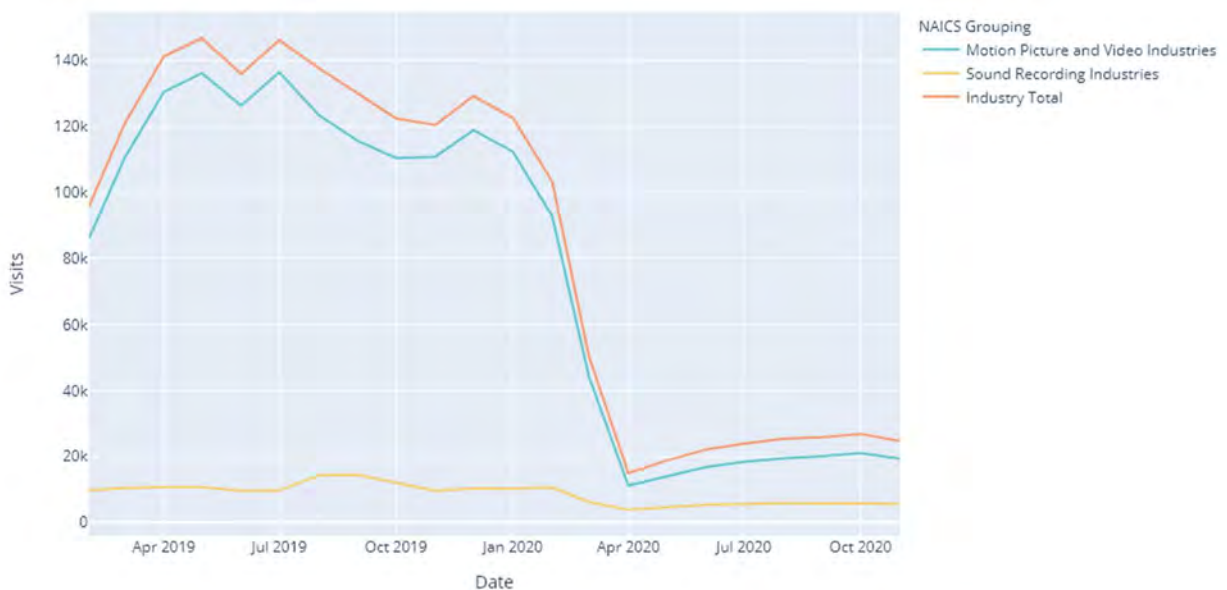
Exhibit 183: Top Motion Picture and Sound Recording Industry Points-of-Interest in the Greater Los Angeles Region

#	<u>Motion Picture and Video Industries</u>	<u>Sound Recording Industries</u>
1	AMC Entertainment	Creation Productions
2	Luzia	Uncle Rehearsal Studio
3	Edwards Theatres	Trippy Recording Studios
4	Regal Entertainment Group	Studio 9
5	IMAX	Golden Impala Recording Studio

theaters. Movie theaters make up four of the top 5 most visited places in the motion picture and video industries, with the remainder being a Cirque du Soleil show. The motion picture and video industry was abruptly shut down at the beginning of the pandemic. The lack of new films was a main driver in preventing theaters from reopening at limited capacity, causing an 86.78 percent decline in visits between April 2019 and April 2020. Foot traffic was slow to bounce back following the summer reopening, with only a 9.07 percent increase between April and December 2020. This industry now accounts for slightly less,

Exhibit 184

Visits by Month for the Motion Picture and Sound Recording Industry (Naics Codes: 5121, 5122)



89.75 percent, of total visits to the NAICS 512 subsector.

Sound recording industries accounted for 9.65 percent of total subsector visits prior to the pandemic. The losses in activity were less dramatic than the motion picture industries, with a 54.41 percent decrease between April 2019 and April 2020. From April to December 2020, visits to the NAICS 5122 industry increased by 12.67 thanks to reopening. The share of total visitation credited to sound recording industries increased to 10.25 percent following the pandemic.

The closures in the motion picture industry have been well reported on during the pandemic. AMC announced on the 11th of December 2020 that it needs to raise a minimum of \$750 million in order to avert bankruptcy⁴⁷. In the Los Angeles Region, 2,028 establishment-days of closures have been

counted with 88 establishments closing their doors for 7 or more consecutive days. Closures in the sound recording industry were limited in contrast, making up about 2 percent of the motion picture industry.

As shown in exhibit 185, the motion picture industry remains extremely heavily impacted by the COVID-19 virus. Foot traffic remains at about 20 percent of that in February of 2019, a severe drop which has crippled businesses across Los Angeles county. Even when this occurs, theatergoers may still remain at home and continue to stream films, as movie studios will continue to release films digitally throughout 2021⁴⁸.

Exhibit 185

Visits Index by Month for the Motion Picture and Sound Recording Industry (Naics Code: 5121, 5122)



⁴⁷ Doherty, Katherine. 2020. "AMC Seeks More Liquidity To Avert Movie Theater Bankruptcy". Bloomberg.Com. <https://www.bloomberg.com/news/articles/2020-12-11/amc-movie-theaters-seek-liquidity-lifelines-to-avert-bankruptcy>.

⁴⁸ Rubin, Rebecca. 2020. "Studios Will Continue To Put Movies On Streaming In 2021". Variety.Com. <https://variety.com/2020/film/news/coronavirus-movie-theaters-release-dates-1234842520/>.

Non-Essential Retail

- NAICS 442: Furniture and Home Furnishings Stores
- NAICS 448: Clothing and Clothing Accessories Stores
- NAICS 451: Sporting Goods, Hobby, Musical Instrument, and Book Stores
- NAICS 452: General Merchandise Stores

Four industries within the broader retail sector were considered non-essential for the purposes of this analysis: Furniture and Home Furnishings (NAICS 442); Clothing and Clothing Accessories Stores (NAICS 451); Sporting Goods, Hobby, Musical Instrument, and Book Stores (NAICS 451); and General Merchandise Stores (NAICS 452). In the wake of the pandemic, Los Angeles residents were advised to conduct only essential errands. Foot traffic to these industries fell sharply in April but rebounded relatively quickly in the months following. Visits to non-essential retail businesses are currently less frequent than they were prior to the pandemic (Exhibit 188).

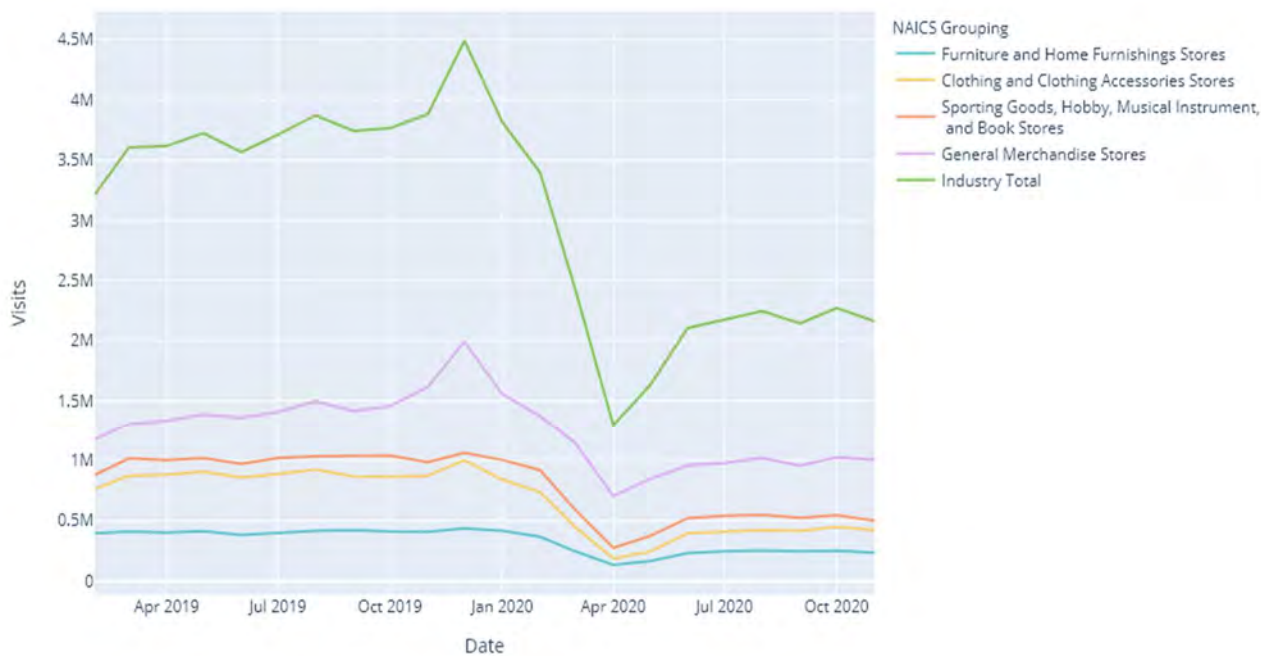
Exhibit 187: Top Non-Essential Retail Points-of-Interest in the Greater Los Angeles Region

#	<u>Furniture and Home Furnishings Stores</u>	<u>Clothing and Clothing Accessories Stores</u>	<u>Sporting Goods, Hobby, Musical Instrument, and Book Stores</u>	<u>General Merchandise Stores</u>
1	IKEA	Marshalls	Michaels	Walmart
2	HomeGoods	Burlington	GameStop	Target
3	Bed Bath & Beyond	WSS	Big 5 Sporting Goods	Costco Wholesale Corp.
4	Ortho Mattress	Nordstrom Rack	Hobby Lobby Stores	99 Cents Only Stores
5	Pottery Barn	dd's DISCOUNTS	Dick's Sporting Goods	Ross Stores

Furniture and home furnishing stores represented 12.03% of non-essential retail visits prior to the pandemic. Ikea proved to be the

Exhibit 188

Visits by Month for the Non-essential Retail Industry (Naics Codes: 442, 448, 451, 452)



most popular store in the grouping, followed by furnishing stores HomeGoods and Bed, Bath, and Beyond. This share has fallen to 10.81 percent in recent months. Businesses in the NAICS code 442 saw a decline in foot traffic of 60.22 percent from April 2019 to April 2020. Between April and December 2020, visits to home furnishing stores increased only by 16.34 percent (Exhibit 188).

Clothing and clothing accessories stores made up 23.89 percent of total non-essential retail visits prior to the pandemic, which declined to 21.71 percent afterwards. From April 2019 to April 2020, this industry experienced a sharp decline in foot traffic of 74.51 percent. Visitations increased by 71.36 percent from April to December 2020, but current activity remains lower than it was pre-pandemic. The most visited clothing stores in the Greater Los Angeles Region were Marshalls, Burlington, and shoe store WSS.

Sporting goods, hobby, musical instrument, and bookstores accounted for 27.61 percent of industry foot traffic before the pandemic, and 25.83 percent afterwards. This drop in total share of activity was driven by a sharp decline of 66.74 percent from April 2019 to April 2020, followed by only a 40.07 percent increase from April to December 2020. This grouping included various hobby stores such as Michaels and Hobby Lobby as well as large chain sporting goods stores Big 5 and Dick's Sporting Goods.

With a name as broad as their merchandise, general merchandise stores have no predominating good. Walmart and Target led general merchandise stores, which were responsible for 36.47 percent of visits to the non-essential retail industry prior to the pandemic. From April 2019 to April 2020, these establishments experienced a relatively low drop in foot traffic of 39.31 percent. The increase in activity from April to December 2020 was relatively high at 58.99 percent.



Thus, total share of industry foot traffic credited to general merchandise stores rose to 41.65 percent after the pandemic.

Closures in the industry were mostly commonly seen in clothing stores, with many local clothing stores shutting their doors permanently while major chain Forever 21 filed for Chapter 11 bankruptcy protection⁴⁹. Clothing stores saw over 5,200 establishment-days where there was 5 percent or less of the store's mean pre-COVID-19 traffic. About 240 establishments saw this level of traffic for 7 or more consecutive days.

Sporting goods stores saw a similar decline in foot traffic as we measured 2,723 establishment-days wherein businesses less than the 5 percent mark in foot traffic. This coincided with the over 100 establishments which were estimated to be closed for 7 or more consecutive days. As these store luxury goods, the lack in foot traffic post stay-at-home order could be explained by higher levels of saving and lower consumer confidence in the economy⁵⁰.

Both the furnishing and furniture stores grouping as well as the general merchandise store grouping saw similar closure metrics with both sitting around 1,250 establishment-days regarding estimated temporary closures.

⁴⁹ "Forever 21 Files For Chapter 11 Bankruptcy Protection". 2020. BBC News. <https://www.bbc.com/news/business-49874688>.

⁵⁰ University of Michigan, *Consumer Sentiment* [UMCSENT], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/UMCSENT>.

The contrast appears when looking at establishments within the general merchandise sector. Walmart, Target, and Costco, the top three general merchandise brands did not close whereas local stores did.

These three brands are a major reason for the general merchandise grouping outperforming the three other industry groupings. Like grocery stores, these firms service daily needs and thus will continue to be busy even with the drop-in foot traffic. This exceedance can be seen in Exhibit 189.



Exhibit 189

Visits Index by Month for the Non-essential Retail Industry
(Naics Code: 442, 448, 451, 452)

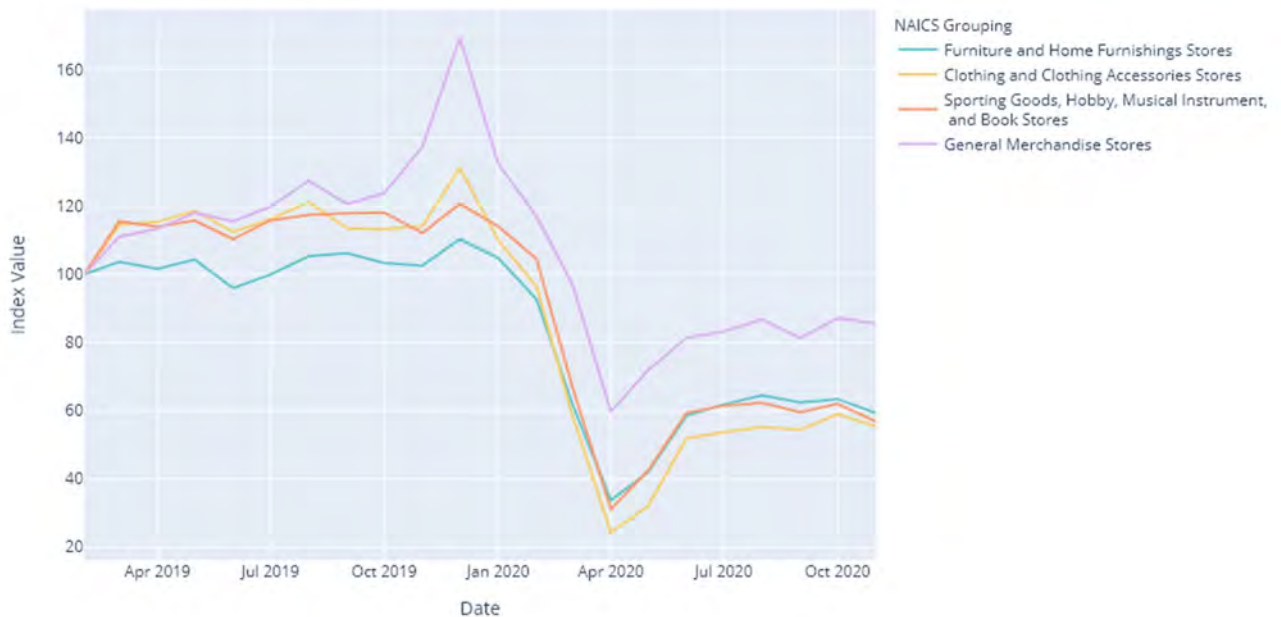
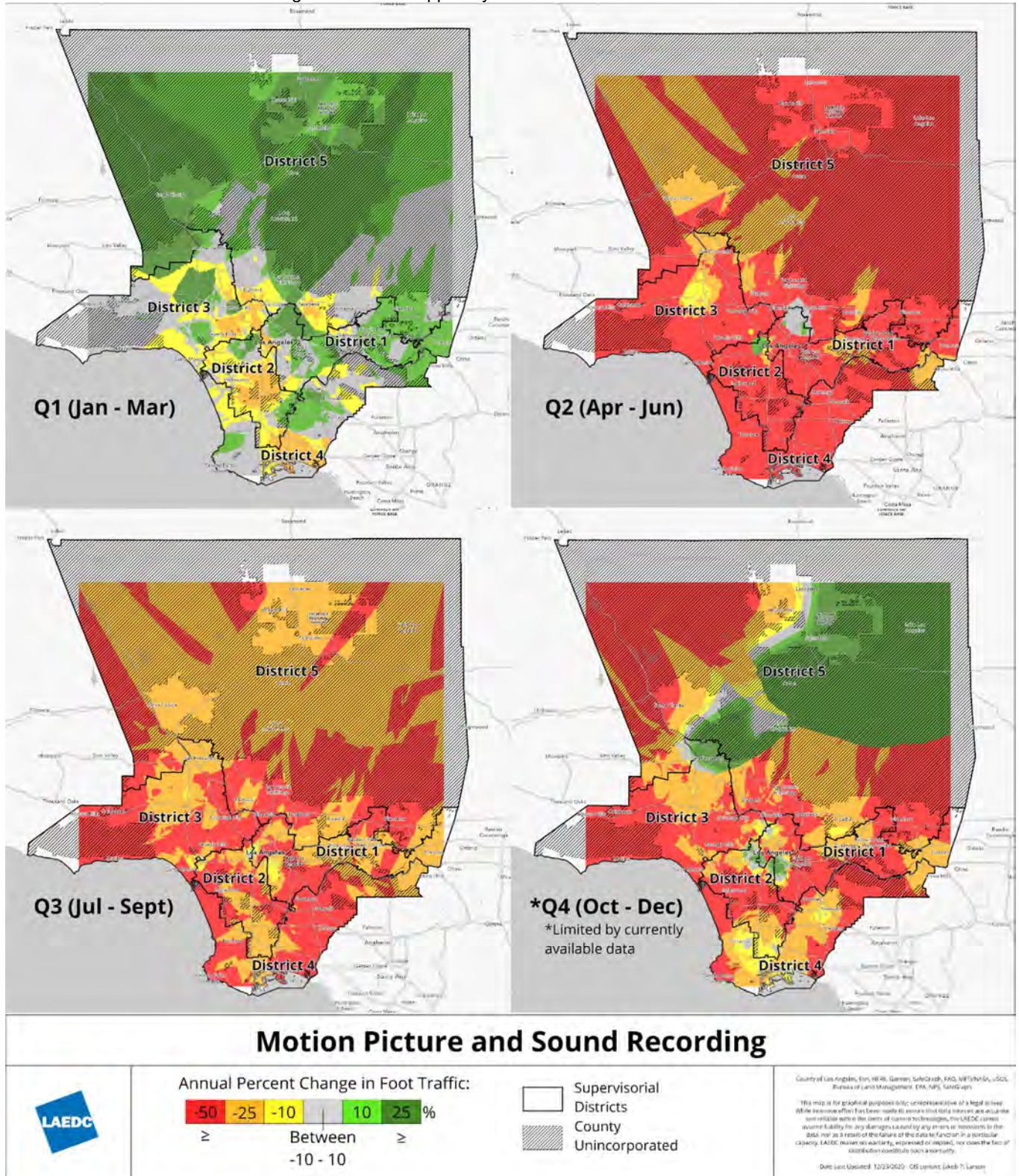


Exhibit 190:
Motion Picture and Sound Recording Foot Traffic Mapped by Quarter



Growth Industries

Despite the pandemic, there are certain industries that are projected to grow in the next five years. These industries will provide a base for economic recovery in Los Angeles County in the coming years.

Other Key Industries in Los Angeles County Include:

- **Trade and Logistics: Transportation and Warehousing**
- **Health Care**
- **Infrastructure: Construction**

Trade and Logistics: Transportation and Warehousing

The transportation industry provides services through several different modes, including air, rail, water and truck. The industry also includes support activities related to these services. The sector includes local-serving transportation services such as transit and ground passenger transportation and scenic and sightseeing transportation, as well as pipeline transportation, which is a delivery mechanism for specific commodities such as crude oil or natural gas.

Warehousing and storage is an industry that includes firms operating warehousing and storage facilities. These firms may also provide logistics services that can include labeling, price marking and ticketing, order entry and fulfilments, repackaging and transportation arrangements.

Los Angeles County's economic success over the last century is rooted in the strength of its



regional, multimodal freight system. The earliest development of the transportation industry in Los Angeles was the arrival of the Santa Fe railroad 1885, followed by the Ports of Los Angeles and San Pedro in 1907 and 1911, respectively. Los Angeles also developed a highly interconnected freeway system in the post-war period. These transportation strongholds fostered the growth of regional industries through international connectivity. Transportation and warehousing remain a backbone of Los Angeles' regional economy to this day.

Transportation and warehousing were also some of the first industries in Los Angeles to face difficulties stemming from the COVID-19 outbreak. Global shipping networks were impacted by China's virus management as early as January 2020, when American ports in particular saw a 2.7 percent volume drop in

the first month of the year⁵¹. China's roadblocks, quarantines, and factory closures were ordered in early 2020 to stop the spread of what was then considered an epidemic. These local freight obstacles created a kink in global supply chains, and as a result tons of container ships were idled internationally. Countries such as the US, which had only a handful of coronavirus cases in January, were still economically impacted by the virus early on through paralyzed supply chains.

The local epidemic soon became a global pandemic, and the logistical challenges presented by inflection prevention became more widespread. As businesses shut down across the United States and abroad, global supply chains experienced decreased demand for the movement of goods. Additionally, many production facilities across the globe were forced to shut down, which created gaps in the generation of key inputs. International supply chains were thus further constricted by COVID-19 as it spread across the globe. These dynamics resulted in an economic contraction for the transportation and warehousing sector.

Los Angeles County is home to one of the largest port complexes in the world. The number of twenty-foot equivalent units (TEUs), a measure of volume in container units, moved through the San Pedro Bay Port complex dropped significantly in February as a result of the coronavirus outbreak in China and abroad. Volumes fell even lower in March as the pandemic spread globally. While the number of TEUs through the ports increased by 25 percent in April over March, volumes

were still soft compared to last year, with the number of TEUs down by more than 11 percent. Longshore shifts at the Port of Los Angeles are also down by 19 percent from last year. Moving forward, soft volumes are anticipated to continue as the domestic demand for goods is reduced.

Cancelled ship sailings and reduced flights, in conjunction with the disruption experienced by international trading partners and the Port of Los Angeles's shutdown, have negatively impacted California's exports. The total value of exports in March was down close to 13 percent year over year. The number of TEUs moved at the port of Los Angeles in May were down by close to 30 percent compared to last year's record-setting May. Five months into 2020, overall cargo volumes have decreased 18.6 percent compared to 2019. Softer trade volumes are attributed to canceled sailings due to COVID-19 and the trade war, along with shifts in liner services. The Port of Long Beach saw their trade volumes increase in May compared to last year, with the number of TEUs up by 9.5 percent. Looking ahead, trade volumes are expected to increase as the economy gets stronger throughout recovery.

Transportation by air has also experienced changes resulting from the pandemic. Passenger demand has dropped dramatically. Quarantines, travel advisories, and fear of infection have negatively impacted demand for passenger flight travel. According to the Los Angeles Board of Airport Commissioners, LAX air passenger traffic dropped by 85 percent in late March⁵². As a result, many airlines in America have prioritized cargo-only

⁵¹ Bradsher, K., & Chokshi, N. (2020, February 27). Virus Disrupts China's Shipping, and World Ports Feel the Impact. *The New York Times*. Retrieved 2020.

⁵² Smith, D. (2020, March 26). *Air traffic down 85% at LAX as local airports face historic declines due to coronavirus*. *Los Angeles Times*. Retrieved 2020.

flights to offset the contraction in passenger demand⁵³. Rental car transactions also dropped by 80 percent, as Safer-at-Home orders resulted in a decrease in demand for transportation by many Angelinos.

Industry Employment and Wages

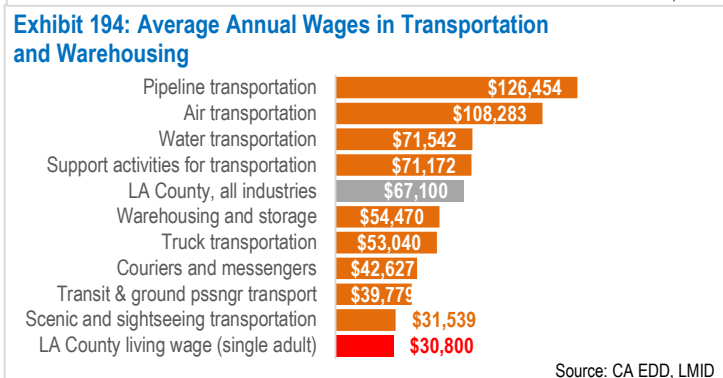
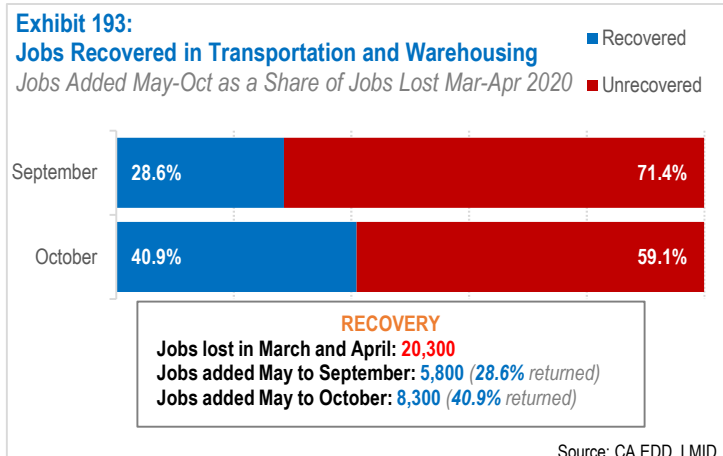
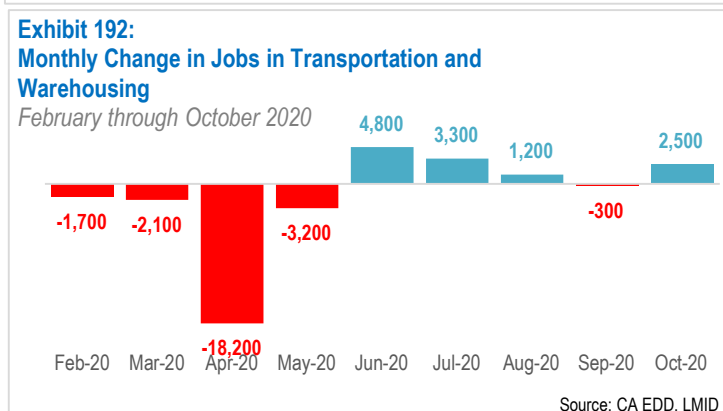
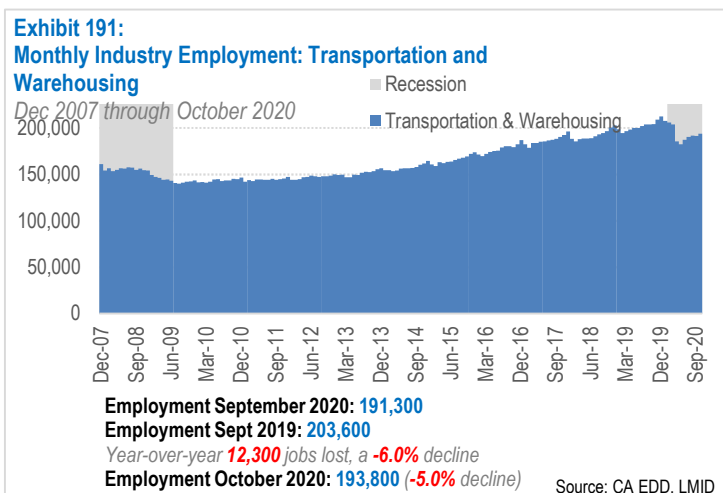
To see how the industry has been affected by the pandemic, we examine wage and employment data in the transportation and warehousing industry.

Los Angeles County’s transportation and warehousing employment from December 2007 through October 2020 is displayed in Exhibit 191. As transportation and warehousing remained largely open throughout the pandemic, the industry saw September 2020 employment dropping by just 6.0 percent year-over-year, with 12,300 jobs lost. Industry employment is still about 40,000 above figures from the Great Recession, as jobs have been steadily added since 2009.

The largest monthly declines in this industry’s employment occurred the months of April and May where a combined 21,400 jobs were lost (Exhibit 192). Jobs were added in the three months following, but again declined in September.

When comparing the number of jobs added from May through October of 2020 to the number of jobs lost in March and April, we can gain some insight on where the recovery process stands in this industry. Transportation and warehousing has only recovered 40.9 percent of the jobs that were

⁵³ Martin, H. (2020, March 31). *Airlines pivot from passengers to cargo amid coronavirus crisis*. The Los Angeles Times. Retrieved 2020.



lost in March and April of this year (Exhibit 193). As of October 2020, the industry is 12,000 workers below its pre-pandemic employment level.

The average annual wages in the component industries of transportation and warehousing are quite varied as there are a wide range of occupations at different skill levels. Pipeline transportation and air transportation are the two industries that have average salaries above \$100,000, and both water transportation and support activities for transportation pay above the average county wage of \$67,100 (Exhibit 194). However, there are several lower-paying industries that are quite important such as truck transportation couriers and messengers and transit and ground passenger transportation. Along with these lower wages, transit and ground passenger transportation has lost 25.9 percent of its workforce year-over-year and truck transportation has lost 11.1 percent.



Occupations Most Impacted in the Transportation & Warehousing Industry

Each industry is comprised of workers across many occupations. Occupations are grouped according to criteria such as job duties, skills, education and on-the-job training. Based on the occupational composition of this industry, the LAEDC has identified the top-five occupations likely to have been impacted by the pandemic and provides estimates of the change in jobs from February through October of 2020.

1. (SOC 53-7062) Laborers & Freight/Stock/Material Movers, Hand: *an estimated 120 jobs lost*
2. (SOC 53-3032) Heavy and Tractor-Trailer Truck Drivers: *an estimated 110 jobs lost*
3. (SOC 53-3033) Light Truck Drivers: *an estimated 50 jobs lost*
4. (SOC 53-7065) Stockers and Order Fillers: *an estimated 50 jobs lost*
5. (SOC 43-5052) Postal Service Mail Carriers: *an estimated 40 jobs lost*

Workforce Characteristics

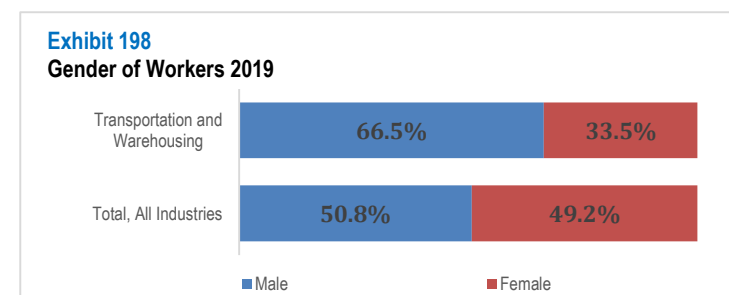
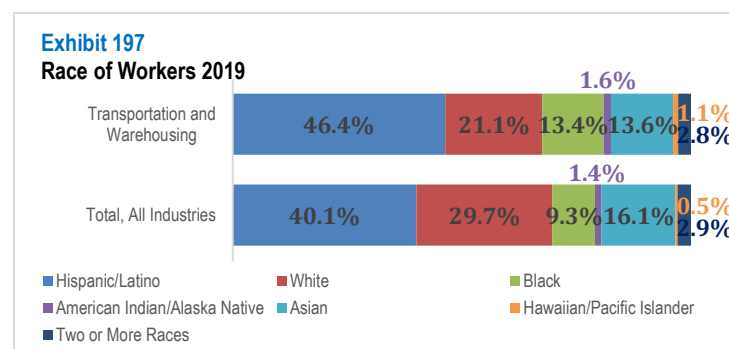
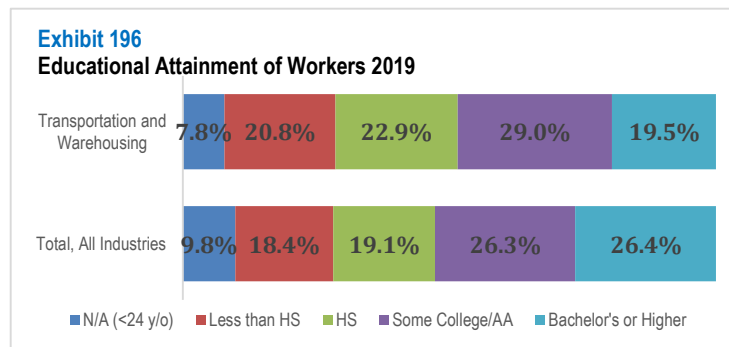
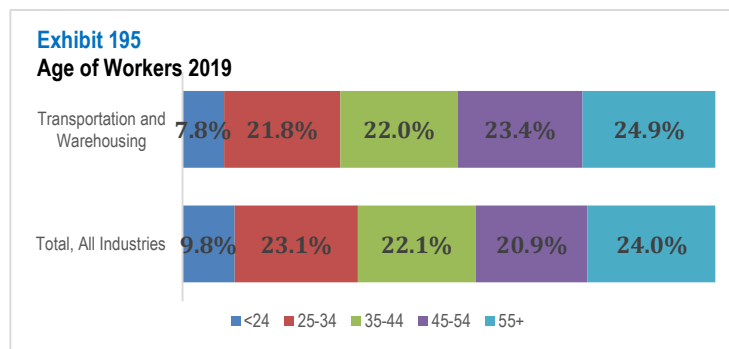
Key Takeaways

- Though there are less workers with a college degree, the overall industry workforce is representative of Los Angeles County.
- There is a high proportion of male workers in transportation and warehousing.

In 2019, the transportation and warehousing industry in Los Angeles County was predominantly Hispanic (46.4%), followed by White (21.1%), Asian (13.6%), and Black (13.5%) employees (Exhibit 197). Hispanic and Black workers are more prevalent in this industry compared to their overall county average, while White and Asian workers are less present.

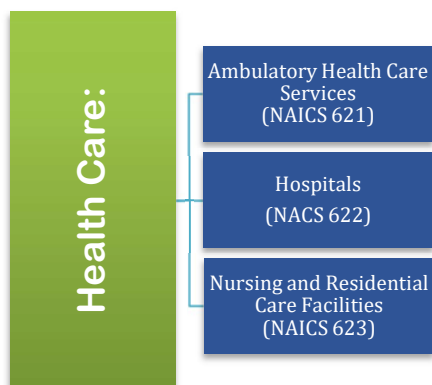
In terms of educational attainment, just 19.5 percent of the workforce had achieved a bachelor’s degree or higher, compared to 26.4 percent in the overall county workforce. However, there is a high proportion of workers with some college education or an associate degree. The age breakdown of transportation and warehousing workers is roughly similar to the county average (Exhibit 195). Two-thirds of the workforce is male (Exhibit 198).

With a diverse base of workers and the continued dependence of Los Angeles County on logistics and shipping, the transportation and warehousing industry has not lost much of its workforce. Though certain forms of transportation like air travel have struggled, shipping and warehousing has become even more important as consumers shop online and adapt to staying at home. Thus, most transportation workers will remain insulated from the widespread job losses that other industries have faced.



Health Care

Health care and public health industries span the public and private sectors, for the delivery of care and the storage of large amounts of public health data.



These industries in Los Angeles County include: ambulatory health care services; hospitals; nursing and residential care facilities; drugs and druggists’ sundries merchant wholesalers; medical, dental and hospital equipment and supplies merchant wholesalers; research and development in the physical, engineering and life sciences; and veterinary services. (Figure 199).

At the onset of the pandemic, many doctor’s offices in ambulatory health care services closed, and hospitals discontinued non-critical or elective care options for outpatients; outpatient services in California dropped by over 50 percent in the two months following Governor Gavin Newsom’s initial Safer-at-Home orders. Meanwhile, health care leaders moved to expand capacity for inpatient bed

supplies, expecting a rise in hospitalized patients due to COVID-19 infection.

One segment of the health care and public health industries that has been hurt badly is nursing and residential care facilities, particularly due to the spread of coronavirus through elderly homes. As of mid-November, over 2,000 deaths from COVID-19 were attributed to skilled-nursing and assisted-living facilities, accounting for 27.5 percent of all coronavirus deaths in the county. Case numbers in these facilities have climbed over 20,000.

The health care industry has played an essential role in combatting the pandemic in Los Angeles County, but it has been forced to deal with both economic pressure and the safety hazards of dealing with the virus. Health care workers have been disproportionately exposed to the pandemic as their work often brings them into close contact with infected patients, and the risks have persisted since cases began to rise in March. In terms of the health care operations themselves, the expenses incurred from acquiring equipment like ventilators and PPE, combined with the costs of rising overtime and temporary staffing needs, have made a dent in operating revenues. When considering the decline in patients as well, the health care industry is facing a challenging financial situation. One report from the California Health Care Foundation estimated that total net patient revenue in California hospitals decreased by an average of \$3.2 billion per month from March through June of 2020⁵⁴.

⁵⁴ Melnick, Glenn, and Susan Maerki. California Health Care Foundation, 2020, *The Financial Impact of COVID-19 on California Hospitals*.

With many in the county losing jobs and employer-sponsored health insurance, which could contribute to further losses in revenues from a decline in commercially insured patients. As the pandemic continues, the mounting costs for the health care industry could lead to a dangerous inflation of hospital prices in a market where health care and insurance is already growing in unaffordability.

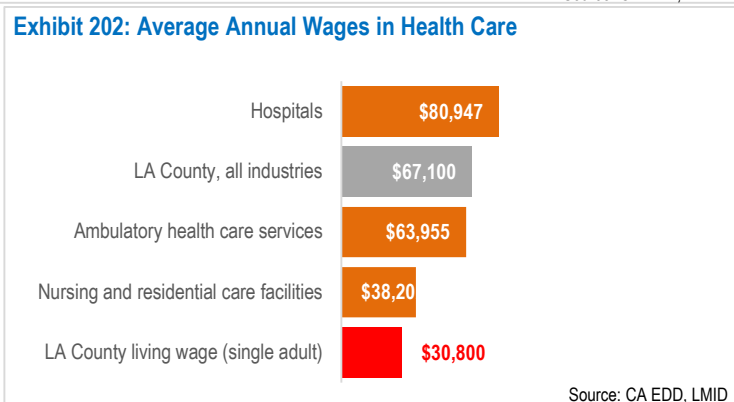
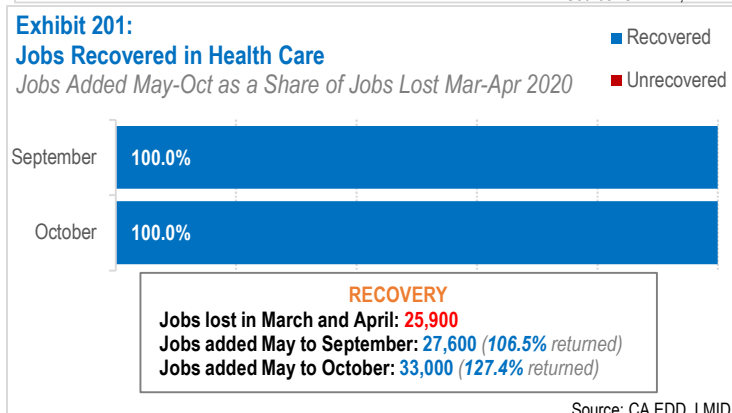
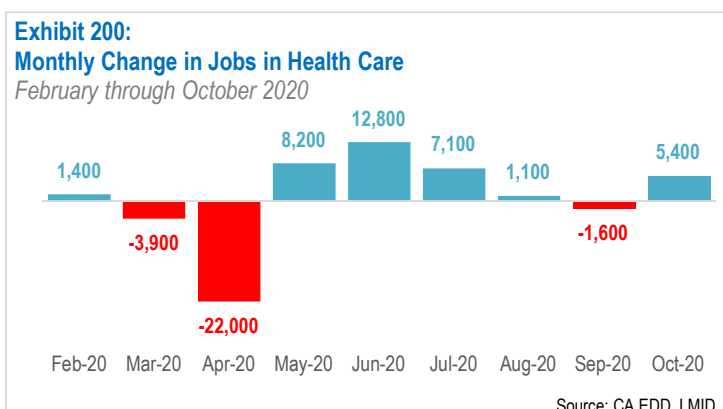
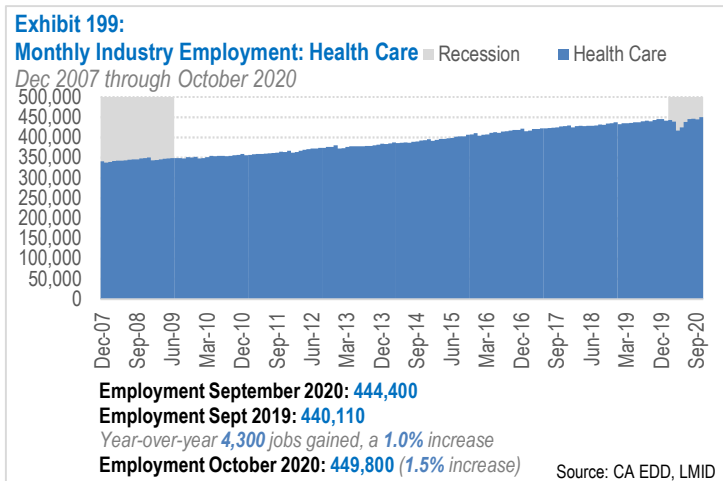
Industry Employment and Wages

To see how the industry has been affected by the pandemic, we examine wage and employment data in the health care and public health industries.

Los Angeles County’s health care employment from December 2007 through October 2020 is displayed in Exhibit 199. Due to being on the frontlines of the pandemic, this industry saw September 2020 employment gaining by 1.0 percent year-over-year, with 4,300 jobs added. While some jobs were lost at the onset of the pandemic, the industry’s employment has continued its overall trend of sustained job growth.

The largest monthly declines in this industry’s employment occurred the months of March and April, where a combined 25,900 jobs were lost. In the three months following however, a full recovery was made with 28,100 workers added from May through July as a response to the need for additional staff on-hand to deal with the public health crisis (Exhibit 200).

When comparing the number of jobs added from May through October of 2020 to the number of jobs lost in March and April, we can gain some insight on where the recovery process stands in this industry. Health care



and public health has **recovered over 100 percent of the jobs that were lost in March and April of this year (Exhibit 201)**. As of October 2020, the industry is 7,100 workers above its pre-pandemic employment level. Some of these jobs represent temporary staff to help combat the pandemic, not full-time positions that have returned.

The average annual wages in the health care and public health industries range. Hospitals have average salaries of nearly \$81,000, well above the average wage in LA County. Ambulatory health care services also fall close to the average county wage, but nursing and residential care facilities pay significantly less. At \$38,200, they are above the county living wage but not by a great amount (Exhibit 202).

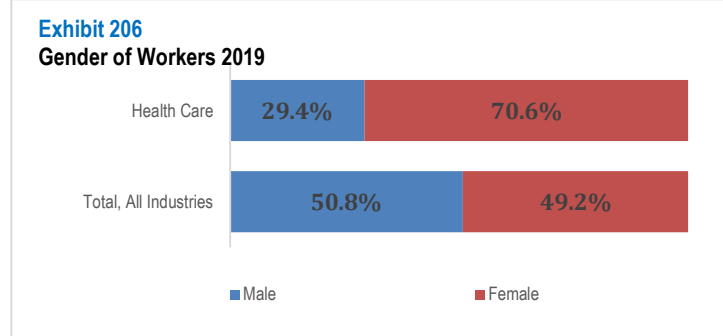
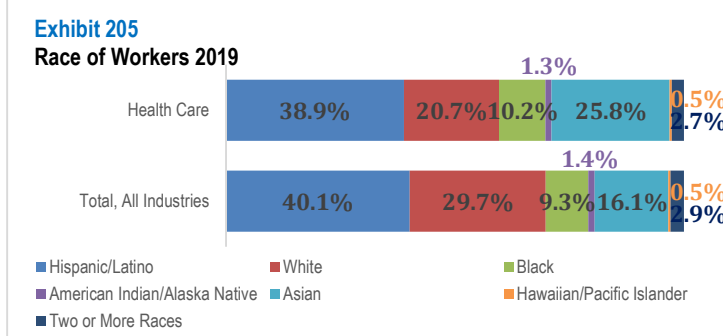
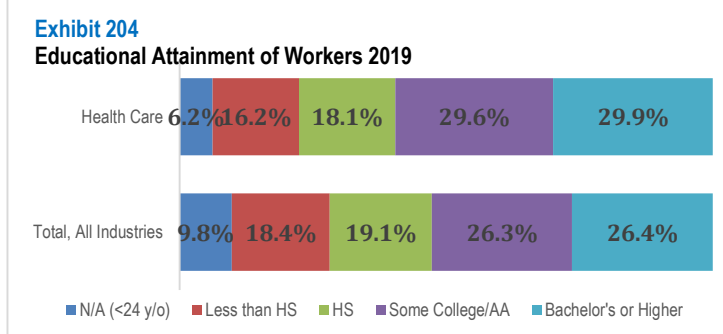
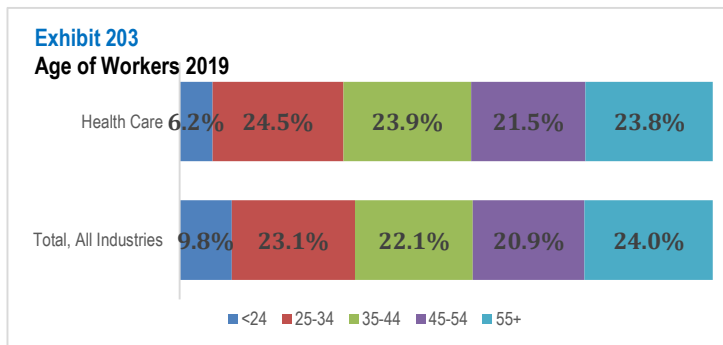
Workforce Characteristics

Key Takeaways

- The health care and public health workforce has a high proportion of Asian and female workers, with a standard distribution of age and many college-educated workers.
- Although jobs have been secure, being on the front lines of this public health crisis has taken a heavy toll on health care employees.

In 2019, the health care industry in Los Angeles County was predominantly Hispanic (38.9 percent), followed by Asian (25.8 percent), White (20.7 percent), and Black (10.2 percent) employees (Exhibit 205). The health care workforce is over a quarter Asian, over 9 percent higher than this demographic’s representation in the overall county workforce. Moreover, White workers are much less represented in health care than overall.

The age of employees in health care follows a similar distribution to that of the county



workforce, with slightly lower numbers below the age of 24 (Exhibit 203). Workers are generally educated, with 59.5 percent of the workforce attaining a bachelor’s degree, associate degree or some college education (Exhibit 204). Gender is heavily skewed, as female workers account for over 70 percent of the workforce (Exhibit 206).

The essential nature of the health care and public health industries, particularly in a global health crisis, has insulated the majority of jobs in this sector and most of the workforce from unemployment. Workers in this industry can feel secure in the knowledge that as long as the pandemic lasts, their work will be in high demand.

The trouble for health care workers is facing burnout; with the rising number of cases in Los Angeles County and nationwide, the emotional intensity and pressure of caring for sick patients has become overwhelming for many. When combined with the stresses of staying safe and the potential for bringing COVID-19 into their own households, the burdens are extremely heavy. Mental health experts suggest that every day makes these workers more susceptible to post-traumatic stress, and psychological struggles could prevent them from performing their job to the best of their abilities.



Nurses, paramedics, first responders, emergency medical technicians are among the front-line workers that have been offered special trauma therapy and treatment to provide support. Although their employment status has remained safe, the psychologically taxing nature of their current responsibilities means that workers in health care and public health have been heavily impacted by this crisis.

Occupations Most Impacted in the Health Care Industry

Each industry is comprised of workers across many occupations. Occupations are grouped according to criteria such as job duties, skills, education and on-the-job training. Based on the occupational composition of this industry, the LAEDC has identified the top-five occupations likely to have been impacted by the pandemic and provides estimates of the change in jobs from February through October of 2020.

1. (SOC 29-1141) Registered Nurses: *an estimated 790 jobs added*
2. (SOC 31-9092) Medical Assistants: *an estimated 730 jobs added*
3. (SOC 43-6013) Medical Secretaries/Admin Assistants: *an estimated 640 jobs added*
4. (SOC 43-4171) Receptionists and Information Clerks: *250 jobs added*

Infrastructure: Construction

The construction industry in Los Angeles County, which employs over 145,000, has persevered through the pandemic and provided stable work for many employees. In San Francisco, operations in this industry were suspended under business restrictions, but building trades in Los Angeles pushed to keep infrastructure running due to its essential nature. Due to budget shortfalls resulting from the pandemic, many non-critical infrastructure and capital projects have been deferred to the future. This is fortunate because it has led to less short-term payroll falloff for workers. With these deferred projects and an ever-present housing shortage in the county, there is an abundance of work in the foreseeable future for those in the industry.

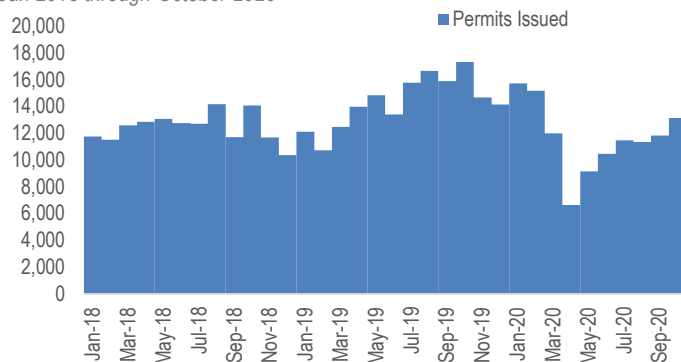
Exhibit 207 shows the monthly permits issued for the construction, remodeling and repair of buildings and structures in the city of Los Angeles by the Department of Building and Safety. It indicates that while the number of permits issued did decline dramatically in April of 2020, it quickly rose back up to pre-pandemic numbers as the infrastructure industry remained open.

Although the work continues, the manner in which it is conducted has changed in response to mandated safety procedures. Social distancing requirements are necessary for sites to remain open, and further guidelines call for employers to provide personal protective equipment, install hand-washing stations throughout work areas and disinfect tools. Other ideas to keep workers safe include flexible scheduling of worker hours and worksites to keep crowding to a minimum.



Exhibit 207:
Monthly Building Permits Issued in the City of Los Angeles

Jan 2018 through October 2020



Source: LA City Open Source Data

The pandemic has called out inequalities in infrastructure within the county, which may create future construction opportunities. Access to broadband internet is more important than ever as adults work from home and students attend their classes online; however, those unable to afford reliable, stable internet connections have been impacted more than ever. Meanwhile, utilities systems, including water systems and electrical grids are dealing with extra pressure from the transition to life at home; as one of the nation’s largest counties, reliably serving millions of households is complicated. These are issues for the infrastructure industry to solve in the years to come, which could allow for further contract work and construction employment.

Industry Employment and Wages

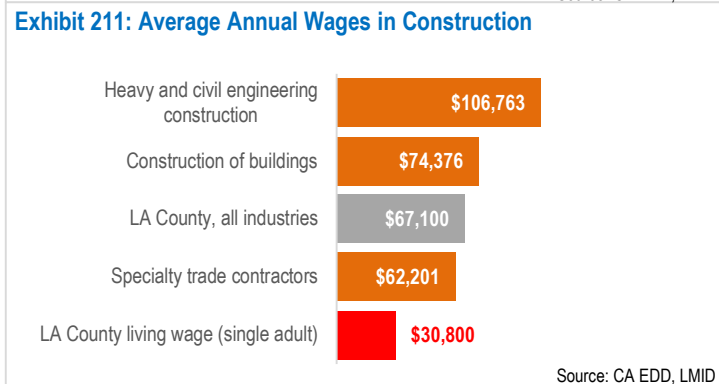
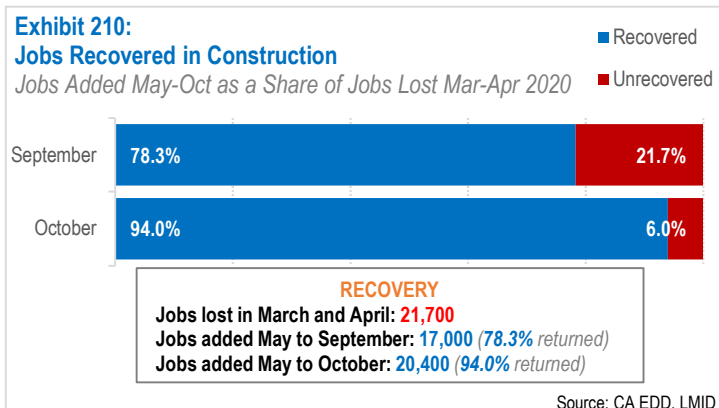
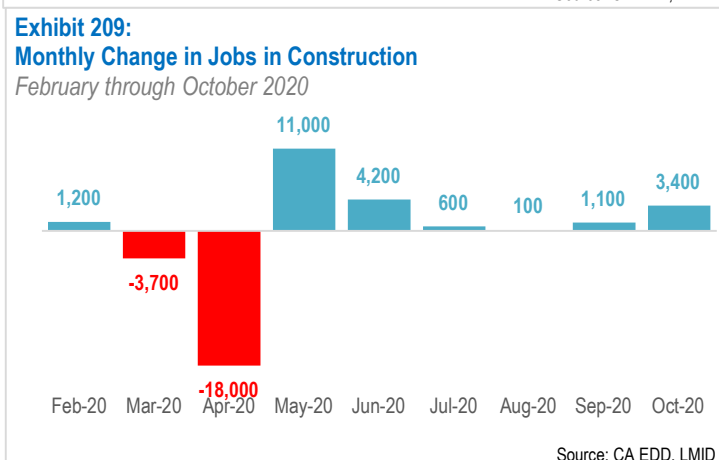
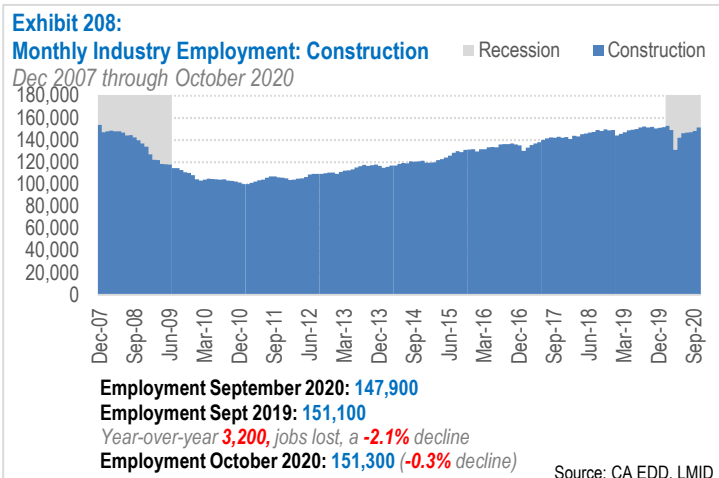
To see how the industry has been affected by the pandemic, we examine wage and employment data in the construction industry in Los Angeles County.

Employment in the three component industries of construction from December 2007 through October 2020 is displayed in Exhibit 208. Even with the pandemic and stay-at-home orders, the continued operation of this industry led to September 2020 employment falling by just 2.1 percent year-over-year, with jobs 3,200 jobs lost. This level of employment actually outpaces figures from the end of the Great Recession, where the construction industry’s workforce in the county dove toward a ten-year low and has since been rebuilding.

The largest monthly declines in this industry’s employment occurred the months of March and April, with 3,700 and 18,000 jobs lost respectively. In May, 11,000 jobs were regained, and another 9,400 as well in between June and October (Exhibit 209).

When comparing the number of jobs added from May through October of 2020 to the number of jobs lost in March and April, we can gain some insight on where the recovery process stands in this industry. Construction lost 21,700 jobs between March and April of this year, but **94.0 percent of the jobs lost have been recovered (Exhibit 210)**. As of October 2020, the industry is just 1,300 workers below its pre-pandemic employment level.

The average annual wages in the construction industry’s subsectors are varied, but they all lie near or above the average county wage and



well above the living wage. Heavy and civil engineering construction has average wages above \$100,000, while construction of buildings lies at nearly \$75,000. Specialty trade contractors are slightly below the average county wage of \$67,100, but the average pay in this industry of \$62,200 is quite good and allows workers to provide for themselves and their families (Exhibit 211).

Workforce Characteristics

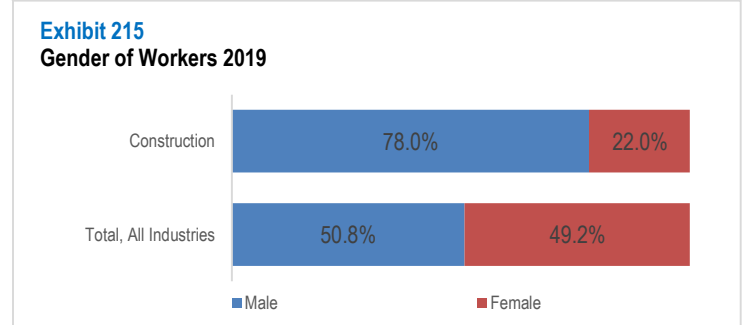
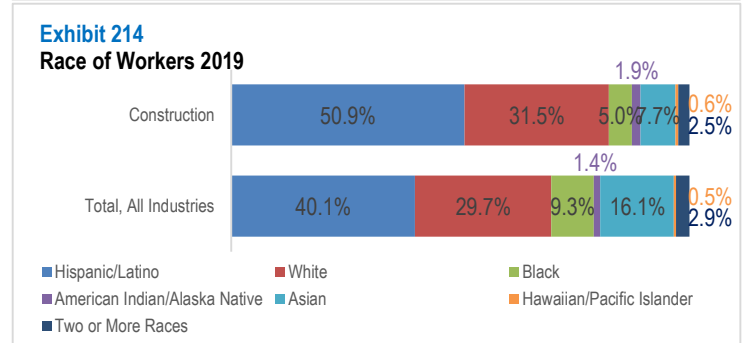
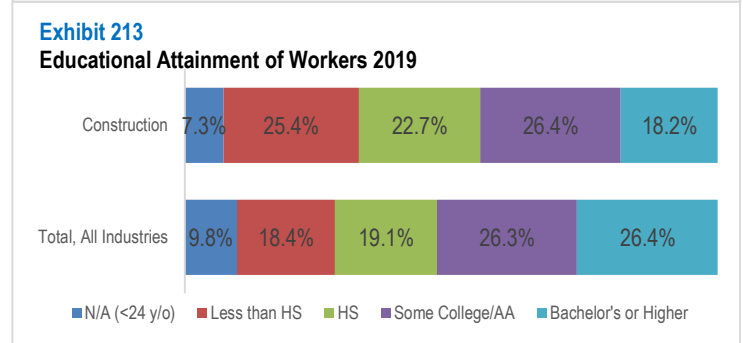
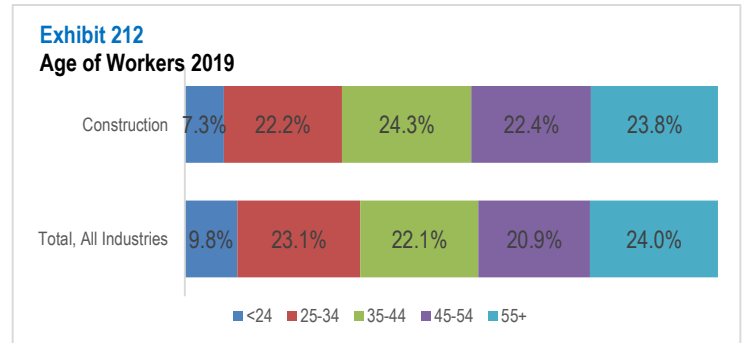
Key Takeaways

- Lower levels of education in construction are concerning and would have had a large negative impact had this industry been forced to shut down.
- Hispanic and White workers are predominant in this industry with nearly 80% of all employees.

In 2019, the construction industry in Los Angeles County was predominantly Hispanic (50.9%), followed by White (31.5%), Asian (7.7%), and Black (5.0%) employees (Exhibit 6-24). Over 80% of the workforce are Hispanic or White workers, while the proportion of Asian and Black workers is well down from county averages.

The construction workforce is quite representative of the county workforce by age. While there are slightly more workers between 35 and 54, the proportions are roughly the same (Exhibit 212). However, 25.4% of employees had less than a high school education, 22.7% had completed just high school and only 18.2% had a bachelor's degree or higher (Exhibit 213). Unsurprisingly, the workforce is predominantly male, with only 22% of employees identifying as female (Exhibit 215).

This industry would have been a prime candidate for serious job losses and financial



hardship among employees had it closed, as over 50% of workers are Hispanic and 48.1% have a high school education or less — demographics that were ranked highest for unemployment claims filed in early 2020. Furthermore, there would have been few available occupations open for construction employees that lost their jobs, as many of these workers are lower-skilled and would have struggled to fill the remaining employment positions that require a higher level of education. Fortunately, this industry has stayed open throughout the pandemic, and as a result not that many jobs have been lost. Construction firms must consider stronger safety policies for their employees, as becoming sick and missing multiple weeks of work would have a heavy financial impact for many individuals working in this industry.



Occupations Most Impacted in the Construction Industry

Each industry is comprised of workers across many occupations. Occupations are grouped according to criteria such as job duties, skills, education and on-the-job training. Based on the occupational composition of this industry, the LAEDC has identified the top-five occupations likely to have been impacted by the pandemic and provides estimates of the change in jobs from February through October of 2020.

1. (SOC 47-2031) Carpenters: *an estimated 210 jobs added*
2. (SOC 47-2061) Construction Laborers: *190 jobs added*
3. (SOC 47-2111) Electricians: *an estimated 130 jobs added*
4. (SOC 47-1011) First-Line Supervisors of Construction Trades and Extraction Workers: *an estimated 100 jobs added*
5. (SOC 47-2152) Plumbers, Pipefitters, and Steamfitters: *an estimated 90 jobs added*

Foot Traffic - Targeted Growth Industries

Construction Offices and Storefronts

-NAICS 23: Construction Offices and Storefronts

The Construction sector is comprised of establishments involved in construction of buildings, engineering of projects, preparation of site for new construction, and subdividing land for sale. This sector encompasses new sites, alterations, additions, repairs, and maintenance work.

While the construction sector foot traffic experienced a sharp decline immediately following the outbreak COVID-19 pandemic, it is important to note that the foot traffic tracked for this industry does not include

construction sites, but rather offices and

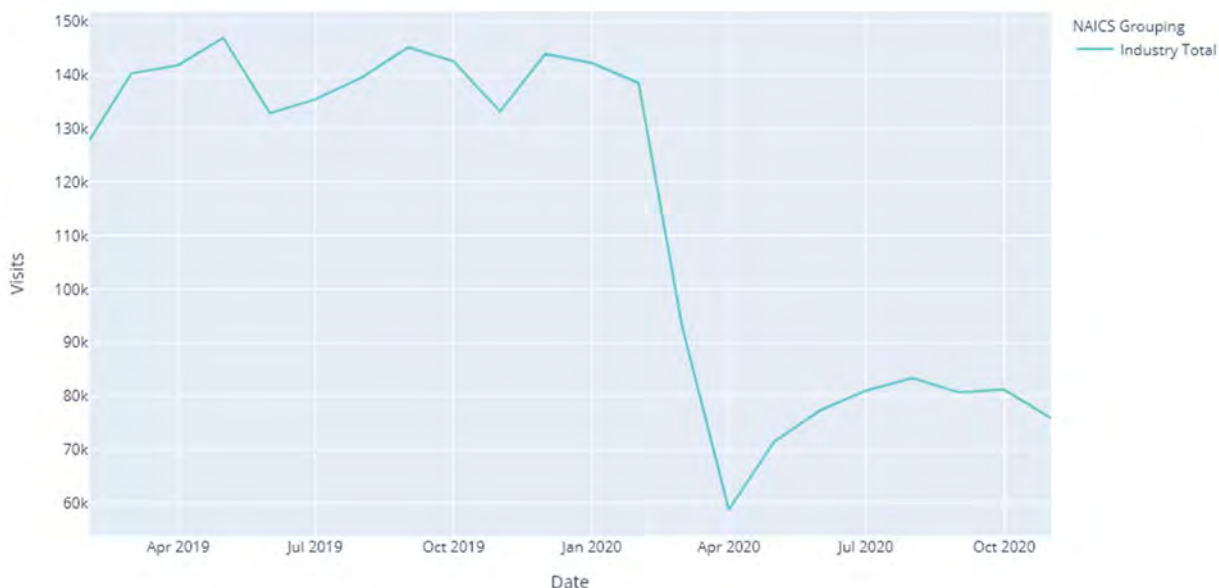
Exhibit 216: Top Construction Offices and Storefronts Points-of-Interest in the Greater Los Angeles Region

#	Construction
1	Ewing Irrigation & Landscape Supply
2	Goldstone Enterprises
3	Mr. Plumber Westlake Village
4	Bathtub Reglazing Los Angeles
5	Santa Ana Plumbing

storefronts. Construction sites have proceeded nearly full steam ahead⁵⁵. According to research by CBRE, 39.5 million square feet of industrial, office, and multifamily properties is currently underway. This level of construction in the region has not

Exhibit 217

Visits by Month for the Construction Industry (Naics Code: 23)



⁵⁵ Madans, Hannah. 2020. "Most Construction Projects Are Continuing At A Strong Clip Despite COVID". Labusinessjournal.Com.

<https://labusinessjournal.com/news/2020/nov/16/construction-projects-continue-despite-covid/>.

been seen since the 1980s. Thus, it is important to note that the following foot traffic estimates are not representative of the strength of the construction industry.

From April 2019 to April 2020, foot traffic for construction points-of-interest declined by 51.72 percent. This large decline was followed by another period of contraction. Activity decreased by 13.94 percent from April to December 2020.

Compared to other industries, offices and storefronts is faring well when it came to closures. The industry only faced 203 establishment-days where traffic fell below 5 percent of the pre-COVID average. Only about 10 firms were estimated to have closed their doors for 7 or more consecutive days.

The low number of closures can likely be attributed to the high amount of demand the construction industry is currently facing. Additionally, employment for the industry sector has recovered within a margin of 5 percent for the MSA⁵⁶. Construction should continue to occur into the economic recovery, posturing Los Angeles well for a quick rehabilitation.



⁵⁶ Bureau of Labor Statistics and Federal Reserve Bank of St. Louis, All Employees: Construction in Los Angeles-Long Beach-Anaheim, CA (MSA) [SMU06310802000000001SA], retrieved

from FRED, Federal Reserve Bank of St. Louis;
<https://fred.stlouisfed.org/series/SMU06310802000000001SA>,

Health Care

- NAICS 621: Ambulatory Health Care Services
- NAICS 622: Hospitals
- NAICS 623: Nursing and Residential Care Facilities

The Health Care sector includes industries involved in providing health care to individuals. The three main industries included in this analysis are: Ambulatory Health Care Services (NAICS 621); Hospitals (NAICS 622); and Nursing and Residential Care Facilities (NAICS 623). Visits to these industries have declined both from April 2019 to April 2020 and from April to December 2020. This likely due to a combination of fear regarding the transmission of COVID-19 and desire to preserve resources for those who are infected such as most institutions no longer performing elective surgeries.

Ambulatory health care is commonly defined as health care which is performed on an out-patient basis, such as drawing blood, a CT scan, or a physical. Prior to the pandemic, ambulatory health care services accounted for 51.37 percent of total visits to the health care sector. This figure remained stable at 51.35 percent after the pandemic. Foot traffic for points-of-interest in the NAICS 621 industry fell by 62.58 percent from April 2019 to April 2020. Activity continued to decline by 43.88 percent from April to December 2020. Los Angeles experienced unprecedented levels of



infections throughout the fall, bringing back the same fears and concerns about transmission and using critical resources that caused an activity drop in the spring. The increase of visits in the summer has been reversed by the current COVID-19 spike.

Hospitals have also seen declining foot traffic in the wake of the pandemic. The share of total visits to the health care sector credited to hospitals has remained stable pre- and post-pandemic, with 39.58 percent and 39.41 percent, respectively. Hospitals saw a decline in visits of 52.41 percent from April 2019 to April 2020 and a decline of 52.21 percent from April to December 2020. This is consistent with prior intuition that fewer people are receiving elective surgeries. Health care is mainly focused on treating COVID-19 patients and performing critical operations as resources and staff are stretched thin. Additionally, the risk of transmission is high and growing in Los Angeles, so patients are

Exhibit 219: Top Health Care Industry Points-of-Interest in the Greater Los Angeles Region

#	<u>Ambulatory Health Care Services</u>	<u>Hospitals</u>	<u>Nursing and Residential Care Facilities</u>
1	DaVita	Kaiser Permanente	Sunrise Senior Living
2	HealthCare Partners Urgent Care	St Joseph Hospital	Brookdale Senior Living
3	Providence Health & Services	St Joseph Hospital Mother Baby Assessment Center	Pathways
4	Quest Diagnostics	Cedars Sinai Medical Center	Garden Park Care Center
5	Concentra	Ronald Reagan UCLA Medical Center	Atria Senior Living

avoiding physically entering hospitals for treatment when possible.

Nursing and residential care facilities also maintained a stable share of about 9 percent of the total visits both pre- and post-pandemic. Visits to these establishments intuitively dropped by 45.47 percent from April 2019 and April 2020, and again by 17.45 percent from April to December 2020. The risk of transmission was a deterrent from activity in these facilities that are home to at-risk populations. Thus, these facilities commonly shut down traffic from outside visitors to preserve the health of residents.

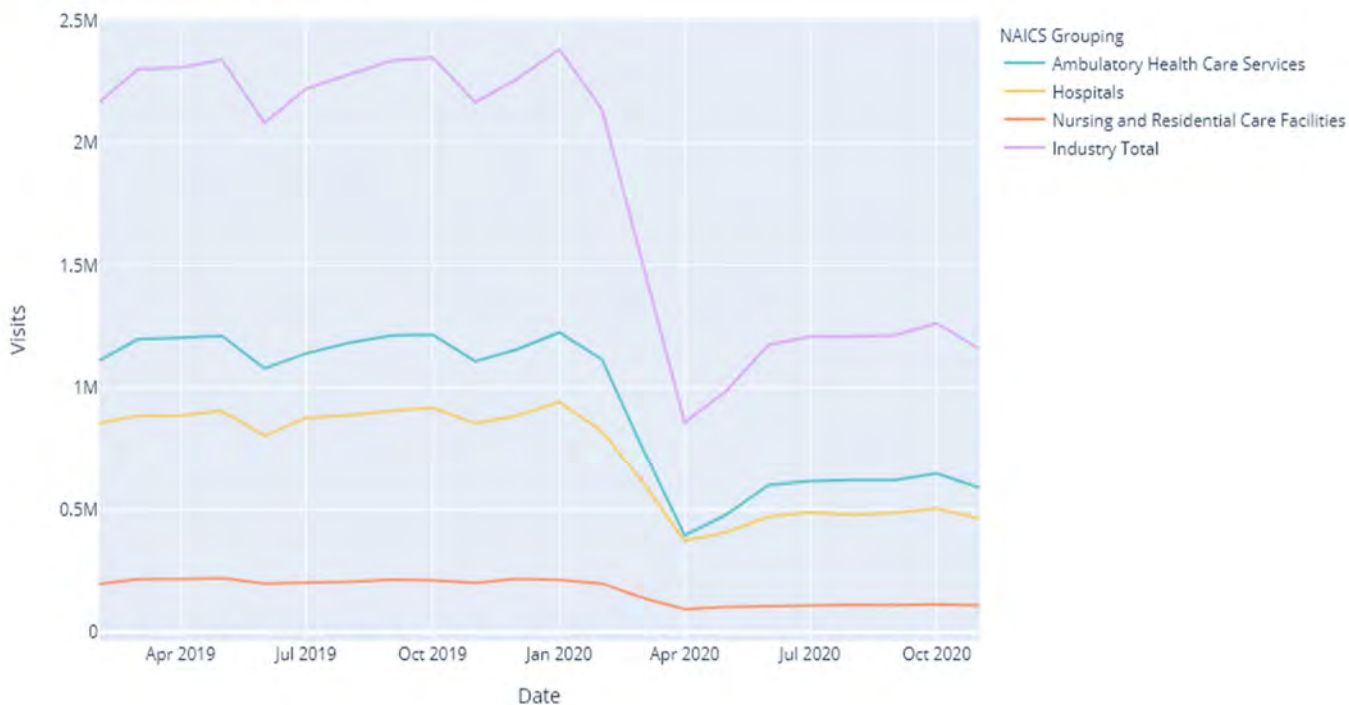
Out of the three industry groupings, only ambulatory health care services saw widespread temporary closures. An estimated 3,428 establishment-days were traffic dropped below the 5 percent level have been

tracked during COVID-19. About 140 establishments have been estimated to close their doors for seven or more consecutive days.

While it might seem counter-intuitive that some health-services have been shutting down since the beginning of COVID-19, many health services have not seen enough business to say open. Examples of ambulatory health care services which closed include dentists' offices, chiropractic offices, sleeping aid offices, outpatient plastic surgery offices, and herbal or alternative medicine providers. This trend is also evidenced in Exhibit 221, wherein ambulatory health care services saw a larger proportional drop relative to its counterparts. While foot traffic is down for ambulatory health care providers, employment in the industry is nearly back to full employment in the MSA⁵⁷.

Exhibit 220

Visits by Month for the Health Care Industry
(Naics Codes: 621, 622, 623)



⁵⁷ U.S. Bureau of Labor Statistics and Federal Reserve Bank of St. Louis, All Employees: Education and Health Services: Ambulatory Health Care Services in Los Angeles-Long Beach-Anaheim, CA

(MSA) [SMU06310806562100001SA], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/SMU06310806562100001SA>

Healthcare remains a crucial industry during the COVID-19 pandemic, as employment in the industry is projected to grow through the pandemic and level off afterwards. Healthcare workers continue to treat the now over 700 thousand COVID-19 cases in the County, attempting to ward off the pandemic until a vaccine is found.



Exhibit 221

Visits Index by Month for the Health Care Industry
(Naics Code: 621, 622, 623)

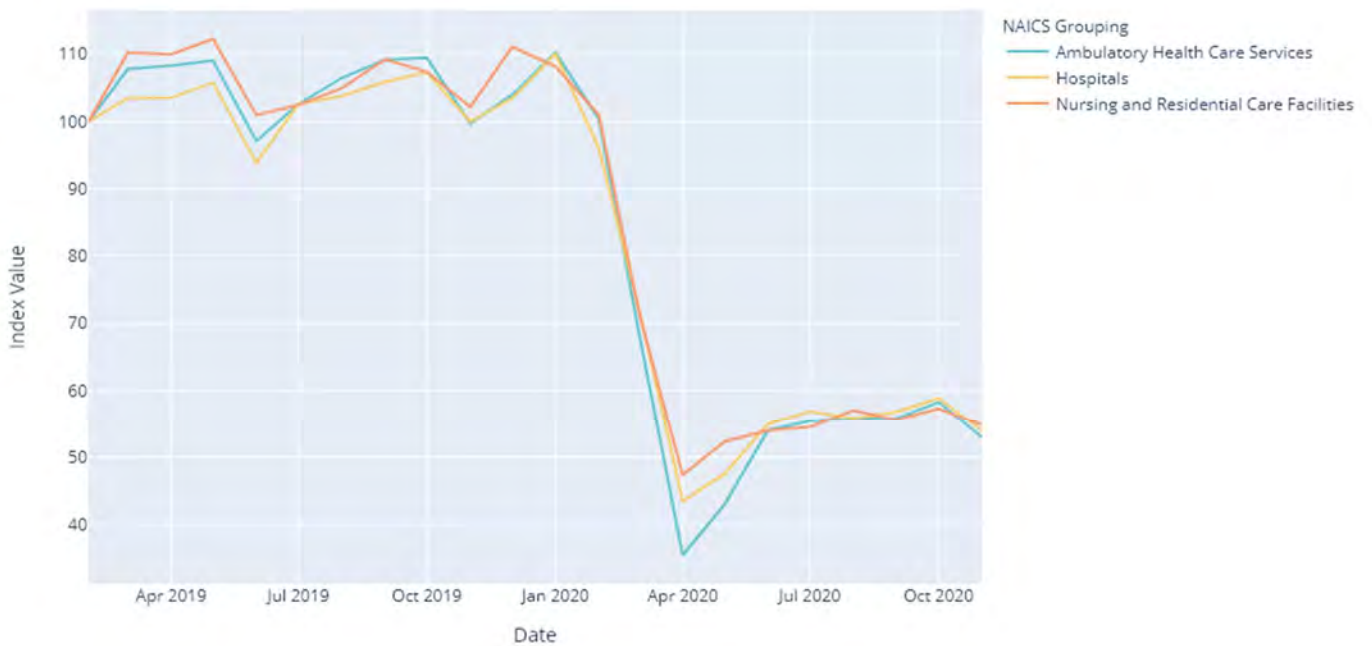
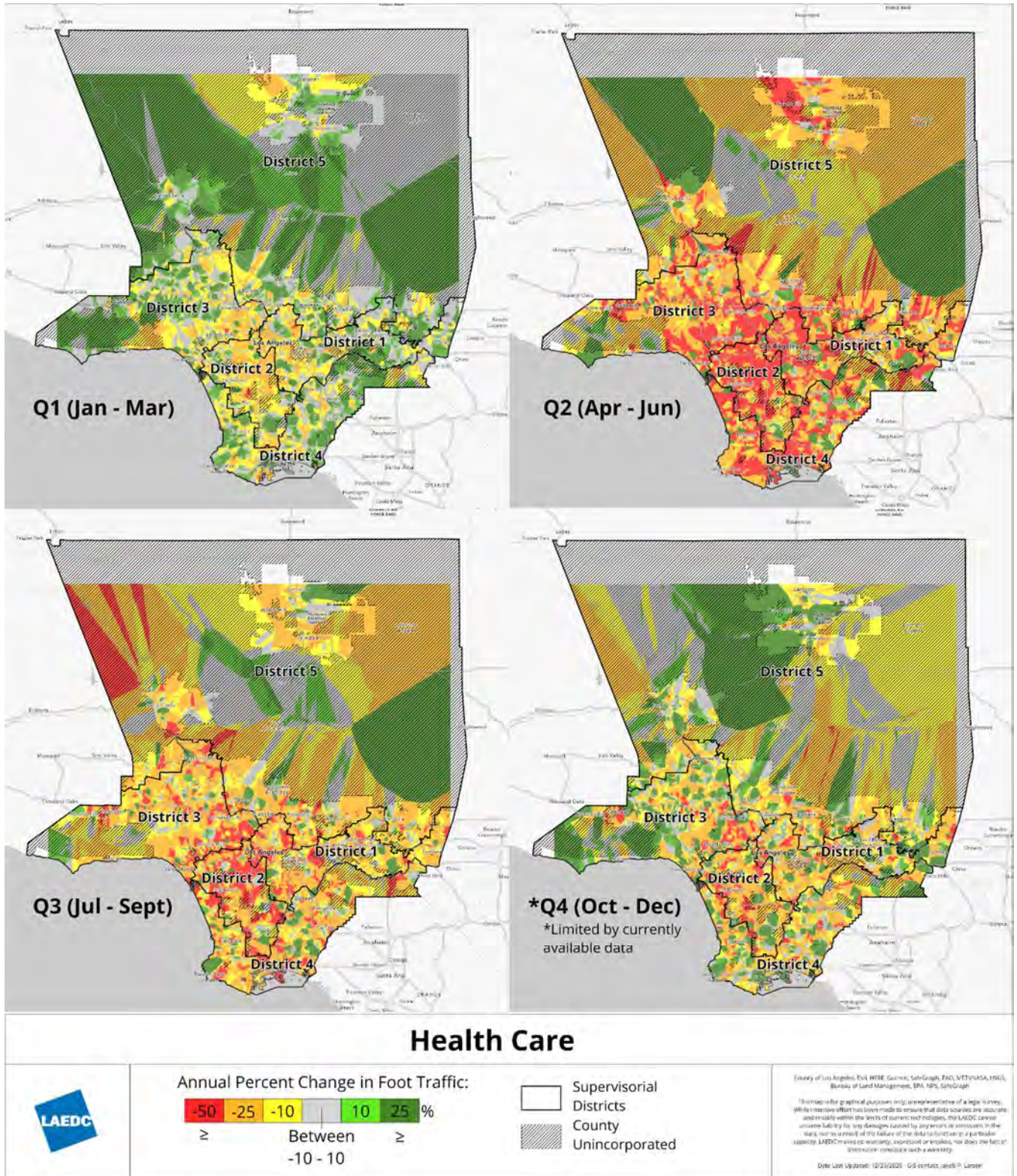


Exhibit 222:
Health Care Services Foot Traffic Mapped by Quarter



Transportation and Warehousing

- NAICS 48: Generalized Transportation
- NAICS 49: Delivery Services and Warehousing

Generalized transportation and delivery services and warehousing are also included in the trade logistics section below. NAICS codes 48 and 49 are core to the transportation of goods and people throughout Los Angeles and its trade and travel partners. As such these codes are typically grouped together into NAICS sector 48-49, “transportation and warehousing”. NAICS code 48 includes transportation for goods by all mediums: air, sea, and ground (both rail and truck). While good transportation to and from Los Angeles is essential to the local and global economy, passenger transportation makes up the largest chunk of industry foot traffic. Los Angeles International saw an incredible 88 million passengers in 2019, a 56 percent increase from 2009⁵⁸. Thus, the major airports in the region are the top visited places in the grouping. Also included in NAICS code 48 are pipeline transportation and support activities for transportation such as air traffic control services.

NAICS code 49 includes delivery services and warehousing. For these businesses, storing and shipping goods to the over 10 million residents of Los Angeles County cost-effectively is essential. The most visited businesses in this grouping include shippers USPS, Fedex, UPS, as well as logistic company Kuehne + Nagel.

Exhibit 223: Top Transportation and Warehousing Points-of-Interest in the Greater Los Angeles Region

#	<u>Generalized Transportation</u>	<u>Delivery Services and Warehousing</u>
1	Los Angeles International Airport	United States Postal Service (USPS)
2	John Wayne Airport	FedEx
3	Zamperini Field Airport	UPS Customer Center
4	Long Beach Airport	OnTrac
5	Van Nuys Airport	Kuehne + Nagel

Exhibit 224
Visits by Month for the Transportation and Warehousing Industry
(Naics Codes: 48, 49)



⁵⁸ 10-Year Summary Of Passengers". 2020. Lawa.Org. <https://www.lawa.org/lawa-investor-relations/statistics-for-lax/10-year-summary/passengers>.

Per Exhibit 224, generalized transportation makes up over 90 percent of industry foot traffic. This is primarily due to airports in the region. The remaining 10 percent results from delivery services and warehousing. This should not lessen the importance of delivery services and warehousing and wholesale trade within the trade logistics industry. Simply, these subsections do not have the foot traffic to match the large airports in the region.

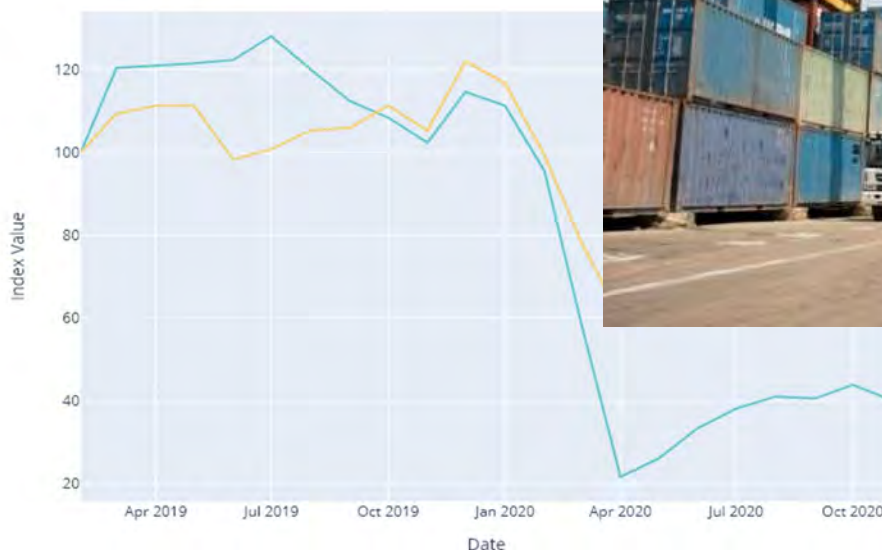
The transportation and warehousing industry saw major declines in foot traffic from April 2019 to April 2020. Generalized transportation incurred a 77 percent decrease in foot traffic year over year. Travel drove the foot traffic in the grouping, with the stay-at-home order initiating the massive drop. On the other hand, freight shipping is facing a bottleneck of backed up demand which is stifling the industry more than any potential lost demand⁵⁹. Delivery services and warehousing saw a similar drop of nearly 40 percent.

Generalized travel saw a foot traffic increase of 13 percent from April 2020 to December 2020. This was driven by consumers taking more flights and passenger rail services. On the other hand, delivery services and warehousing further saw a further decrease in foot traffic by 58 percent.

While foot traffic in shipping and warehousing businesses has decreased, business activity has provided a nice dichotomy. Per UPS, online orders are climbing sharply, shipping and warehousing companies have had difficulty matching demand while keeping everyone safe. With more automated warehousing technologies becoming available, such as automated inventory tracking, these businesses can attempt to meet the demand in a virus-conscious manner⁶⁰.

In line with the industry demand, estimated

Exhibit 225
Visits Index by Month for the Transportation and Warehousing (Naics Code: 48, 49)



closures in the industry are relatively low compared to the drop-in foot traffic. NAICS code 48 saw

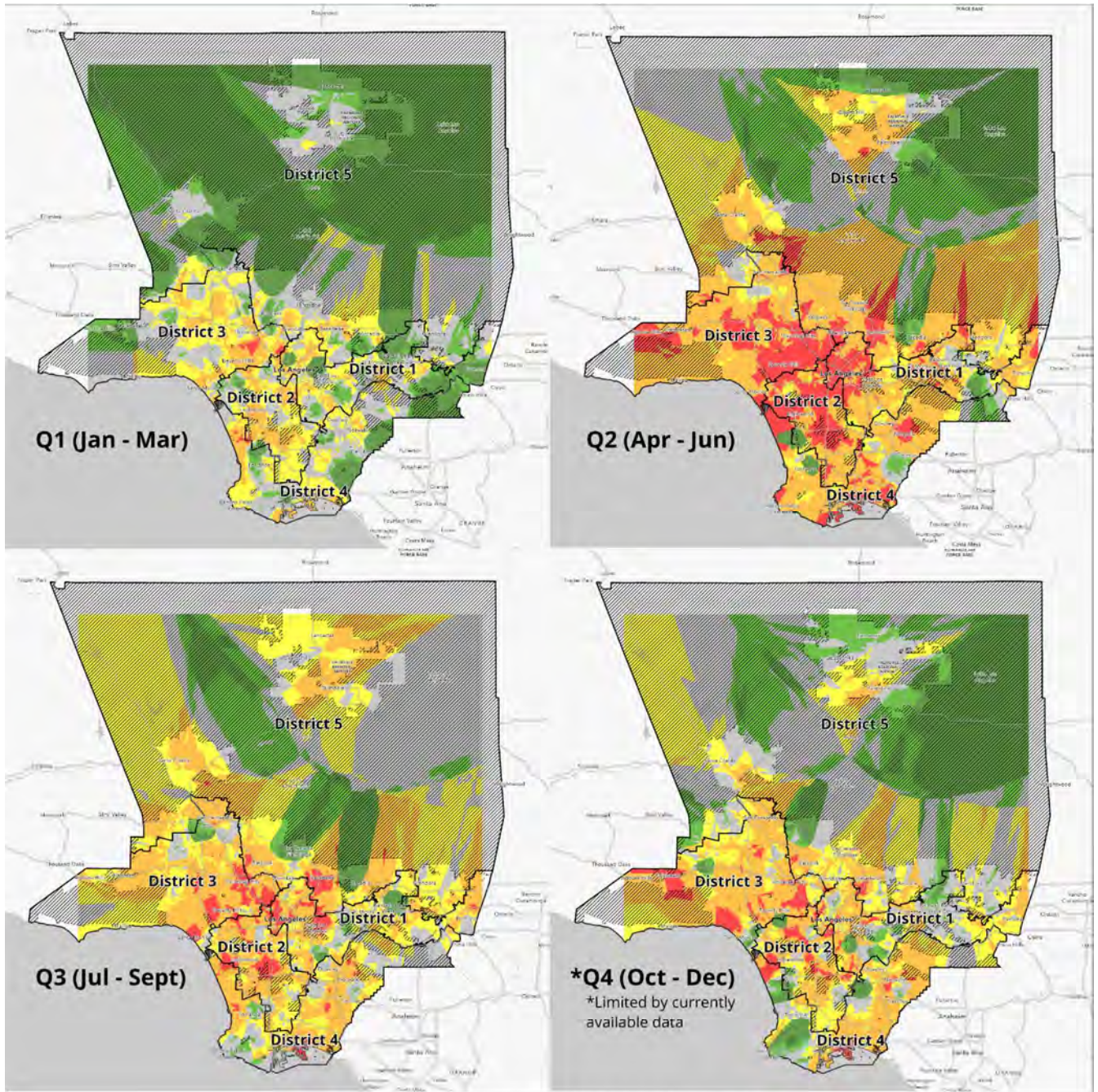
⁵⁹ Murray, Brendan. 2020. "Bottlenecks Wear Down World Economy's Fleet Of Container Ships". Bloomberg.Com. <https://www.bloomberg.com/news/articles/2020-12-22/bottlenecks-rattle-world-economy-backbone-of-container-shipping>.

⁶⁰ "Trends In Warehousing And Distribution For Changing Times - United States". 2020. Ups.Com.

<https://www.ups.com/us/en/services/knowledge-center/article.page?name=warehousing-distribution-trends&kid=art173b583b35e>.

around 350 establishment-days in which businesses saw less than 5 percent of the pre-COVID-19 average foot traffic. The delivery services and warehousing grouping only saw approximately 165 of the establishment-days. Both groupings saw 10 or less establishments which were closed for 7 or more consecutive days. Transportation and warehousing have certainly seen a decrease in foot traffic because of COVID-19. Regardless, the industry remains a critical growth industry for the region.

Exhibit 226:
Transportation and Warehousing Foot Traffic Mapped by Quarter



Transportation and Warehousing

	<p>Annual Percent Change in Foot Traffic:</p> <p> -50 -25 -10 10 25 % </p> <p> ≥ Between ≥ -10 - 10 </p>	<p> Supervisorial Districts County Unincorporated </p>	<p><small>County of Los Angeles, EPA, HUD, US HHS, San Diego, RAND, METRO, USAID, Bureau of Land Management, EPA, APD, DataCrunch</small></p> <p><small>This map is for general purposes only; it is not a warranty of a legal matter. While reasonable effort has been made to ensure that data sources are accurate and reliable within the limits of current technology, the LAEDC cannot assume liability for any damages caused by any errors or omissions in the data, nor as a result of the failure of the data to function in a particular capacity. LAEDC makes no warranty, expressed or implied, nor does the fact of dissemination constitute such a warranty.</small></p> <p><small>Data Last Updated: 12/29/2020 - GIS Contact: jared@laedc.org</small></p>
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Job Posting Data

This section will visualize the change in market conditions resulting from the pandemic. This series of maps shows the quarter-over-quarter percentage change in the number of publicly recorded job posts from 2019 to 2020.

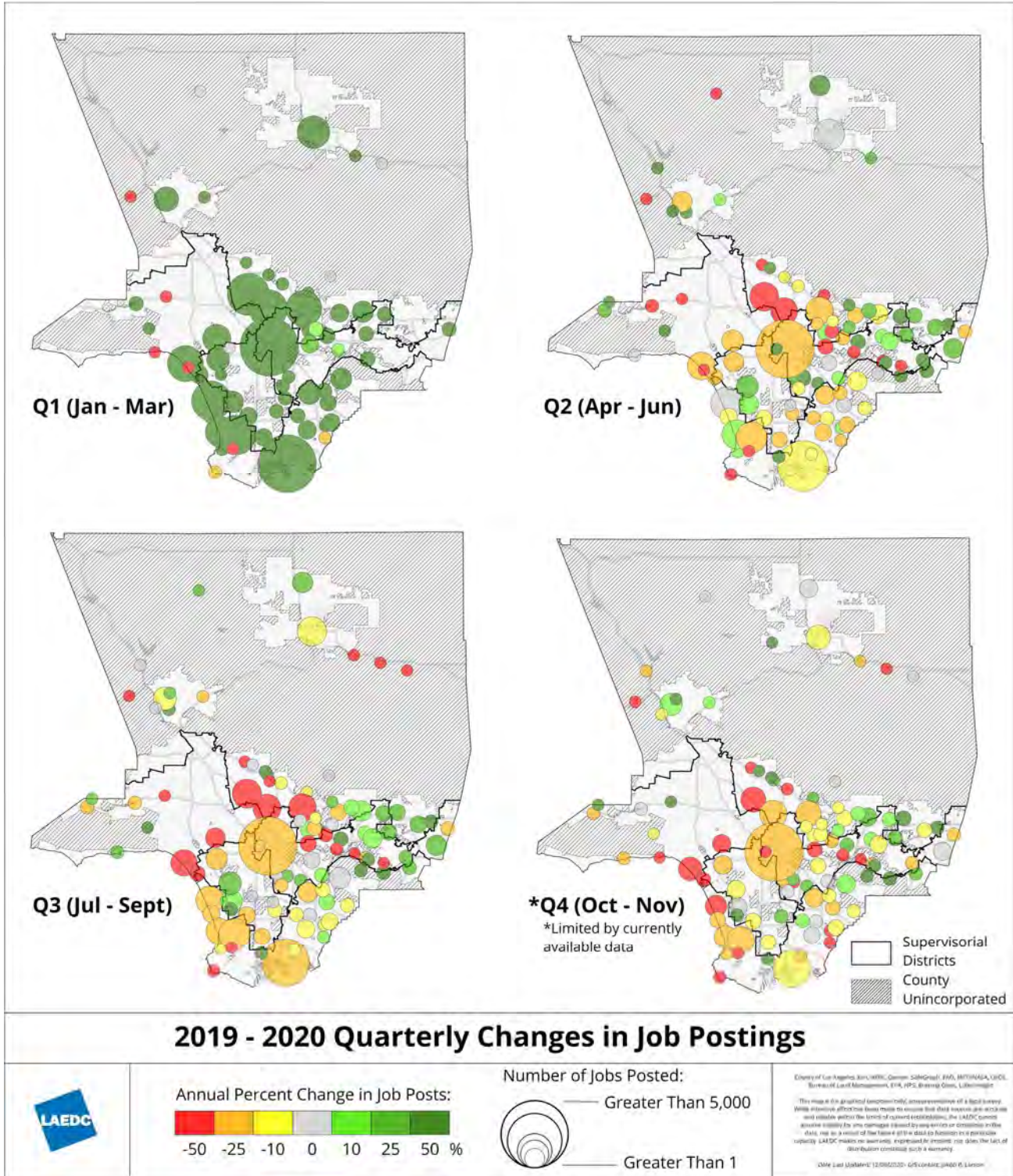
Job posts were downloaded from data provider LaborInsight and grouped by city to show locational distribution and the extent that cities have been impacted by the virus. We ran a geocoding service on the job posting data, which created a GIS points layer of associated cities.

These points are geographically centered, and do not represent the actual size or shape of the corresponding city's administrative boundary.

These points are symbolized by the percentage change (color) in job posts from one annual quarter to another and by the volume (size) of job posts in that city for the calendar quarter. The points help track when and where target industries were most impacted by the pandemic.

*Please note that the 4th Quarter results for 2020 are inconclusive due to available data at the time of the study. Q4 of 2020 only has data up until 11/30/2020.

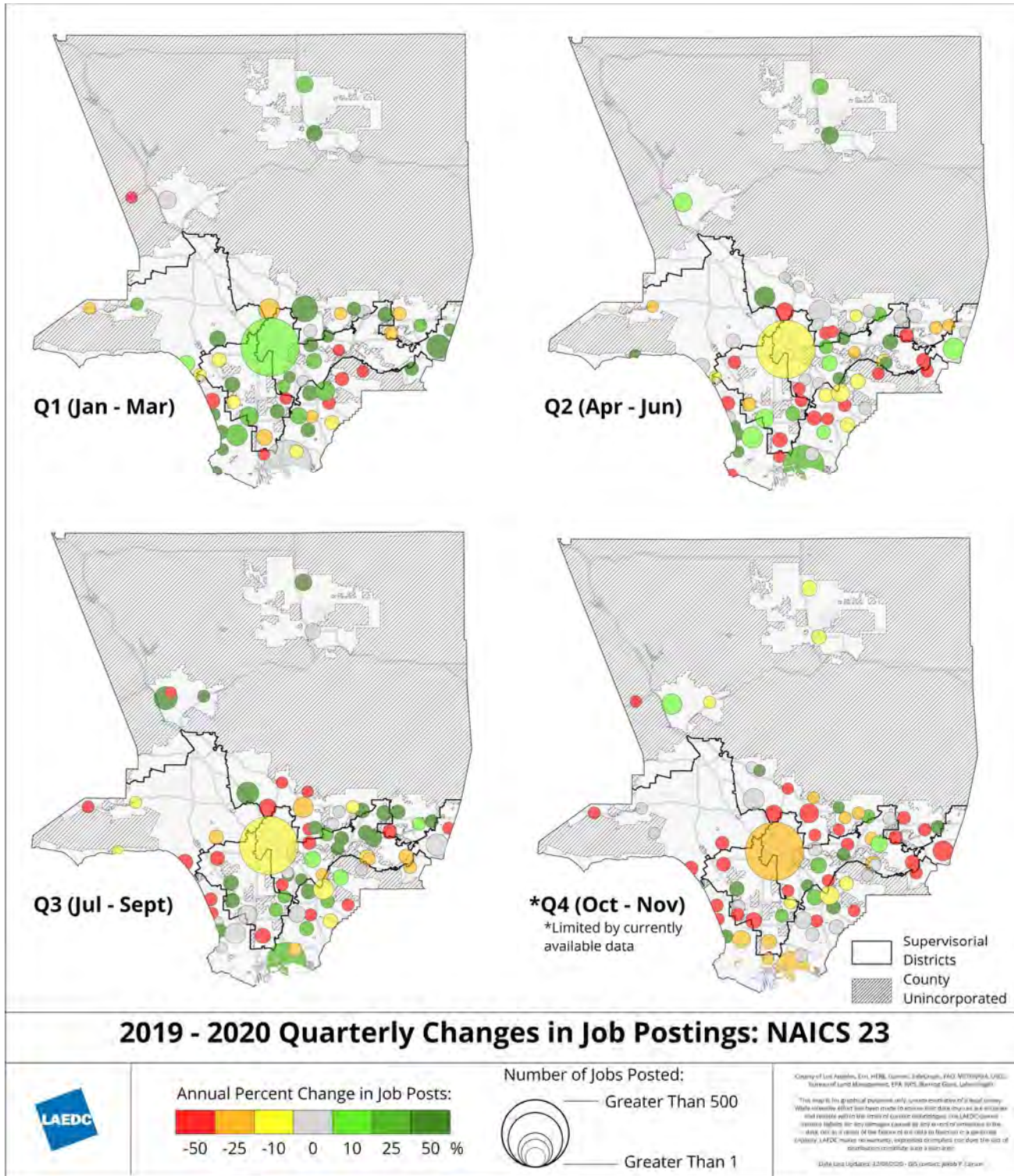




This map is an overview of job posts related to all industries within this project: Hospitality (721); Arts, Entertainment and Recreation (71); Personal Care and Laundry Services (812); Motion Picture and Sound Recording (512); Non-Essential Retail (442, 448, 451, 452); Aerospace (3364); Infrastructure (23, 517); Health Care (621, 622, 623); and Transportation and Warehousing (48-49). The 2020 Q1 Los Angeles job market was outperforming that of 2019. In Q2, the pandemic brought about a rapid decline of job postings across the county.

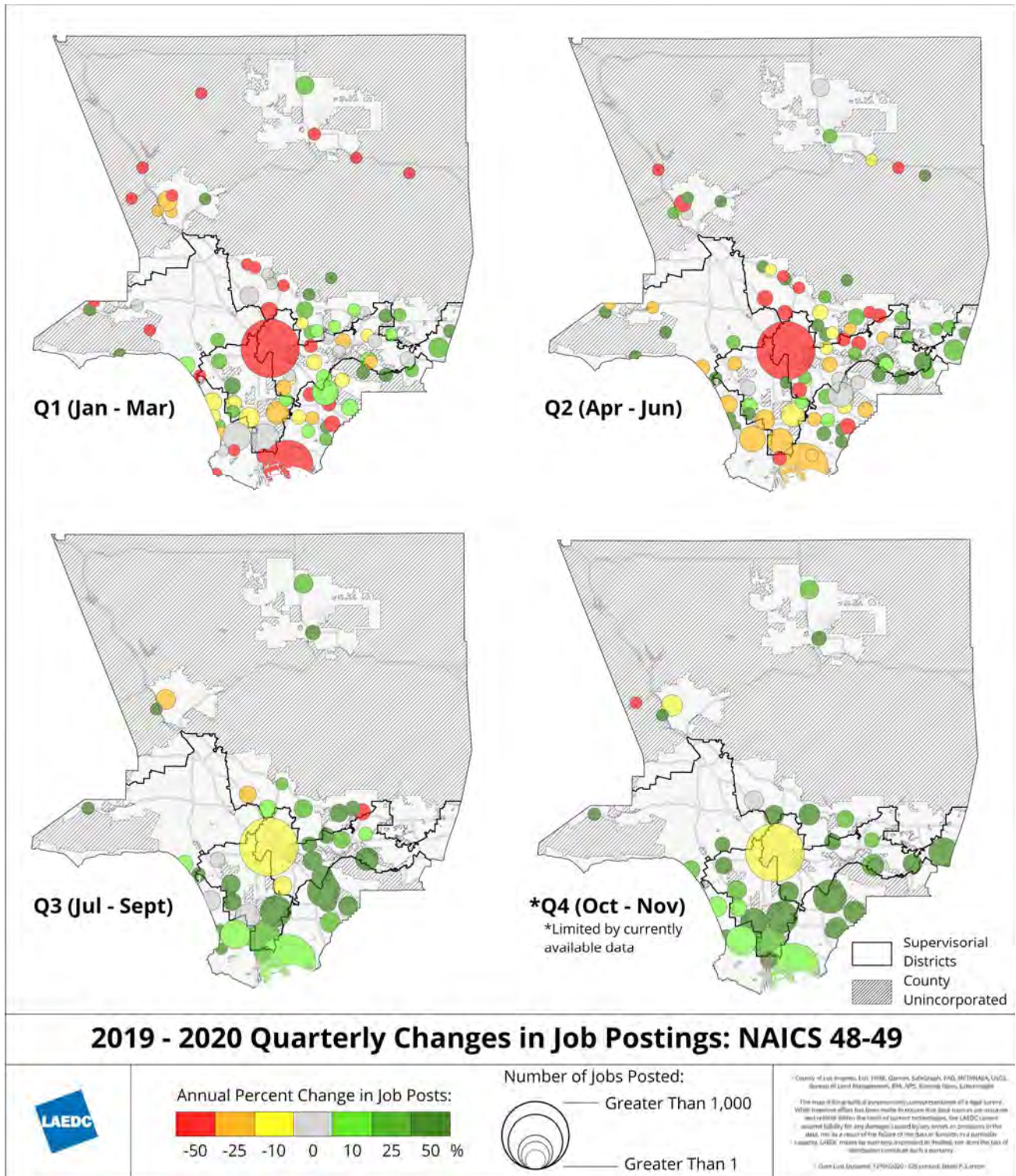
Exhibit 228

2019 to 2020 Quarter-Over Changes in Job Postings: Construction (NAICS 23)



The next three maps, including this one, are industry specific. Exhibit 228 shows the quarterly changes for NAICS 23, or Construction. This industry group was a part of the early 2020 job market success. However, Q2 saw nearly 1,100 fewer job posts. The summer months started to pick up slightly, but still sat about 8 percent lower than they did in 2019.

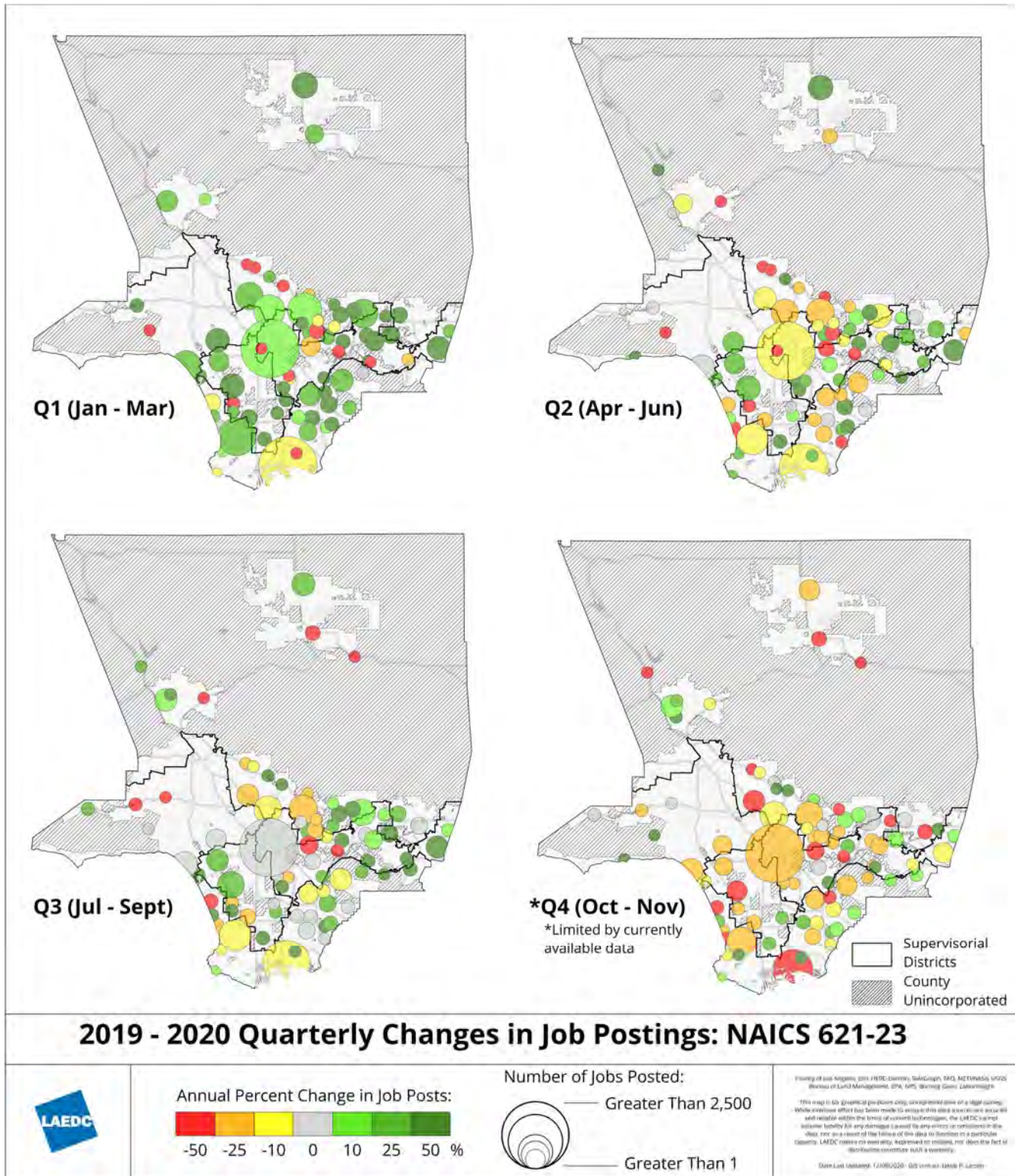
2019 to 2020 Quarter-Over Changes in Job Postings: Transportation and Warehousing (NAICS 48-49)



Transportation and Warehousing is one of the few industries that experienced quarter-over declines in job posts for Q1 and Q2, but quarter-over increases in the second half of the year. Job postings rose in Q4. Though the 2020 data only accounts for posts in the quarter up until the end of November, the industry appears to have outgrown 2019 numbers by 30 percent.

Exhibit 230

2019 to 2020 Quarter-Over Changes in Job Postings: Healthcare Services (NAICS 621-23)



NAICS 621, 622, and 623 comprise the Health Care industry. Q1 saw quarter-over growth. Though job postings in Q2 declined, the percentage lost is not nearly as much as other industries within the County.

All Project Related Industries				
Job Posts	Q1	Q2	Q3	Q4*
2019	61,446	90,445	96,506	69,397
2020	96,654	71,603	73,452	55,747
Percent Change (+/-)	36%	-26%	-31%	-24%

Construction (NAICS 23)				
Job Posts	Q1	Q2	Q3	Q4*
2019	5,206	5,338	5,841	5,860
2020	6,005	4,926	5,256	4,291
Percent Change (+/-)	13%	-8%	-11%	-37%

Transportation and Warehousing (NAICS 48-49)				
Job Posts	Q1	Q2	Q3	Q4*
2019	14,182	12,900	11,663	10,772
2020	10,248	8,990	14,756	15,476
Percent Change (+/-)	-38%	-43%	21%	30%

Health Care (NAICS 621, 622, 623)				
Job Posts	Q1	Q2	Q3	Q4*
2019	33,293	33,676	34,548	35,022
2020	37,430	31,001	33,952	27,141
Percent Change (+/-)	11%	-9%	-2%	-29%



Other Key Industries

There are several key industries regularly tracked by the County of Los Angeles. These key industries have experienced the pandemic differently. Key industries not already covered in the previous two sections or in the following section on frontline industries are discussed here.

Other Key Industries in Los Angeles County Include:

- **Trade and Logistics: Wholesale Trade**
- **Aerospace**
- **Infrastructure: Telecommunications and Utilities**

Trade and Logistics: Wholesale Trade

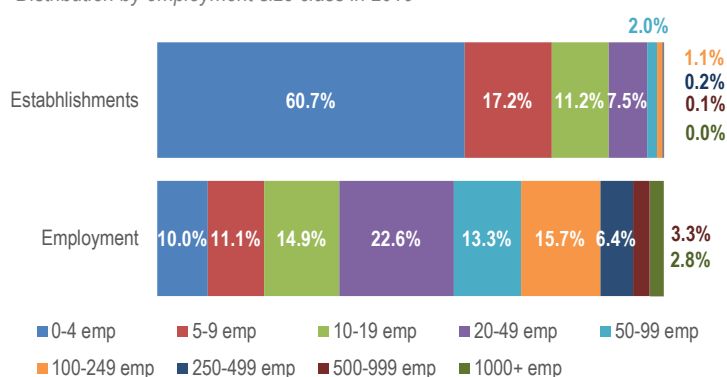
Trade and logistics include transportation industries (NAICS 48-49, which was already covered previously) and wholesale trade.

Wholesale trade is broadly divided into three components: merchant wholesalers of durable goods (those with a normal life expectancy of three or more years); merchant wholesalers of nondurable goods (those with a normal life expectancy of less than three years); and wholesale electronic markets and agents and brokers.

There are clusters of wholesale trade activity in districts throughout Los Angeles County: the fashion district, toy district, flower district, jewelry district, and so on. The fashion district spans more than 100 blocks in the heart of Downtown LA., featuring more than 2,000 independent and wholesale businesses. Overall, the county had more than 21,000 wholesale businesses employing close to 218,000 people in 2019.



Exhibit 231: Wholesale trade Establishments in LA County
Distribution by employment size class in 2019



Source: CA EDD

Wholesale trade is by far the largest industry in the trade and logistics sector by employment. However, most operations are relatively small in terms of the number of employees. Employment size for close to 61 percent of all wholesale trade establishments falls between zero to four employees (Exhibit 231).

Wholesale trade establishments with 20 or more employees only represented about 8 percent of all establishments in the sector. While operations with up to four employees accounted for over half of the sector's establishments, in terms of overall employment among all size classes, they only represented 10 percent of wholesale employment in the county. The larger wholesale operations were fewer in number, but they provided the bulk of jobs in the

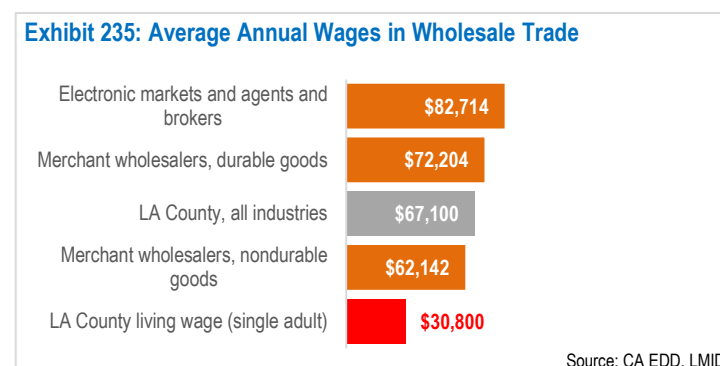
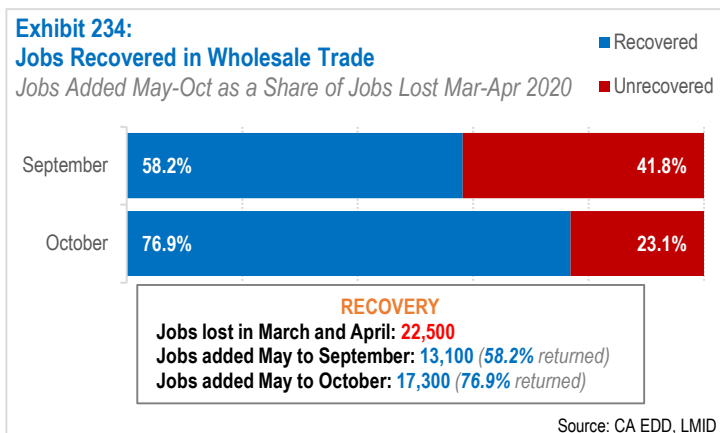
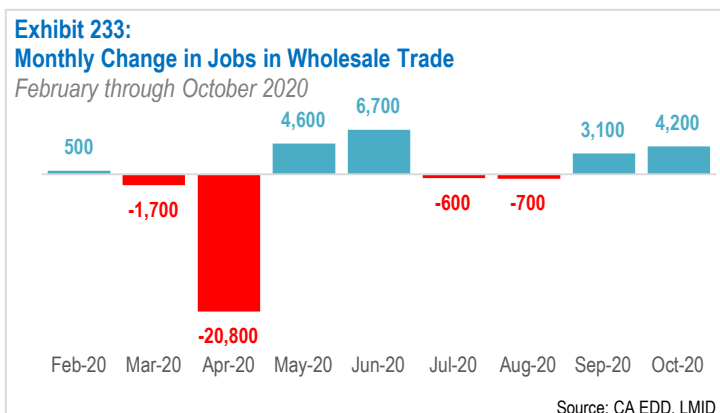
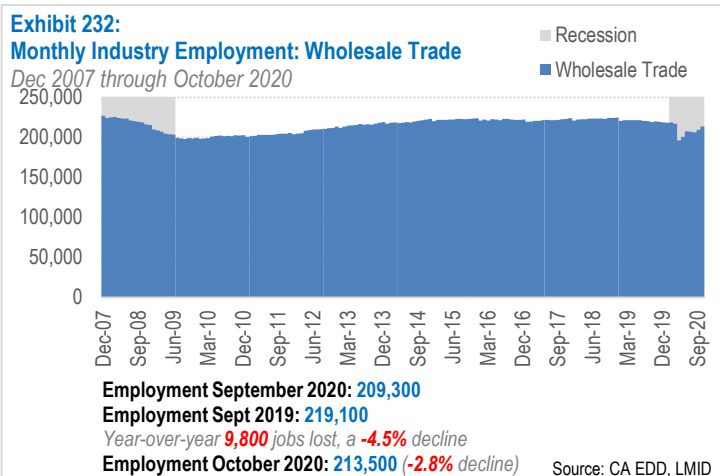
industry in 2019. Wholesale establishments with between 20 to 49 employees account for approximately 8 percent of establishments yet provide the largest share of employment in the industry with close to 23 percent of all wholesale jobs. Establishments with fifty employees or more provided 45 percent of jobs in the wholesale industry in establishments which represent only 11 percent of all establishments in the sector.

The consolidation of employment across relatively few wholesale operations presents a threat to this industry from the lens of workers. The pandemic has negatively impacted the demand for wholesale goods. Businesses across Los Angeles are facing financial hardships stemming from mandatory closures, and as such the demand for inputs that are normally purchased from wholesalers is decreasing. The fact that few companies are responsible for the bulk of employment in the wholesale industry means that the fate of many workers will be decided by the policies of a small handful of companies.

Industry Employment and Wages

To see how the industry has been affected by the pandemic, we examine wage and employment data in the wholesale trade industry.

Los Angeles County’s wholesale trade employment from December 2007 through October 2020 is displayed in Exhibit 232. The industry experienced only minor job losses through the pandemic, with September 2020 employment down 4.5 percent year-over-year, a decline of 9,800 jobs. The number of wholesale trade employees in the county has fallen to around the employment level at the end of the Great Recession, cancelling out the



modest gains that had been made throughout the decade.

The largest monthly declines in wholesale trade employment occurred the months of March and April where 22,500 combined jobs were lost (Exhibit 233). In the six months following, four of these months posted employment growth over 2,000; the months of July and August both lost jobs as further restrictions on reopening were imposed.

When comparing the jobs gained between May and the month of October 2020 to the number of jobs lost in March and April, we gain some insight on where the industry stands in its recovery process. The wholesale trade industry lost over 22,500 jobs between March and April of this year, and 76.9 percent of the jobs lost have been recovered. As of October 2020, wholesale trade is still 5,200 jobs below its pre-pandemic employment level (Exhibit 234).

The average annual wage among the component industries of wholesale trade varies between \$62,000 and \$82,000, meaning that these workers enjoy average wages similar to the average county wage and far



above the living wage in LA County. Merchant wholesalers of nondurable goods make about \$62,000 per year on average while wholesalers of durable goods make over \$72,000. Electronic markets and agents and brokers is the most lucrative industry with wages close to \$83,000, but all these industries appear decently well off (Exhibit 235).

Occupations Most Impacted in the Wholesale Trade Industry

Each industry is comprised of workers across many occupations. Occupations are grouped according to criteria such as job duties, skills, education and on-the-job training. Based on the occupational composition of this industry, the LAEDC has identified the top-five occupations likely to have been impacted by the pandemic and provides estimates of the change in jobs from February through October of 2020.

1. (SOC 41-4012) Sales Reps, Wholesale/Mfg, not Tech/Scientfc Prod: *an estimated 160 jobs added*
2. (SOC 53-7062) Laborers & Freight/Stock/Mat'l Movers, Hand: *an estimated 90 jobs added*
3. (SOC 53-7065) Stockers and Order Fillers: *an estimated 50 jobs added*
4. (SOC CODE: 43-5071) Shipping/Receiving/ Inventory Clerks: *an estimated 40 jobs added*
5. (SOC CODE: 43-4051) Customer Service Representatives: *an estimated 40 jobs added*

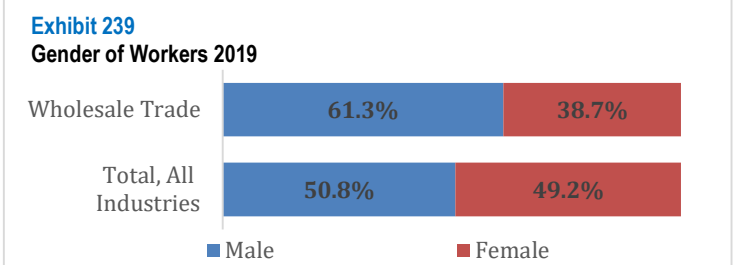
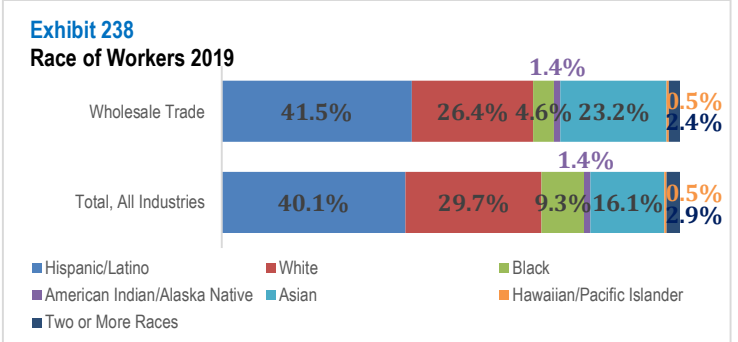
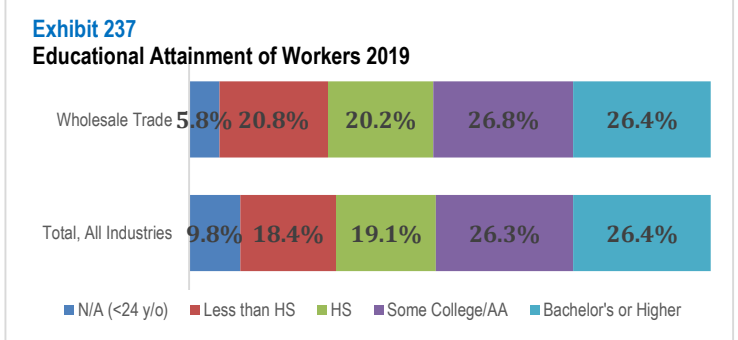
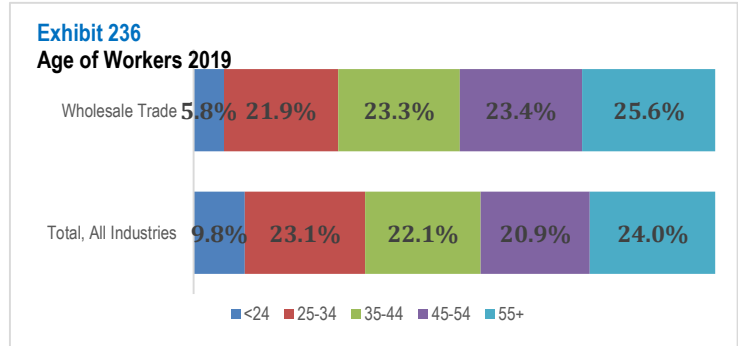
Workforce Characteristics

Key Takeaways

- The workforce is largely representative of the overall county workforce, with higher proportions of Asian workers and male workers; unemployment did not hit too hard across these employees.

In 2019, the wholesale trade industry in Los Angeles County was predominantly Hispanic (41.5 percent), followed by White (26.4 percent), Asian (23.2 percent), and Black (4.6 percent) employees (Exhibit 238). Although the proportions of Hispanic and White workers are roughly similar to those of the overall county workforce, there is a much higher proportion of Asian workers in wholesale trade, and much fewer Black workers.

When examining the industry by other demographics, the proportions are mostly representative of the county workforce across all industries, with notable changes being a lower proportion of workers below the age of 24 and a higher number of male workers (Exhibit 237, 239).



Aerospace

The aerospace industry is a staple of Los Angeles County's economy. Facilities like the Jet Propulsion Laboratory in Pasadena and NASA Armstrong Flight Research Center in Palmdale attract top engineering talent from around the world and develop new technologies with cutting-edge research. Major aerospace firms like Northrop Grumman, Raytheon, Boeing, Lockheed and more have offices or headquarters in the county, making this region a center for technological advancement, intellectual property, and scientific discovery.

The pandemic has affected players within the aerospace industry unequally. Times of global instability can cause international tension. This tension has positively impacted companies that serve the U.S. military's demand for missiles, jets, and other advanced weaponry⁶¹. Aerospace companies in the business of defense are not facing the same strains as those operating in commercial flight. In fact, defense contractors are doing better than usual during the pandemic⁶².

The decrease in travel and tourism as a result of stay-at-home mandates and international travel bans have negatively impacted the commercial aerospace industry, as demand for commercial aircraft has declined. Boeing estimated that most medium-term demand in the near future would come from carriers replacing older model planes, a stark change from expansionary times in which medium-term demand would be driven by growth

purchases. As an example, airlines and aircraft-leasing firms have cancelled around 10 percent of outstanding MAX orders from Boeing this year⁶³. Order cancellations are likely to continue as the current COVID-19 spike rages. The holiday season usually brings about increased travel, but this year demand will be negatively impacted by travel advisories, quarantines, and fear of virus transmission through airports and airlines.

The demand for commercial flight will take a few years to return to normalcy. Vacations and business trips will be some of the last features of pre-pandemic lifestyles to return. Many people are comfortably working from home and will continue remote communication until the risk of transmission is low. Companies operating in commercial aerospace must innovate to survive these challenging times.

Fortunately, many of the major aerospace companies located in Los Angeles County are also positioned to focus more heavily on space technology instead of aircraft production. Boeing's defense and space unit generated 44 percent of its revenue in the first two quarters of 2020, compared to 34 percent the year prior. The industry can also diversify further, as the Joint Propulsion Laboratory has developed a NASA-designed COVID-19 ventilator (VITAL) to free up the nation's limited supply of traditional ventilators.

With a good degree of federal funding and the ability to quickly transition from aircraft manufacturing to space technology in the short-term, the aerospace industry has been

⁶¹ Gregg, A. (2020, November 3). *Coronavirus opens a stark divide in America's aerospace industry*. The Washington Post. Retrieved 2020.

⁶² Ibid

⁶³ Tangel, A., & Pasztor, A. (2020, November 18). *Boeing 737 MAX Cleared to Fly Again, but Covid-19 Has Sapped Demand*. The Wall Street Journal. Retrieved 2020.

resilient during the pandemic and in many cases has proceeded without pause. Even in April 2020, the worst month for employment across nearly all industries, aerospace leader Northrop Grumman continued to hire new talent and interns, albeit with communication done through online interviews and job fairs.

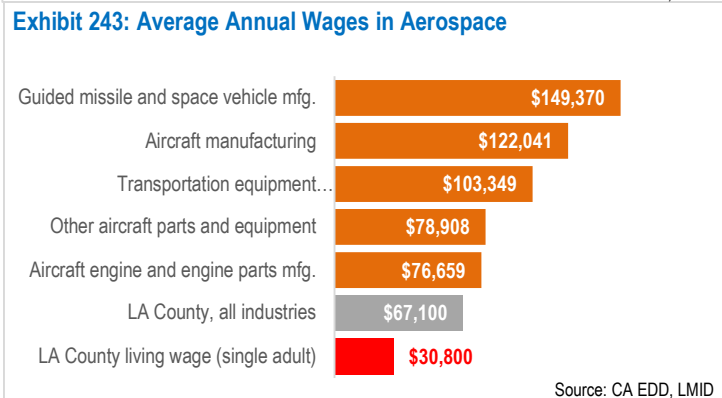
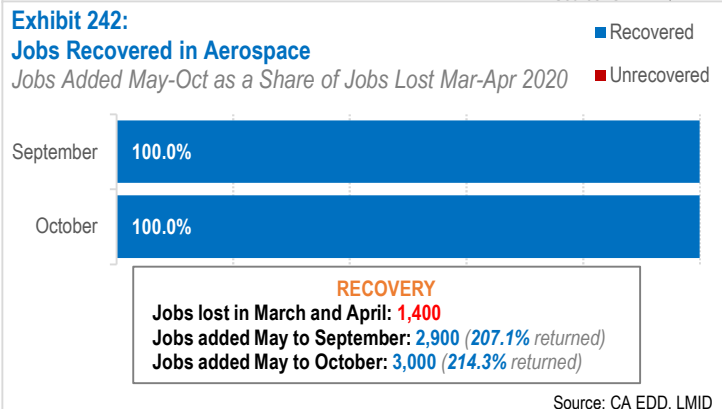
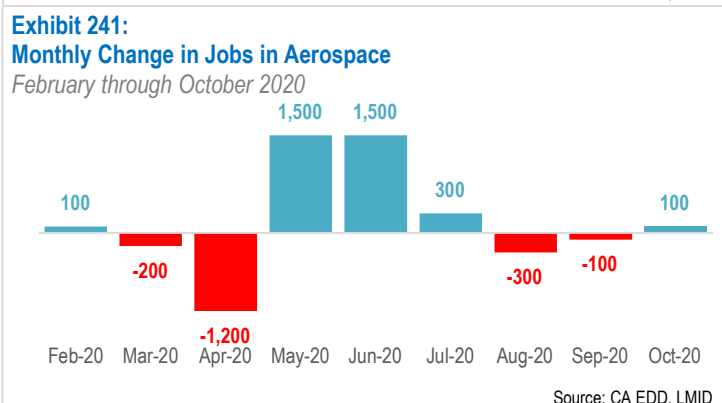
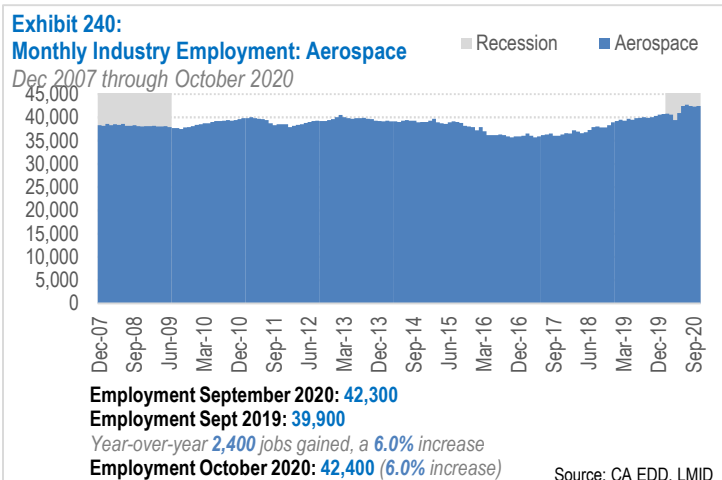
Industry Employment and Wages

To see how the industry has been affected by the pandemic, we examine wage and employment data in the aerospace industry.

Los Angeles County’s aerospace employment from December 2007 through October 2020 is displayed in Exhibit 240. With little job loss throughout the pandemic, the industry saw September 2020 employment gaining by 6.0 percent year-over-year, with 2,400 jobs added. The number of aerospace employees in the county reached a low point in 2016, but since then it has steadily risen to its highest point in over a decade in 2020.

The largest monthly declines in this industry’s employment occurred the months of March and April, where a combined 1,400 jobs were lost. These losses were entirely recouped in a single month, as the aerospace added 1,500 jobs in May and another 1,800 in the two months after that (Exhibit 241). The transition to online work has allowed employees to perform their jobs from home, saving many from potential layoffs.

When comparing the number of jobs added from May through October of 2020 to the number of jobs lost in March and April, we can gain some insight on where the recovery process stands in this industry. Aerospace has **recovered over 100 percent of the jobs that were lost in March and April of this year**



(Exhibit 242). As of October 2020, the industry is 1,600 workers above its pre-pandemic employment level.

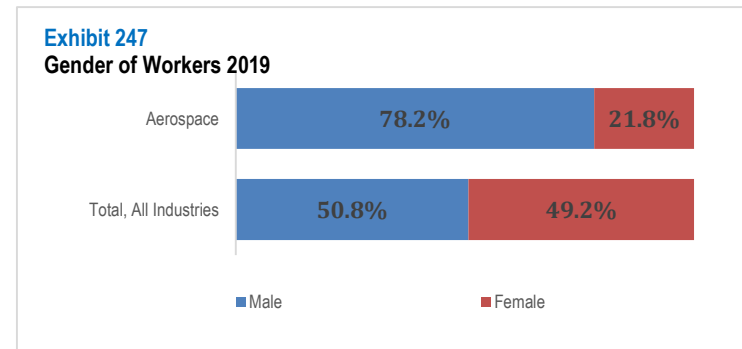
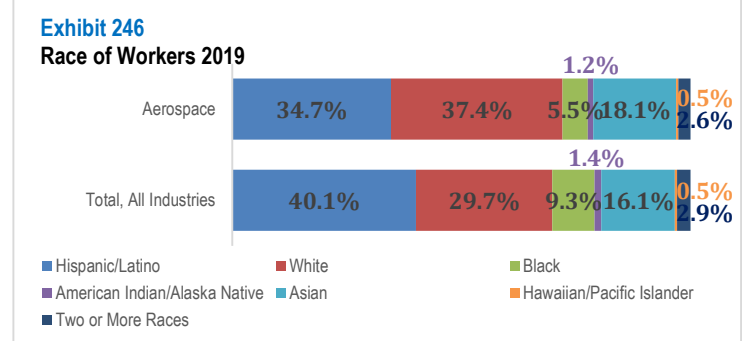
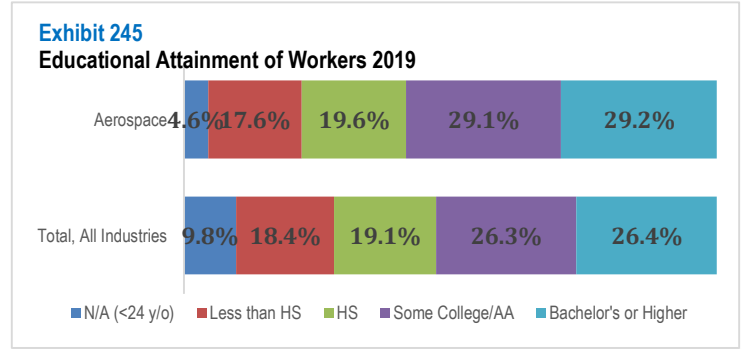
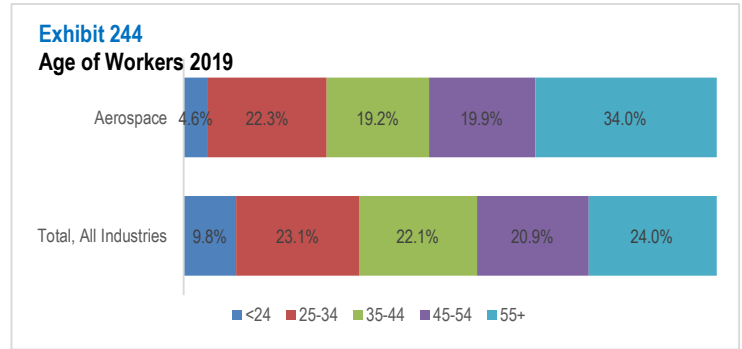
The average annual wages in the component industries of aerospace are quite high, as most workers have a high degree of education. Guided missile and space vehicle manufacturing workers command average salaries of nearly \$150,000; as this industry has become a main focus for aerospace firms, these jobs are currently incredibly attractive. Aircraft manufacturing has average wages above \$120,000, but stagnant demand for aircraft could pose a potential threat as the health crisis continues (Exhibit 243). The remaining aircraft and transportation industries all pay above the average wage in Los Angeles County of \$67,100 by at least \$9,000. Aerospace has been a lucrative and distinguished industry in the region for years, and it has continued to operate at a high level throughout the pandemic, keeping its workers protected from economic insecurity.

Workforce Characteristics

Key Takeaways

- The workforce is older and highly educated, which has prevented a great deal of job losses.
- Men are disproportionately represented in this industry, with nearly 80% of all employees.

In 2019, the aerospace industry in Los Angeles County was predominantly White (37.4 percent), followed by Hispanic (34.7 percent), Asian (18.1 percent), and Black (5.5 percent) employees (Exhibit 246). There is a much higher proportion of White workers in aerospace than in the overall county workforce, and a higher proportion of Asian workers as well. In contrast, the Hispanic and



Black workforces are below their county averages.

The aerospace workforce is defined by older, educated men. Just 2.7 percent of workers were under the age of 24, while 41.5 percent of the workforce was between 25 and 44 and the remaining 53.9 percent above the age of 45 (Exhibit 244). Meanwhile, nearly 30 percent of employees had a bachelor's degree or higher and another 29 percent had some college education or an associate degree. There are a fair number of workers with a high school education or below, but this is less common (Exhibit 245). Finally, the workforce is dominated by men, with 78.2 percent identifying as male (Exhibit 247).

The prevalence of telework in the industry has allowed most workers to retain their jobs, as many with higher levels of education can operate from home and the remaining that are on site have the ability to operate under safe social distancing requirements.



Additionally, workers aged 45 and above are often more secure in their careers and have a lower chance of becoming unemployed due to developed expertise and connections; workers aged 45 and higher were less than 50 percent as likely to file unemployment insurance claims compared to workers aged 20-24. The older average age of the aerospace workforce has contributed to the lack of employment losses during the pandemic as well.

Occupations Most Impacted in the Aerospace Industry

Each industry is comprised of workers across many occupations. Occupations are grouped according to criteria such as job duties, skills, education and on-the-job training. Based on the occupational composition of this industry, the LAEDC has identified the top-five occupations likely to have been impacted by the pandemic and provides estimates of the change in jobs from February through October of 2020.

1. (SOC 15-1256) Software Developers and Software Quality Assurance Analysts and Testers: *an estimated 150 jobs added*
2. (SOC 17-2112) Industrial Engineers: *an estimated 100 jobs added*
3. (SOC 17-2011) Aerospace Engineers: *an estimated 70 jobs added*
4. (SOC 51-4041) Machinists: *an estimated 60 jobs added*
5. (SOC 17-2141) Mechanical Engineers: *an estimated 60 jobs added*

Infrastructure: Telecommunications and Utilities

The facets of infrastructure that enable remote communication and information sharing have become even more critical over the course of the pandemic. Telecommunications services are essential to living and working from home. This industry includes sectors around internet connectivity, broadband access, telephone service, and television. In the midst of a global pandemic and widespread business closures, the ability to efficiently operate online is becoming a necessity now more than ever before. Disparities between those who have stable internet access and those who do not will likely grow because of virtual classrooms, communities, and workplaces.

Large telecommunications companies have acknowledged the importance of internet connectivity by pledging not to disconnect users who have missed payments during the pandemic. AT&T, Charter Communications, Verizon, Cox, and Comcast all made commitments to leniency early in the spring⁶⁴. These announcements that data caps would be removed for sixty days and customers would not be penalized for late payments testify to the essential nature of virtual communication at a time where face-to-face interaction is restricted.

The necessity of remote communication tools during the pandemic ensures relatively stable demand for residential telecommunications services. Cutting-edge companies such as Twitter and Facebook have permanently



offered the option to work from home, which indicates that the virtual lifestyle may be here to stay⁶⁵. Furthermore, virtual events have the potential to become larger part of everyday life in the future. The demand for fast internet access in residential spaces will continue to grow even after the risk of coronavirus infection has diminished.

Conversely, demand for telecommunications services in commercial spaces will be negatively impacted by the pandemic in the long run. Companies that are facing long-term, or even permanent closures are likely to cancel telecommunications contracts until restrictions are lifted, as cost minimization is a priority for struggling businesses. With many employees working from home, the need for robust internet and phone packages is waning. Business closures represent a major threat to telecommunications companies, as contracts with operations facing permanent shutdown may never be renewed.

⁶⁴ James, M. (2020, March 16). *You won't lose internet service as coronavirus spreads. Here's why*. Los Angeles Times. Retrieved 2020.

⁶⁵ Kelly, J. (2020, May 26). *Here Are the Companies Leading the Work-From-Home Revolution*. Forbes. Retrieved 2020.

The increased demand for residential services may not be enough to entirely offset the loss of demand in commercial spaces. This industry is predicted to continue contracting in employment over the next few years in Los Angeles County; this could potentially be caused by lack of demand for services in commercial spaces overshadowing the gain in demand for residential telecommunications services.

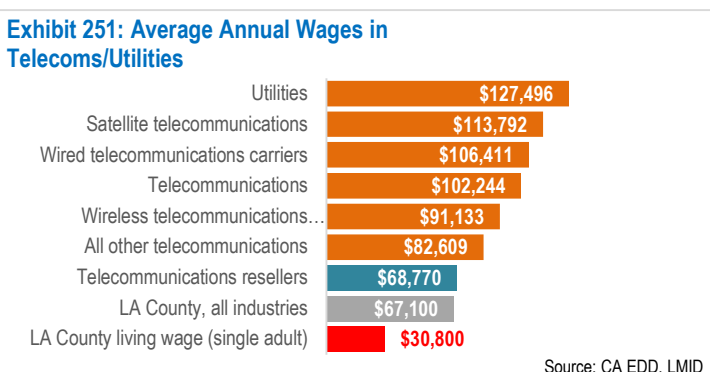
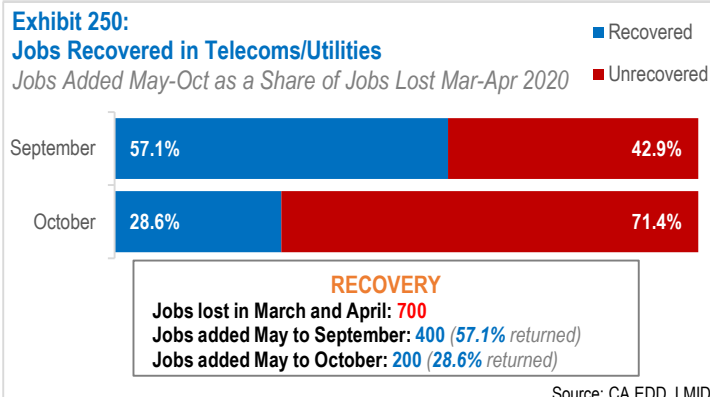
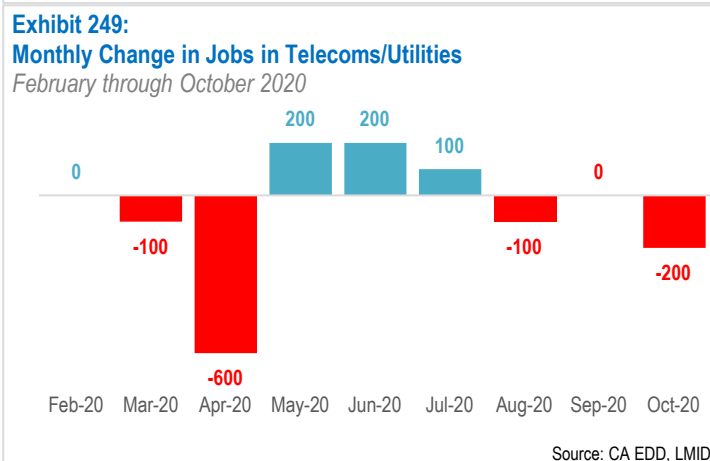
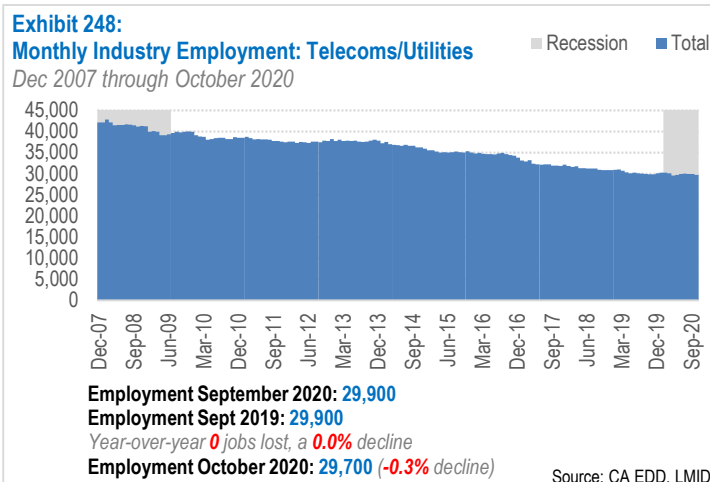
Industry Employment and Wages

To see how the industry has been affected by the pandemic, we examine wage and employment data in the telecommunications and utilities industries.

Los Angeles County’s telecommunications and utilities employment from December 2007 through October 2020 is displayed in Exhibit 248. With little job loss throughout the pandemic, year-over-year employment was actually stagnant, with the same number of jobs in September 2019 and 2020. With industry employment falling gradually throughout the decade, it is unlikely that these figures would be significantly different in the absence of the pandemic.

The largest monthly declines in this industry’s employment occurred the months of March and April, where a combined 700 jobs were lost. While employment gained 500 workers from May to July it again began to decrease in August and beyond (Exhibit 249).

When comparing the number of jobs added from May through October of 2020 to the number of jobs lost in March and April, we can gain some insight on where the recovery process stands in this industry. Telecommunications and utilities has



recovered 28.6 percent of the jobs that were lost in March and April of this year (Exhibit 250). As of October 2020, the industry is 500 workers below its pre-pandemic level.

The average annual wages in the component industries of telecommunications and utilities are quite high given the low employment numbers. Telecommunications itself has an average annual wage above \$100,000, while satellite telecommunications and wired telecoms carriers have even higher. While the rest of the industries are below six figures, they are all above the average county wage of \$67,100. Utilities leads all industries with an average wage of nearly \$130,000 (Exhibit 251).

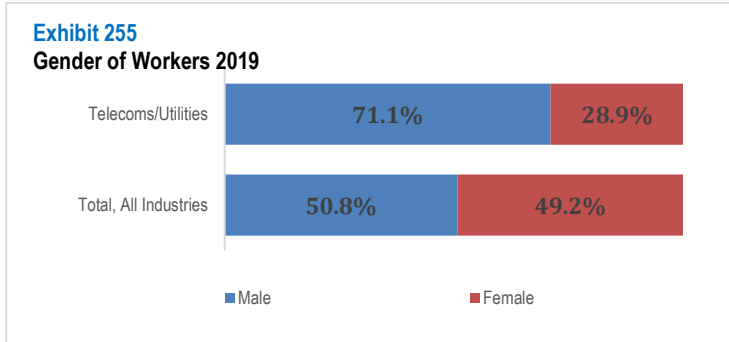
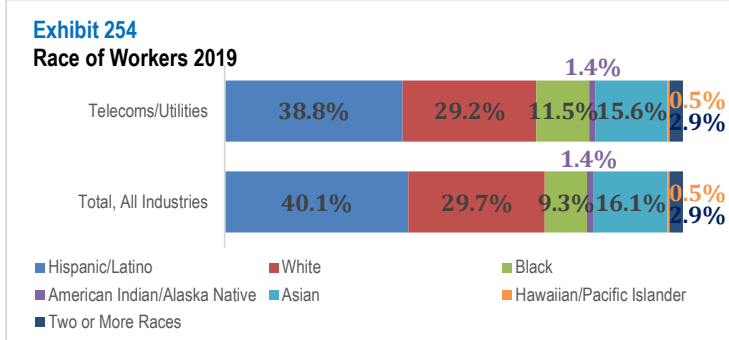
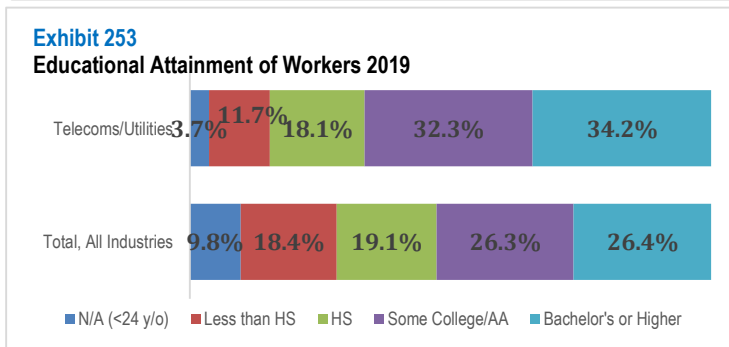
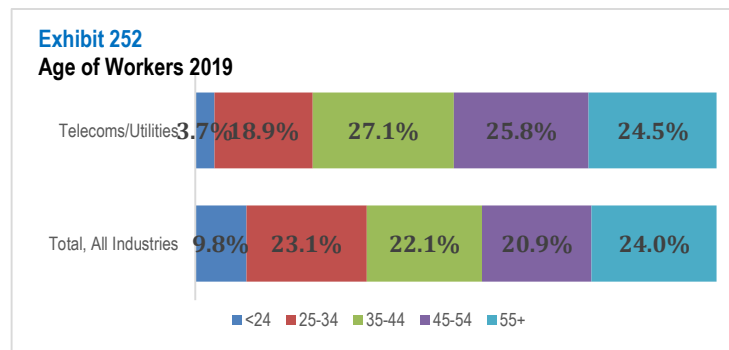
Workforce Characteristics

Key Takeaways

- The higher educational attainment levels of many workers likely allowed for more telework and less unemployment in this industry.
- The workforce is slightly younger than county averages and predominantly male.

In 2019, the telecommunications and utilities industries in Los Angeles County were predominantly Hispanic (38.8 percent), followed by White (29.2 percent), Asian (15.6 percent), and Black (11.5 percent) employees (Exhibit 254). There is a slightly higher proportion of Black and Asian workers in the industry compared to the overall county workforce, and slightly lower representation from White and Hispanic workers.

The workforce has a high degree of educational attainment, as 34.2% of employees have a bachelor’s degree or higher and 66.5% have at least some college



experience while just 11.7% of workers are over 24 years old with less than a high school education (Exhibit 253). In terms of age, the workforce is on the slightly older side; 24.5% of workers are over 55 years old and over 50% are above 45 (Exhibit 252). The industry is overwhelmingly male with 71.1% of employees (Exhibit 255).

The higher degree of education in the telecommunications industry workforce may help explain why many have been able to keep their jobs, as many of these workers were likely able to make the transition to working from home more easily than workers in other industries. There are lower proportions of workers with a high school education or below, who were prime candidates for filing unemployment insurance claims at the onset of the pandemic. The telecommunications and utilities industries' main workforce challenge will be retaining employees beyond the end of the pandemic, as employment has been falling over the past decade in Los Angeles County.



Occupations Most Impacted in the Telecommunications & Utilities Industry

Each industry is comprised of workers across many occupations. Occupations are grouped according to criteria such as job duties, skills, education and on-the-job training. Based on the occupational composition of this industry, the LAEDC has identified the top-five occupations likely to have been impacted by the pandemic and provides estimates of the change in jobs from February through October of 2020.

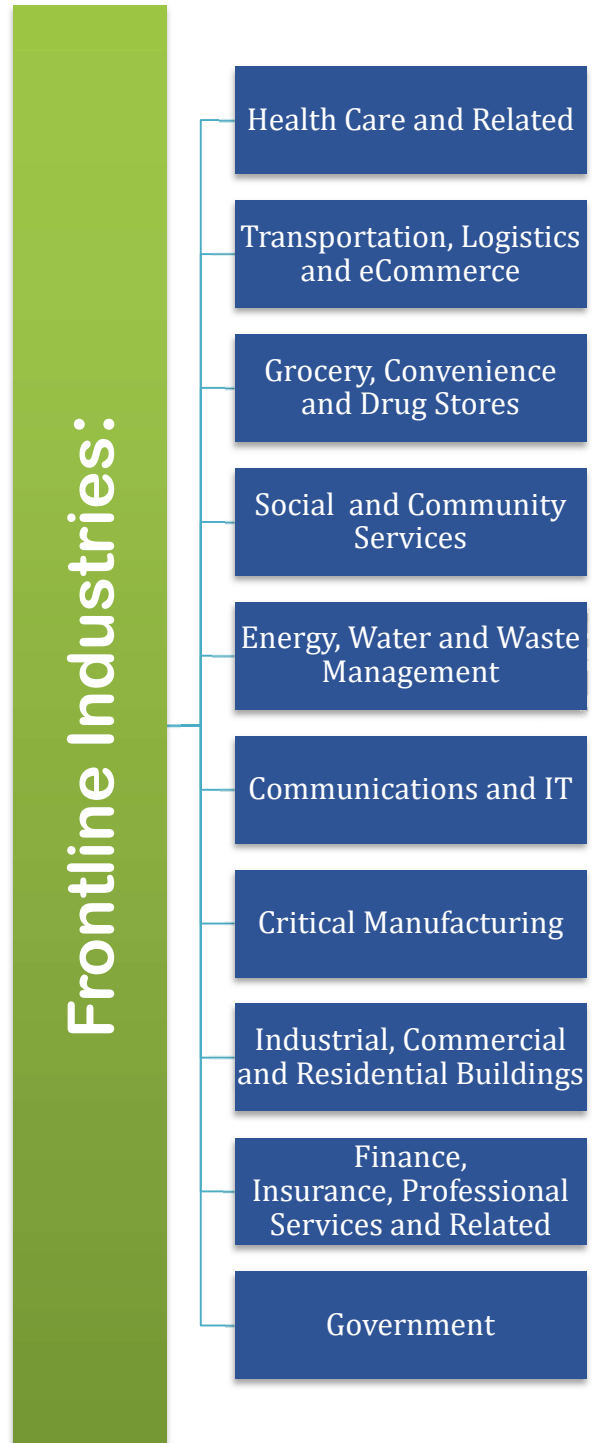
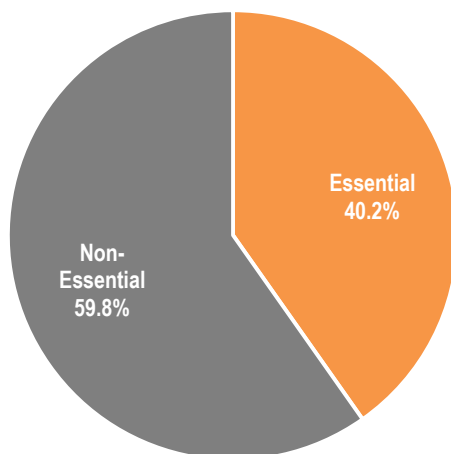
1. Telecom Equipment Installers/Repairers, Except Line Installers (SOC 49-2022): *an estimated 360 jobs lost*
2. Telecommunications Line Installers and Repairers (SOC 49-9052): *an estimated 240 jobs lost*
3. Sales Reps of Services, not Adverts/Insurance/Fin Services/Travel (SOC 41-3091): *an estimated 180 jobs lost*
4. Software Developers/Quality Assurance Analysts/Testers (SOC 15-1256): *an estimated 60 jobs lost*
5. Project Mgmt/Business Operations Specialists, All Other (SOC 13-1198): *an estimated 60 jobs lost*

Industries with More Stability: Frontline Industries

Frontline industries are identified as essential to meet basic human needs and safety in times of disaster, such as pandemics, terrorist attacks, and natural disasters including earthquakes and fires. During these times, workers in these critical infrastructure industries are asked to report for duty regardless of challenges they may personally face.

The public relies heavily on essential workers in these frontline industries to provide services that keep citizens safe and secure including healthcare, utilities, public safety, maintaining communication networks, transportation, maintaining food security, public services provided by the local, state and federal government, and more. Based on the State of California’s definition of critical infrastructure industries, the LAEDC identified frontline industries in the Los Angeles Basin (Figure 256).

Figure 256:
Workers in Essential Industries in LA County



Workers in frontline industries, also referred to as essential workers, are those who work in a job that requires them to work outside of their home during the COVID-19 pandemic, putting themselves and their loved ones at increased risk of exposure to the virus. These workers include hospital workers, first responders (police officers, firefighters, EMTs, etcetera), grocery workers, telecommunication workers, pharmacy workers, utility workers, veterinarians and their staff, and workers providing transportation services for essential goods.

Essential workers are employed across a number of frontline industries; however, health care and related industries is the largest employer, accounting for approximately 20 percent of employment (Figure 257). Businesses related to industrial, commercial and residential buildings rank second for employing the most frontline workers, primarily in the construction industry (NAICS 23).

Frontline industries have exhibited more job stability relative to industries that have been restricted. Continued operations have meant fewer workers have been let go due to regulations and mandated closures compared to non-essential industries (Exhibit 258). While individuals working in these industries face higher risk of exposure, and many earn lower wages, households with essential workers have had comparatively more financial stability.

Los Angeles County, the most populous county in the United States, has more than 10 million residents and a labor force of nearly 4.5 million.

Figure 257:
Employment Distribution of Frontline industries in LA County

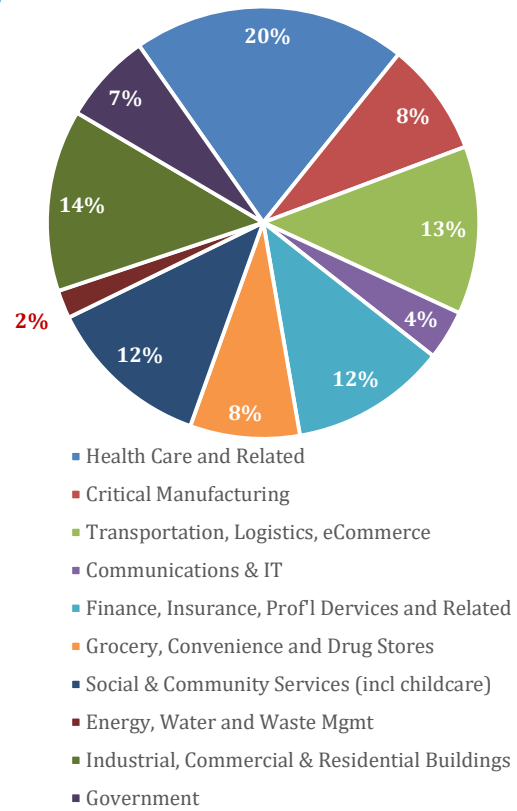


Exhibit 258:
Los Angeles County Quarterly Employment Growth (2019 Q1 - 2020 Q2p)

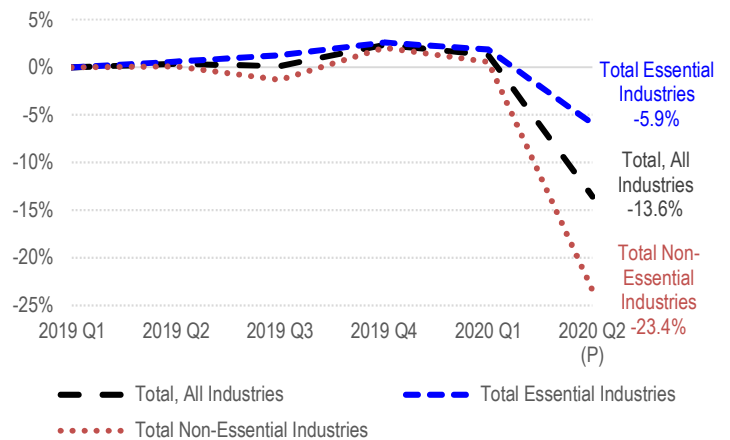


Exhibit 259: Characteristics of Workers in Frontline Industries

	All Frontline Industries	Grocery, Convenience, and Drug Stores	Transportation, Logistics and eCommerce	Industrial, Commercial and Residential Buildings	Health Care and Related	Child Care and Social Services	Government, includes Protective Services (safety & EMS) and Public Works	Energy, Water and Waste Management	Finance, Insurance, Professional Services and Related	Communications/ IT	Critical Manufacturing
<i>All Workers (16+)</i>	3,464,957 (%)	304,556 (%)	365,469 (%)	563,053 (%)	679,671 (%)	356,994 (%)	193,050 (%)	73,867 (%)	495,493 (%)	137,357 (%)	295,447 (%)
<i>Gender</i>											
Female	48.8	47.5	30.6	30.8	69.3	70.4	48.2	28.5	55.0	36.2	35.1
Male	51.2	52.5	69.4	69.2	30.7	29.6	51.9	71.5	45.1	63.9	64.9
<i>Race/Ethnicity</i>											
White	68.8	72.4	71.1	78.4	60.6	61.9	65.7	73.8	70.4	69.0	69.3
Black	8.8	6.7	10.3	8.1	8.6	15.4	13.7	8.1	6.5	7.2	4.5
Not Hispanic/Latinos	59.6	50.2	52.9	52.0	63.6	63.7	60.1	53.2	68.21	73.6	58.5
Hispanic/Latinos	40.2	47.8	47.1	48.0	36.4	36.3	39.9	46.8	31.8	26.4	41.5
Asian	17.7	15.6	13.3	8.6	26.4	18.3	16.0	13.1	18.7	19.2	21.8
Other	1.9	2.4	2.5	2.4	1.7	1.7	1.8	2.2	1.5	1.3	1.9
Two or More Races	2.8	2.9	2.8	2.7	2.7	2.8	2.9	2.8	2.9	3.3	2.5
<i>Education Level</i>											
Less than HS	18.7	21.9	21.0	24.2	15.6	23.1	12.6	19.4	11.9	11.3	22.9
High School	19.6	20.9	22.2	21.9	17.8	21.3	18.3	19.9	16.6	16.9	19.6
Some college	27.7	24.2	27.9	26.4	29.4	27.5	33.6	28.6	27.8	26.5	26.3
Bachelor's or Higher	26.3	16.7	19.3	19.2	30.9	22.2	30.8	26.3	37.2	37.3	26.1
N/A (<24 y/o)	7.7	16.3	9.5	8.3	6.4	5.9	4.6	5.9	6.6	8.0	5.2
<i>Age</i>											
<24 years	7.7	16.3	9.5	8.3	6.4	5.9	4.6	5.9	6.6	8.0	5.2
25-34 years	22.6	23.5	23.5	22.1	24.5	18.6	18.0	18.8	24.3	31.0	18.9
35-44 years	22.8	19.8	21.6	22.5	23.9	20.2	24.9	24.3	25.4	26.9	20.2
45-54 years	22.1	19.3	21.7	21.6	21.6	23.6	27.4	24.7	21.4	19.0	23.8
55+ years	24.9	21.1	23.8	25.6	23.6	31.6	25.1	26.3	22.4	15.1	32.0

Foot Traffic - Other Key Industries

Infrastructure

- NAICS 22: Utilities
- NAICS 517: Telecommunications
- NAICS 23: Construction Offices and Storefronts

Infrastructure consists of three main groups: Utilities (NAICS 22); Telecommunications (NAICS 517); and Construction (NAICS 23)⁶⁶. Overall, this sector has experienced reduced foot traffic following to the pandemic.

Utilities represented 13.85 percent of total visits to the sector before the pandemic. This figure fell slightly to 12.54 percent after a series of declines in activity. From April 2019 to April 2020, utilities saw a 44.24 percent reduction in activity. Foot traffic continued to fall by 55.68 percent between April and December 2020. The most visited utilities points of interest are primarily based around energy storage and solar farming.

Telecommunications accounted for 27.94 percent of visits to the sector pre-pandemic, and 26.18 percent post-pandemic. The level of foot traffic to establishments in this industry fell by 64.89 percent from April 2019 to April 2020. Between April and December 2020,

telecommunications experienced an increase in foot traffic of 6.44 percent. The telecom sector covers a wide range of business activities, but visits are dominated by large cell phone service providers such as AT&T as well as T Mobile.

The construction sector is mentioned above in its own section. Construction’s share of total visits to the sector increased as a result of the pandemic. Initially representing 58.21 percent of visits, the industry now accounts for 61.28 percent despite the industry’s contraction in foot traffic. The NAICS 23 industry experienced a decline in visits of 51.72 percent from April 2019 to April 2020, and another decline of 13.94 percent from April to December 2020.

Telecommunications and construction both saw the largest number of estimated closures, with about 300 establishment-days. Utilities followed with about 150 establishment-days. Compared to the aforementioned industries, the infrastructure industry is performing well, as it continues to fulfill its necessary societal role. Closures of seven days or longer were insignificant for the industry. Exhibits 17-43 and 17-44 on the follow page display inter-industry trends over time.

Exhibit 260: Top Infrastructure Industry Points-of-Interest in the Greater Los Angeles Region

#	<u>Utilities</u>	<u>Telecommunications</u>	<u>Construction</u>
1	CFW Solar X LLC Vaughn	AT&T	Ewing Irrigation & Landscape Supply
2	ISH Solar Hospital Downey	T Mobile Store	Goldstone Enterprises
3	Ortega Highway Energy Storage	Boost Mobile	Mr. Plumber Westlake Village
4	Metro Support Services Center Solar	T Mobile Authorized Retailer	Bathtub Reglazing Los Angeles
5	Golden Springs Building C1	Verizon Wireless	Santa Ana Plumbing

⁶⁶ Recall construction exclusively refers to offices and storefronts rather than construction sites.

Exhibit 261

Visits by Month for the Infrastructure Industry
(Naics Codes: 22, 517, 23)

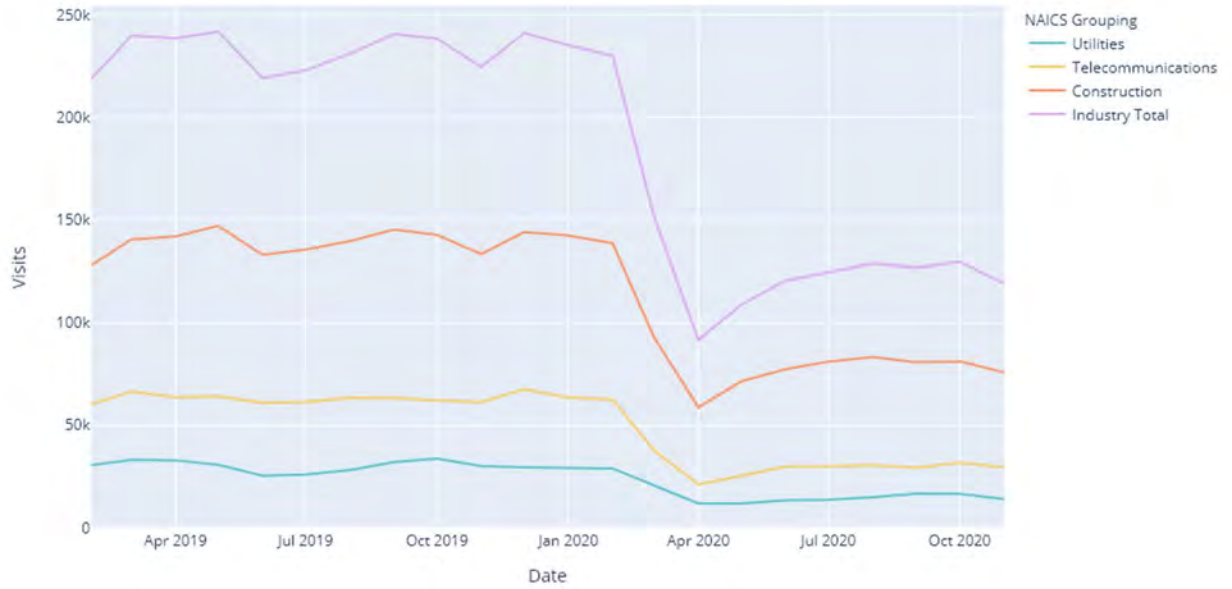


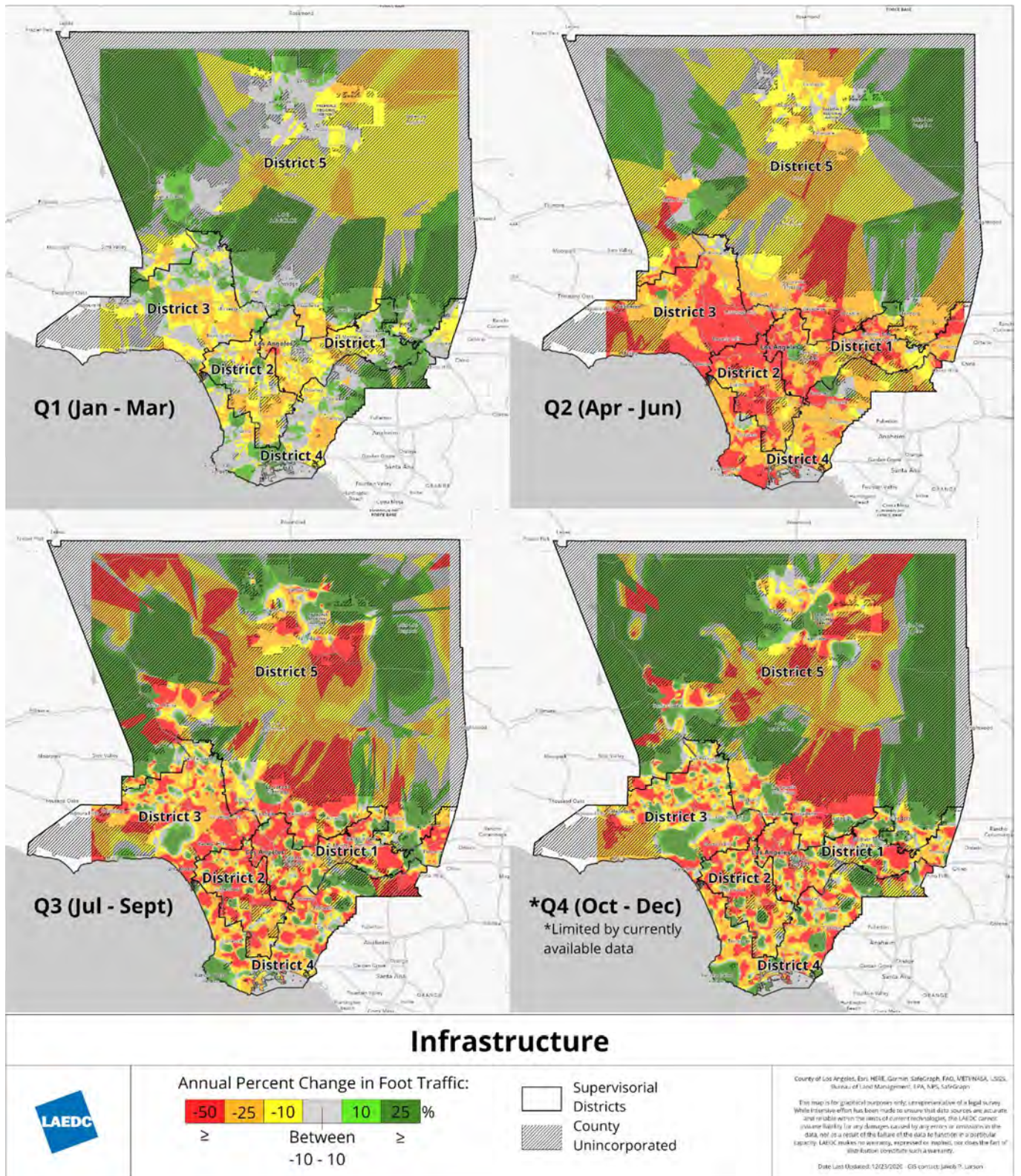
Exhibit 262

Visits Index by Month for the Infrastructure Industry
(Naics Code: 22, 517, 23)



Exhibit 263

Infrastructure Foot Traffic Mapped by Quarter



Trade Logistics

- NAICS 48: Generalized Transportation
- NAICS 49: Delivery Services and Warehousing
- NAICS 42: Wholesale Trade

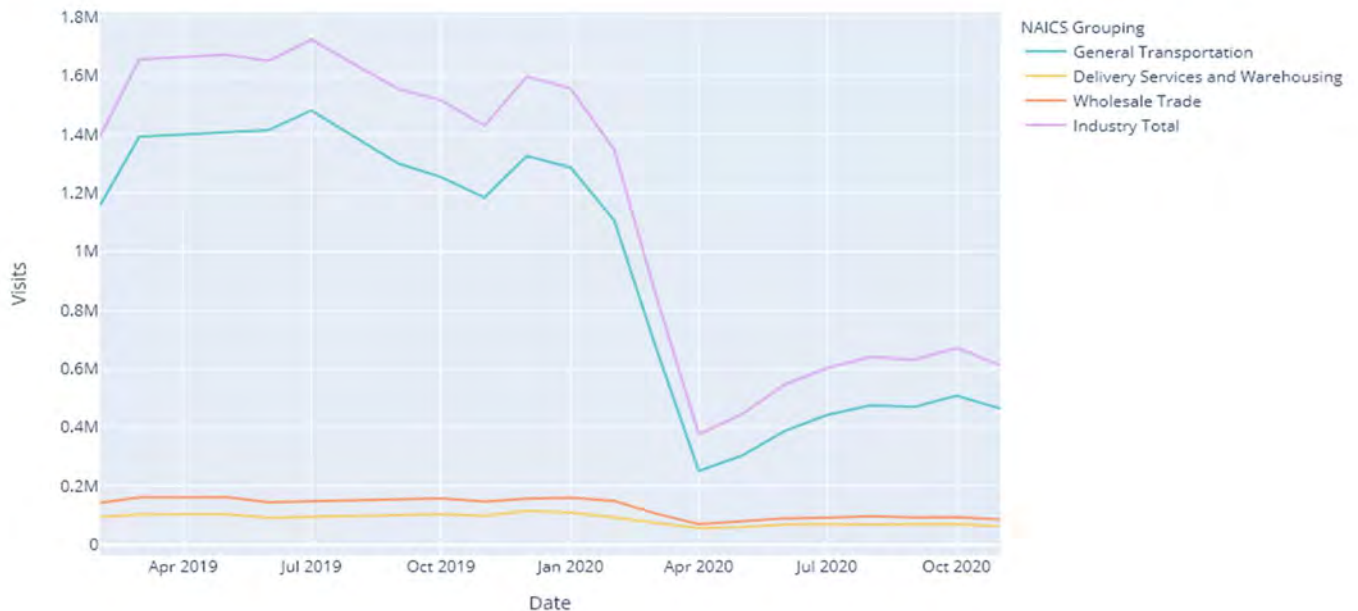
The trade logistics industry revolves around the organization and transportation of physical goods between Los Angeles and its numerous inter-state and international trade partners. Included in this industry are leaders of shipping and distribution such as both of Los Angeles’s ports as well as consumer travel from airports such as Los Angeles International.

#	<u>Generalized Transportation</u>	<u>Delivery Services and Warehousing</u>	<u>Wholesale Trade</u>
1	Los Angeles International Airport Service (USPS)	United States Postal	Ferguson
2	John Wayne Airport	FedEx	Restaurant Depot
3	Zamperini Field Airport	UPS Customer Center	SiteOne Landscape Supply
4	Long Beach Airport	OnTrac	WORLD PAC
5	Van Nuys Airport	Kuehne + Nagel	Caterpillar

NAICS codes 48 and 49 are included in the trade logistics industry as well as the transportation and warehousing industry included above. Typically grouped together NAICS codes 48 and 49 are core to the transportation of goods and people to and from the City of Angels. NAICS code 48 includes transportation for goods by air, sea, and ground (both rail and truck). Despite this, passenger transportation makes up the largest chunk of industry foot traffic, with Los Angeles International seeing an incredible 88 million passengers in 2019⁶⁷. Also included in NAICS

Exhibit 265:

Visits by Month for the Trade Logistics Industry (Naics Codes: 48, 49, 42)



⁶⁷ "10-Year Summary Of Passengers". 2020. Lawa.Org. <https://www.lawa.org/lawa-investor-relations/statistics-for-lax/10-year-summary/passengers>.



code 48 are pipeline transportation and support activities for transportation such as air traffic control services.

NAICS code 49 includes delivery services and warehousing. Businesses in this sub-sector make our same-day delivery world possible, by efficiently storing and shipping goods to the over 10 million residents of Los Angeles County. The most visited businesses in this grouping include shippers USPS, FedEx, UPS, as well as logistic company Kuehne + Nagel.

Also included are wholesale trade businesses. This segment of trade logistics is concerned with selling wholesale merchandise (commonly agriculture or manufacturing in Los Angeles), typically without any major transformation in the process. Top players in this field include Ferguson who sells plumbing supplies and HVAC parts as well as Restaurant Depot, a key spot for bulk restaurant supplies.

Per Exhibit 265, generalized transportation makes up the majority of industry visits.

Delivery services and warehousing and wholesale trade follow respectively with about 6 and 10 percent of industry visits. This should not lessen the importance of delivery services and warehousing and wholesale trade within the trade logistics industry. Simply, these subsections do not have the foot traffic to match the large airports in the region.

All three groupings within the trade logistics industry saw major declines in foot traffic from April 2019 to April 2020. Generalized transportation saw the largest decrease, losing 77 percent of foot traffic year over year. This was followed by wholesale trade and delivery services which decreased by approximately 50 percent and 38 percent, respectively.

Of the three industry groupings, only generalized travel has seen an increase (13 percent) of foot traffic from April 2020 to December 2020. Delivery services and warehousing further saw a further decrease in foot traffic by 58 percent while wholesale

Exhibit 266:

Visits Index by Month for the Trade Logistics Industry (Naics Code: 48, 49, 42)



trade saw a further decrease by 42 percent. The industry saw foot traffic rise as a result of the increase in general transportation.

The decrease in foot traffic in shipping and warehousing businesses does not denote a decrease in activity. Per UPS, online orders are skyrocketing, and the trade logistics industry has not been able to adapt efficiently while keeping its employees socially distant⁶⁸. With more automated warehousing technologies becoming available, such as automated inventory tracking, these businesses can attempt to meet the demand in a virus-conscious manner.

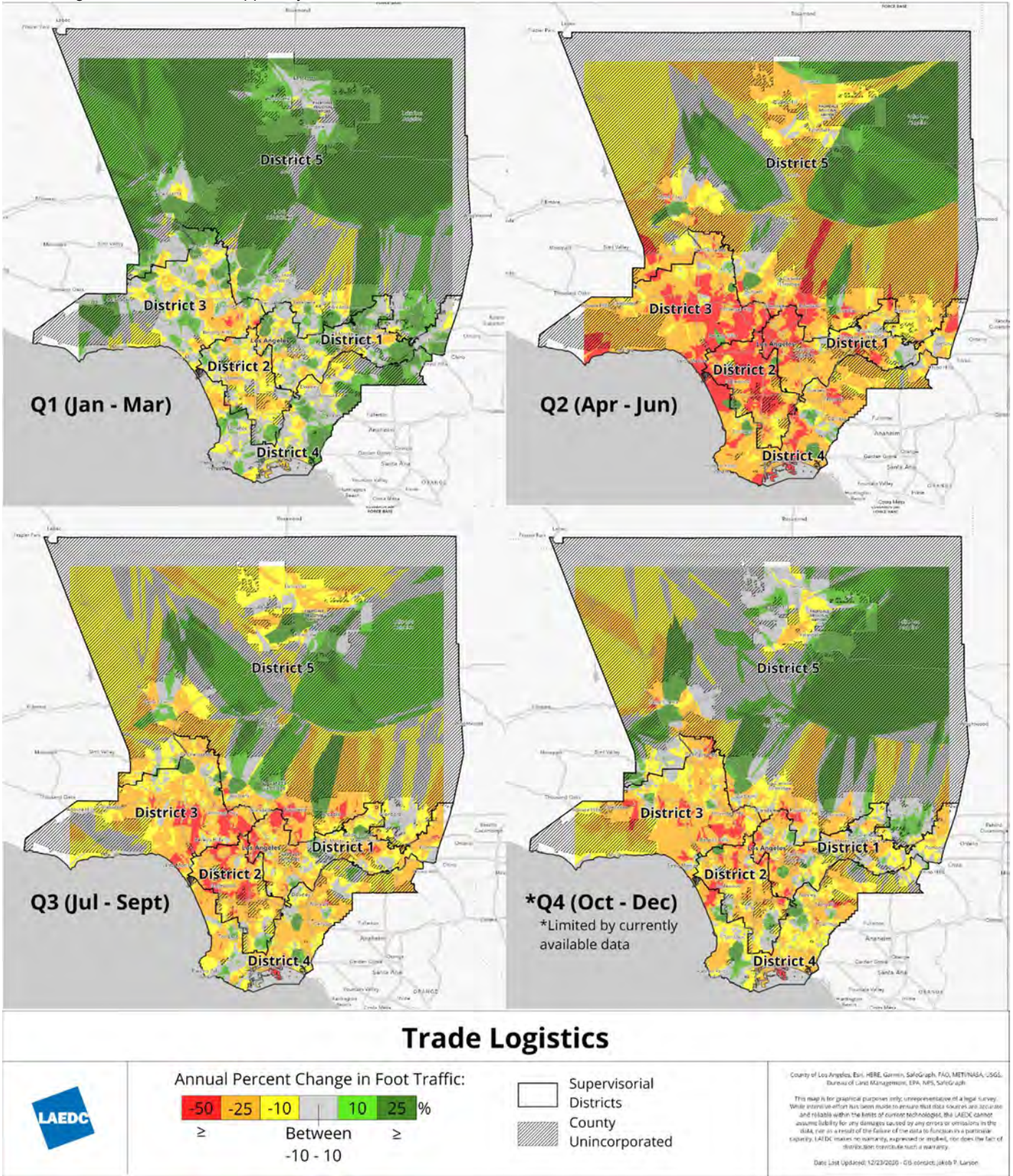
As expected, estimated closures in the industry are relatively low compared to the drop-in foot traffic. NAICS codes 48 and 42 both saw around 350 establishment-days in which businesses saw less than 5 percent of the pre-COVID-19 average foot traffic. The delivery services and warehousing grouping only saw approximately 165 of the establishment-days, with only 8 organizations closing for 7 or more consecutive days. The other two groups each saw an estimated 10 organizations closing for a week or longer. While foot traffic in the industry has certainly decreased, trade logistics has broadly seen a COVID-19 related increase in activity, signifying its importance in our technological world.



⁶⁸ "Trends In Warehousing And Distribution For Changing Times - United States". 2020. Ups.Com.
<https://www.ups.com/us/en/services/knowledge->

[center/article.page?name=warehousing-distribution-trends&kid=art173b583b35e](https://www.ups.com/us/en/services/knowledge-center/article.page?name=warehousing-distribution-trends&kid=art173b583b35e).

Exhibit 267:
Trade Logistics Foot Traffic Mapped by Quarter



Workforce Analysis

The first section of *Pathways for Economic Resiliency* sought to understand the economic environment of Los Angeles County before and after the pandemic and subsequent crisis at the industry level. This phase focuses specifically on the workforce, to analyze the impact of COVID-19 and the safer-at-home order on workers by occupation, concatenating multiple data sources for the optimal mix of up-to-date and reliable information.



We will begin with a look at occupational changes using data from the Bureau of Labor Statistics (QCEW and OES) as well as the most recent Current Employment Statistics (CES) Survey. This analysis explores the change in occupational distributions inter- and intra-industry as a result of the COVID-19 pandemic. We will then delve into data from Burning Glass, a premier provider of job postings data. This allows us a unique job market acumen as we dive into what employers are currently hiring, and which skills and education requirements are in highest demand for these jobs.

The occupational analysis begins with a decade-over analysis of changes in major occupational groups. It then proceeds into the gap analysis, which explores occupational groups that are expected to decline in the years following the pandemic. The five “gap” groups, or those groups that are projected to contract through 2024, consist of Educational Instruction and Library; Community and Social Service; Arts, Design, Entertainment, Sports, and Media; Life, Physical, and Social Science; and Computer and Mathematical occupations.

The following section explores a more detailed analysis of the five hardest hit occupational groups during the pandemic, which includes Film and Television, Labor-intensive occupations, Recreation, Restaurants and Retail. The detailed analysis will show which specific jobs were lost and outline a road to recovery for each of these five groups.

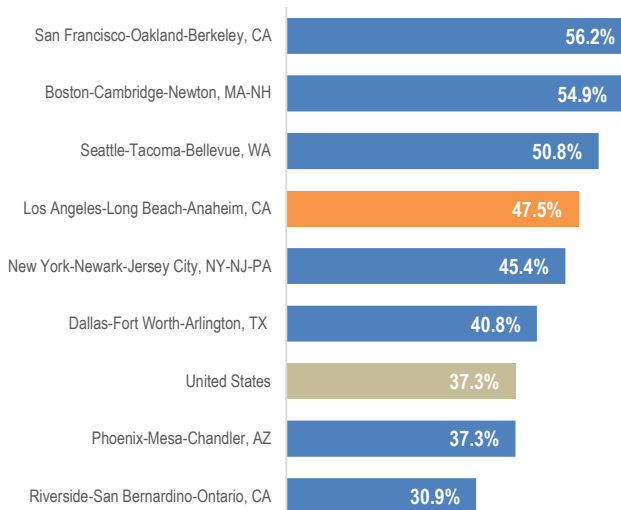
After establishing the hardest hit occupations for both the present and the projected future, this section will provide an examination of the required skills for these groups. The goal of this study is to understand which skills are transferrable from contracting industries to growth industries. The analysis will begin with a summary of the most in-demand skills in Los Angeles County, followed by an outline of the skills required for hard hit industries and growth industries. Hardest hit industries include Accommodation, Food Services and Retail Trade. Growth industries include Transportation and Warehousing; Construction; and Healthcare and Social Services.

We also highlight skills and talents that have come into higher demand, which can be used to help prepare workers for gaining employment in new industries and opportunities. As the nature of work in the county has changed over the course of the pandemic, so too have job postings. By targeting the current proficiencies demanded from employers in the region, workers may be able to transition between jobs more quickly and reduce the economic burden of unemployment on themselves and their households.

The extended period of business restrictions has had a disproportionate effect on segments of the regional workforce not only by industry but also by occupation itself. While certain jobs have thrived in the pandemic and become even more in demand, some have struggled mightily. This has been devastating for many individuals, as it takes time to transition between occupational skillsets and those who have become unemployed in hardest hit industries have had a difficult time finding work under the same job title.

A critical factor that determines how an occupation has been affected by the pandemic is the proximity context of its work — the extent that the job requires workers to perform tasks in close physical proximity to others. As widespread social distancing policies prevent individuals from interacting within six feet of each other, interpersonal occupations like skincare specialists, physicians, dental workers, dancers and surgical technicians have all become much more hazardous. Conversely, occupations that are able to be performed with remote connection such as economists, lawyers and research scientists, or those performed on-location but without close physical interaction

Exhibit 268
Percentage of Adults Living in Households Where 1+ Adults Have Substituted In-Person Work for Telework



10/28 - 11/9

Source: Census Bureau Household Pulse Survey

such as logging equipment operators, wellhead pumpers and industrial truck and tractor operators have been much better off.

It remains unclear what the future holds for occupations in the county and when business will be allowed to resume normal operation, but the pandemic has created a shift in demanded skills that may last beyond recovery. As such, county workers should be prepared for a revised occupational landscape in the coming years, and tailor their education and career pathways accordingly.

Telework

For many workers, telework has offered some stability compared to in-person work as case numbers continue to rise. However, working remotely has not been an option for many in the LA Basin, **as only 47.5 percent of adults reported living in a household where at least one adult had substituted in-person work for telework** in a dataset released at the start of November. By contrast, the San

Francisco Metro Area reported 56.2 percent of adults and the Seattle Metro Area reported 50.8 percent (Exhibit 9-1).

The demographic composition of Los Angeles County households prevents many from taking advantage of these benefits. The American Time Use Survey reported that nationwide, working from home was an option for 24.5 percent of workers with only a high school degree, compared with 67.5 percent with at least a bachelors. While 48.7 percent of non-Hispanic White workers were able to work from home, just 39.5 percent of Black and 28.9 percent of Hispanic workers had this ability.

In LA County, 48.6 percent of the population is Hispanic, and 40.9 percent of the population aged 25 or older had a high school education or less. This may be a driving force behind the low proportion of telework in Los Angeles County, leading to many more workers losing jobs where in-person work cannot be substituted for working at home.

Telework jobs are concentrated in business, financial, education and training jobs, as well as office and administrative support occupations. Jobs that cannot utilize telework are based in production, sales, transportation, healthcare and others. With a large manufacturing and production base in Los Angeles County, as well as high degree of emphasis on travel and tourism, entertainment, infrastructure and retail, a large number of jobs in the region simply cannot be moved online, leading to higher levels of unemployment.



Occupational Analysis

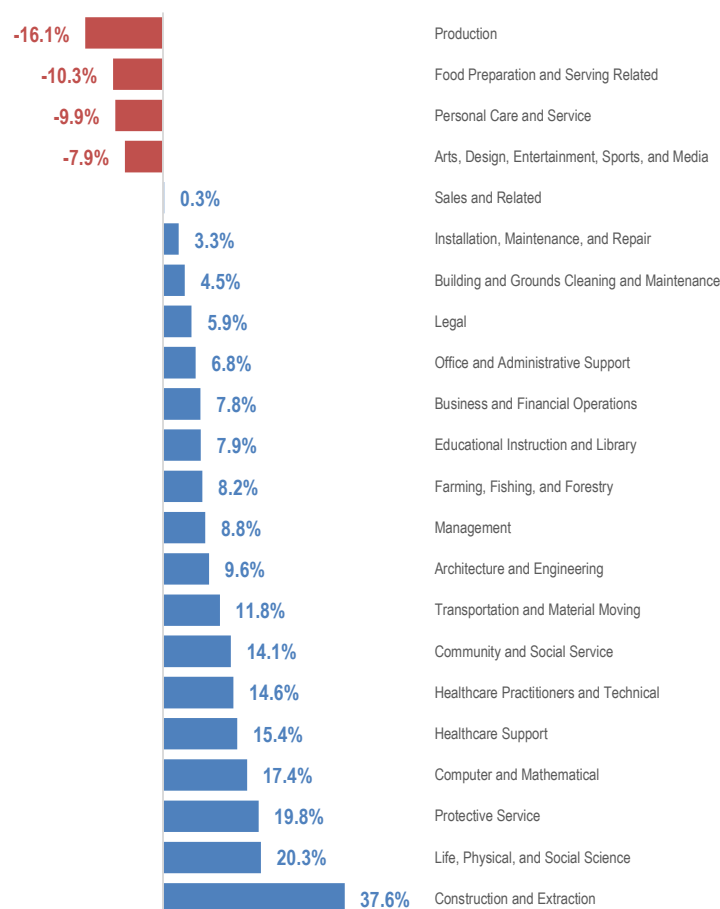
Major Occupational Group

Figure 269 displays the percentage change in jobs from October 2010 to October 2020 for the 22 major occupational groups. Four of these groups experienced losses over the decade: Production; Food Preparation and Serving Related; Personal Care and Service; and Arts, Design, Entertainment, Sports, and Media. The remaining 18 groups experienced growth, although the margin was thin for Sales and Related occupations.

This decade-over analysis is useful in understanding the big picture of COVID-19's impact across occupational groups. In order to show net job losses from October 2010 to October 2020, the contraction resulting from the pandemic had to be larger than the gains resulting from nine years of strong economic growth. Those groups that show net gains across the decade were not affected severely enough to offset that growth.

The Production occupational group, which broadly encapsulates workers involved in the production of intermediate inputs and the assembly of final products, saw a loss of over 15 percent of jobs from October 2010 to October 2020. Food Preparation and Serving and Personal Care and Service occupations both contracted by around 10 percent. The Arts, Design, Entertainment, Sports, and Media occupational group saw a decline of about 8 percent. These four industries were the only ones that experienced contractions resulting from COVID-19 that overshadowed their economic expansion from 2010 to 2019.

Figure 269: Major Occupational Group % Employment Change, Oct 2010 to Oct 2020



Source: LAEDC, BLS

On the other hand, occupational groups such as Construction and Extraction, Life, Physical, and Social Science, and Protective Services saw net gains over the decade. For these 19 groups, the strong economic growth preceding the pandemic offset the losses incurred from the shutdown. Construction and Extraction experienced an impressive decade-over net growth of nearly 40 percent.

While the crisis following the pandemic stunted the growth of all occupational groups, this long-term analysis helps showcase the groups that were most dramatically impacted.

Gap Analysis

Major Occupation Groups

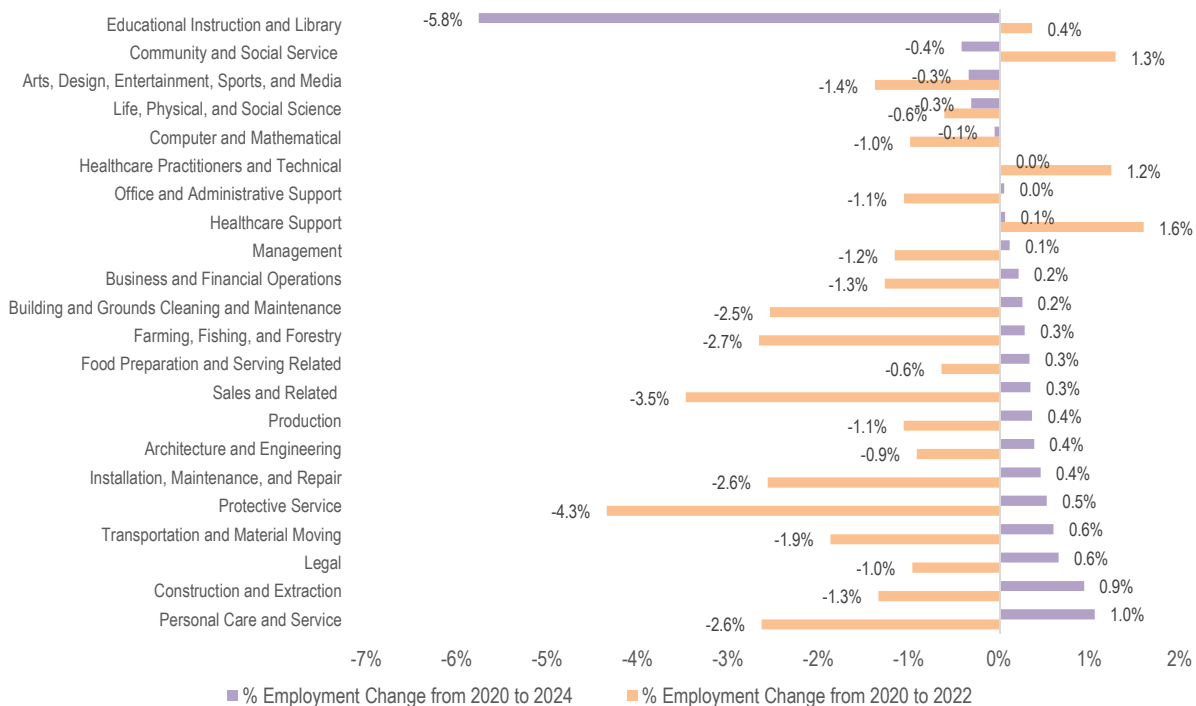
While most occupations are expected to recover once the COVID-19 pandemic ends, a handful are expected to decline. Labeled as the “gap” occupations, these groups are shrinking due to trends outside of, or initiated by, COVID-19. Exhibit 270 examines the major occupational groups percentage change from 2020 to 2022 and from 2020 to 2024.

Many major occupation groups are projected to see a sharp decline from 2020 to 2022 as a result of the COVID-19 pandemic. Protective Services, Sales and Related, and Personal Care and Services are projected to recover the slowest during this time period. While there is news on the horizon about vaccine approval and distribution, the economy will not return to normal for most occupational groups anytime soon. Healthcare Practitioners and Healthcare Support, on the other hand, are still

expected to be feeling the positive employment effects of the COVID-19 pandemic in 2022. These major groups are projected to see growth of 1.6 and 1.2 percent respectively. Community and Social Services are also expected to see a growth of 1.2 percent from 2020 to 2022.

The projected occupational group changes from 2020 to 2024 are more positive. 15 of the 22 major groups are expected to experience growth, five are projected to see decline, and the remaining two are expected to remain stable without change. Personal Care and Service is forecasted to see the largest growth in employment at about 1 percent, and Construction and Extraction is a close second with 0.9 percent growth. Conversely, Educational Instruction and Library occupations are expected to see a dramatic contraction of around 5.9 percent, far greater than any other group. The other four occupational groups projected to decline in employment overall from 2020 to 2024 are

Exhibit 270: Projected Percentage Major Occupation Group Change From 2020-2022/2024



Source: LAEDC, BLS

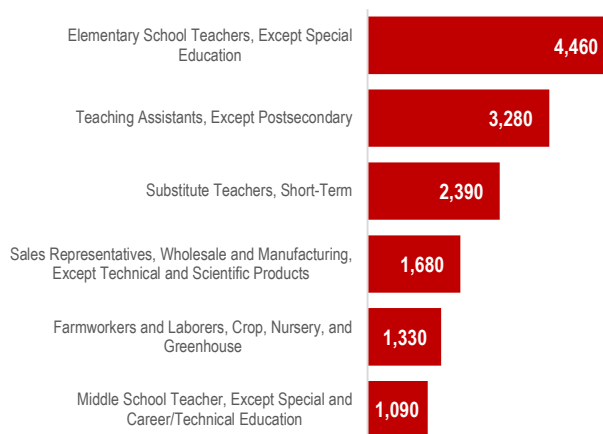
Community and Social Service at 0.4 percent; Arts, Design, Entertainment, Sports, and Media at 0.3 percent; Life, Physical, and Social Science at 0.3 percent; and Computer and Mathematical at 0.1 percent. Office and Administrative Support and Healthcare Practitioners and Technical occupational groups are expected to see no growth or decline from 2020 to 2024.

Detailed Occupations

When drilling down into more detailed occupations, the most prominent losses are expected to be in childhood education. The number of elementary school teachers, teaching assistants (except post-secondary schooling), middle school teachers, and substitute teachers are expected to decline in Los Angeles County from 2020 to 2024⁶⁹. This loss may be driven in part by the declining birth rate which has fallen 47 percent since 1990⁷⁰. According to the California Department of Finance, the birth rate is expected to fall 8 percent in the next four years, and about 17 percent in the next 15 years. With the birth rate falling, and the number of younger residents in Los Angeles County expected to decline in the coming years as well, it follows that the number of necessary educators in the County would decline as well.

Aside from educators, wholesale and manufacturing sales representatives are expected to decline as well. This is rooted in the slow decline of the Los Angeles manufacturing base. The employment of farmworkers and greenhouse or crop laborers is also expected to decline in the region as agricultures moves east to Riverside and San Bernardino. A subset of workers in these

Exhibit 271:
Selected Detailed Occupational Groups by Projected Jobs Lost 2020-2024



Source: Burning Glass

occupations will need to find employment elsewhere in the coming years as they will see their occupation shrink in Los Angeles County. These detailed occupational groups are highlighted in Exhibit 271.

⁶⁹ The SOC codes respectively: 25-2021, 25-9045, 25-2031, 25-2022

⁷⁰ California Department of Finance. Demographic Research Unit. 2020. Historical and Projected Fertility Rates and Births, 1990-

2040 (Baseline 2019 Population Projections; Vintage 2019 Release). Sacramento: California Department of Finance. January 2020.

Middle-Skill Occupations

Middle-skill occupations are jobs that often require a higher degree of education than a high school diploma but pay higher wages than entry-level positions and provide strong and attainable pathways to high-skill, well-paying opportunities when combined with further training and the development of expertise in a worker’s chosen field. These are often occupations that should be targeted by community college graduates, as they provide greater financial stability and the possibility of moving up career ladders to even better jobs in the future.

Displayed here are key middle-skill occupations in growth industries such as Transportation and Warehousing, Health Care Services and Construction. Along with current job totals in 2020, we outline the projected job change for these occupations by 2024. These represent good opportunities for new entrants to the workforce or employees who are transferring sectors to target, as they are expanding occupations in growing industries that will aid career development.

In construction, both carpenters and construction laborers are expected to add over 2,500 jobs in the next four years (Exhibit 272). As an industry that was largely unaffected by the employment impacts of the pandemic and that retains high demand for its services in the county, middle-skill jobs here are good targets for workers. Electricians, supervisors of construction and plumbers, pipefitters and steamfitters are all expected to add between 1,000 to 2,000 jobs as well.

Health care services has a large population of registered nurses, and it will continue to add more in the coming years; over 7,000 new jobs

Exhibit 272:
Key Middle-Skill Occupations in Construction in LA County 2020 to 2024

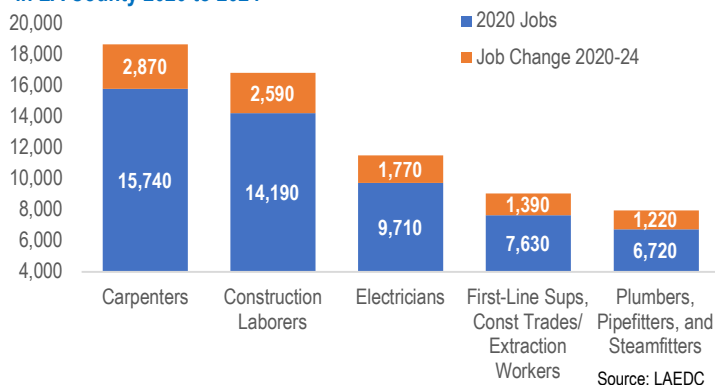


Exhibit 273:
Key Middle-Skill Occupations in Health Care Services in LA County 2020 to 2024

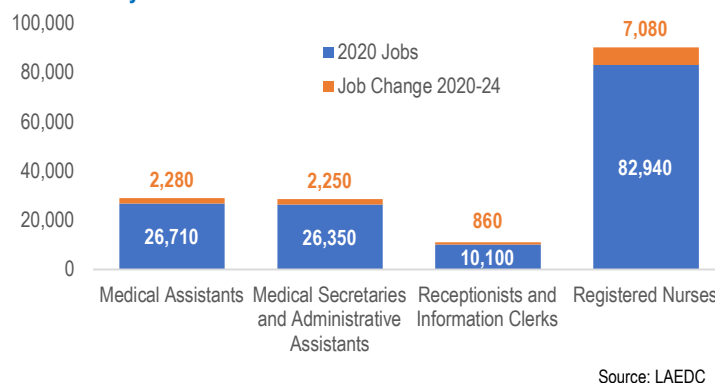
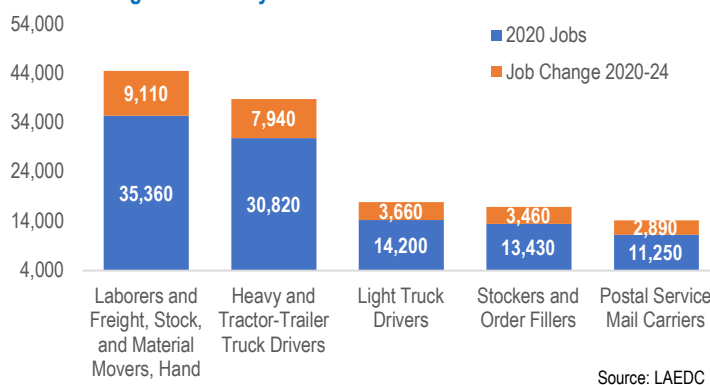


Exhibit 274:
Key Middle-Skill Occupations in Transportation and Warehousing in LA County 2020 to 2024

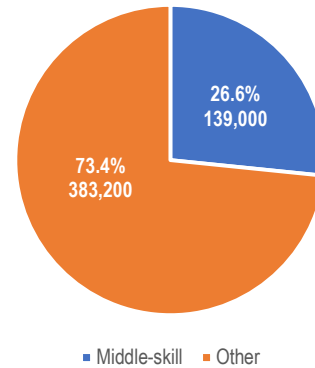


are projected here by 2024 (Exhibit 273). Medical assistants and medical secretaries and administrative assistants are also expected to add over 2,000 jobs, as the health care industry sustains its steady growth in Los Angeles County.

Transportation and warehousing also has many attractive middle-skill opportunities with new jobs being added. Laborers and freight, stock and material movers have a projected job growth of over 9,000 in the next four years — workers can find jobs at the ports, warehousing centers and much more (Exhibit 275). Heavy and tractor-trailer truck drivers are also needed as nearly 8,000 jobs will be added by 2024. Light truck drivers, stockers and order fillers and postal service mail carriers are other middle-skill occupations that will add thousands of jobs in the coming years. The transportation and warehousing industry in the county will experience strong growth, and jobs will be abundant for those with the right qualifications.

In total, we expect that of the over 500,000 total jobs added between 2020 and 2024 in Los Angeles County, 139,000 of those will be in middle-skill occupations — accounting for over a quarter of the total (Exhibit 275). Of these, the top two occupations by employment growth over the next four years have the majority of their employment in our previously identified growth industries: heavy and tractor-trailer truck drivers and registered nurses. Supervisors of food preparation and serving workers is an occupation projected to add over 7,000 middle-skill jobs, and both customer service representatives and secretaries and administrative assistants over 5,000.

Exhibit 275:
Skill Distribution of Jobs Added 2020-2024
in LA County



Source: LAEDC

Exhibit 276: Growing Middle-Skill Occupations in LA County

Middle-Skill Occupation	Projected Jobs Added 2020-2024
Heavy and Tractor-Trailer Truck Drivers	8,240
Registered Nurses	7,870
First-Line Supervisors of Food Preparation and Serving Workers	7,070
Customer Service Representatives	5,340
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	5,100

Hardest-Hit Occupational Groupings

In order to better understand the effects of COVID-19 and the stay-at-home orders on the local economy, we analyzed five different groups of occupations that were hardest hit by the COVID-19 pandemic by their job changes from February to October 2020. Please note that each of the occupational groups does not represent all people working in the named industry, but rather the number of these employees working in our identified hardest-hit groups.

Film and Television

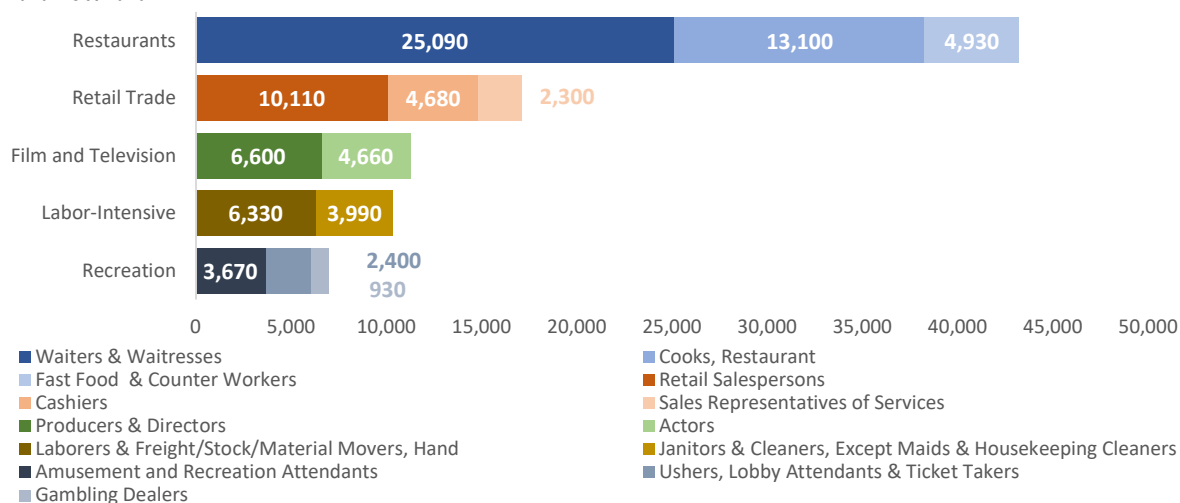
- Actors (SOC 27-2011)
- Producers and Directors (SOC 27-2012)

Los Angeles, known for its famed movie and television scene has halted much of its entertainment production due to COVID-19⁷¹. While smaller shows have been able to restart production in recent months, larger shows have not been able to restart due to the cost of COVID-19 compliance and set insurance.

The Film and Television occupational grouping saw a decline of about 11,300 jobs from February to October. About 60 percent of these lost jobs fall into the producer and director category while the remaining 40 percent were actors and actresses. The vast majority of these job losses were in NAICS Sector 51 (Information) and NAICS Sector 71 (Arts, Recreation, and Entertainment). While the number of jobs lost is significant for now, the entertainment industry is likely to bounce back rapidly upon the dissemination of a COVID-19 vaccine.

Path to Recovery: While filming of largescale projects such as Blockbuster films or hit television shows will not be possible until the pandemic ends, smaller projects may have an easier time filming safely and keeping in place social distancing protocols. As a pillar in the local and global, the entertainment industry should revive itself fairly quickly in the post-COVID world as demand for its content has only increased throughout the pandemic.

Exhibit 277
Job Losses by Detailed Occupation Groupings in LA County
 Feb 2020 - Oct 2020



⁷¹ Steigrad, Alexandra. 2020. "Hollywood's TV, Film Production Cut In Half This Summer Due To COVID-19". *New York Post*.

Labor-Intensive

- Janitors and Cleaners, Except Maids and Housekeeping Cleaners (SOC 37-2011)
- Laborers and Freight, Stock, and Material Movers, Hand (SOC 53-7062)

While labor-intensive occupations include many workers aside from our limited SOC code definition, many of these workers, such as those in the essential industry of construction, have seen a limited decrease in demand⁷². The occupations analyzed here include janitors and cleaners as well as freight, stock and material movers. These jobs appear in all reaches of the economy but are most commonly seen in NAICS Sector 56 (Administrative and Support and Waste Management and Remediation Services) and NAICS Sector 48-49 (Transportation and Warehousing) and NAICS 42 (Wholesale trade).

Freight, stock and material movers saw a loss of around 6,300 jobs. While eCommerce sales have picked up, and the transportation and warehousing sector has thrived as a result, many offices, schools, restaurants and recreational locations are no longer receiving their normal deliveries, and a decrease in demand for this activity has compromised many of these jobs. In a similar vein, janitors and cleaners in these spaces are also out of work as schools and offices lie empty. These occupations saw a loss of around 4,000 jobs.

Path to Recovery: For these manual labor jobs to be reabsorbed back into the economy, schools and offices will need to be able to reopen safely. Until this can occur, these jobs will unfortunately remain less necessary.

⁷² U.S. Bureau of Labor Statistics, Unemployment Rate - Construction Industry, Private Wage and Salary Workers [LNU04032231]



Recreation

- Amusement and Recreation Attendants (SOC 39-3091)
- Ushers, Lobby Attendants, and Ticket Takers (SOC 39-3031)
- Gambling Dealers (SOC 39-3011)

Most recreational locations such as amusement parks, casinos, sporting venues, and aquariums closed in order to contain the spread of the pandemic and have remained shuttered throughout. Since the initial shutdown, a handful of locations have reopened in the region including SeaWorld San Diego and the Los Angeles and San Diego Zoos, but many notable attractions remain closed such as Disneyland, Universal Studios, Dodger Stadium, SoFi Stadium, Six Flags and Pacific Park.

Approximately 7,000 recreation jobs were lost from February to October as a result of COVID-19 and the resulting Safer-at-Home orders. The majority of these lost jobs were amusement and recreation attendants; this includes, but is not limited to, ride operators, activities directors, and sports complex attendants. As expected, the hardest hit NAICS

sector was Arts, Entertainment and Recreation.

Path to Recovery: While the virus is currently in its largest wave yet, should it begin to subside, spacious parks and arenas could open safely with limited occupancy to ensure social distancing and enhanced cleaning protocols. It would likely take higher levels of immunity through vaccination at this point for major amusement parks to reopen safely at maximum capacity.

Restaurants

- Cooks, Restaurant (SOC 35-2014)
- Waiters and Waitresses (SOC 35-3031)
- Fast Food and Counter Workers (SOC 35-3023)

Restaurants have seen an incredible loss of business due to COVID-19, as indoor dining has been unavailable in Los Angeles County for the vast majority of the COVID-19 timeline. While outdoor dining was available for a limited time in Los Angeles, as the spread of the virus continued the county health orders were revised to restrict these activities⁷³. Our analysis demonstrated that cooks, waiters and waitresses, and fast food and counter workers all saw large employment decreases in the region.

From February to October of this year, these occupations saw a decrease of approximately 43,100 jobs in Los Angeles County. The occupation with the largest losses of these three was Waiters and Waitresses, which decreased by approximately 25,000 jobs during across those months. Restaurant cooks lost roughly 13,500 jobs while fast food and counter workers also lost approximately 4,600 jobs. These occupations are typically



low skill and entry level, leaving those affected by unemployment less likely to having savings to fall back on. The majority of the job losses were in the accommodation and food service industry (NAICS Sector 72) while a significant portion were in the retail trade industry (NAICS Sector 44-45).

Path to Recovery: The restaurant industry will likely not be able to fully return to normal until a vaccine is distributed. In the meantime, takeout and delivery services are one of the only life rafts for restaurants to stay afloat during these trying times.

Retail

- Cashiers (SOC 41-2011)
- Retail Salespersons (SOC 41-3091)
- Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel (SOC 41-2031)

Although retail stores have been able to reopen with restrictions, retailers have certainly felt the effects of the virus. Consumer spending fell nearly 20 percent at the

⁷³ County of Los Angeles, "Revised Temporary Targeted Safer at Home Health Officer Order for Control of COVID-19-Tier 1 Substantial Surge Updated Response"

beginning of the pandemic⁷⁴. While retail sales have appeared to recover, about 15 percent of retail sales nationwide are now eCommerce sales⁷⁵. Online shopping has become much safer and more accessible than in-person shopping, and the employees of brick-and-mortar stores have suffered as a result.

About 5,700 sales representative jobs were lost from January to September of 2020, and cashiers lost approximately 4,700 jobs. Retail salespersons, which includes sales positions from cars to insurance, lost the most of any occupation in the group — just over 10,000 jobs across this span of time. Retail trade, NAICS Sector 44-45, was the hardest hit industry by these job losses.

Path to Recovery: While retail sales as an industry will surely recover after the COVID-19 pandemic ends, the disruptions of changing consumer preferences for eCommerce rather than brick-and-mortar stores will loom for both online retailers and physical shop owners alike in coming years.



⁷⁴ U.S. Census Bureau, Advance Retail Sales: Retail (Excluding Food Services) [RSXFS]



⁷⁵ U.S. Census Bureau, E-Commerce Retail Sales as a Percent of Total Sales [ECOMPCTSA]

Real-Time Employer Demand: Job Postings

Burning Glass Technologies provides real-time insights for job postings data in any given market. Burning Glass pulls data from job posting websites such as Monster, Indeed and LinkedIn as well as from individual company sites to help develop analyses. Using these data, the Institute for Applied Economics was able to identify skills needed for current regional job openings. These skills are summarized below and broken down by industry.

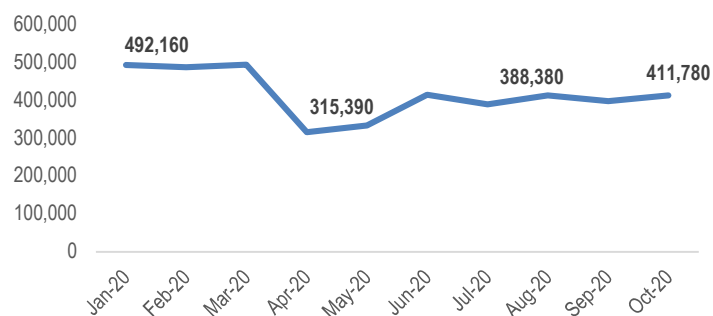
In-Demand Skills in LA County

The spread of the pandemic across Los Angeles County has had severe economic impacts, as many small businesses have closed, and with these closures have come significant decreases in available job openings for workers. Exhibit 278 displays the number of job openings in the county from January to October of 2020.

The county boasted 492,160 job openings in January 2020, a figure which peaked at just over 493,600 in March. However, with the initial wave of business closures and shutdown orders taking effect at the end of March and start of April, openings dropped month over month by 36% to about 315,390. Jobs opportunities began to return in the county over the summer, but the stagnation of the reopening process and rise in daily cases throughout the fall and winter has greatly impeded this growth. As of October, job openings number about 411,780 in LA County, down 16.3% from the beginning of the year. The composition of occupations within these job openings has changed as well in response to work restrictions and business closures.

Exhibit 278:
LA County Job Openings by Month

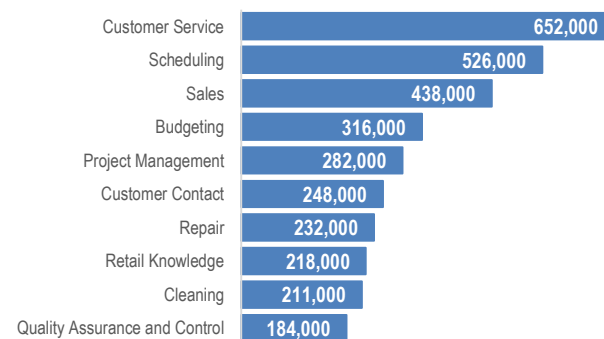
Jan 2020 through October 2020



Source: Burning Glass

Exhibit 279:
Number of Job Postings with Soft Skill Listed

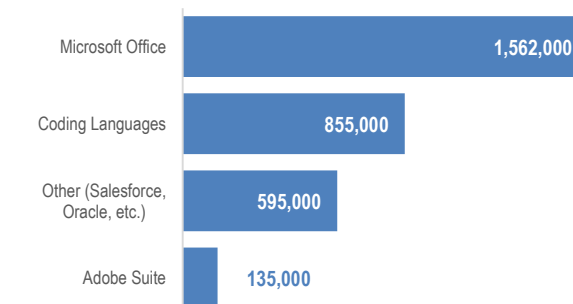
Year-to-Date 2020



Source: Burning Glass

Exhibit 280:
Number of Job Postings with Technical Skill Listed

Year-to-Date 2020



Source: Burning Glass

Soft Skills in Demand

Among these job openings, the most in-demand soft skills are primarily focused on customer service, scheduling, sales, and budgeting. While many industries that required such skills have been forced to close, such as the non-essential retail sector, the growth of electronic commerce and sales has transitioned many occupations that use these skills online. Exhibit 279 shows the number of job postings in 2020 that have listed these soft skills in the county. Businesses still have a high priority on customer-focused activities such as sales, contact and quality assurance, while project management is also of great importance.

Application of Soft Skills to Job Postings

Skills in customer service are in the highest demand currently within the Los Angeles County. These are required for opportunities in customer service representative, retail, first-line supervisory, and cashier roles. Another highly demanded skill, scheduling, can be applied to positions such as managerial and secretarial roles, laborers and freight, stock, and material movers and construction managers.

Budgeting skills are in demand for managerial jobs such as medical and health services managers, accountants, construction managers, and financial managers.

Project management experience is invaluable for certain managerial occupations such as information technology project managers and construction managers. Individuals with experience in repair are also in demand within Los Angeles County, which can translate into jobs such as automotive specialty technicians,

computer user support specialists, and industrial engineering technicians. With the lasting importance of shopping and commerce (in-person and online), employers are always looking for individuals with retail knowledge that can fill job openings in retail sales, supervisor of retail sales workers, stock clerks and pharmacy technicians.

Other essential occupational skills include cleaning and janitorial expertise, as positions in retail sales, upkeep of buildings and dwellings, waiters and waitresses and much more are available for those with these skills. Furthermore, quality assurance experience is also required for software engineering roles, quality control analysts, and construction managers.

Technical Skills in Demand

In terms of technical skills, businesses demand proficiency in a wide range of software and programming languages. Of the highest importance for potential employees are experience with Microsoft Office and coding skills in languages like Python, JavaScript, SQL, R and C++. Other technologies that employers list frequently are social media platforms, Salesforce, Oracle, Tableau and the Adobe Suite (Photoshop, Illustrator, etc.) Exhibit 10-3 represents the number of job openings by technical skills.

Application of Technical Skills to Job Postings

Workers that have proficiency with Microsoft Office have a wide range of job opportunities within Los Angeles County. This knowledge can be applied to secretarial roles, sales representative occupations and bookkeeping, accounting and auditing jobs, alongside the

wide range of consulting and information-based jobs that use these tools on a daily basis.

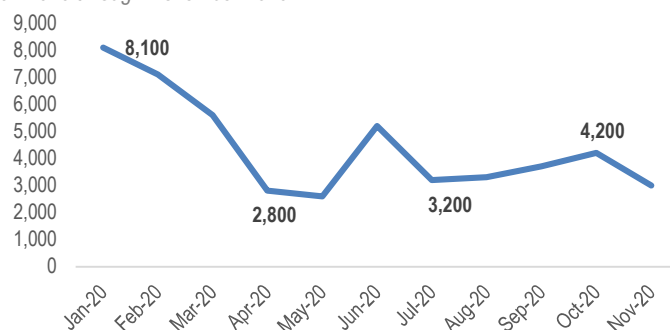
Microsoft Office demand is followed by demand for coding skills and programming language proficiency, as opportunities like software developers, web developers, and computer systems engineers all require individuals with a strong understanding of coding. As these jobs are performed primarily on computers and can be performed remotely for extended periods of time, the demand for such skills has not diminished during the pandemic.

Individuals with skills in related software tools such as social media, marketing, and customer management systems can apply this knowledge to jobs as software developer, bookkeeping, and marketing manager roles along with a with range of computer support positions. Adobe Suite is also essential in many occupations including web developer roles, graphic designers, marketing managers, designers, technical writers, and public relations specialists.

Technical and software skills are less likely to be displaced than soft skills, as they are usually incorporated into occupations that rely less on interpersonal interaction and on-location tasks. In the transition to telework, jobs that require primarily technical skills have fared much better than those without, which has contributed to the high demand for these proficiencies. This is easily displayed in Exhibits 279 and 280, where the number of postings that list Microsoft Office, the top technical skill, was more than double that of postings that list customer service, the most demanded soft skill.

Exhibit 281:
Monthly Job Openings: Accommodation and Food Services

Jan 2020 through November 2020



Source: Burning Glass

Exhibit 282:
Number of Job Postings with Specialized Skill Listed: Accommodation and Food Services

Year-to-Date 2020



Source: Burning Glass

Hardest-Hit Industry Skills Summary

Accommodation and Food Services

While the accommodation and food services sector has hit record-high unemployment rates, there are a range of skills that workers from this industry can transfer to other opportunities. The top specialized skills include cleaning, customer service, and cooking. Cleaning skills can be applied to jobs like dishwashers, housekeepers and maintenance technician in restaurants, accommodation, medical, and grocery store outlets. Meanwhile, customer service skills are easily applicable to roles such as customer service representative, cashier, and sales associate for companies in business support services, depository intermediation, insurance, and other retail industries. Cooking

skills are still in demand for many occupations such as line cook, dishwasher, chef, and restaurant team member; the industries that require such a position range from restaurants and accommodation to the medical and higher-education sectors (Exhibit 282).

Employment peaked in the accommodation and food services industry in January 2020 with over 8,100, but this fell drastically to 2,600 following spring shutdown orders that put harsh limits on travel, tourism and dining (Exhibit 281). While summer held some employment gains, accommodation and food services is still the hardest-hit industry in Los Angeles County, with large declines in employment and available job opportunities.

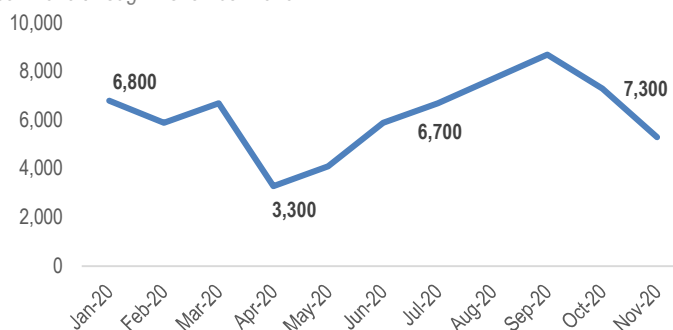
Retail Trade

The retail industry has been massively impacted by the pandemic and its effect on in-person sales opportunities. Nevertheless, experience in sales, customer service, and retail industry knowledge are still in demand and in many cases easily transferrable into roles outside the retail trade industry. Sales experience can be utilized in a wide variety of job positions such as sales associates, sales managers and account managers for industries like business support services, insurance, department store retail, construction, and consulting. Retail industry knowledge is also high demand for job openings as cashiers, sales associates and receptionists, within sectors like health and personal care, restaurants, construction, non-essential retail, and grocery stores.

The county’s monthly job openings in the retail sales industry started off strong around 6,800 in January 2020 but dipped below 4,000 opening following shutdown orders. These

Exhibit 283:
Monthly Job Openings: Retail Trade

Jan 2020 through November 2020



Source: Burning Glass

Exhibit 284:
Number of Job Postings with Specialized Skill Listed: Retail Trade

Year-to-Date 2020



Source: Burning Glass

opportunities for jobs in retail grew during the initial reopening process of the summer but are still far from their pre-pandemic level.

Growth Industry Skills Summary

Transportation and Warehousing

The transportation and warehousing industry has dealt with some job losses during the pandemic, but there are still opportunities for new employees due to the increased number of people shopping online. The growing trend towards providing fast delivery through optimized logistics and last-mile shipping services has helped job postings in the sector increase by 58% since the start of pandemic. In these postings, the top specialized skills include customer service, scheduling, and logistics.

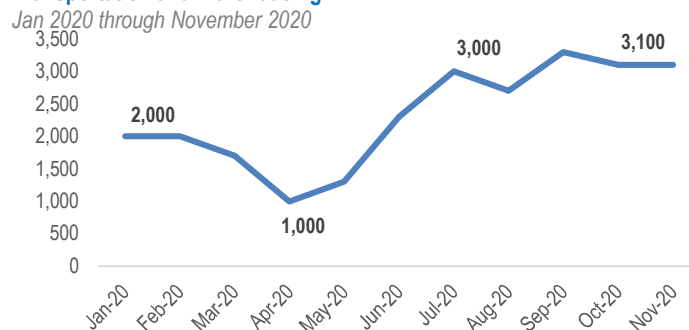
As many who have become unemployed in the county worked previously in non-essential retail or similar customer service roles, these skills can be applied to roles within transportation and warehousing such as customer service representatives, sales associates, and cashiers. Delivery services are also becoming more important, making scheduling and project management two skills that have grown massively in demand.

Healthcare and Social Services

This industry offered 11,800 jobs in January 2020 before dropping around 40% to 7,000 job postings in April 2020 (Exhibit 285). However, due to the consistent need for healthcare workers as the pandemic continues, the number of demands for specialized skills in patient care, scheduling, and cardiopulmonary resuscitation (CPR) have grown in job openings.

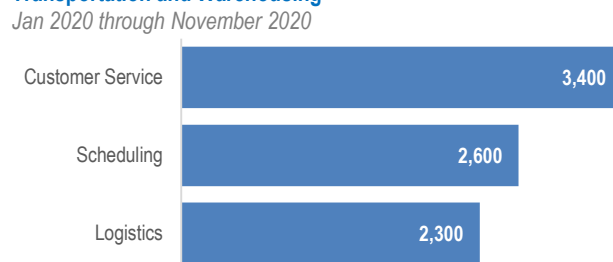
The top employers hiring within the industry include Cedars-Sinai, Kaiser Permanente, and Providence Health & Services, and job titles in demand include caregiver, medical assistant, and vocational nurses. The top cities to look for jobs within healthcare and social services industry include Los Angeles, Long Beach, and Torrance, which provide more than 58,000 jobs total. Individuals with patient care skills from other industries have the ability to apply themselves to roles such as medical assistant, vocational and registered nurse and patient care coordinators within the health care sector, often in part-time or temporary positions to deal with surges in coronavirus hospitalizations. Similarly, individuals with proficiency in CPR and related techniques can target roles such as vocational nurses, medical assistants and caregivers, for employers like

Exhibit 285
LA County Monthly Job Openings: Transportation and Warehousing



Source: Burning Glass

Exhibit 286:
Number of Job Postings with Specialized Skill Listed: Transportation and Warehousing



Source: Burning Glass

Exhibit 287:
Skill Clusters in Demand: LA County



Source: Burning Glass

Pih Health, Adventist Health, and City of Hope (Exhibit 286).

Skill Clusters in Los Angeles County

Skill clusters represent groups of related skills in a single category. They are helpful in creating skill-group analyses of job postings data, which facilitates the understanding of in-demand occupations and the development of targeted curriculum that can give workers the tools they need to succeed in the regional economy. As shown in Exhibit 287, the skill cluster in highest demand throughout Los Angeles County this year has been Basic Customer Service. Despite the limitations on physical locations for selling products, companies are still interacting with consumers online and over the phone, and the demand for workers that specialize in interaction with customers remains preeminent. Third in popularity among employers is General Sales, which further reinforces how businesses are still looking to drive revenue from sales regardless of local restrictions.

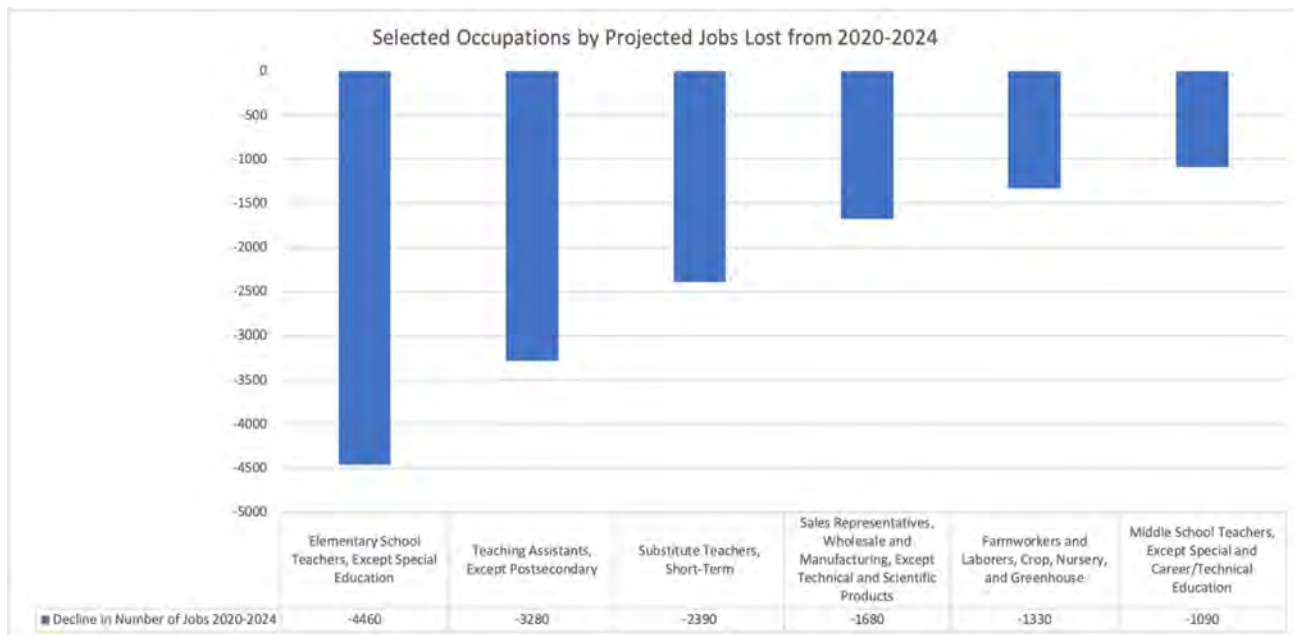
The second most demanded skill cluster is Microsoft Office and Productivity Tools, demonstrating the impact of rising telework

across the region. As it can be applied to a wide variety of jobs, learning the Microsoft Office suite is recommended for any potential entrant to the labor force or a current worker wishing to transition into a new occupation. Rounding out the top five are two administrative skill clusters, Scheduling and General Administrative and Clerical. From this Burning Glass data, it is apparent that the greatest focus for employers in the region — and the most important skills for employees to possess — are sales and business support skills.

The rest of the top ten most demanded skills clusters in 2020 job postings are more diversified, showing that businesses are looking for workers with strong management skills. Emergency and Intensive Care is also featured on this list, as the health care industry has been demanding a greater number of staff to help combat the pandemic. Overall, job postings are more heavily focused on skills that can be performed on a computer and often from a distance, rather than blue-collar, on-location skills. While these preferences may change as recovery continues, those looking to become employed or find a new opportunity would be advised to develop some of these skills to improve their job search.

While most occupations are expected to recover once the COVID-19 pandemic ends, a handful are expected to decline. The most prominent losses are childhood education. The number of elementary school teachers, teaching assistants (except post-secondary schooling), middle school teachers, and substitute teachers are expected to decline in Los Angeles County from 2020 to 2024⁷⁶. This loss is likely driven by the declining birth rate which has fallen 47 percent since 1990⁷⁷. According to the California Department of Finance, the birth rate is expected to fall 8 percent in the next four years, and about 17 percent in the next 15 years. With the birth rate falling, and the number of residents in Los Angeles County expected to decline in the coming years as well, it follows that the number of educators in the County would decline as well.

Aside from educators, wholesale and manufacturing sales representatives are expected to decline as well. This is rooted in the slow decline of Los Angeles manufacturing. Along with sales representatives, farmworkers are also expected to decline in the region as agriculture moves east to Riverside and San Bernardino.



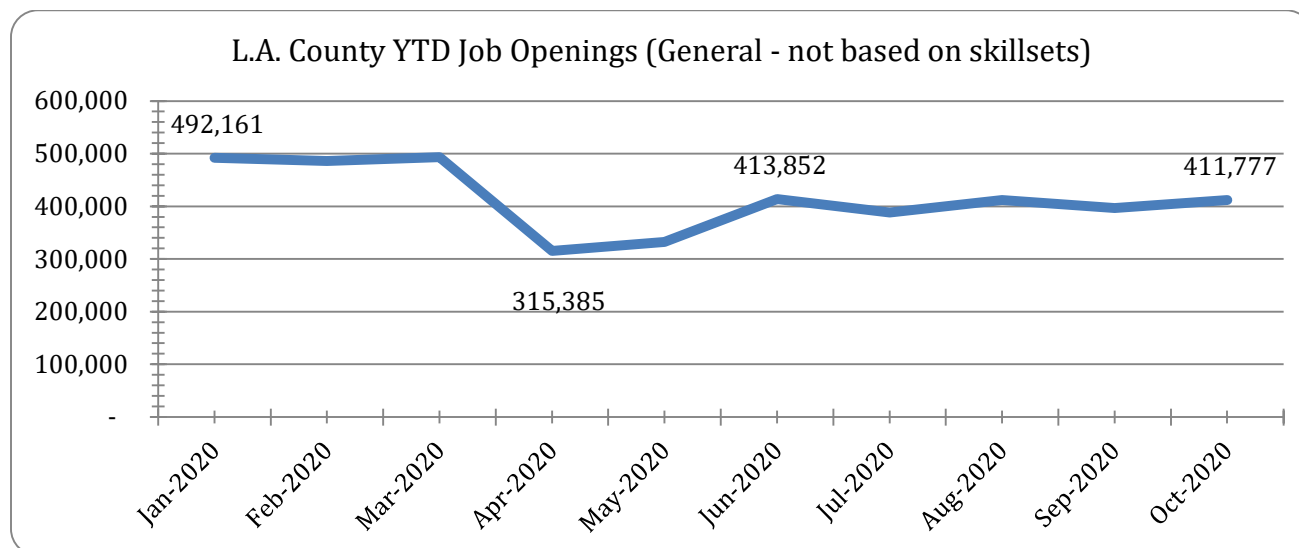
L.A. County Top Skills

L.A. County’s job opening data peaked at 492,161 in January 2020. Gradually, the number of openings declined as the state approached shut down orders that were issued in March, dropping openings down to 315,385. Summer season saw a climb back to 413,852 openings in June 2020, and the openings stabilize around 411,777 as of October 2020.

⁷⁶ The SOC codes respectively: 25-2021, 25-9045, 25-2031, 25-2022

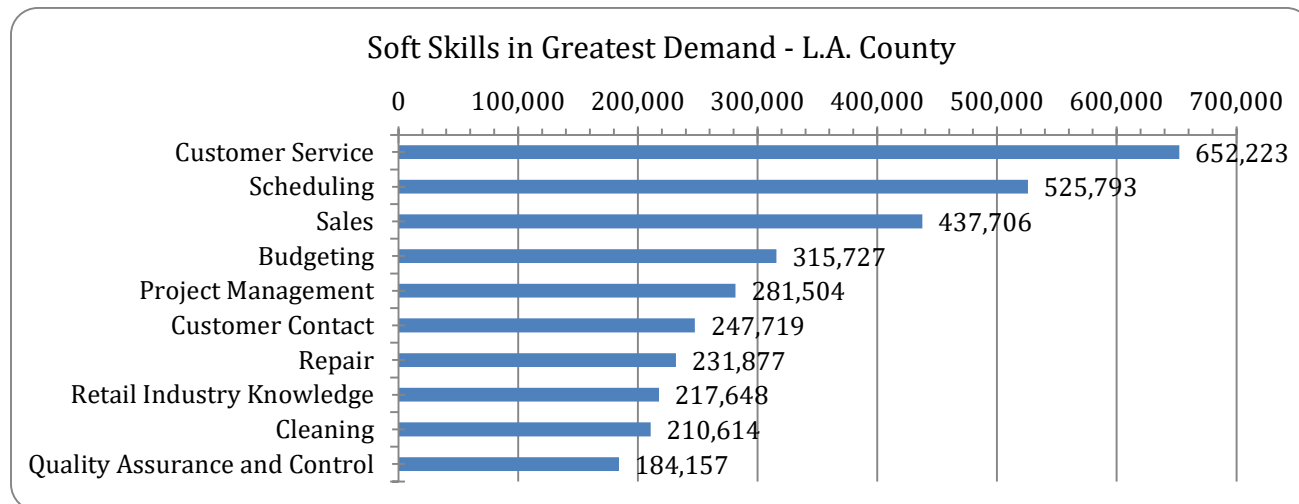
⁷⁷ California Department of Finance. Demographic Research Unit. 2020. Historical and Projected Fertility Rates and Births, 1990-2040 (Baseline 2019 Population Projections; Vintage 2019 Release). Sacramento: California Department of Finance. January 2020.

TIME SERIES ANALYSIS



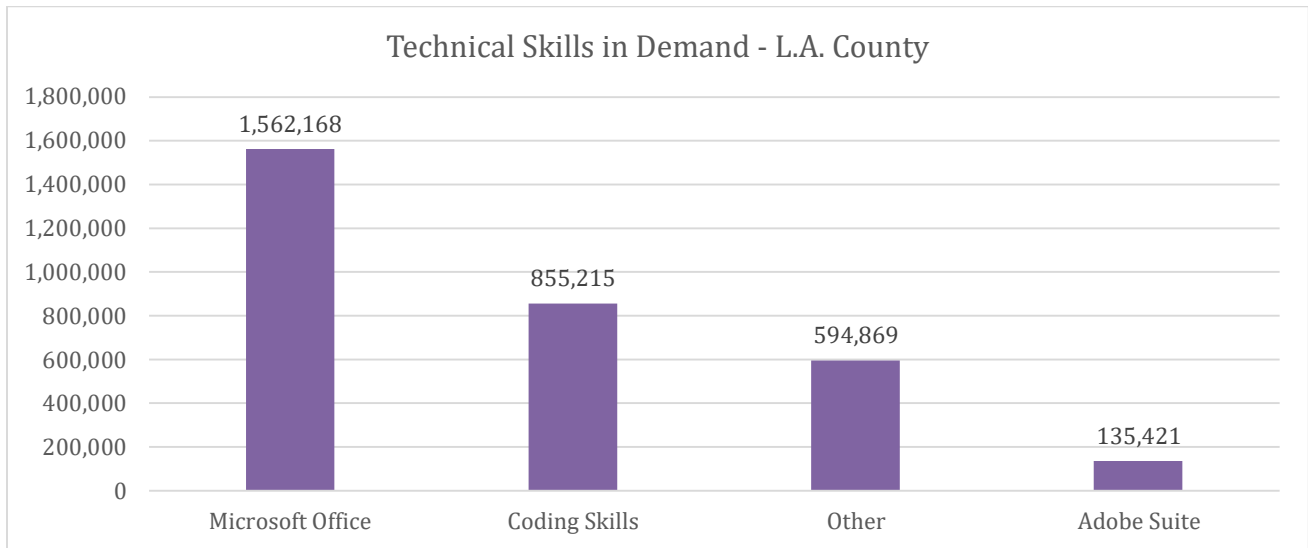
Soft skills in demand in L.A. County primarily focuses on customer service (652,223 openings), given L.A.’s recognition as a large and growing entertainment center. Other openings prefer candidates with scheduling experience (525,793), sales skills (437,706), budgeting (315,727), project management (281,504), repair experience (231,877), cleaning (210,614), and quality assurance (184,157).

TOP 10 SOFT SKILLS



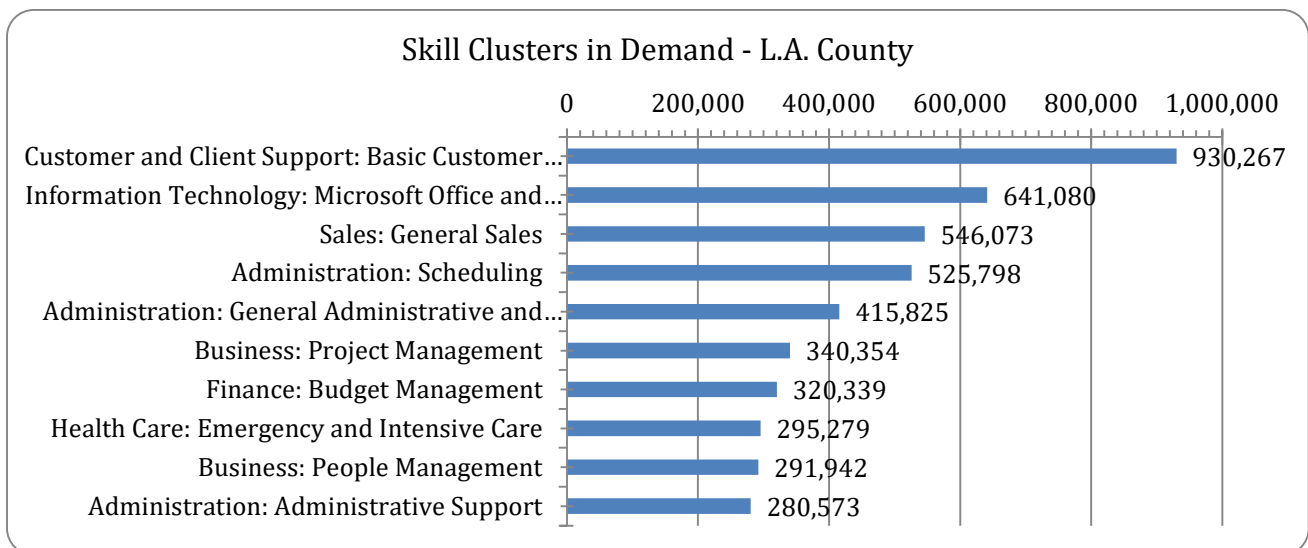
As for technical skills, the highest demand would be experience in Microsoft Office, including Word, Excel, Outlook, and PowerPoint (1,562,168 openings); coding skills, including Python, JavaScript, SQL, R, C++, and Tableau (855,215); other skills, such as social media, Salesforce, Oracle, and ERP (594,869); and Adobe Suite, including Photoshop and Illustrator (135,421).

TOP 10 TECHNICAL SKILLS



For skill clusters, customer service experience is high demand (930,267 openings). Following that, employers are looking for experience with Microsoft Office (641,080), sales (546,073), project management (340,354), emergency care (295,279), and administrative support (280,573).

TOP 10 SKILL CLUSTERS

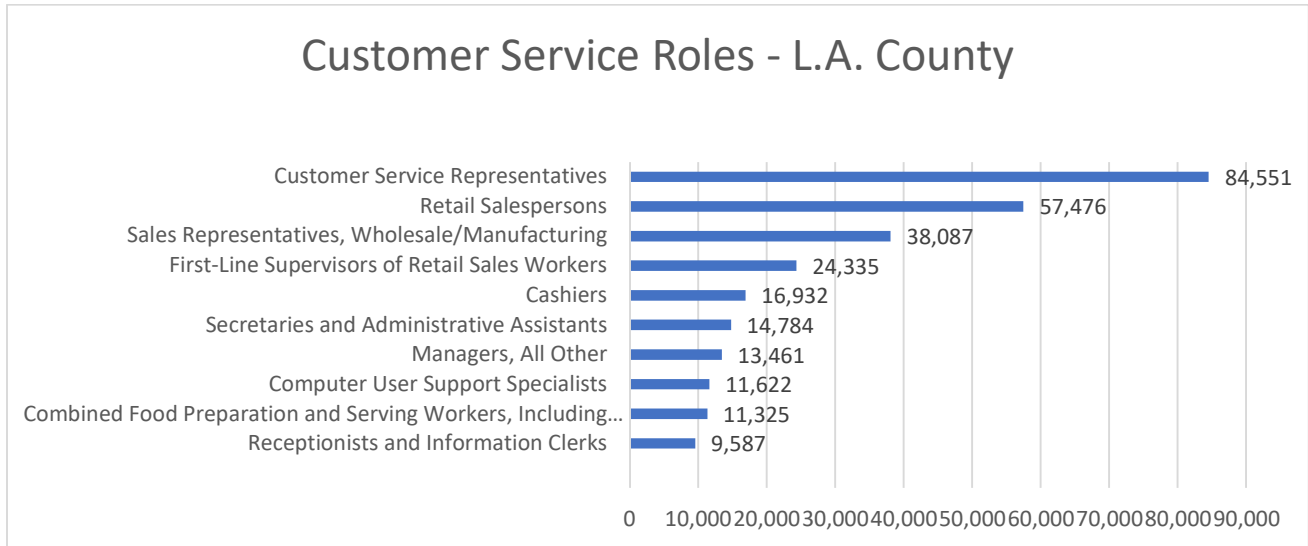


Application of soft skills to job postings

Customer Service

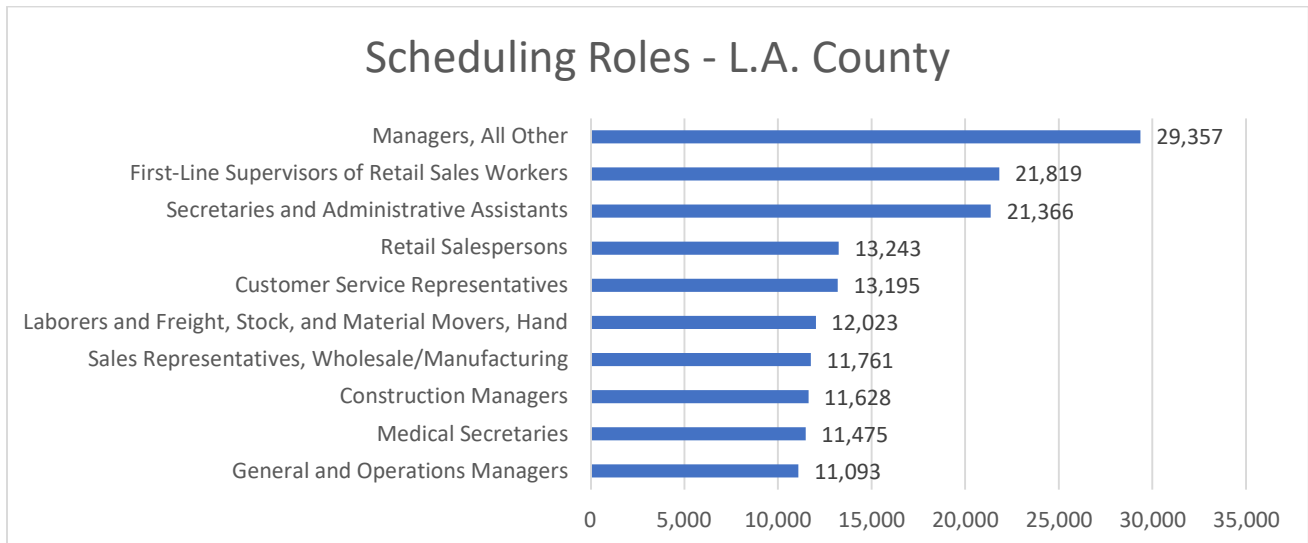
Customer service roles are in the highest demand currently. There are opportunities to apply the skill into customer service representative roles (84,551 openings), retail roles (57,476), first-line supervisory roles (24,335), cashier roles (16,932), secretary roles (14,784), and even food preparation roles (11,325).

CUSTOMER SERVICE ROLES



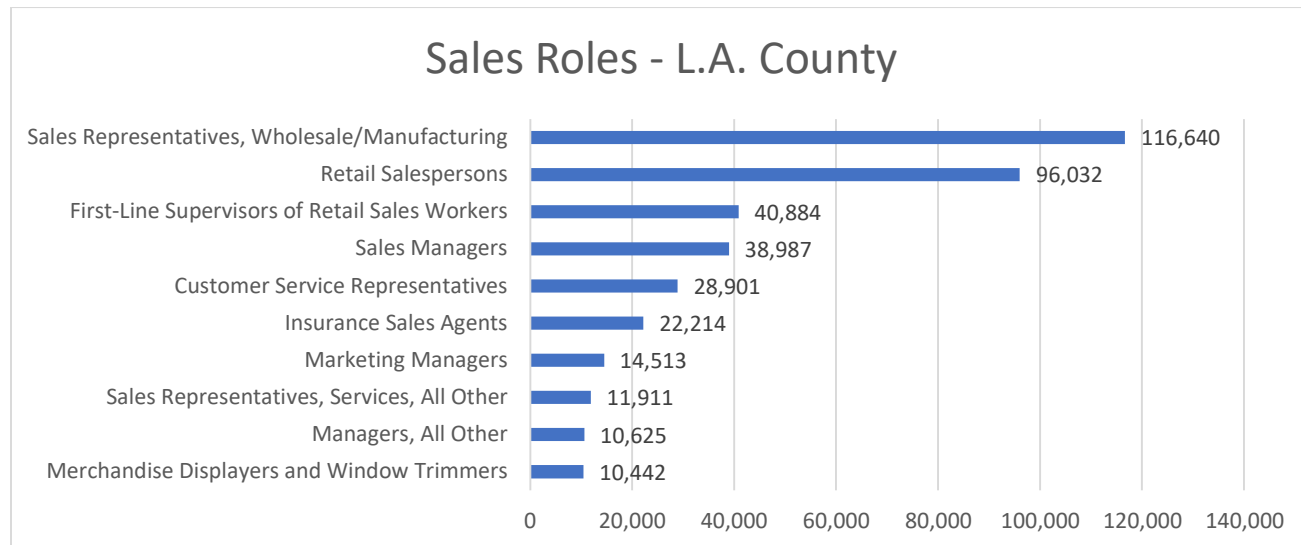
Scheduling skills is in high demand for managerial positions (29,357 openings); secretarial roles (21,366); laborers and freight, stock, and material movers (12,023); and construction managers (11,628).

SCHEDULING



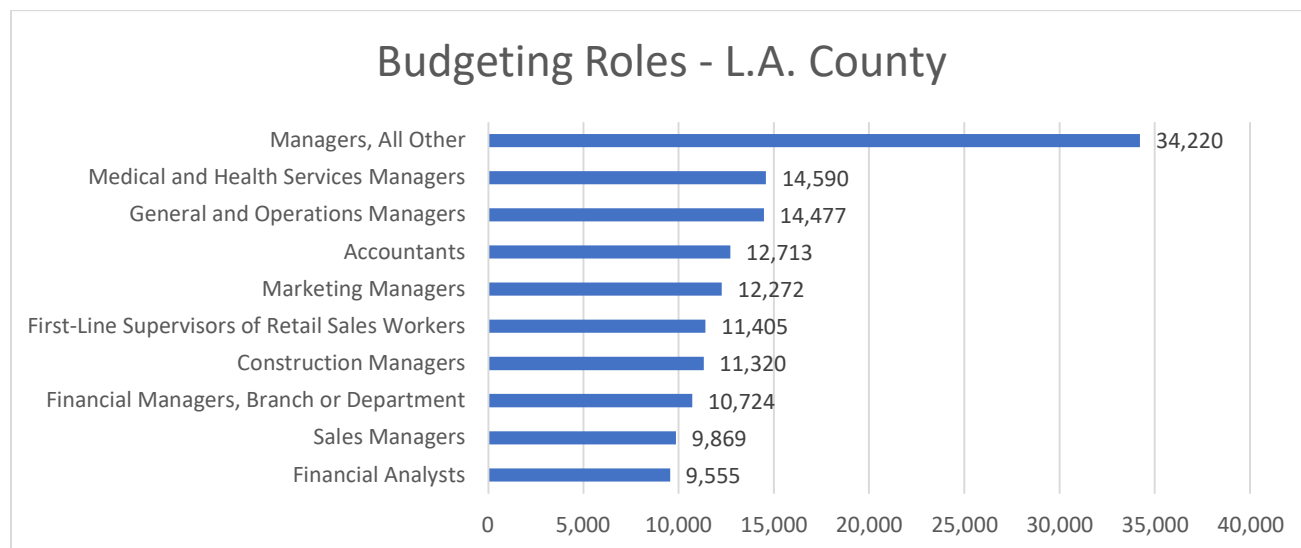
Sales experience is in demand for sales representative roles in wholesale and manufacturing (116,640 openings), retail sales roles (96,032), sales manager roles (38,987), marketing managers (14,513), and merchandise displayers (10,442).

SALES



Budgeting skills is in demand for managers (34,220 openings), medical and health services managers (14,590), accountants (12,713), construction managers (11,320), and financial managers (10,724).

BUDGETING



Project management experience is invaluable for managerial roles (54,078 openings), information technology project managers (16,748), construction managers (15,258), software developers (14,117), management analysts (9,946), civil engineers (7,465), and computer systems analysts (6,897).

PROJECT MANAGEMENT



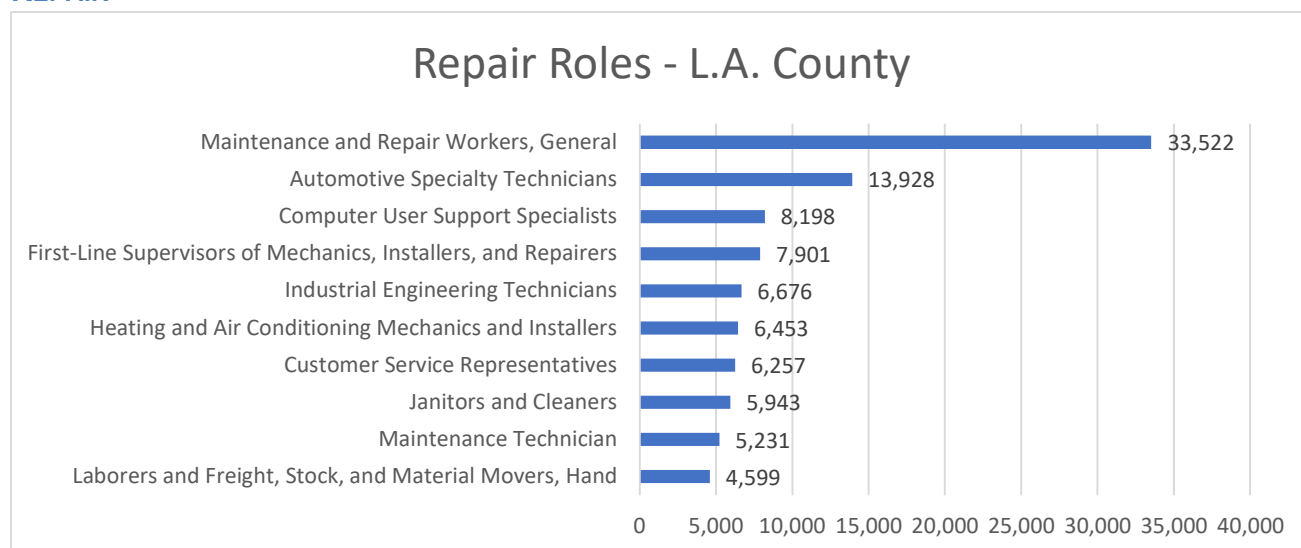
Customer contact experience is in demand for retail sales roles (21,348 openings), customer service representative roles (20,003), cashiers (5,156), software developers (4,524), and driver/sales workers (3,965).

CUSTOMER CONTACT



Repair experience is in need for maintenance and repair workers (33,522 openings), automotive specialty technician roles (13,928), computer user support specialist roles (8,198), industrial engineering technician roles (6,676), and electricians (4,478).

REPAIR



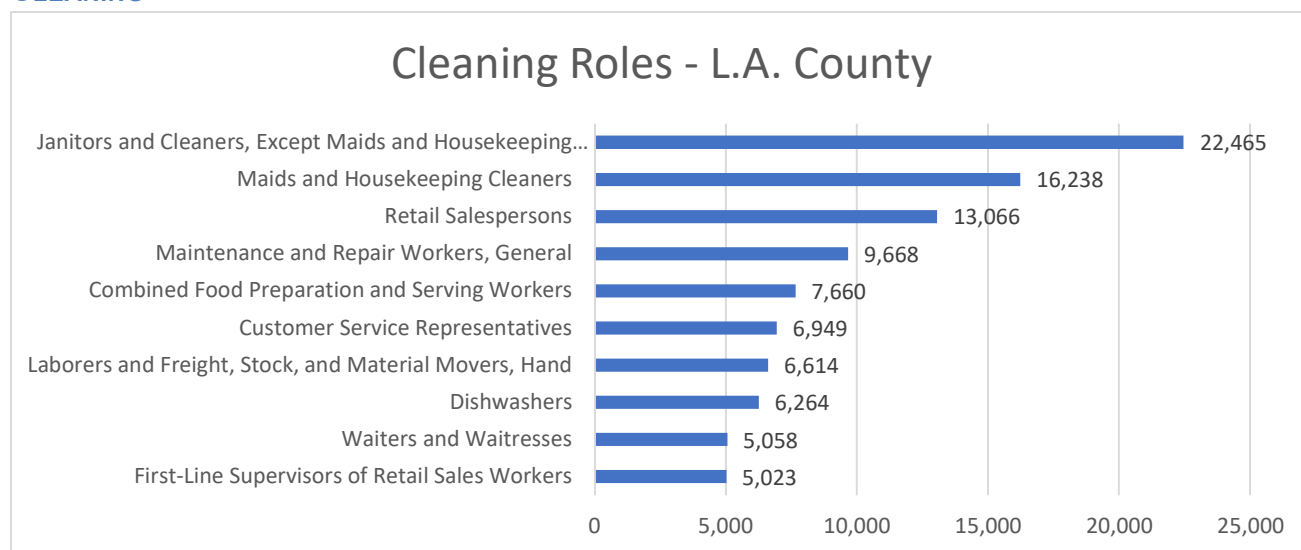
Retail industry knowledge expertise is essential for retail sales roles (53,166), first-line supervisor of retail sales worker roles (41,046), stock clerks (6,260), cashiers (5,703), and pharmacy technicians (4,391).

RETAIL INDUSTRY KNOWLEDGE



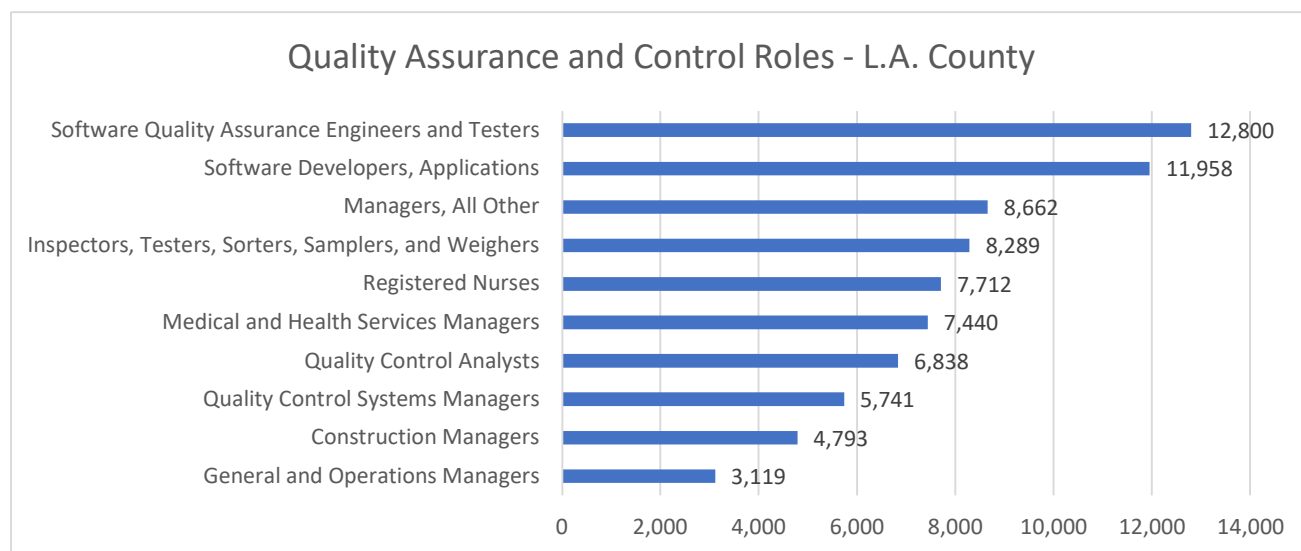
Cleaning skills are in need in janitorial roles, with the exception of housekeeping cleaners (22,465 openings); maids and housekeeping roles (16,328); retail sales roles (13,066); maintenance and repair roles (9,668); dishwashers (6,264); and waiters and waitresses (5,058).

CLEANING



Quality Assurance experience is in need in software engineering roles (12,800 openings); inspector, tester, sorter, sampler, and weigher roles (8,289); quality control analysts (6,838); construction managers (4,793).

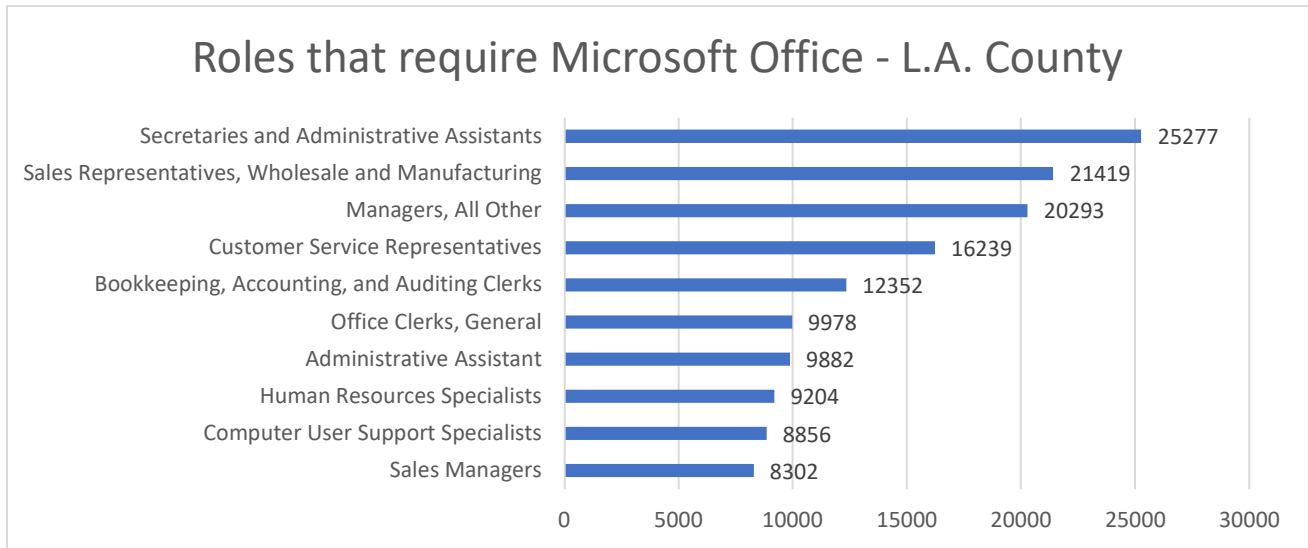
QUALITY ASSURANCE AND CONTROL



Application of technical skills to job postings

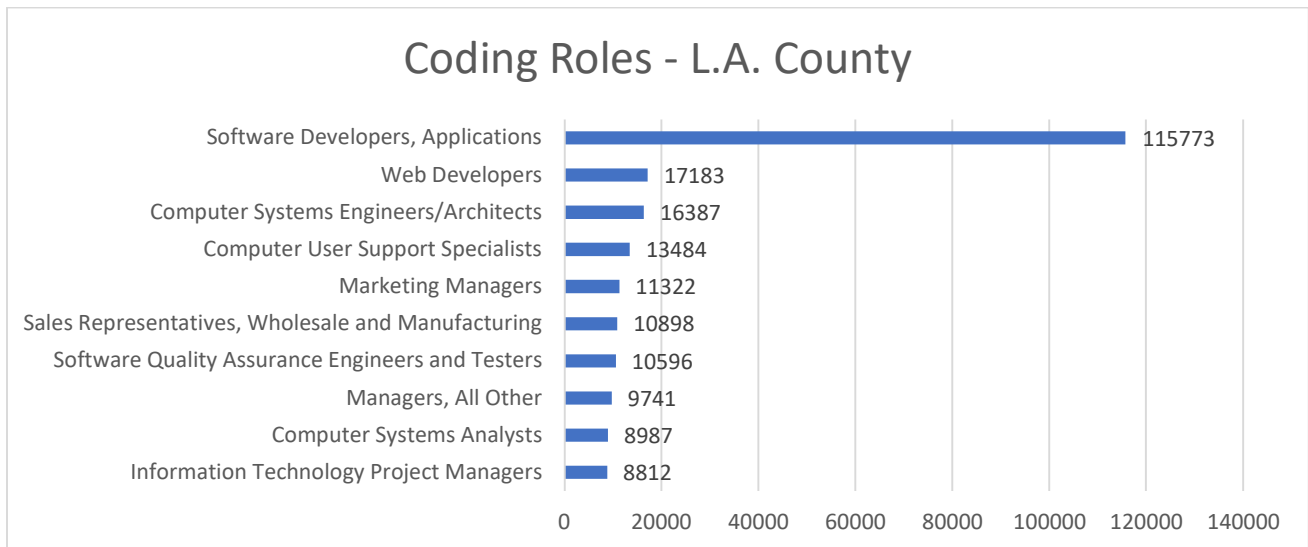
Microsoft Office is very essential to secretarial roles (25,277 openings), sales representative roles (21,419), bookkeeping, accounting and auditing roles (12,352), human resources roles (9,204), and even computer user support roles (8,856).

MICROSOFT OFFICE



Coding skills are key in software developer roles (115,773), web developer roles (17,183), computer systems engineer roles (16,387), software quality assurance engineer and tester roles (10,596), and managerial roles (9,741).

CODING SKILLS



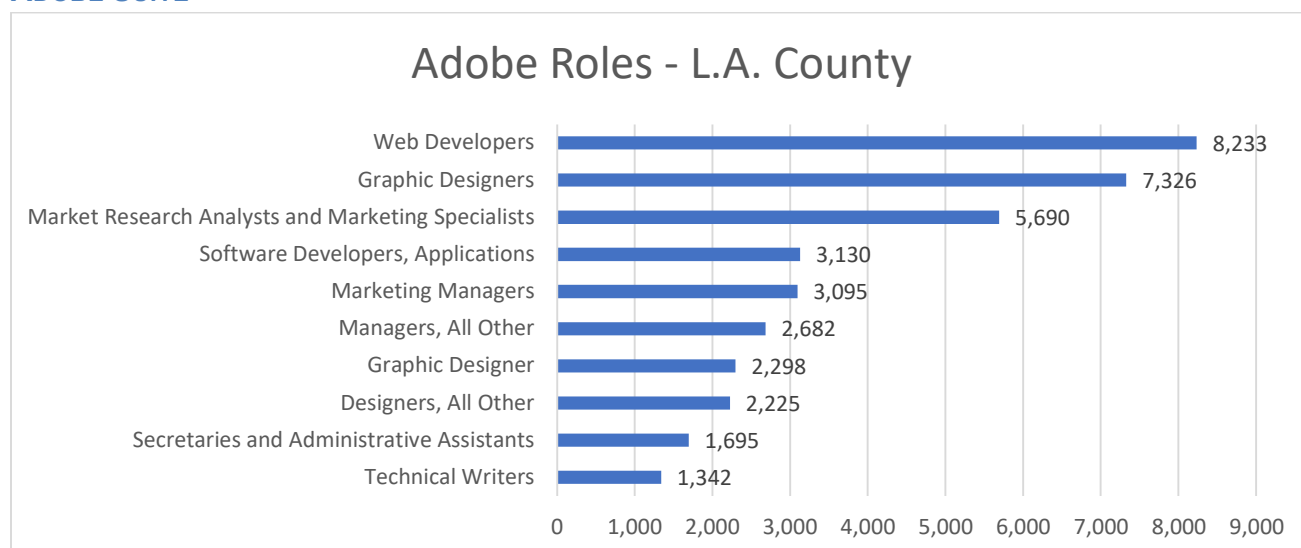
Other skills (including social media, marketing, and customer management systems) are in need in L.A. County, including software developer roles (29,249), bookkeeping roles (17,890), marketing manager roles (9,170), market research analyst roles (8,821), and database administrators (6,579).

OTHER



Adobe Suite is essential in many roles, including web developer roles (8,233 openings), graphic designers (7,326), marketing managers (3,095), designers (2,225), technical writers (1,342), and public relations specialists (1,325).

ADOBE SUITE



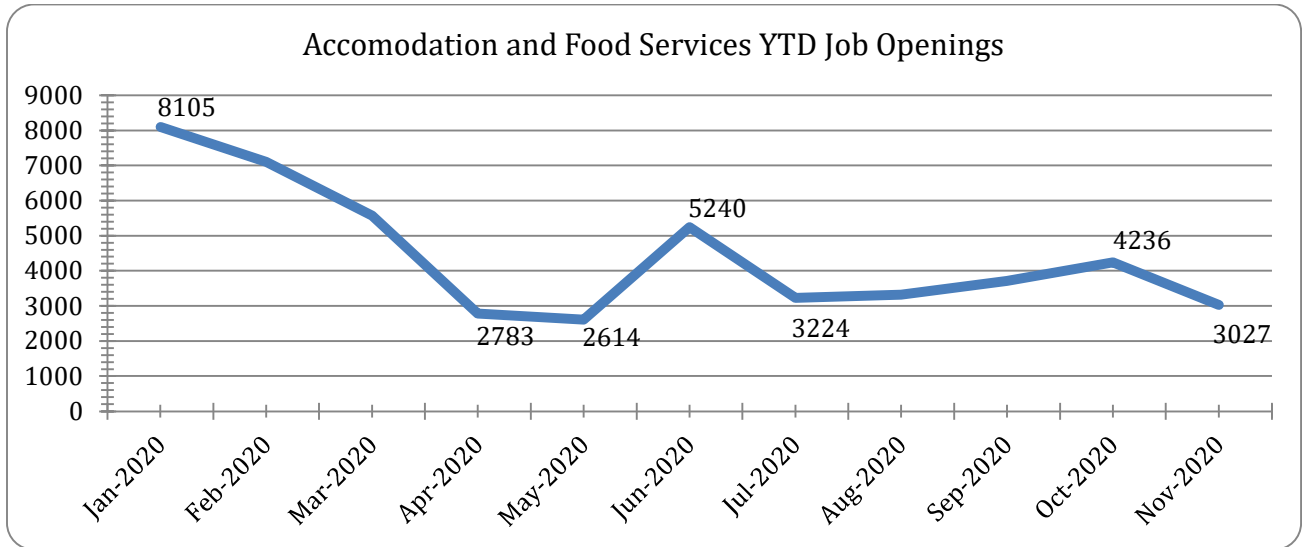
Hardest-Hit Industries

Accommodation and Food Services

Accommodation and food services job openings peaked at 8,105 openings in January 2020. With the rise of the COVID-19 pandemic, job postings plummeted by about 66% to 2,614 openings as of May

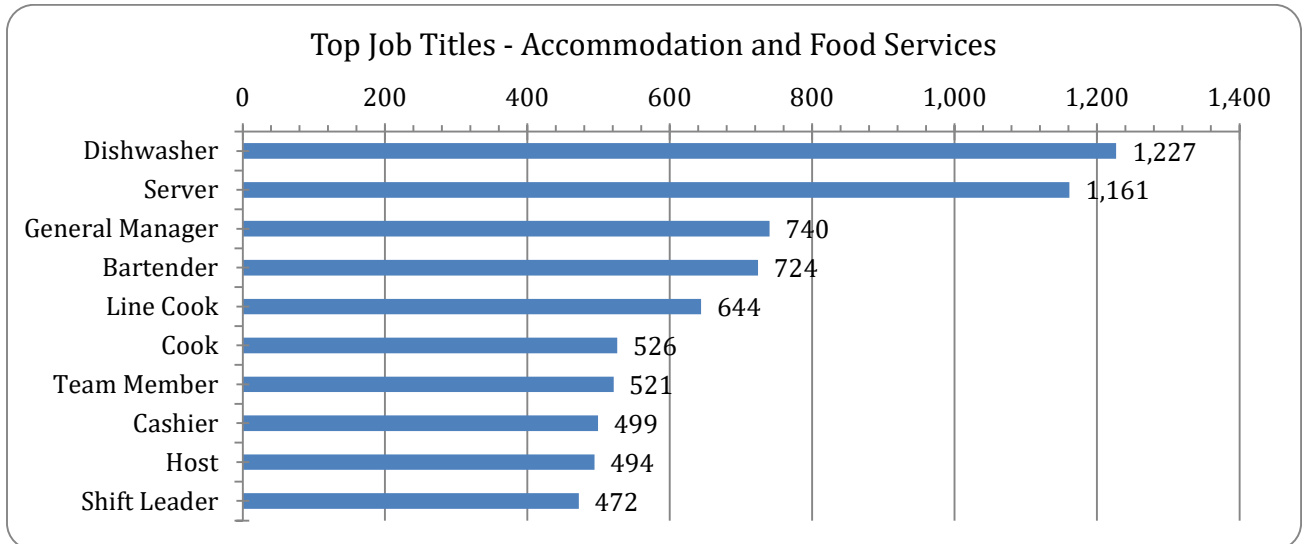
2020, before rebounding back to 5,240 openings in June 2020. Currently, job openings are still around 3,027 openings.

TIME-SERIES ANALYSIS



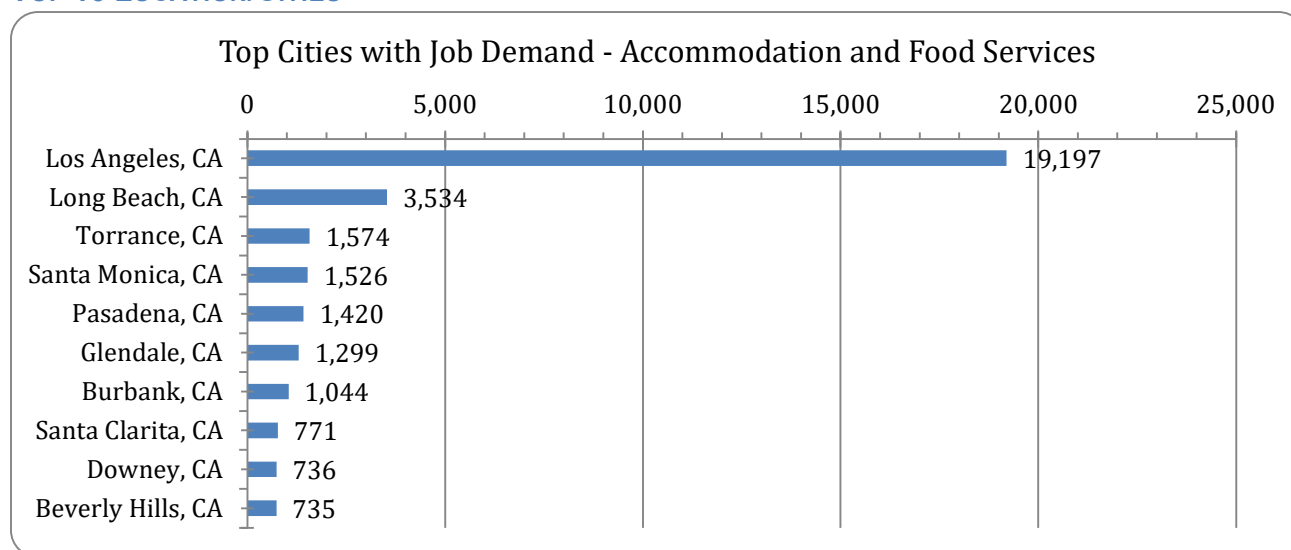
The highest demand job titles within the industry include dishwasher (1,227 openings), server (1,161), general manager (740).

JOB TITLES



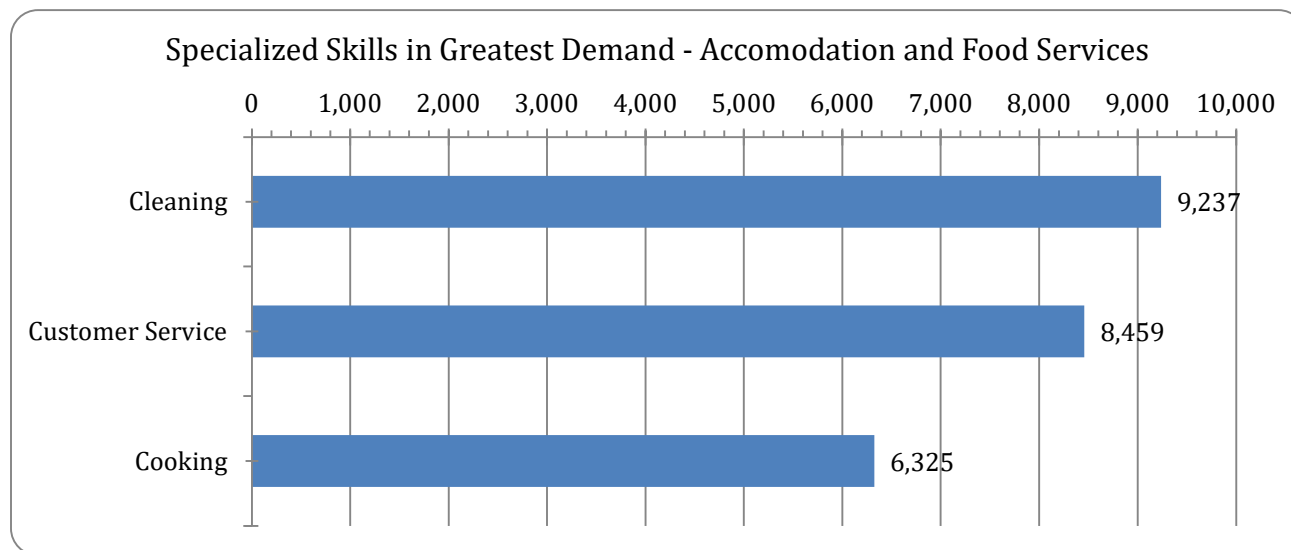
The top L.A. County cities with the most job demand in the accommodation and food services industry include Los Angeles (19,197 openings), Long Beach (3,534), Torrance (1,574), Santa Monica (1,526), and Pasadena (1,420).

TOP 10 LOCATION/CITIES



The top three specialized skills within the accommodation and food services industry include cleaning (9,237 openings), customer services (8,459), and cooking (6,325).

TOP 3 SPECIALIZED SKILLS



Transferrable Specialized Skills (by Industry, Employers, and Job Titles)

Cleaning

Top industries looking for cleaning experience include Restaurants (3,864 openings), accommodations (2,849), services to buildings and dwellings (1,936), hospitals (1,686), and grocery stores (1,448).

INDUSTRY



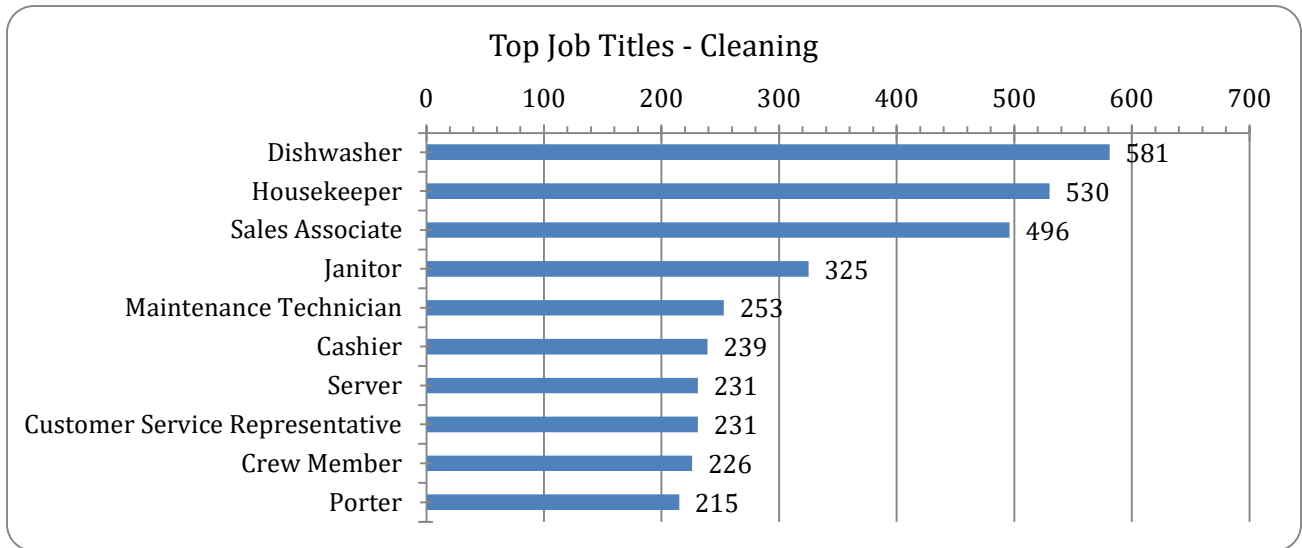
Top employers looking for cleaning experience include hospitality, retail, and office industries, such as Marriott International (1,338 openings), Whole Foods Market (454), Advantage Sales & Marketing (432), Sodexo (324), and Servicon Systems (224).

EMPLOYERS



Top job titles requiring cleaning experience include dishwasher (581 openings), housekeeper (530), and sales associate (496).

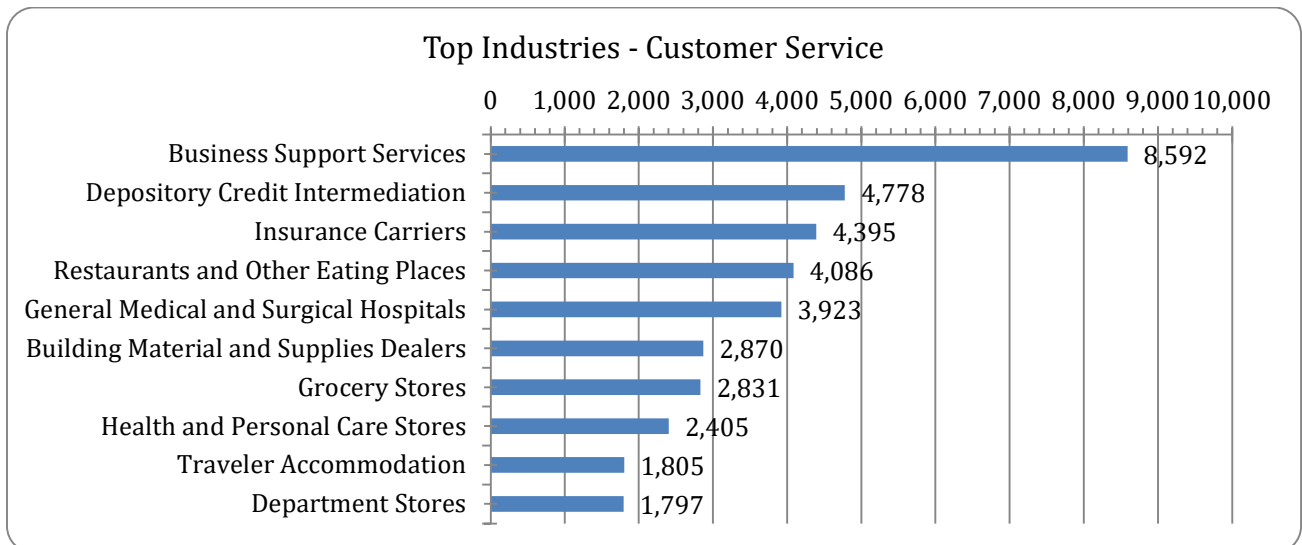
JOB TITLES



Customer Service

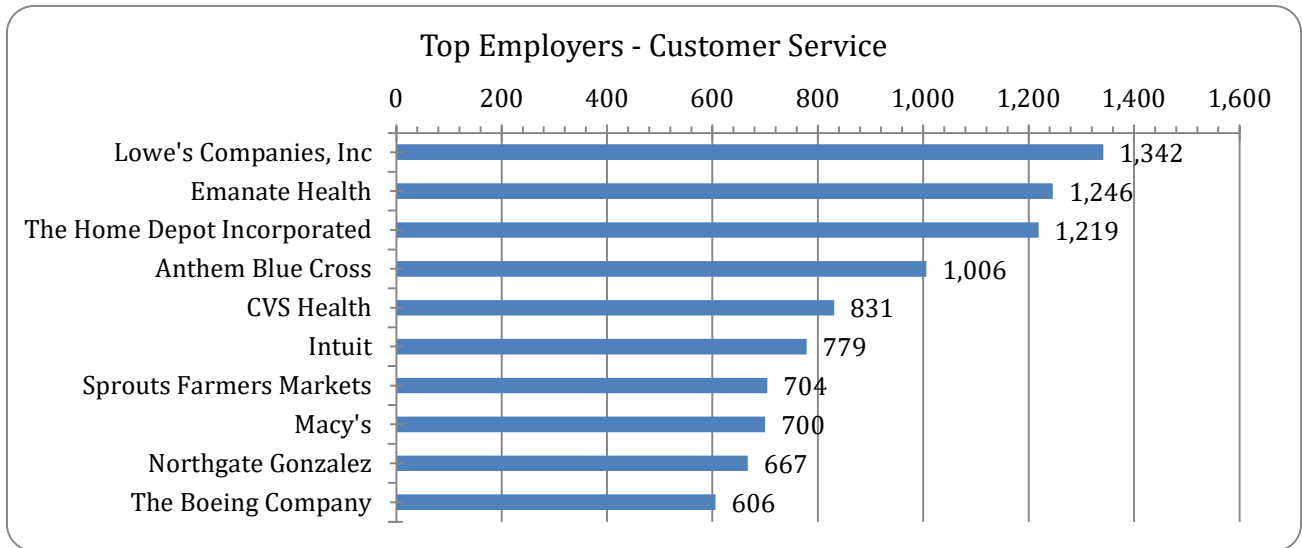
Top industries that prefer customer service experience include business support services (8,592 openings), depository credit intermediation (4,778), and insurance carriers (4,395).

INDUSTRY



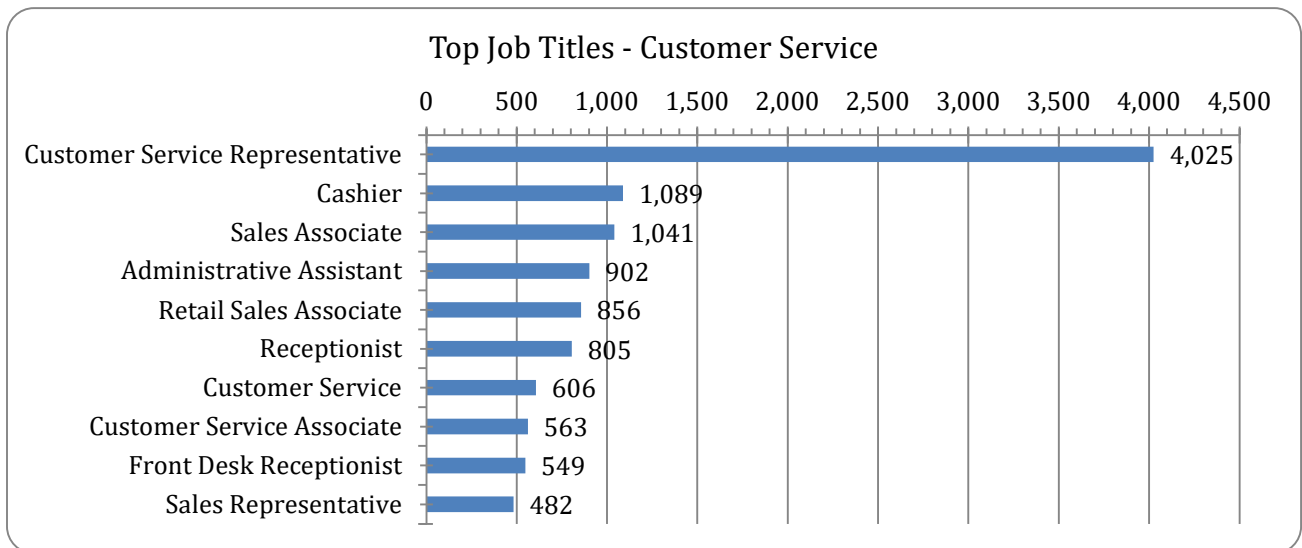
Top employers looking for customer service experience include home improvement store, health care, and retail, such as Lowe’s (1,342 openings), Emanate Health (1,246), and Anthem Blue Cross (1,006).

EMPLOYERS



Top job titles that prefer customer service experience include customer service rep (4,025 openings), cashier (1,089), and sales associate (1,041).

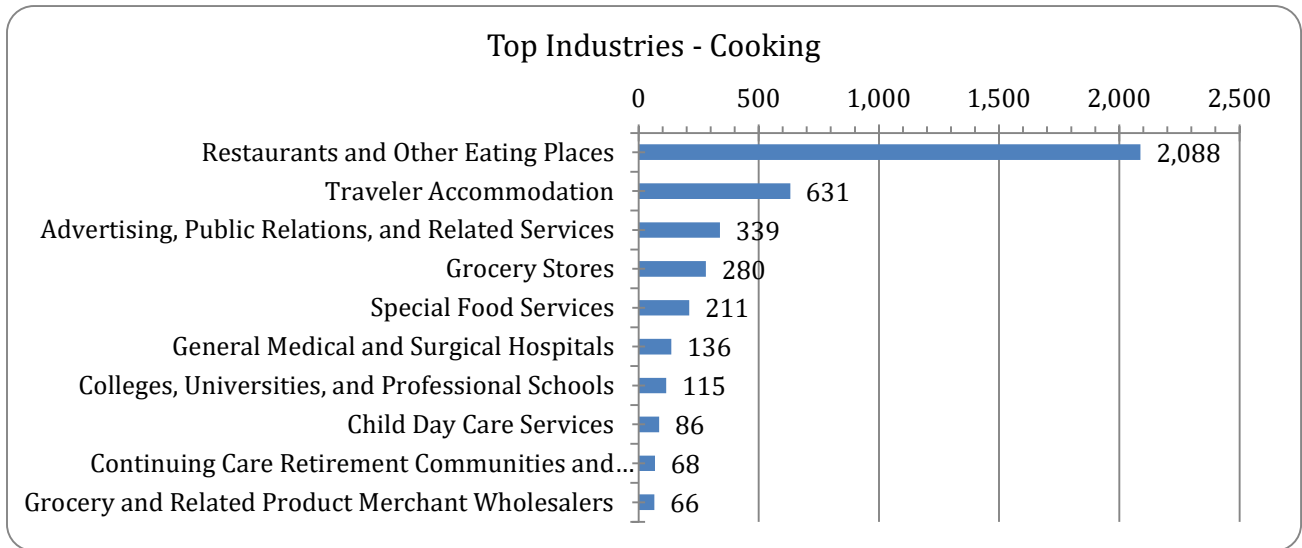
JOB TITLES



Cooking

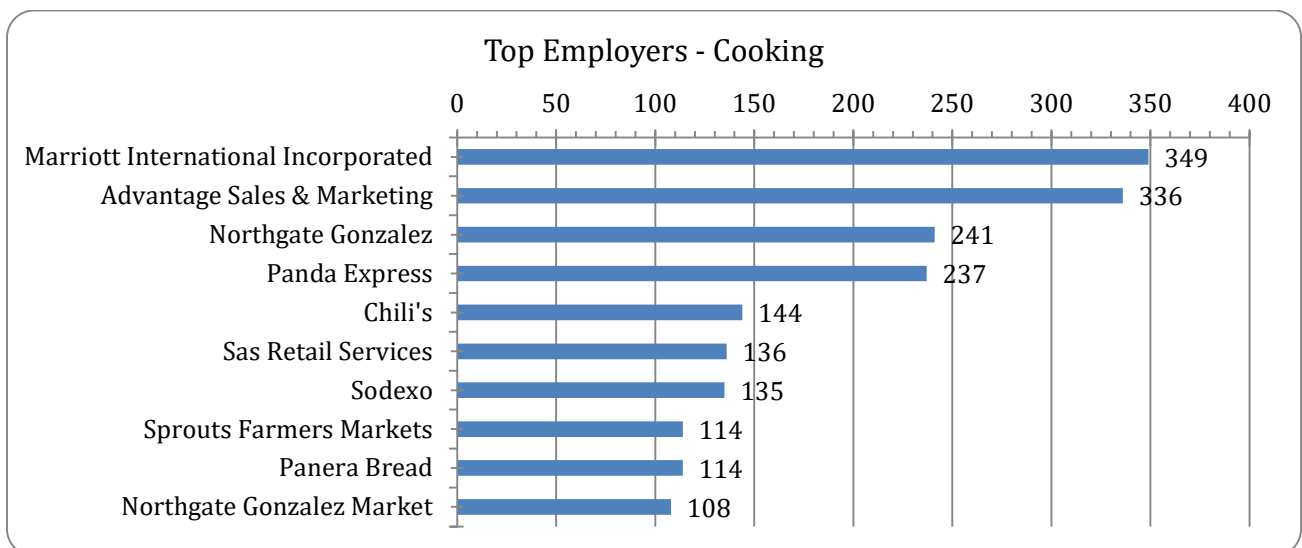
Top industries that prefer cooking experience include restaurants (2,088 openings), accommodations (631), advertising and public relations (339), grocery stores (280), and hospitals (136).

INDUSTRY



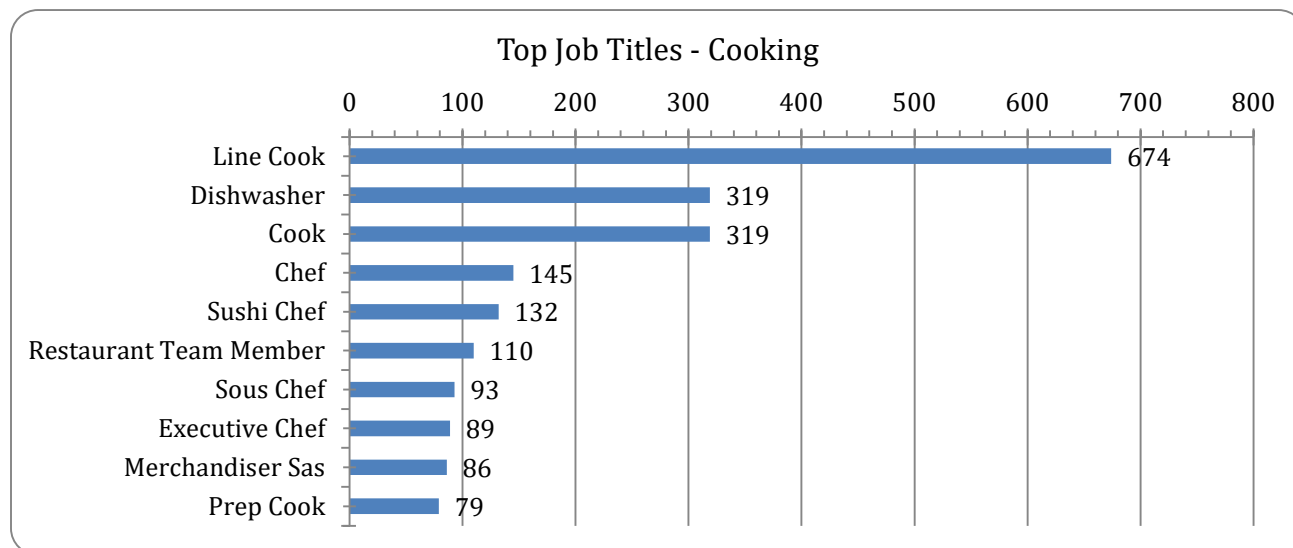
Top employers looking for cooking experience include hospitality and retail firms, such as Marriott International (349 openings), Advantage Sales & Marketing (336), Northgate Gonzalez (241), Panda Express (237), and Sprouts (114).

EMPLOYERS



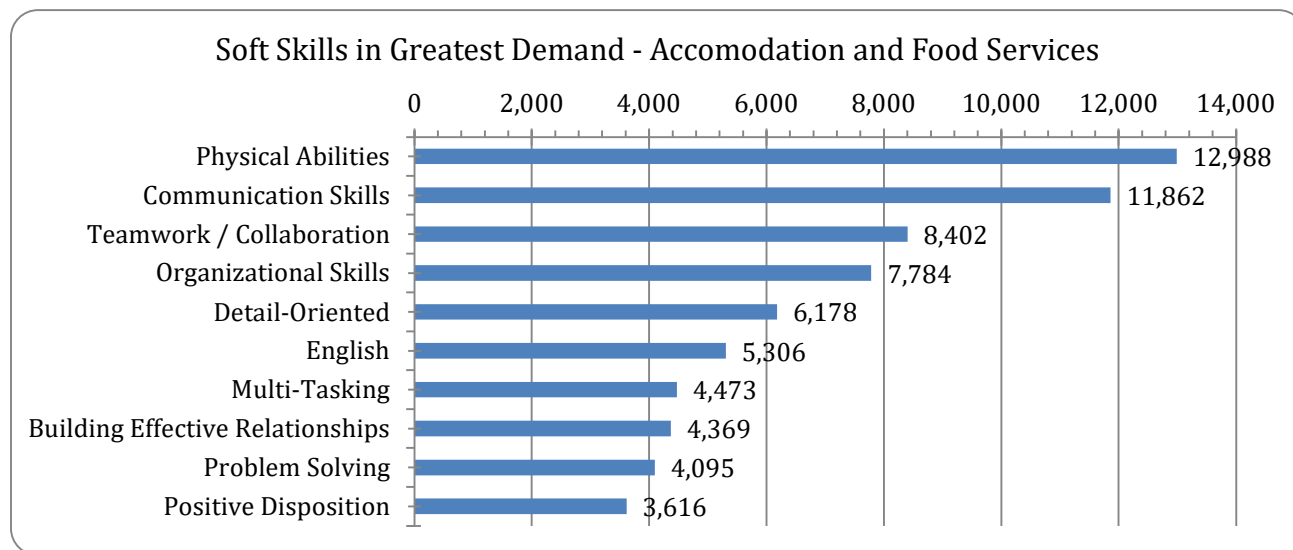
Top job titles in relation to cooking experience include line cook (674 openings), dishwasher (319), and chef (145).

JOB TITLES



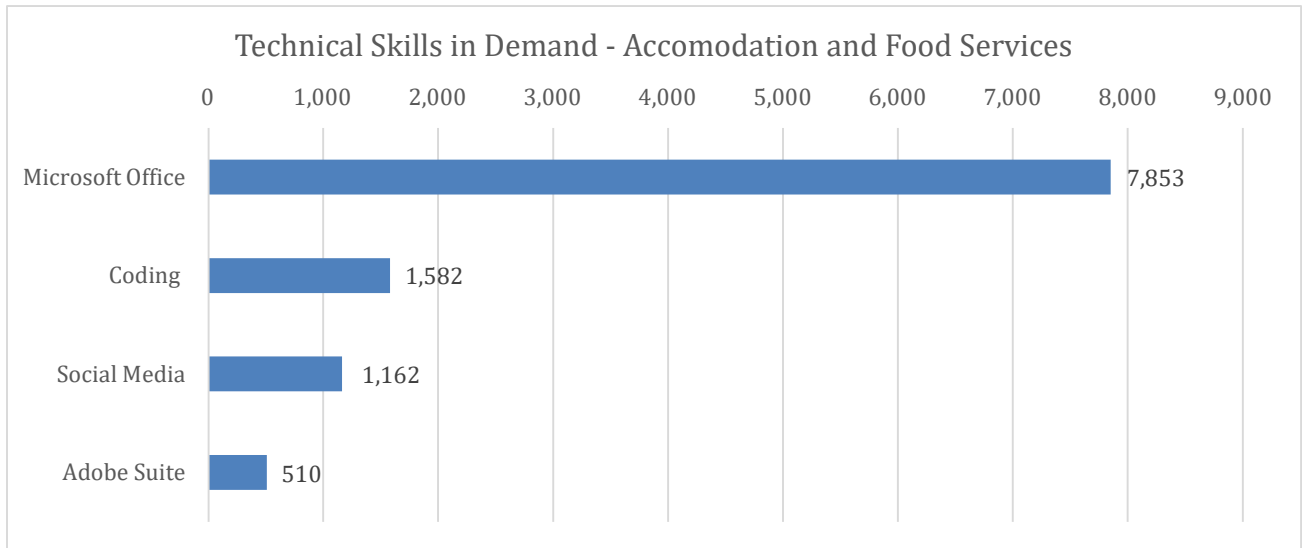
Top soft skills in accommodation and food services include physical abilities (12,988 openings), communication skills (11,862), and collaboration skills (8,402).

TOP 10 SOFT SKILLS



Top technical skills within the accommodation and food services industry include Microsoft Office, such as Excel, Outlook, Access, Word, PowerPoint, etc. (7,853 openings); coding, such as Python, C++, JavaScript, etc. (1,582); social media, such as Facebook and YouTube (1,162); and Adobe Suite, such as InDesign and Photoshop (510).

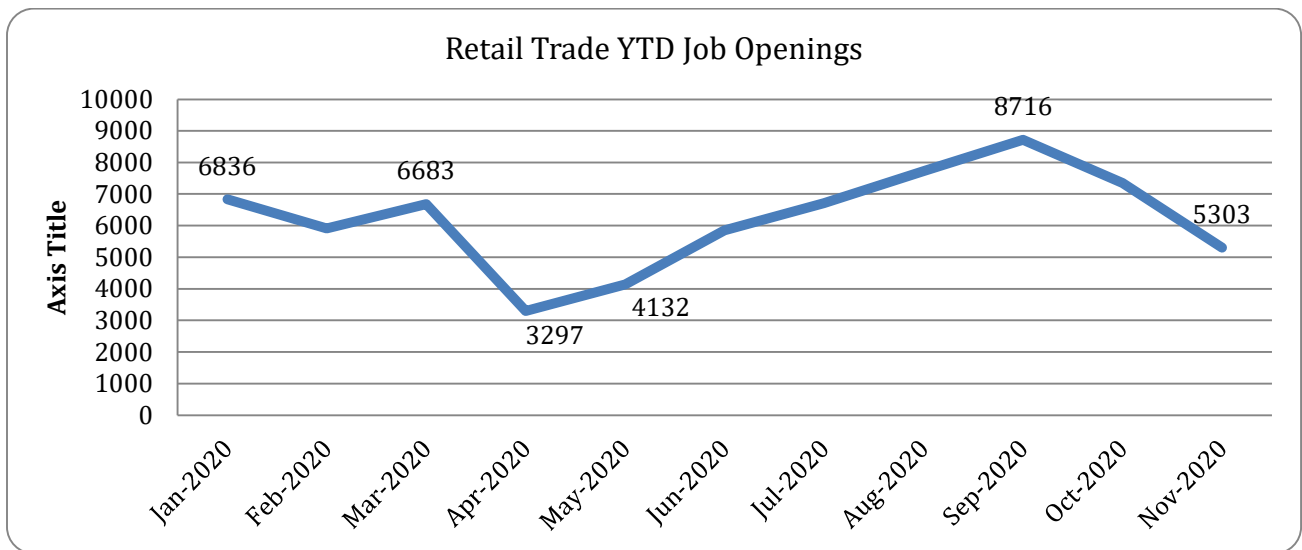
TOP TECHNICAL SKILLS



Retail Trade

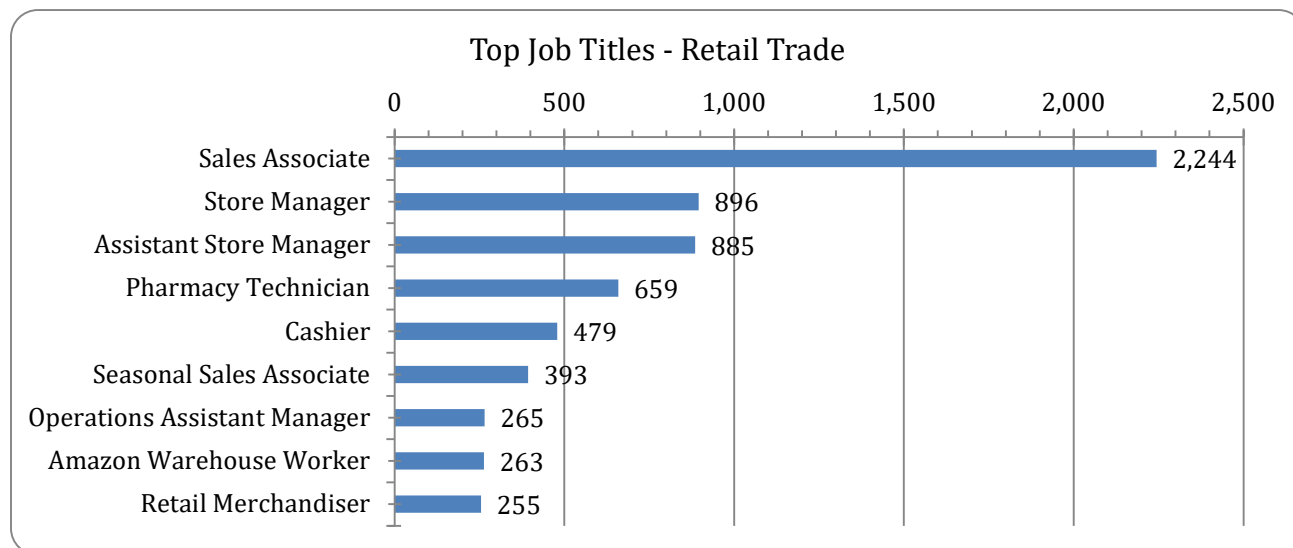
Retail trade started off in January 2020 with 6,836 openings, only to fall to 3,297 in April 2020. It peaked in September 2020 at 8,716 openings (potentially due to early holiday shopping) and currently stands at 5,303 openings.

TIME SERIES ANALYSIS



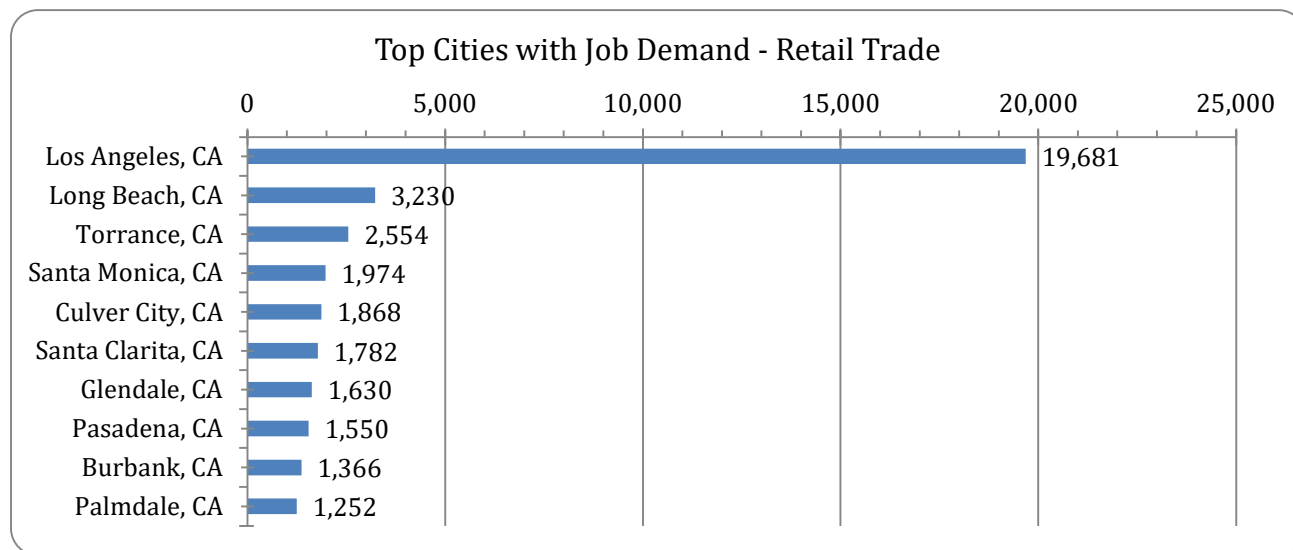
Top job titles in the industry include sales associate (2,244 openings), pharmacy technician (659), and Amazon warehouse worker (263).

JOB TITLES



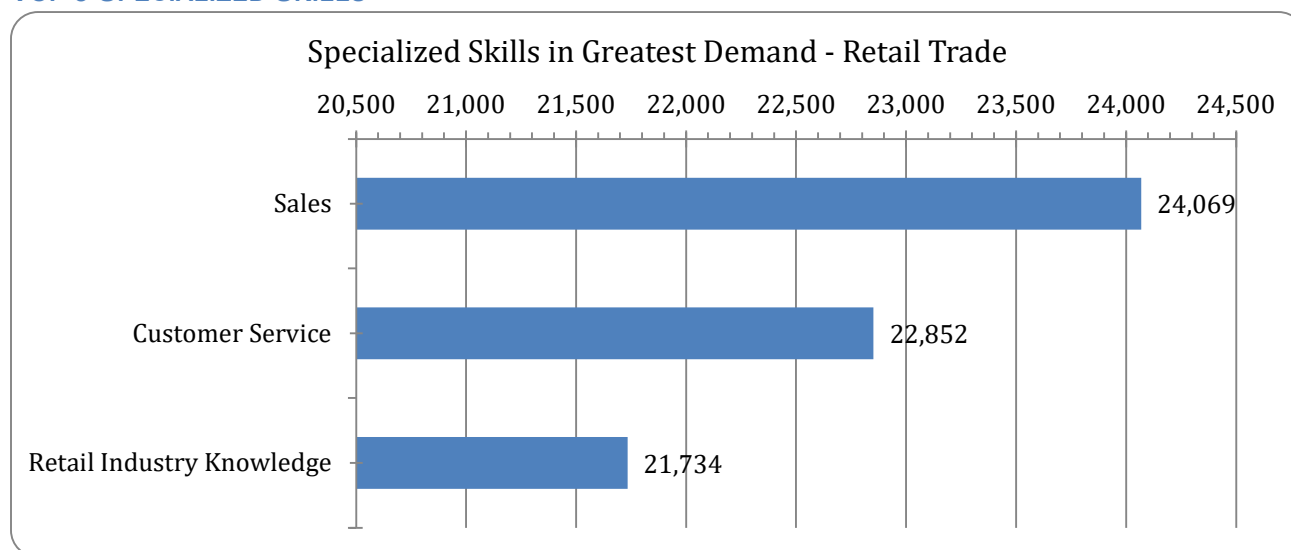
Top cities with retail trade demand include Los Angeles (19,681 openings), Long Beach (3,230), Torrance (2,554), and Santa Monica (1,974).

TOP 10 LOCATION/CITIES



The top three specialized skills in greatest demand within the retail space include sales experience (24,069 openings), customer service experience (22,852), and retail industry knowledge (21,734).

TOP 3 SPECIALIZED SKILLS

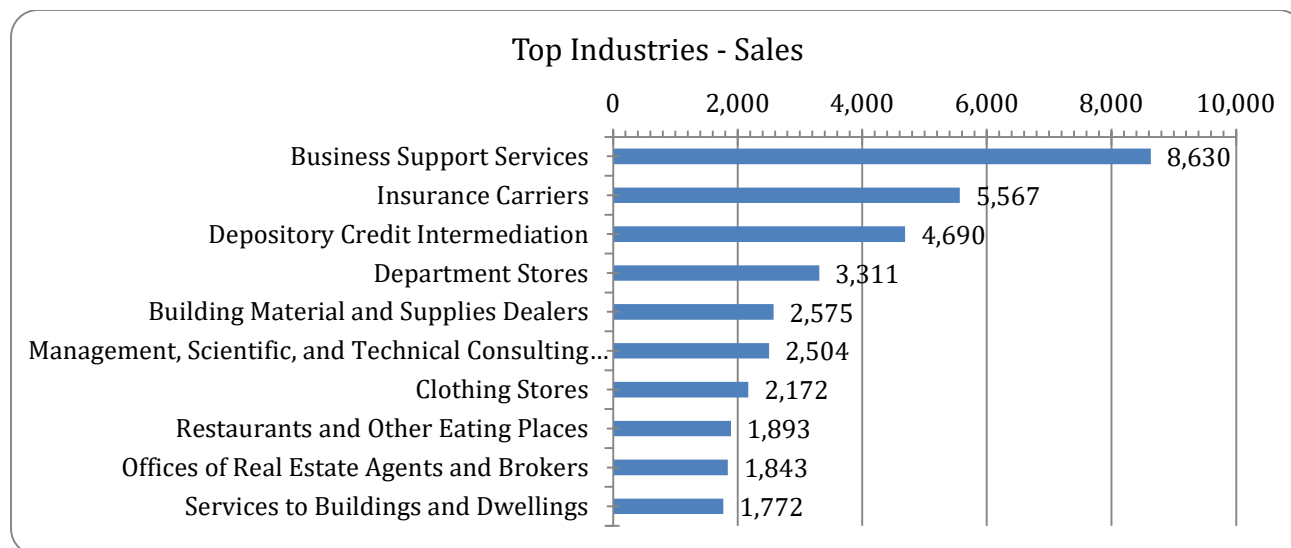


Transferrable Specialized Skills (by Industry, Employers, and Job Titles)

Sales

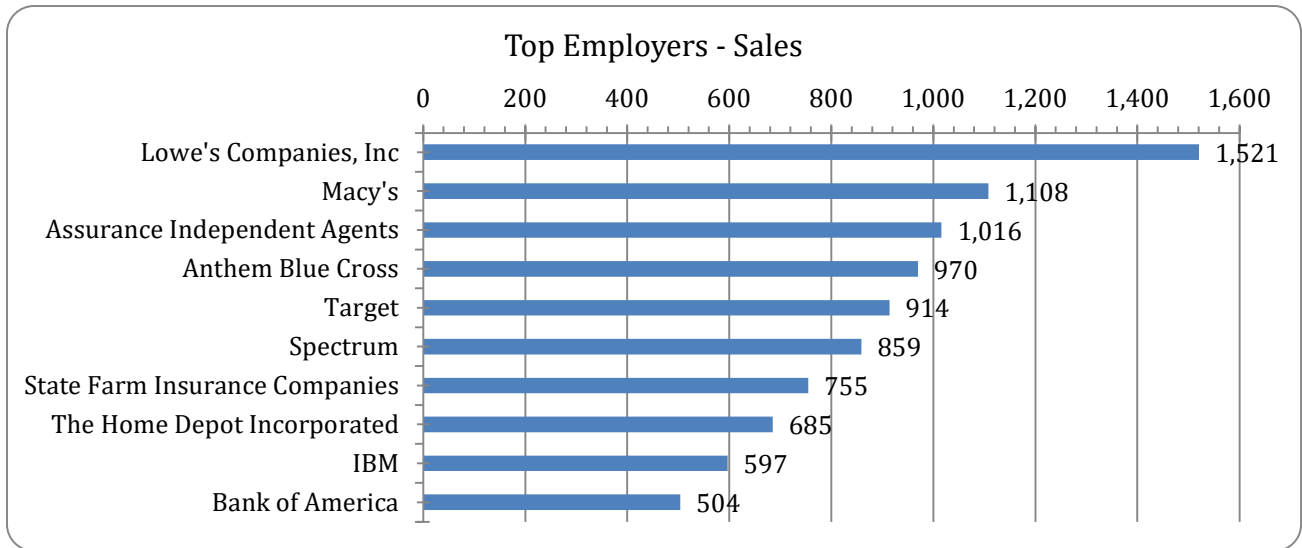
Top industries looking for sales experience include business support services (8,630 openings), insurance (5,567), depository credit intermediation (4,690), and department stores (3,311).

INDUSTRY



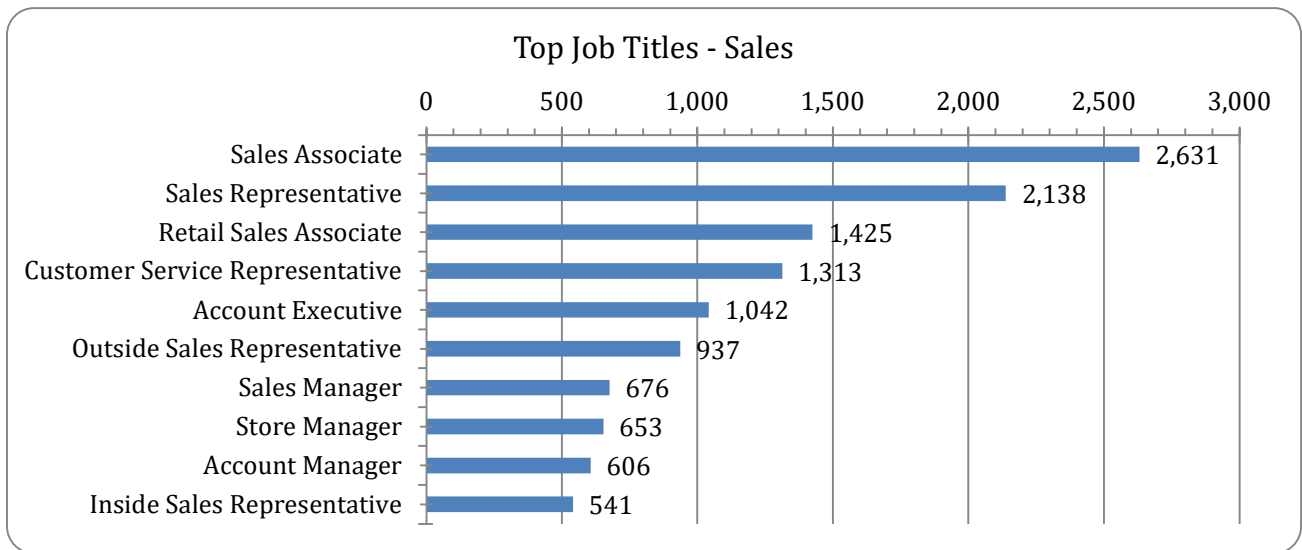
Top employers looking for sales experience include home improvement, consumer retail, health care, and telecommunication enterprises, such as Lowe’s (1,521 openings), Macy’s (1,108), Assurance Independent Agents (1,016), Anthem Blue Cross (970), Target (914), and Spectrum (859).

EMPLOYERS



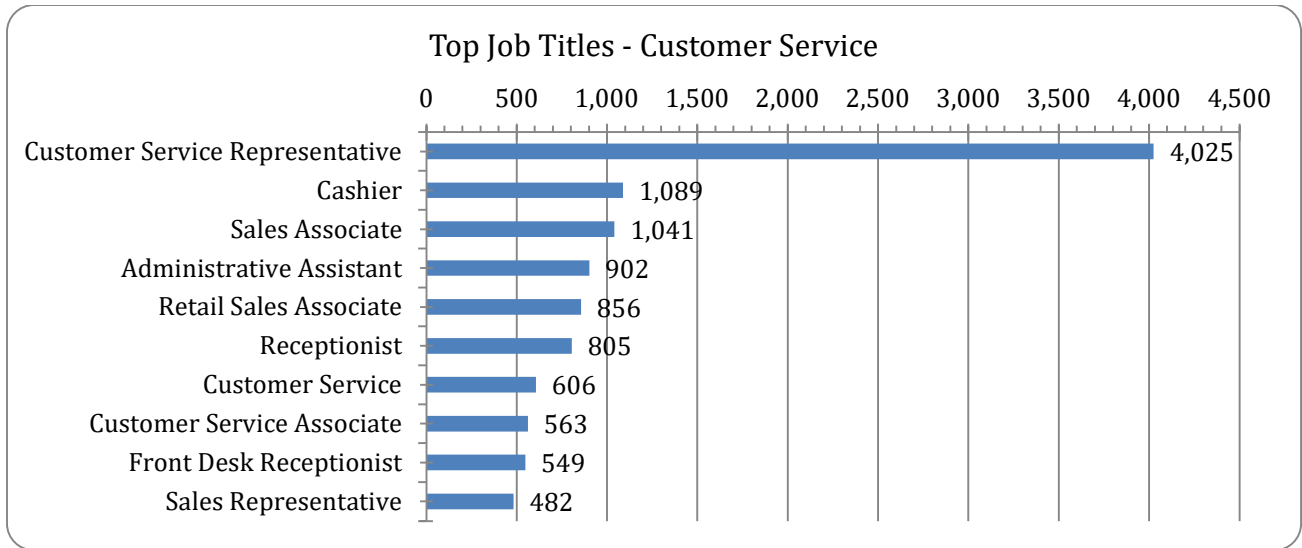
Top job titles that prefer sales experience include sales associate (2,631 openings), customer service representative (1,313), account executive (1,042), and sales manager (676).

JOB TITLES



Customer Service

1. Industry: Similar to industries in Sales.
2. Employers: Similar to employers in Sales.
3. Job Titles

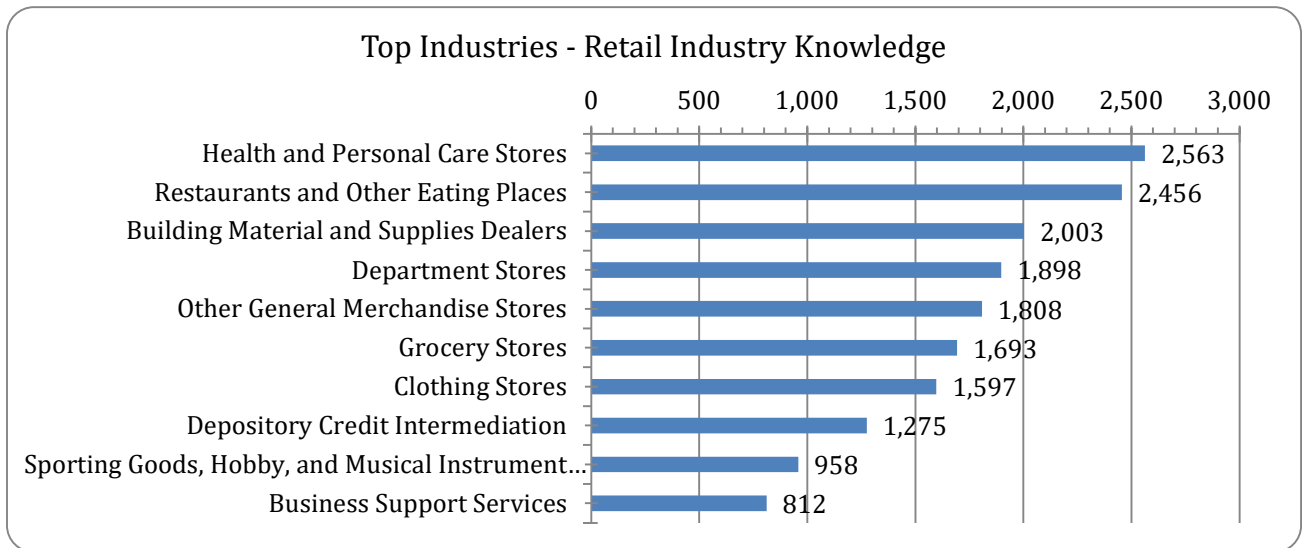


Top job titles with customer service experience include customer service rep (4,025 openings), cashier (1,089), sales associate (1,041), and receptionist (805).

Retail Industry Knowledge

Retail industry knowledge is needed in industries, including health stores (2,563), restaurants (2,456), building material and supplies dealers (2,003), department stores (1,898), grocery stores (1,693), and clothing stores (1,597).

INDUSTRY: SIMILAR TO INDUSTRIES IN SALES.

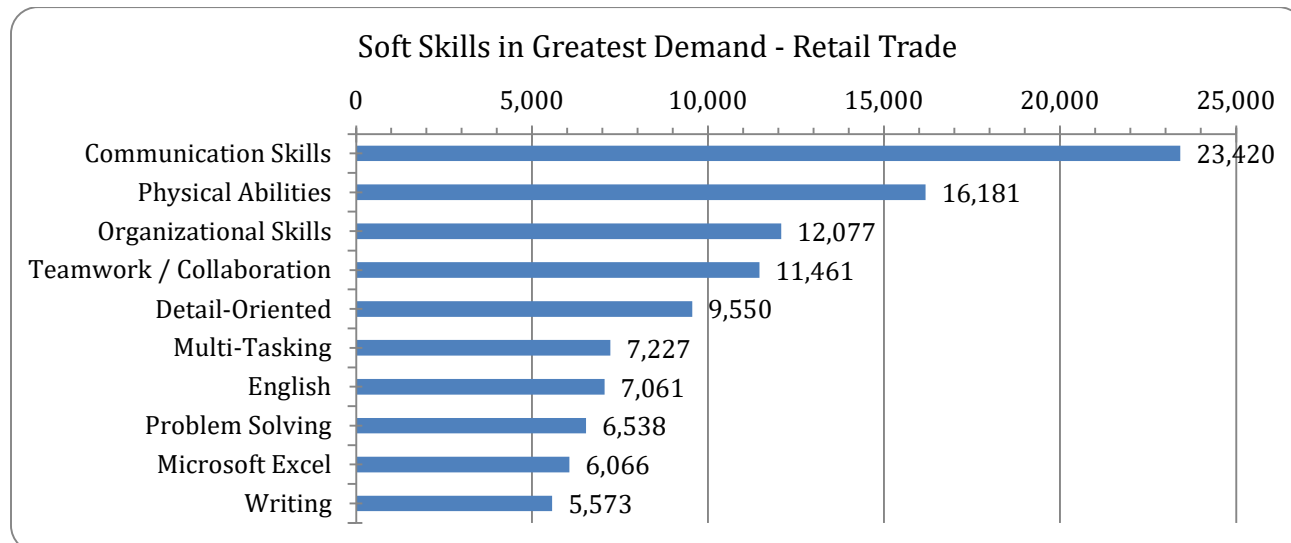


Employers: Similar to employers in Sales.

Job Titles: Similar to job titles in Sales.

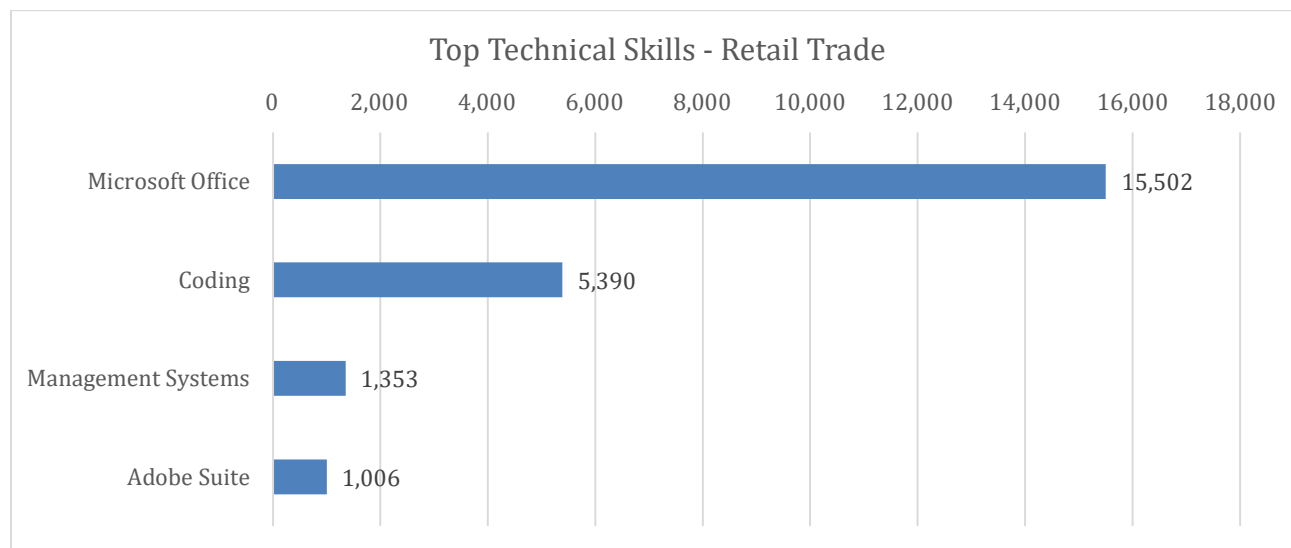
Top soft skills in the retail trade sector include communication skills (23,420 openings), physical abilities (16,181), organizational skills (12,077), teamwork skills (11,461), being detail-oriented (9,550), and being able to multi-task (7,227).

TOP 10 SOFT SKILLS



Top technical skills include Microsoft Office (15,502 openings); coding (5,390); management systems, such as ERP, Palm OS, and Amazon Web Services (1,353); and Adobe Suite (1,006).

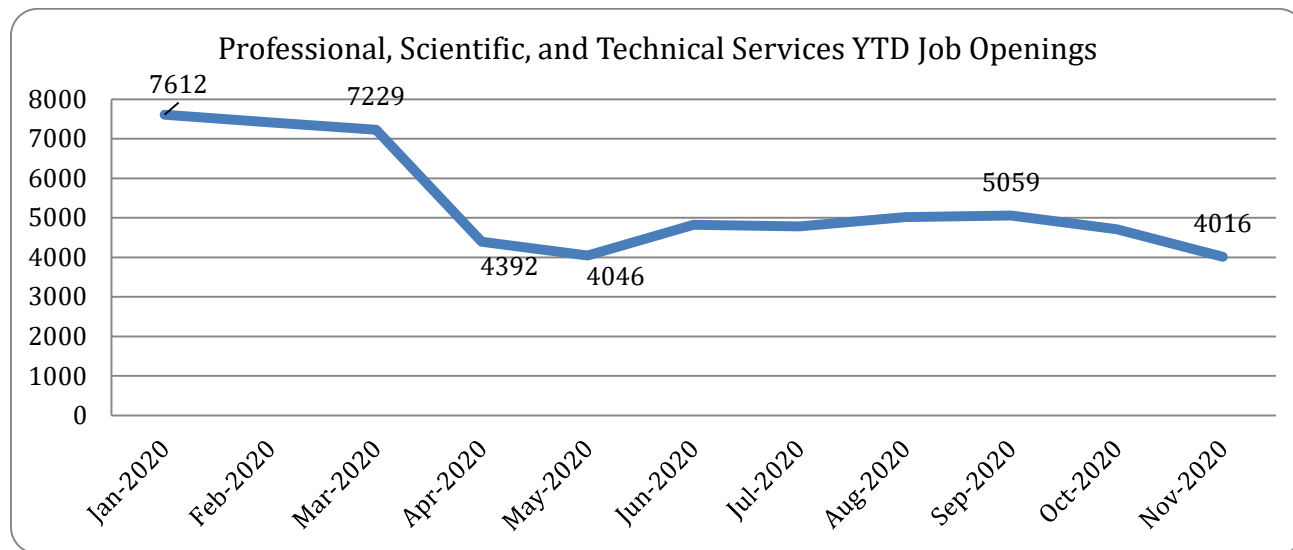
TOP TECHNICAL SKILLS



Professional, Scientific, and Technical Services

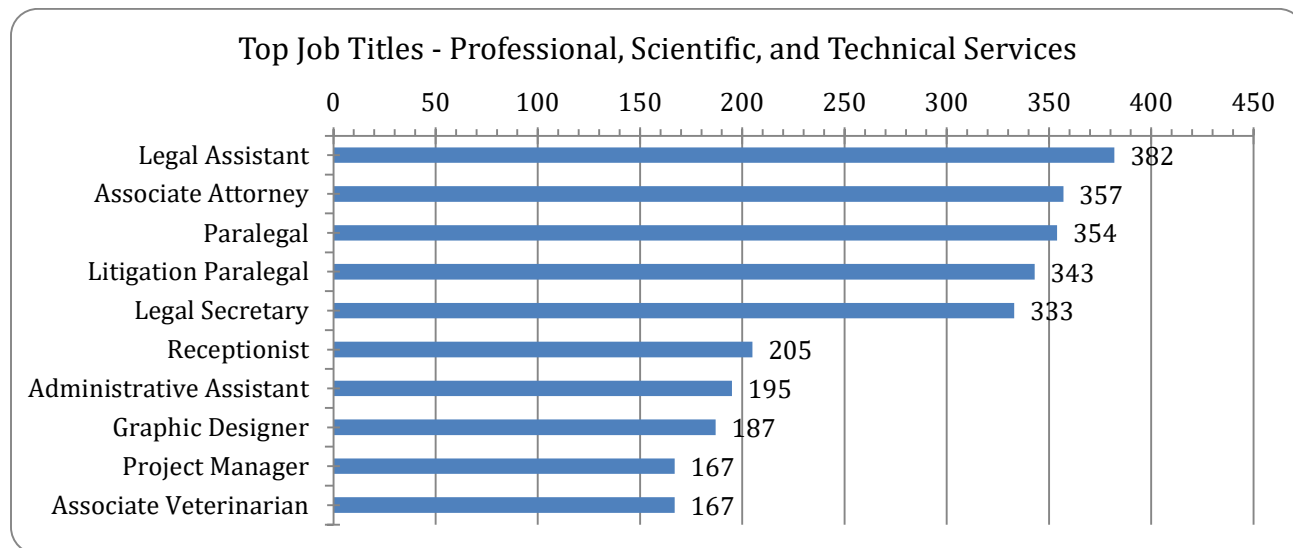
Professional, Scientific, and Technical Services started off strong with 7,612 openings in January 2020. In May, openings plummeted to 4,046 openings. Currently, the number of openings stands at 4,016.

TIME SERIES ANALYSIS



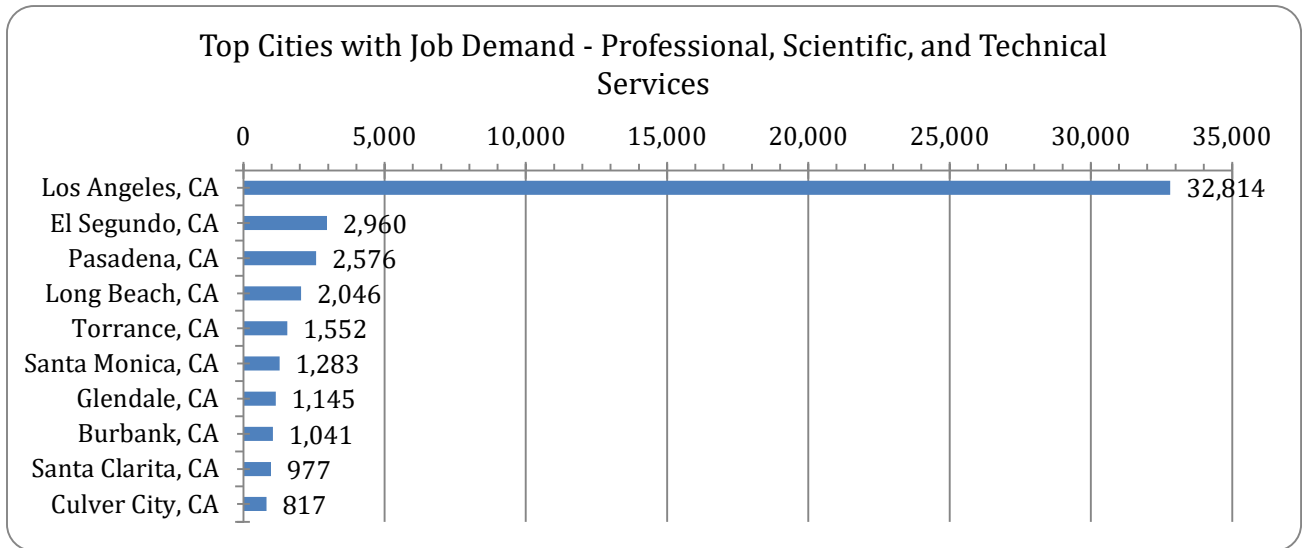
Top job titles within the industry include legal assistant (382 openings), associate attorney (357), paralegal (354), graphic designer (187), and associate veterinarian (167).

JOB TITLES



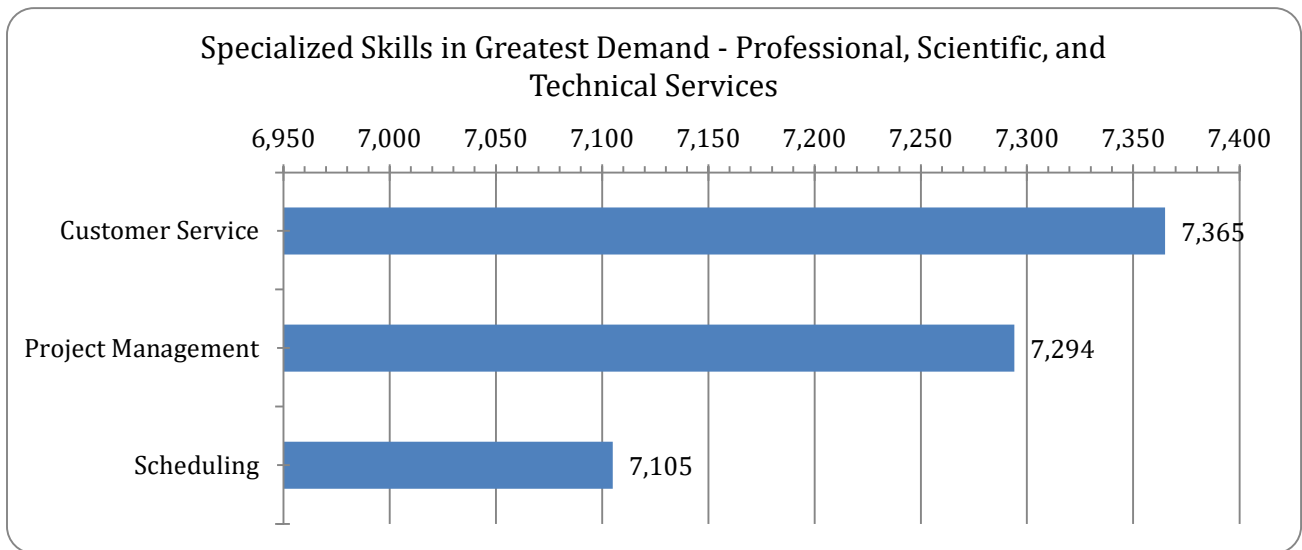
Top cities with this particular sector in demand include Los Angeles (32,814), El Segundo (2,960), Pasadena (2,576), Long Beach (2,046), and Torrance (1,552).

TOP 10 LOCATION/CITIES



The top three specialized skills in the industry include customer service (7,365 openings), project management (7,294), and scheduling (7,105).

TOP 3 SPECIALIZED SKILLS



Transferrable Specialized Skills (by Industry, Employers, and Job Titles)

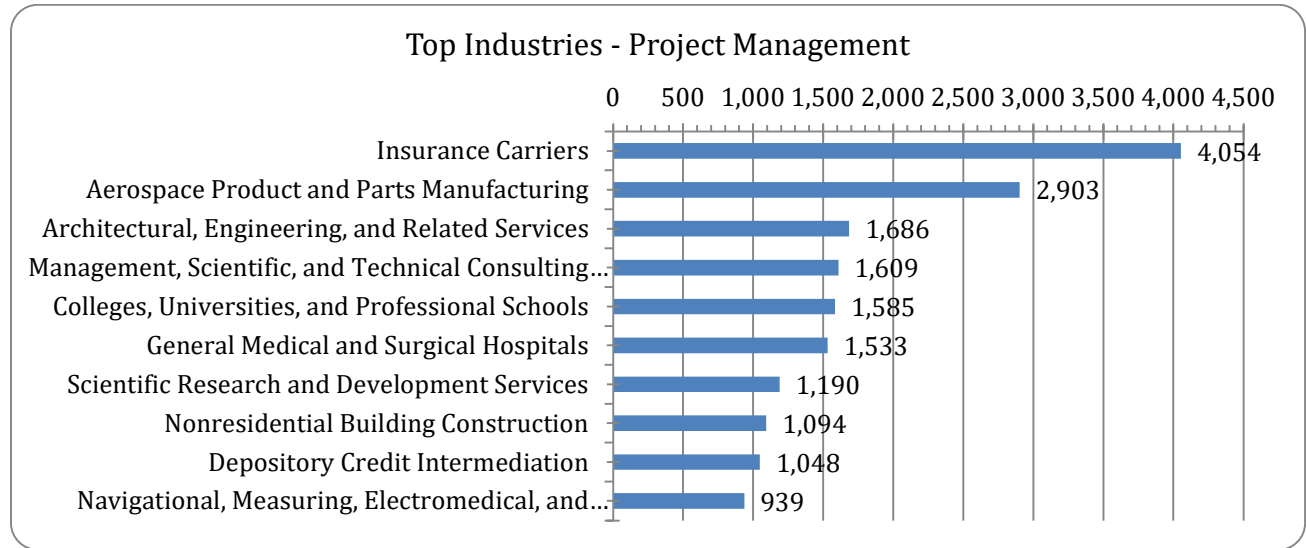
Customer Service

See Industry, Employers, and Job Titles above in Retail Trade

Project Management

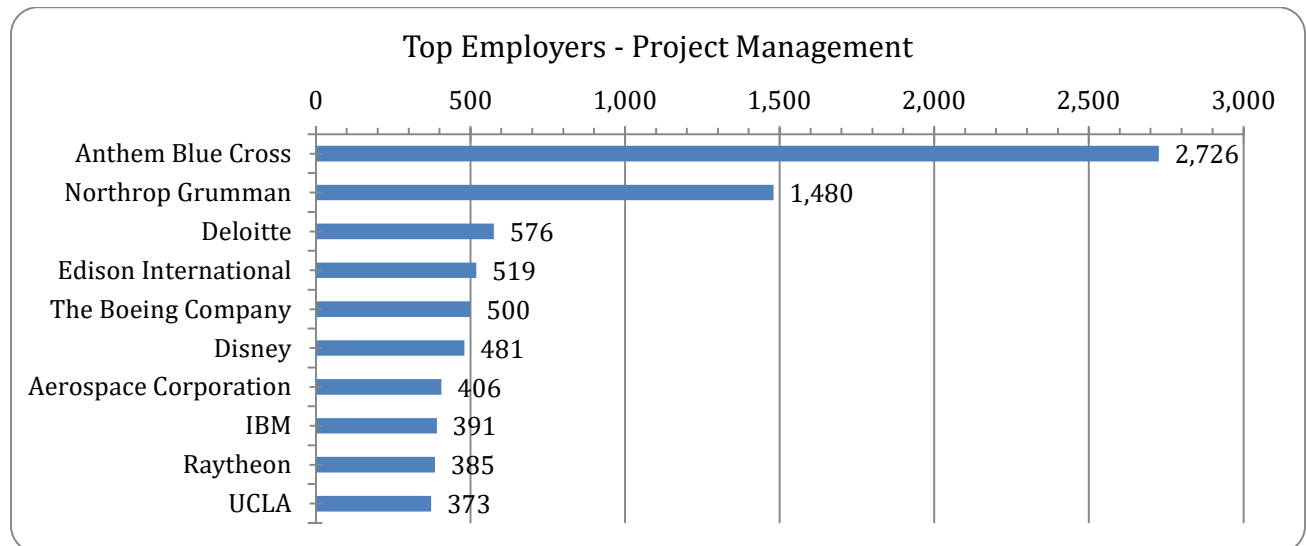
Top industries looking for project management experience include insurance carriers (4,054 openings); aerospace (2,903); architectural, engineering, and related services (1,686); management, scientific, and technical consulting; (1,609); and research institutions (1,585).

INDUSTRY



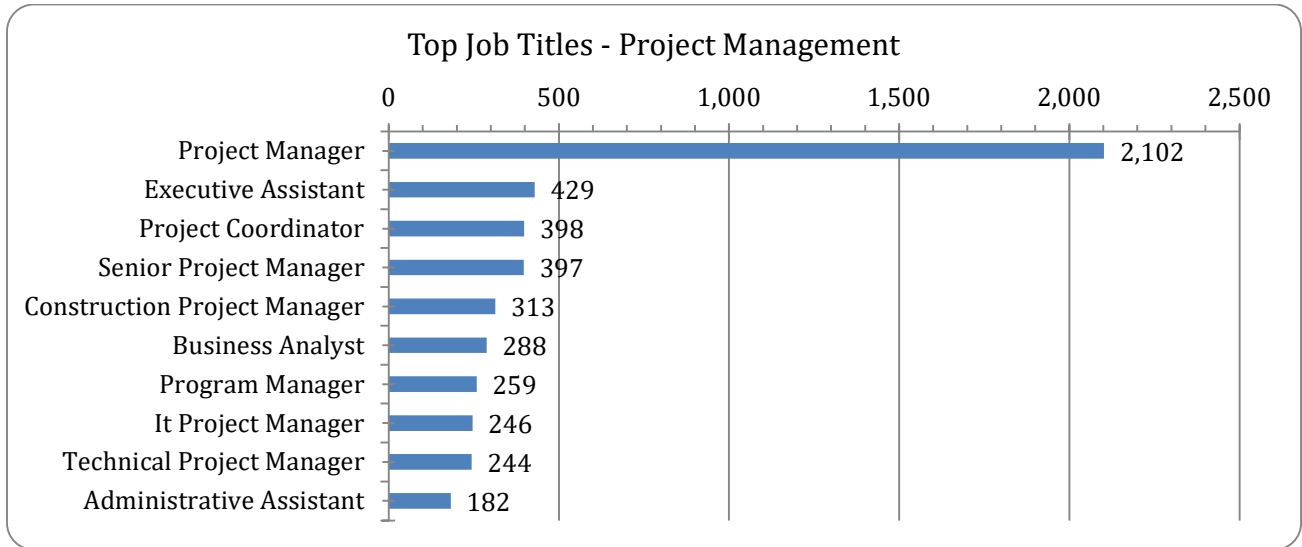
Top employers looking for project management experience include healthcare, aerospace, utilities, consulting, and consumer, such as Anthem Blue Cross (2,726 openings), Northrop Grumman (1,480), Deloitte (576), Edison (519), Boeing (500), Disney (481), and IBM (391).

EMPLOYERS



Top job titles looking for project management experience include project manager (2,102 openings), executive assistant (429), project coordinator (398), and business analyst (288).

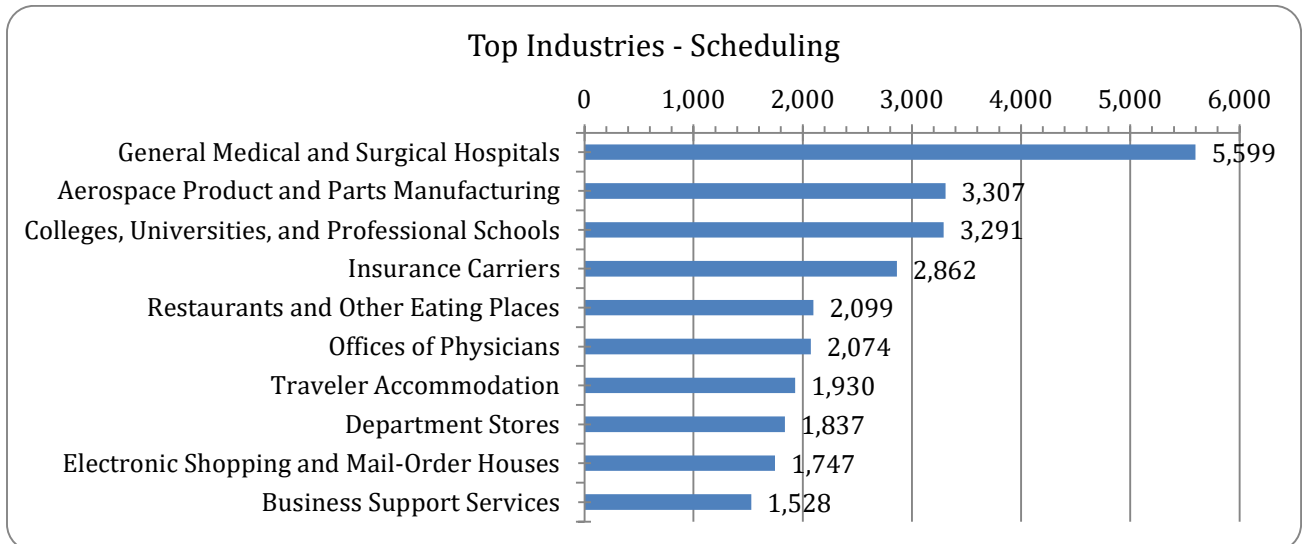
JOB TITLES



Scheduling

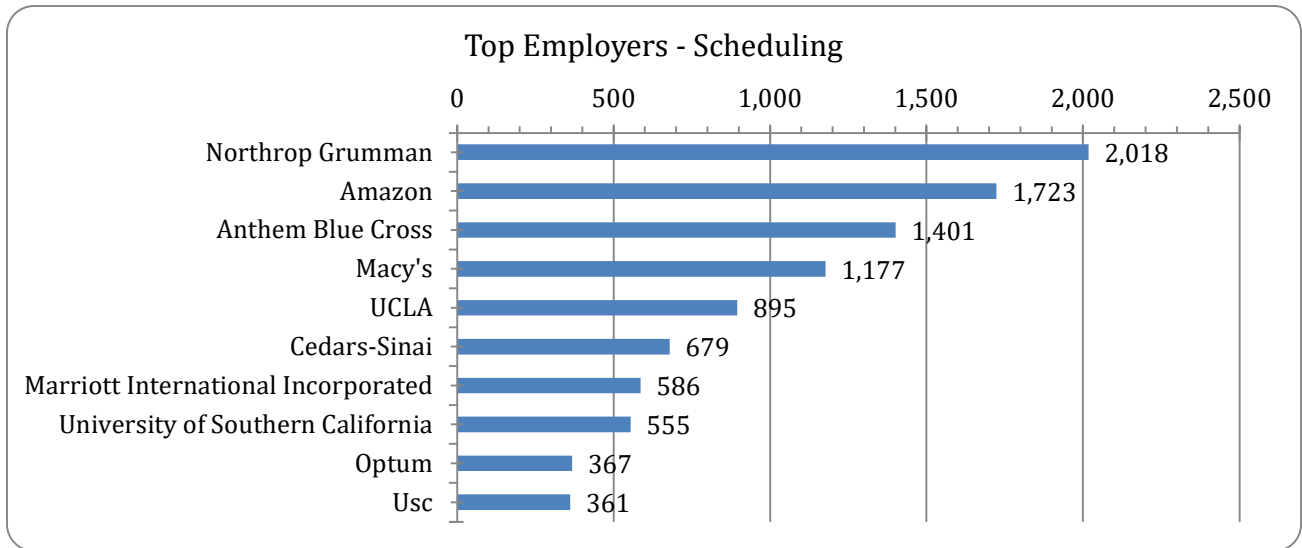
Scheduling experience is in demand in industries, such as hospitals (5,599), aerospace (3,307), research institutions (3,291), insurance carriers (2,862), restaurants (2,099), and accommodations (1,930).

INDUSTRY



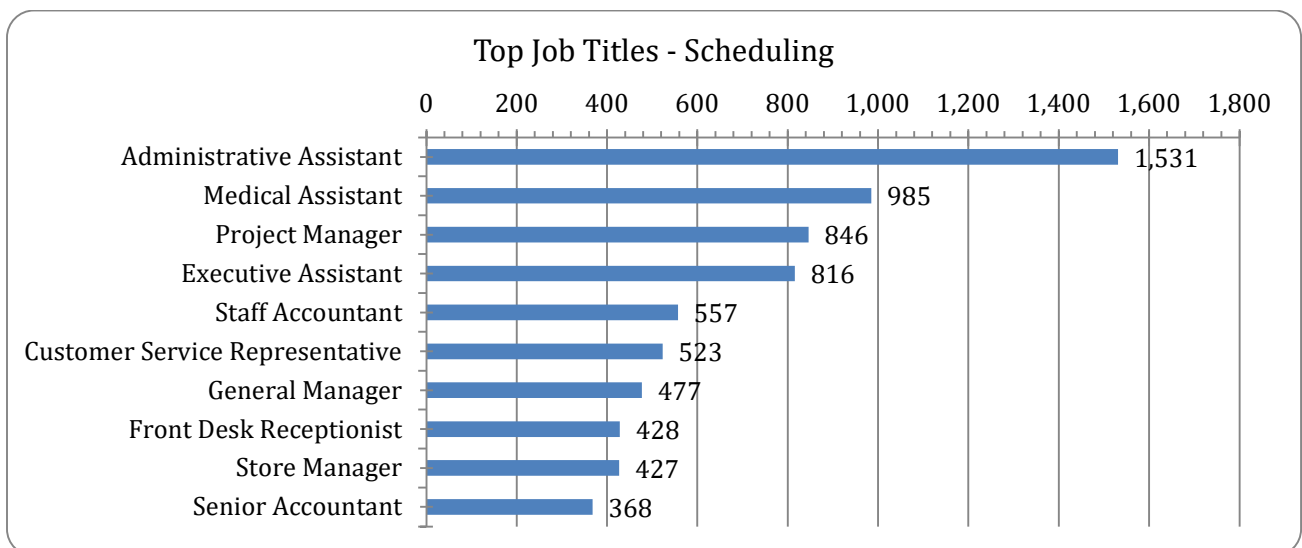
Employers looking for scheduling experience include Northrop Grumman (2,018 openings), Amazon (1,723), Anthem Blue Cross (1,401), Macy’s (1,177), UCLA (895), Cedars-Sinai (679), and Marriott International (586).

EMPLOYERS



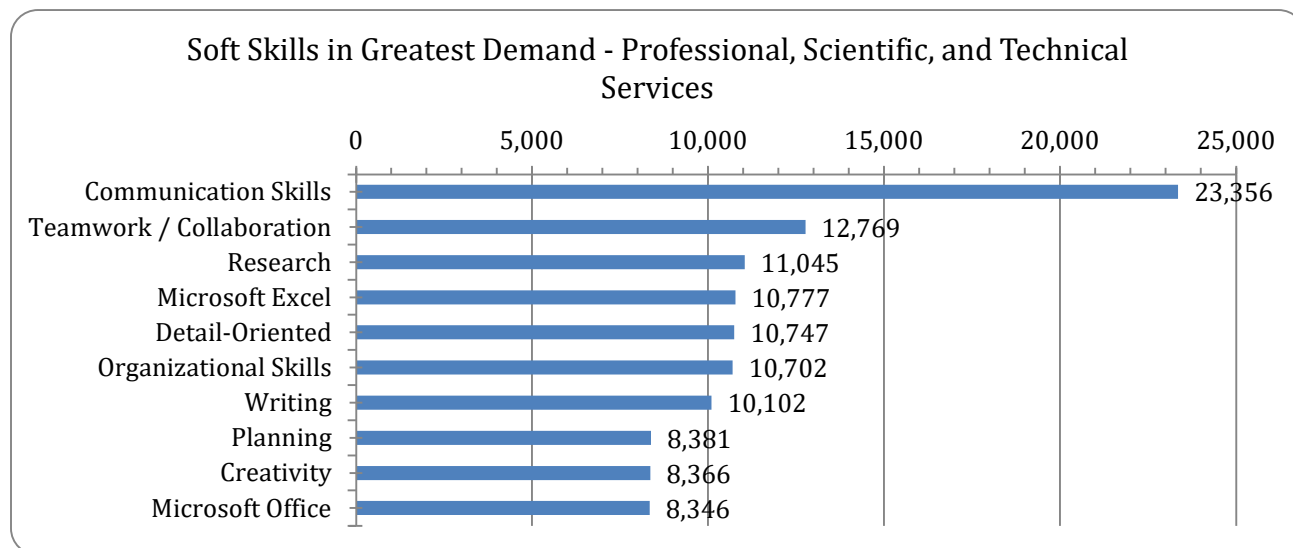
Top job titles looking for scheduling experience include administrative assistant (1,531 openings), medical assistant (985), project manager (846), staff accountant (557), and customer service rep (523).

JOB TITLES



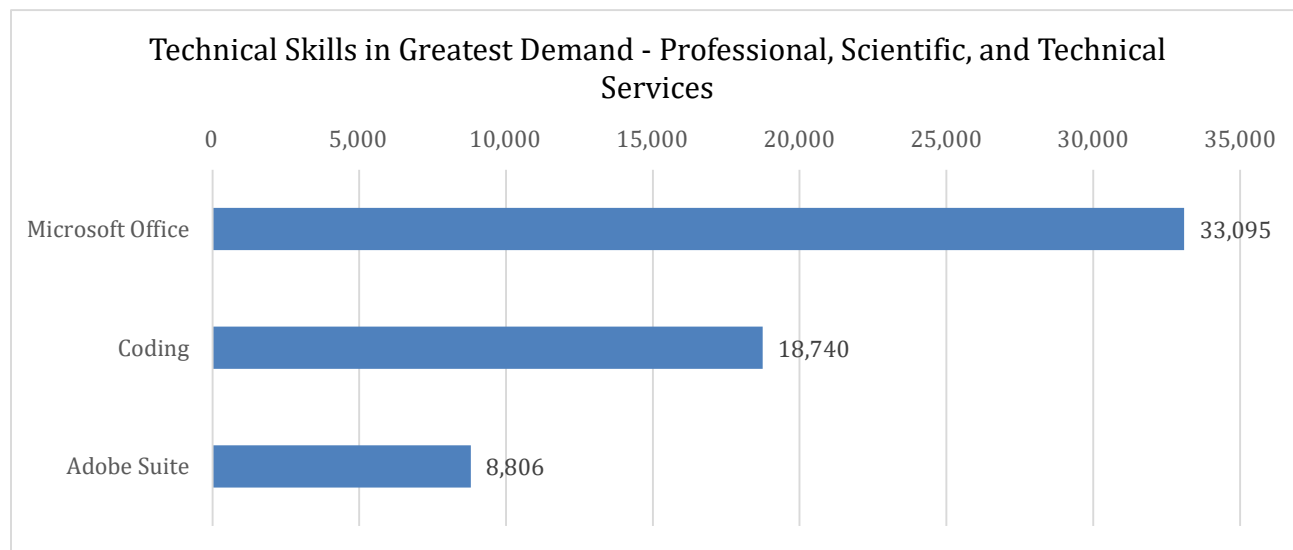
Top soft skills in professional, scientific, and technical services industry include communication skills (23,356), teamwork skills (12,769), research skills (11,045), Excel skills (10,777), and being detail-oriented (10,747).

TOP 10 SOFT SKILLS



Top technical skills within the industry include Microsoft Office (33,095 openings), coding (18,740), and Adobe Suite (8,806).

TOP TECHNICAL SKILLS



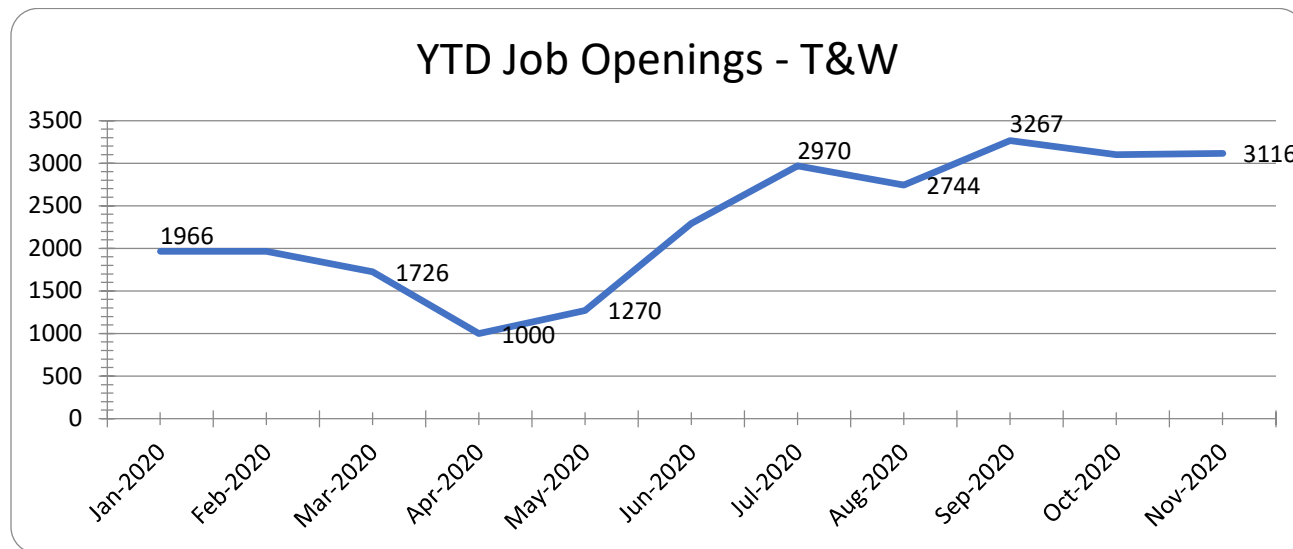
Potentially Growing Industries

Transportation and Warehousing

Transportation and warehousing started off at 1,966 openings in January 2020. With the rise of the COVID-19 pandemic, the industry saw a decline in job posting by 49%. However, the increase trend

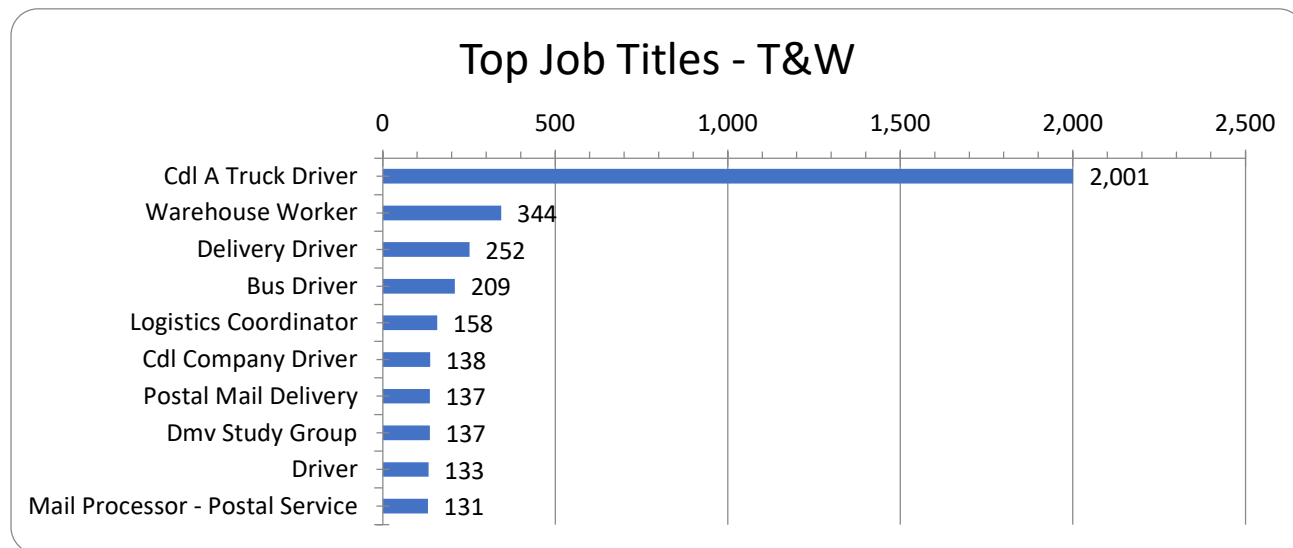
of online shopping saw an increase in job postings by 58%. Currently, job openings are around 3,116 openings; the most by any other industry in LA County.

TIME-SERIES ANALYSIS



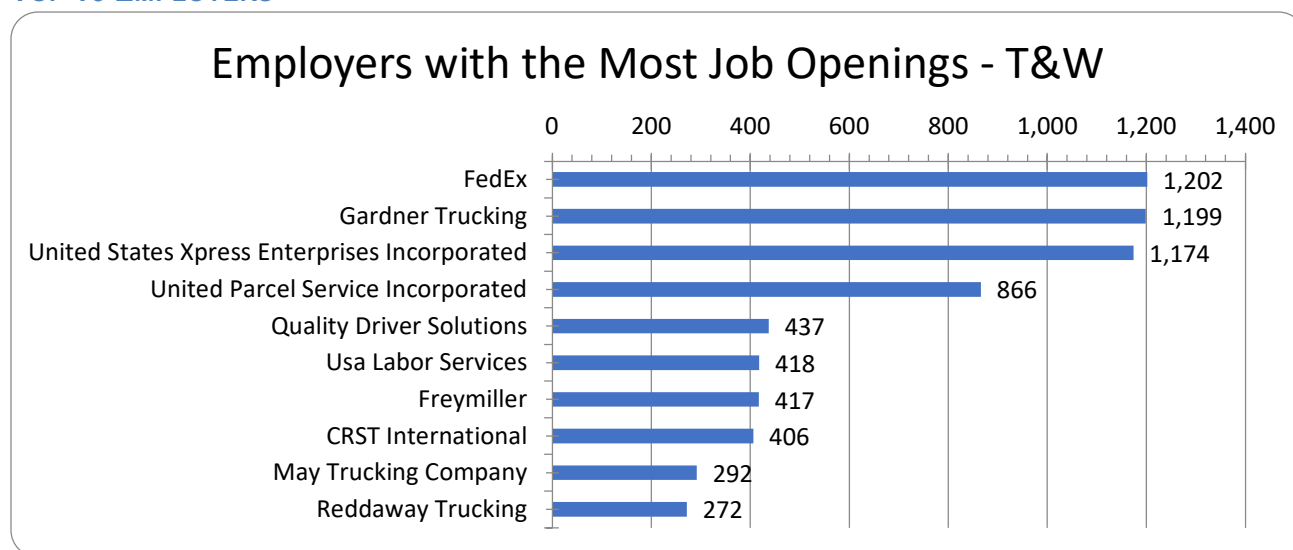
The highest demand job titles within the industry include Cdl A truck drivers (2,001 openings), followed by warehouse workers (344), delivery drivers (252), and bus drivers (209).

TOP 10 JOB TITLES



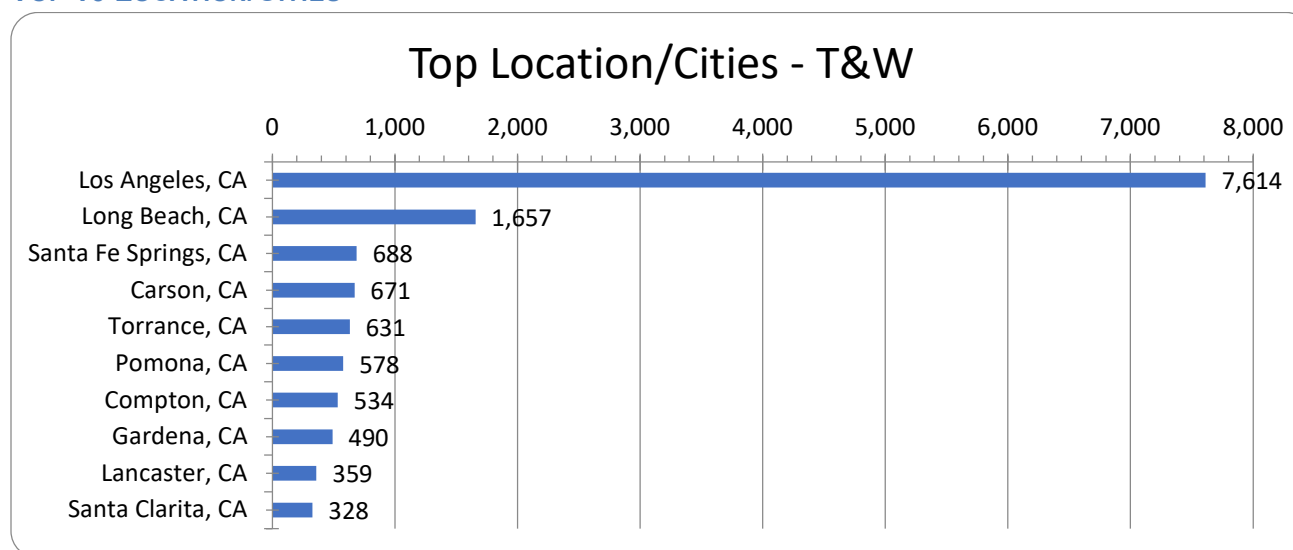
Top employers within the industry include FedEx (1,202 openings), Gardner Trucking (1,199), USXEI (1,174), and United Parcel Service Incorporated (866).

TOP 10 EMPLOYERS



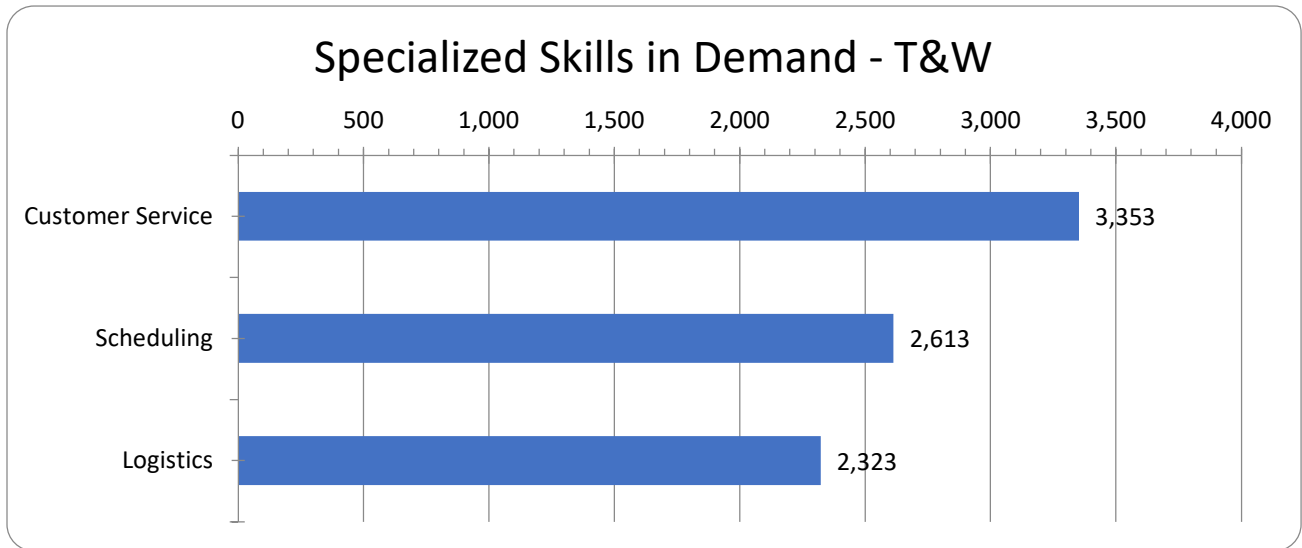
The top L.A. County cities with the greatest number of jobs within the Trucking and Warehousing industry include Los Angeles (7,614 openings), followed by Long Beach (1,657), Santa Fe Springs (688), and Carson (671).

TOP 10 LOCATION/CITIES



The top three specialized skills within the industry include customer service (3,353 openings), scheduling (2,613), and logistics (2,323).

TOP 3 SPECIALIZED SKILLS



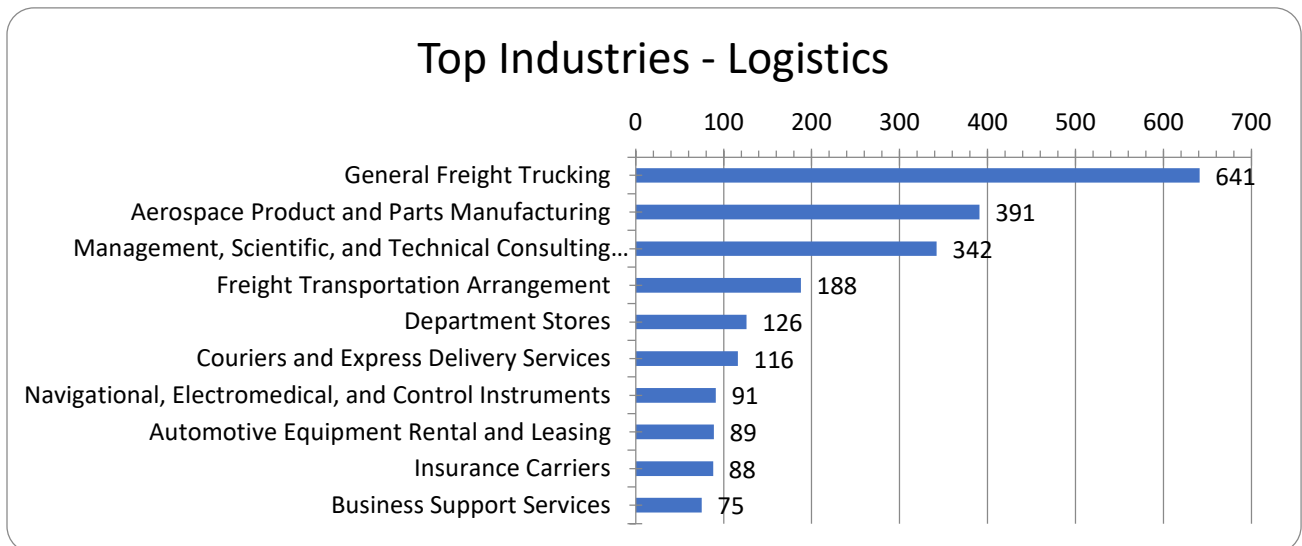
Customer Service – Covered

Scheduling – Covered

Logistics

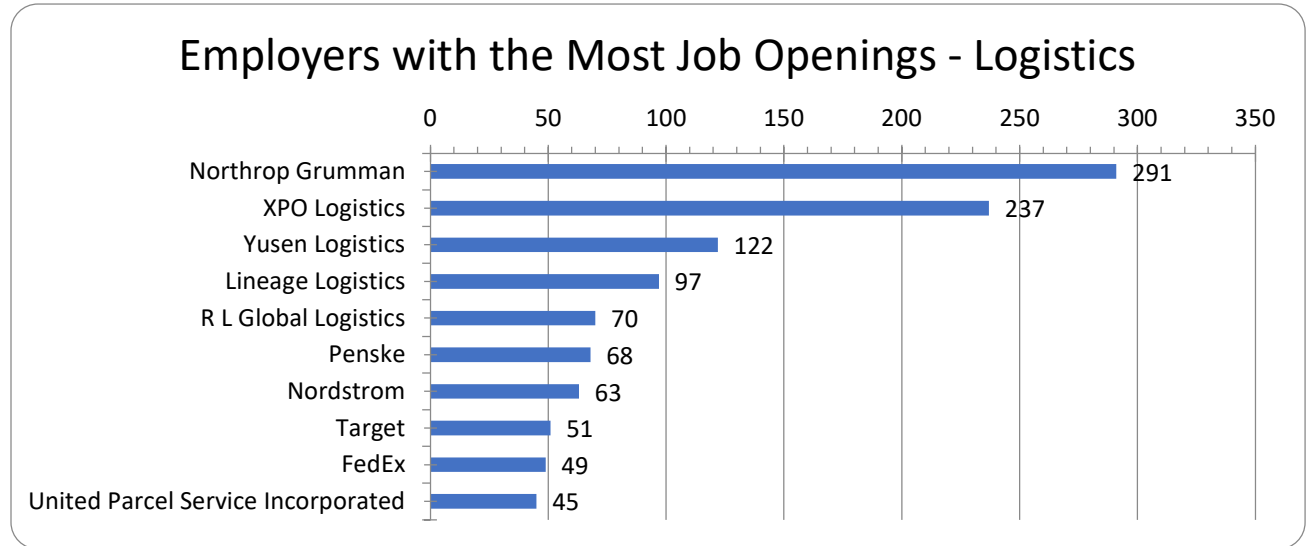
Top industries looking to hire people with logistics experience include general freight trucking (641 openings), followed by aerospace product (391), MST consulting (342), and freight transportation arrangement (188).

INDUSTRY



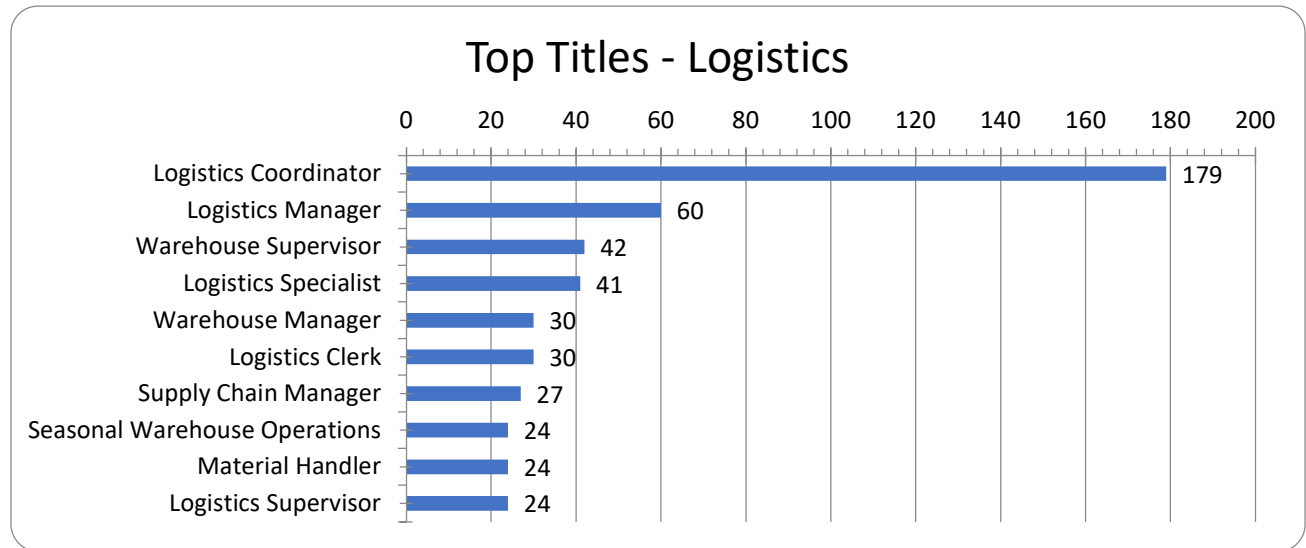
Top employers looking to hire people with logistics background include Northrop Grumman (291 openings), XPO logistics (237), Yusen logistics (122), and lineage logistics (97).

EMPLOYERS



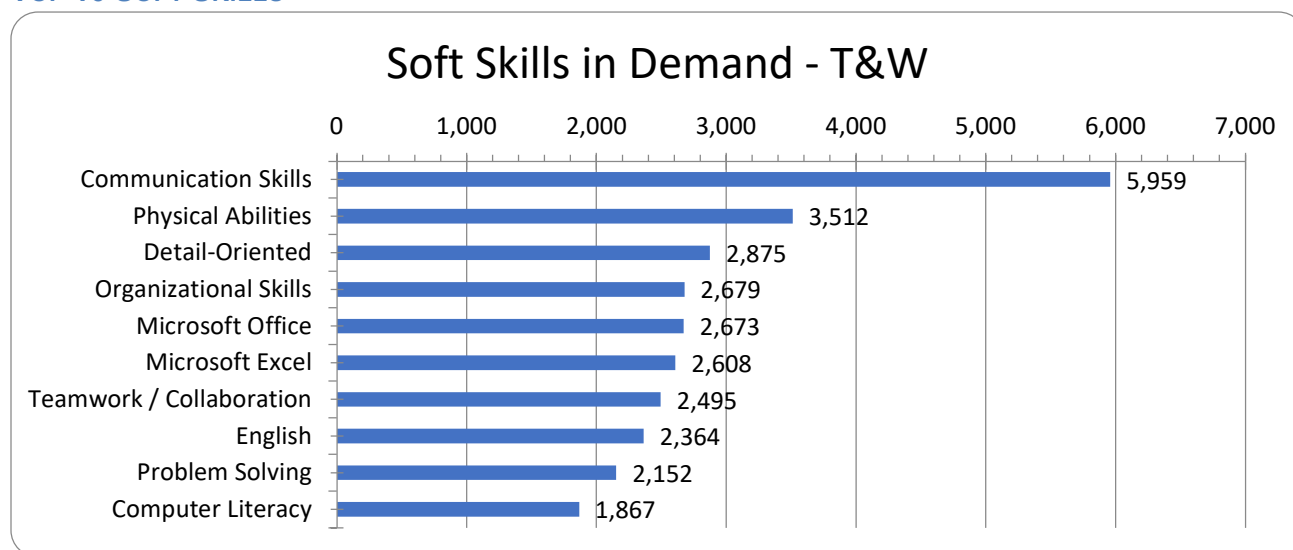
Top job titles requiring logistics experience include logistics coordinator (179 openings), logistics manager (60), warehouse supervisor (42), and logistics specialist (41).

JOB TITLES



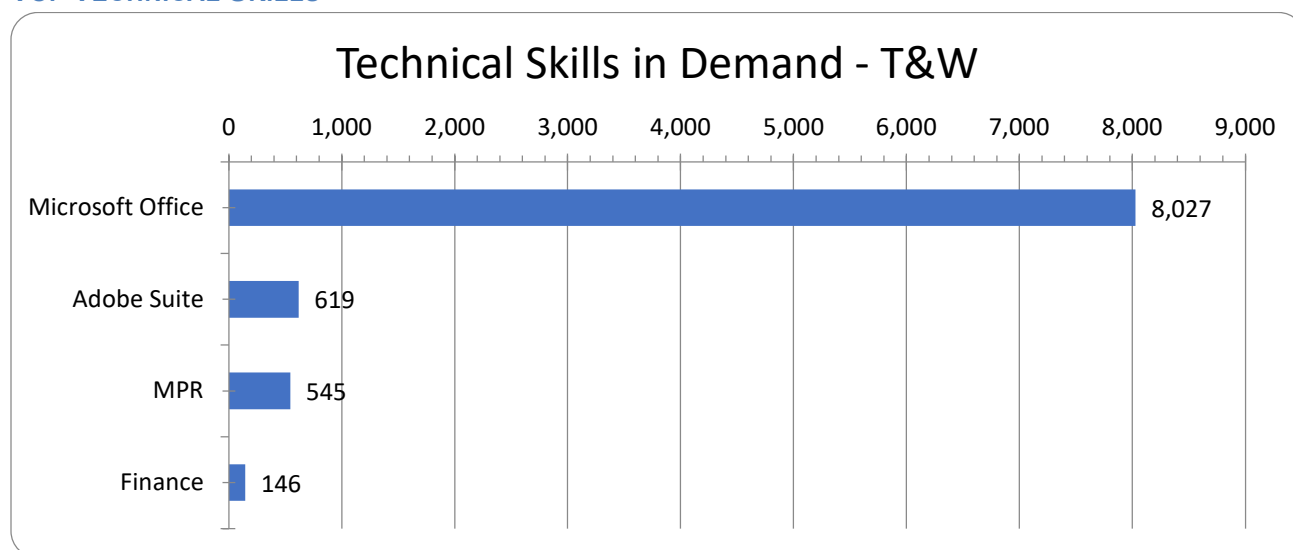
Top soft skills within the transportation and warehousing industry include communication skills (5,959 openings), physical abilities (3,512), detail-oriented (2,875), and organizational skills (2,679).

TOP 10 SOFT SKILLS



Top technical skills within the transportation and warehousing industry include Microsoft Office, such as Excel, Word, PowerPoint, Outlook, etc. (8,027 openings), Adobe Suite (619), Marketing and Public Relations (545), and Finance; QuickBooks (146).

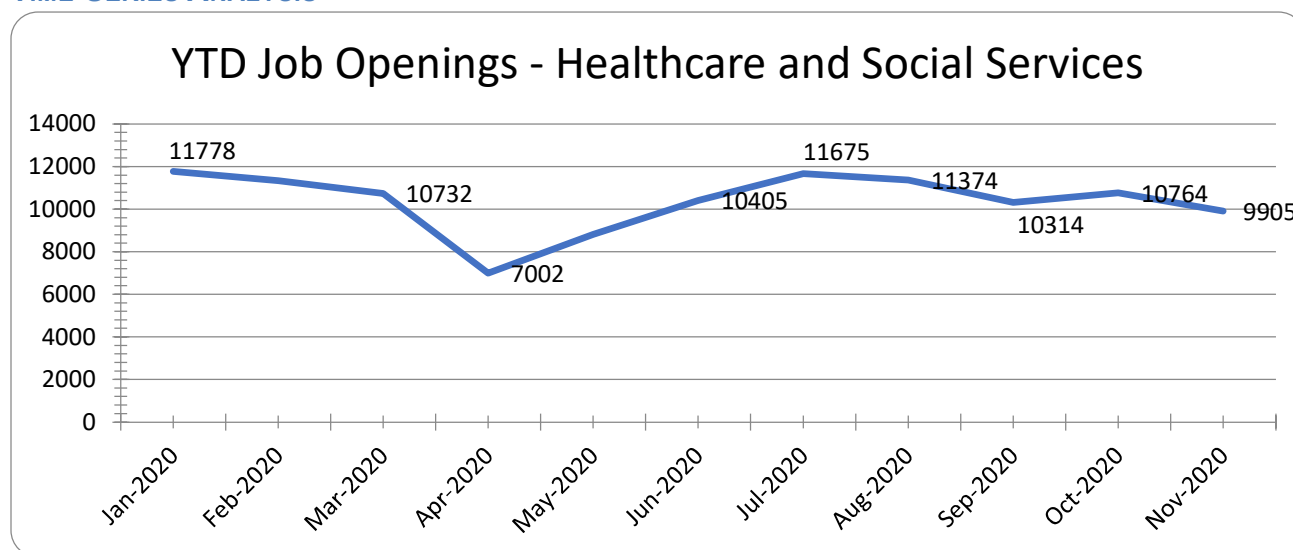
TOP TECHNICAL SKILLS



Healthcare and Social Services

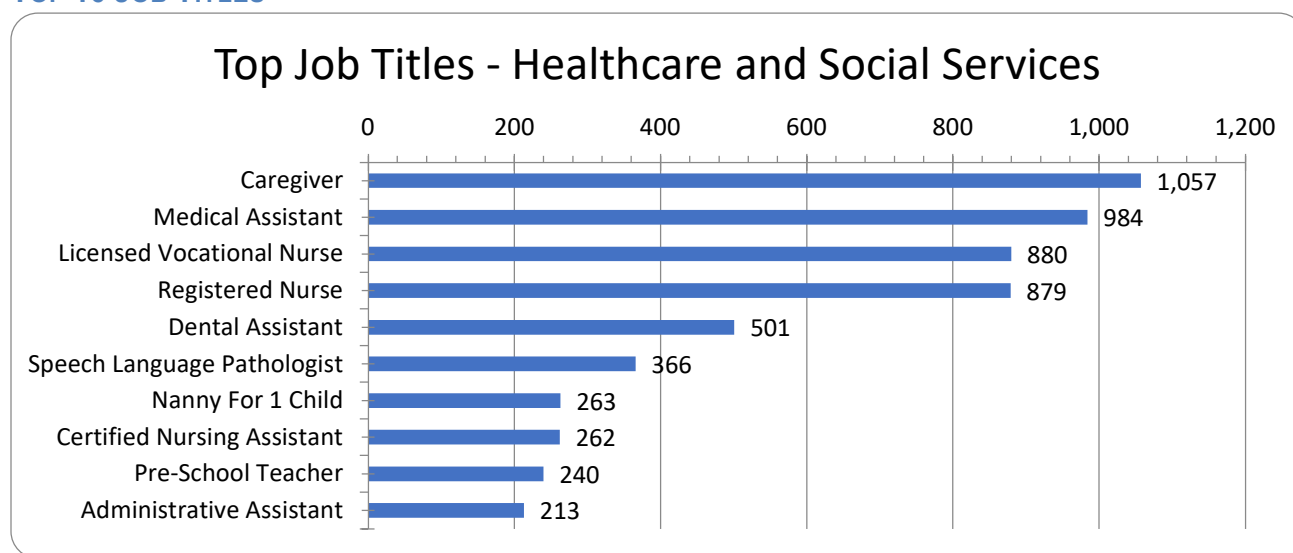
Healthcare and social services industry started off strong by posting 11,778 job openings in L.A. County before falling down by 40% to 7,002 jobs in April 2020. However, the industry saw an increase in demand as there was a clear shortage of labor to keep up the patient demands due to COVID-19. Currently, the industry is offering 9,905 job openings as of November 2020.

TIME-SERIES ANALYSIS



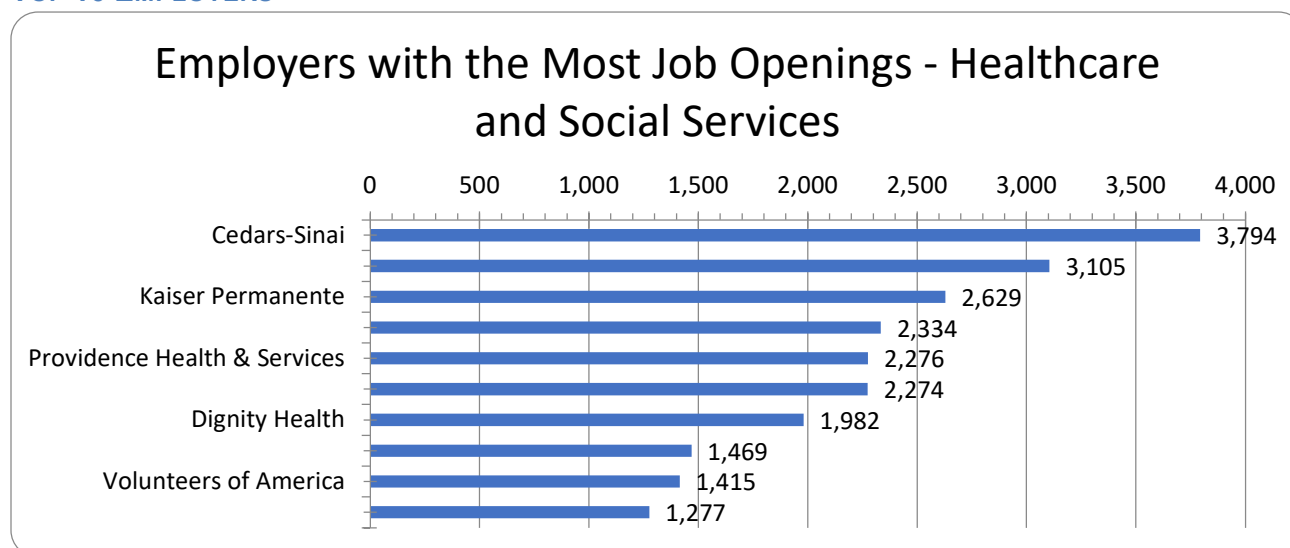
Top job titles within the healthcare and social services industry include caregiver (1,057 openings), followed by medical assistant (984), licensed vocational nurse (880), and registered nurse (879).

TOP 10 JOB TITLES



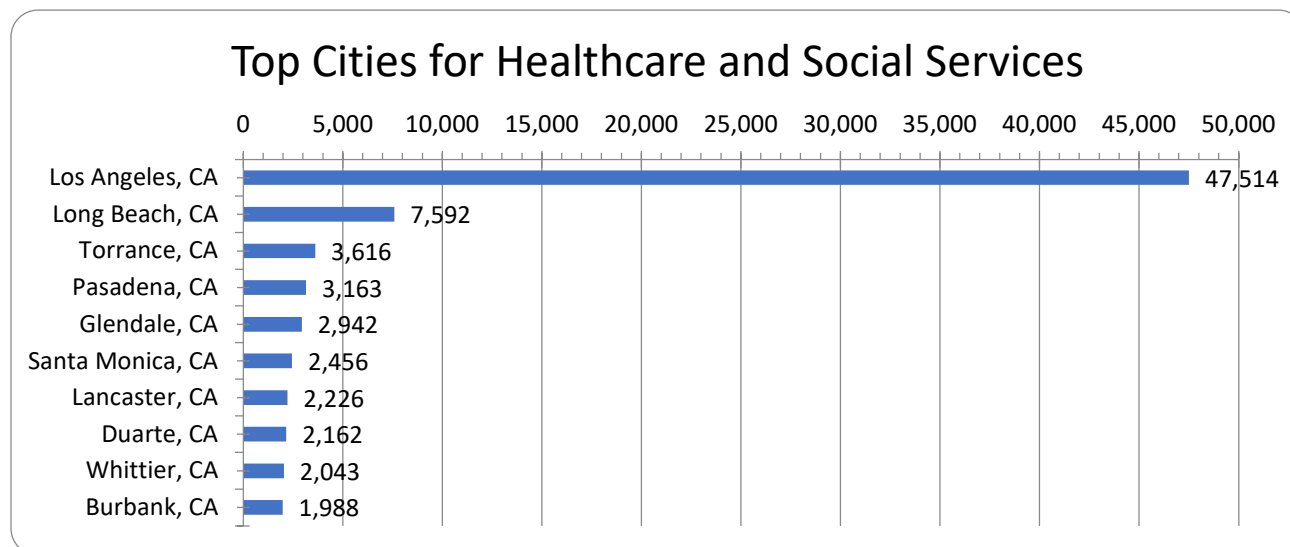
The top employers offering the greatest number of job openings within the healthcare and social services industry include Cedars-Sinai (3,794 openings), followed by Pih Health (3,105), Kaiser Permanente (2,629), and City of Hope (2,334).

TOP 10 EMPLOYERS



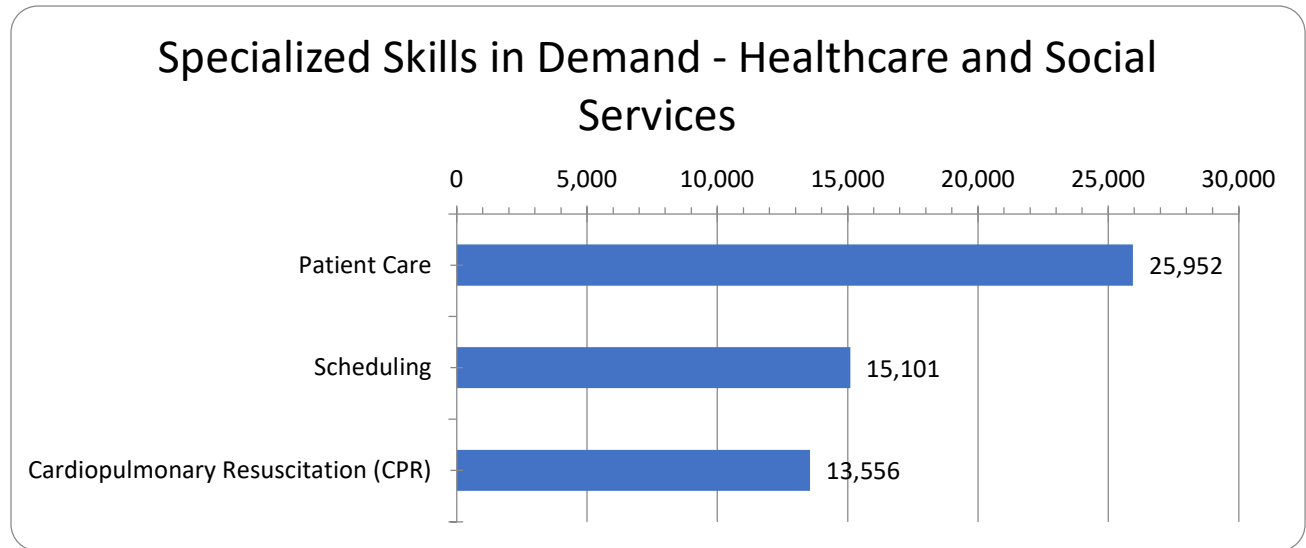
Top cities within L.A. County for healthcare and social services jobs include Los Angeles (47,514 openings), followed by Long Beach (7,592), Torrance (3,616), and Pasadena (3,163).

TOP 10 LOCATION/CITIES



The top three specialized skills within the industry include Patient Care (25,952 openings), scheduling (15,101), and Cardiopulmonary Resuscitation (13,556).

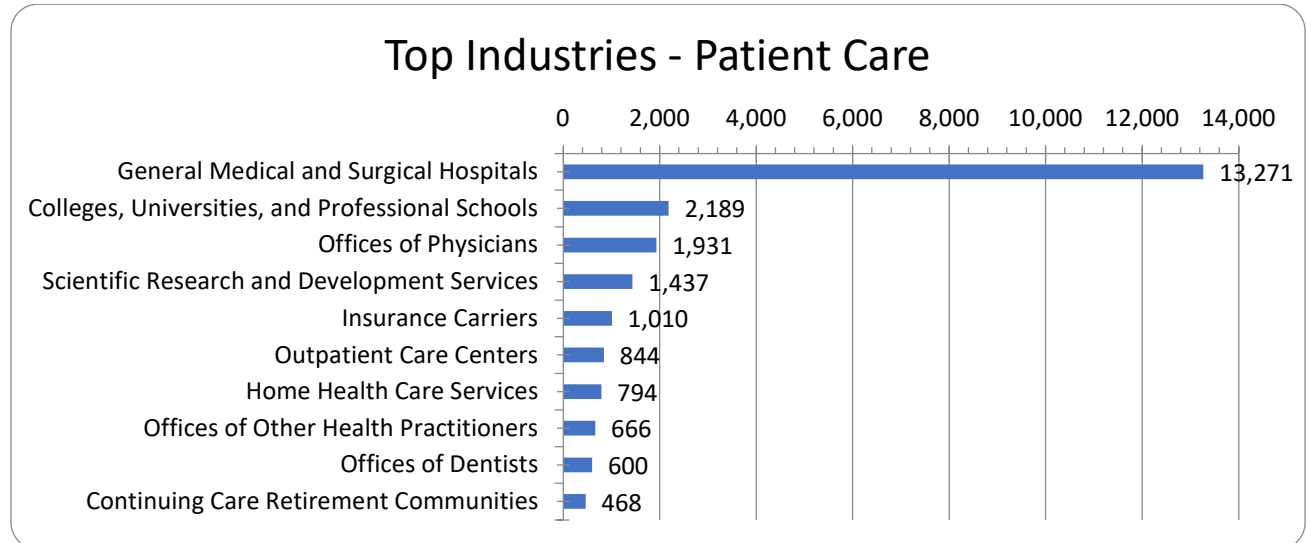
TOP 3 SPECIALIZED SKILLS



Patient Care

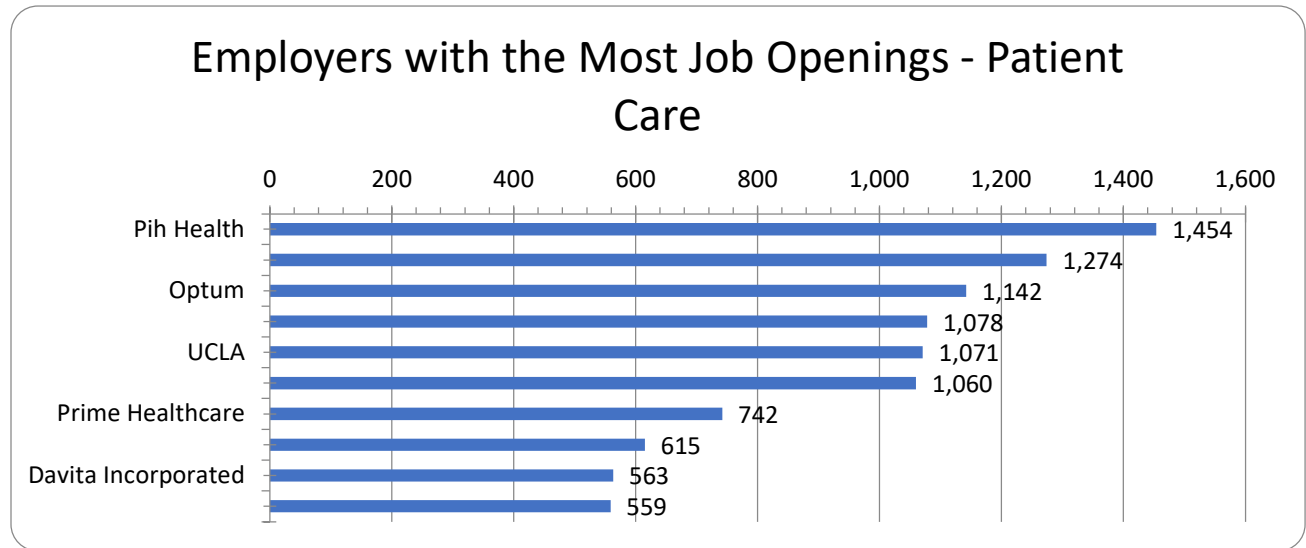
The top industries looking for patient care experience include General Medical and Surgical Hospitals (13,271 openings), Colleges, Universities, and Professional Schools (2,189), Office of Physicians (1,931), and Scientific Research and Development Services (1,437).

INDUSTRY



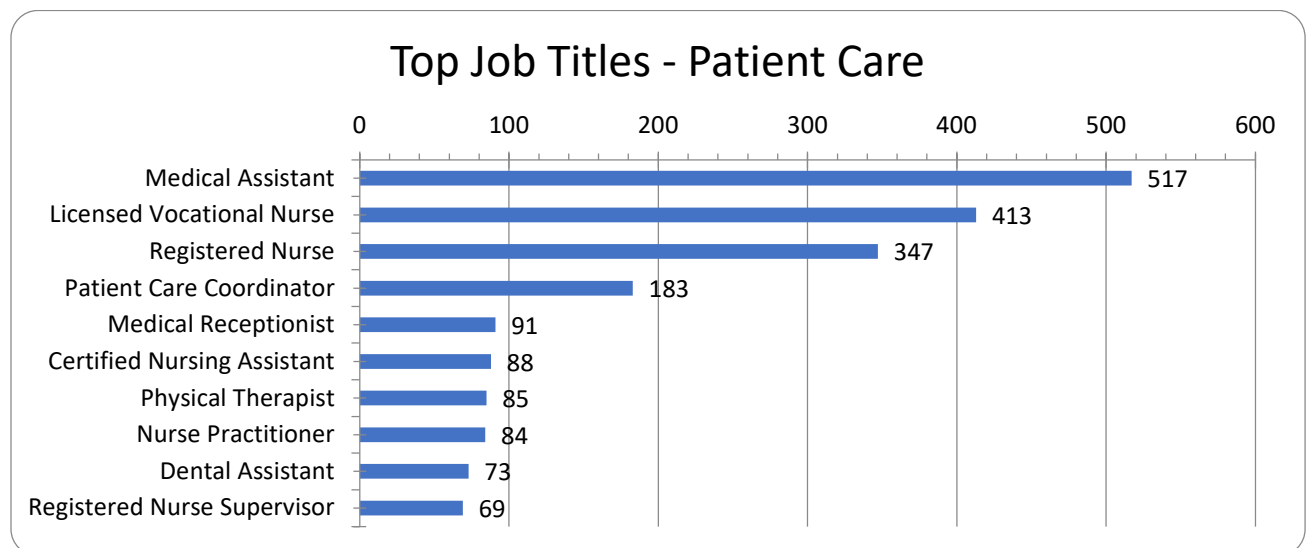
The top employers looking for patient care skills in people are Pih Health (1,454 openings), Cedars-Sinai (1,274), Optum (1,142), and Kaiser Permanente (1,078).

EMPLOYERS



The top job titles that requires individuals to have patient care experience include medical assistant (517 openings), followed by Licensed Vocational Nurse (413), Registered Nurse (347), and Patient Care Coordinator (183).

JOB TITLES

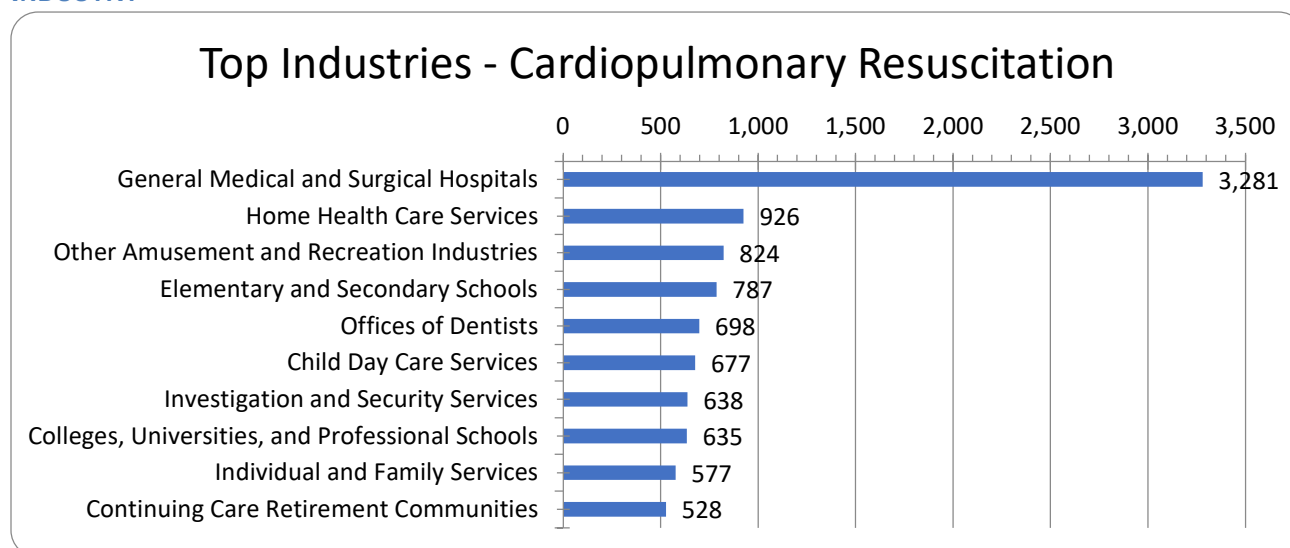


Scheduling – Covered

Cardiopulmonary Resuscitation (CPR)

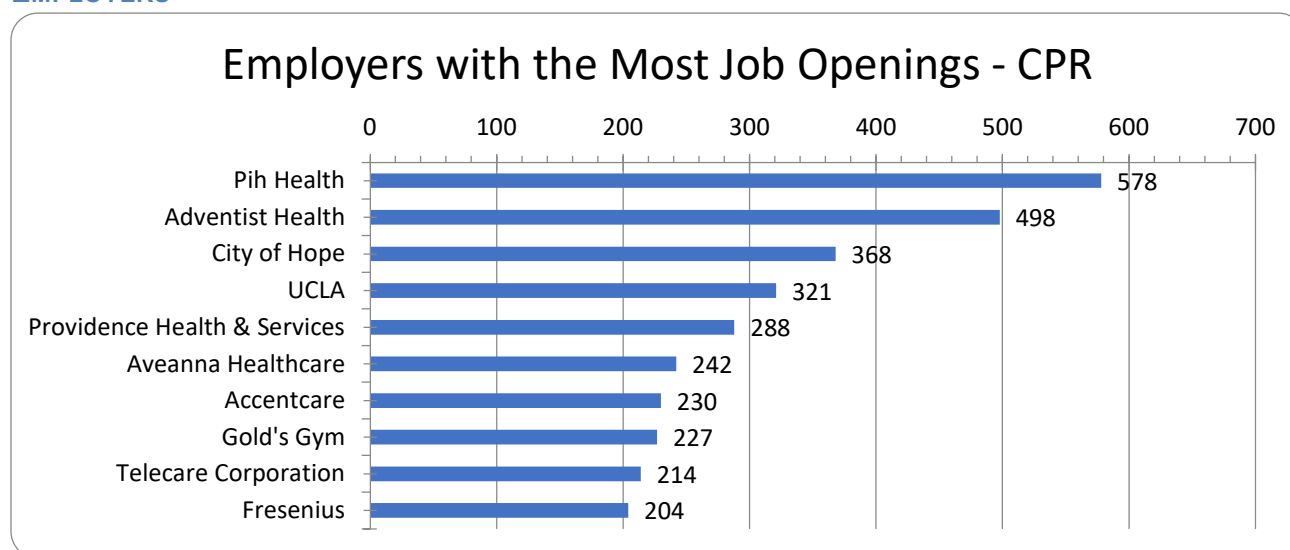
The top industries that requires individual to have CPR experience include General Medical and Surgical Hospitals (3,281 openings), Home Health Care Services (926), Amusement and Recreation Industries (824), and Elementary and Secondary Schools (787).

INDUSTRY



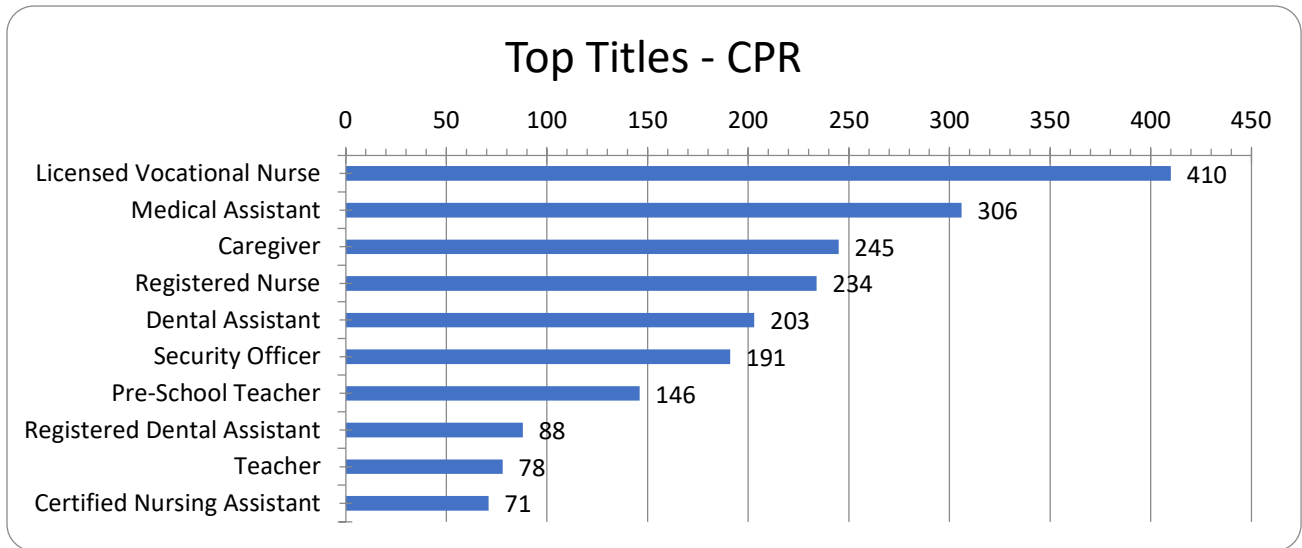
The top employers that requires CPR experience when hiring employees include Pih Health (578 openings), Adventist Health (498), City of Hope (368), and UCLA (321).

EMPLOYERS



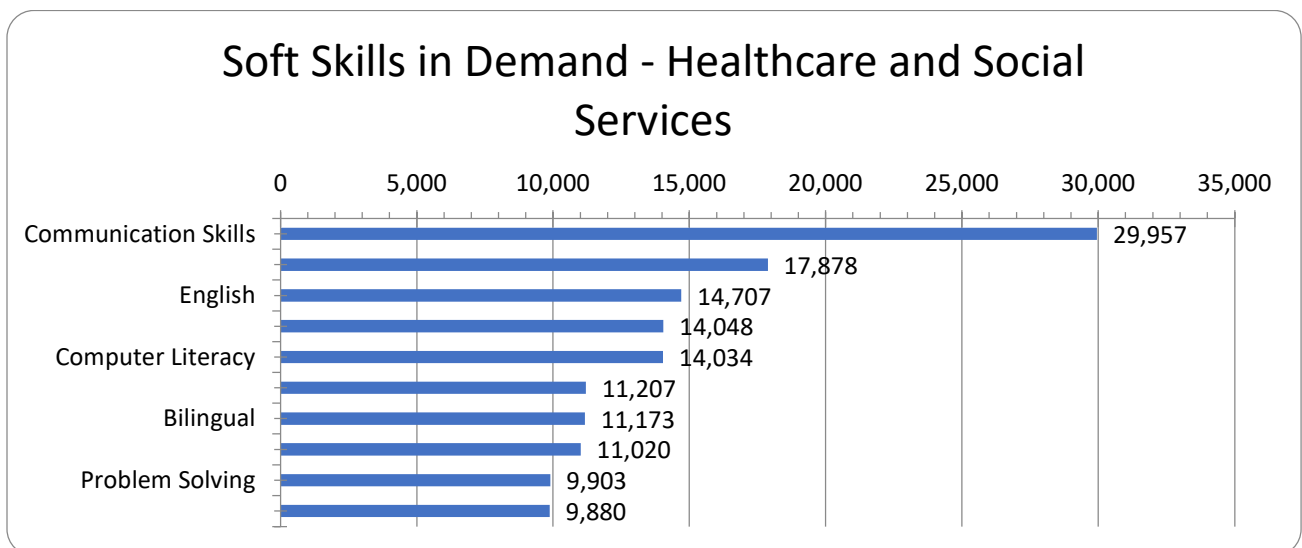
The top job titles that require individuals to have CPR skills include Licensed Vocational Nurse (410 openings), Medical Assistant (306), Caregiver (245), and Registered Nurse (234). Note that the job titles within healthcare and social services industry requires individual to have a skillset of both CPR and Patient care.

JOB TITLES



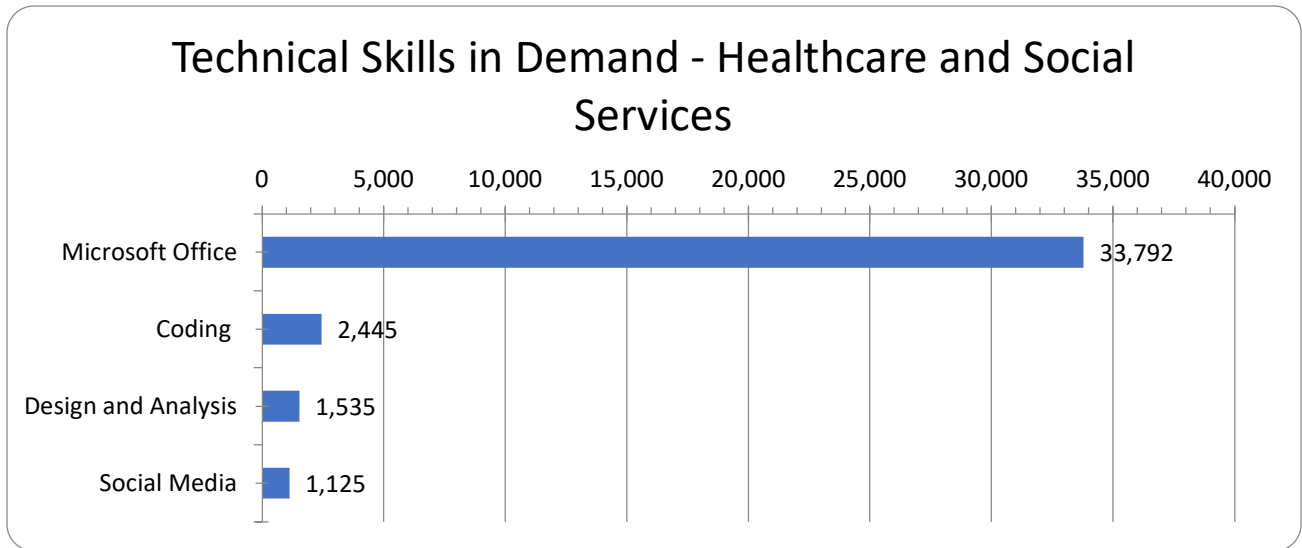
The top soft skills within healthcare and social services industry include communication skills (29,957 openings), Team-collaboration (17,878), English (14,707), and Organizational skills (14,048).

TOP 10 SOFT SKILLS



The top technical skills within healthcare and social services industry include Microsoft Office (33,792 openings), Coding; SQL, PHP, Python, etc. (2,445), Design and Analysis (1,535), and Social Media; Facebook, Salesforce, etc. (1,125).

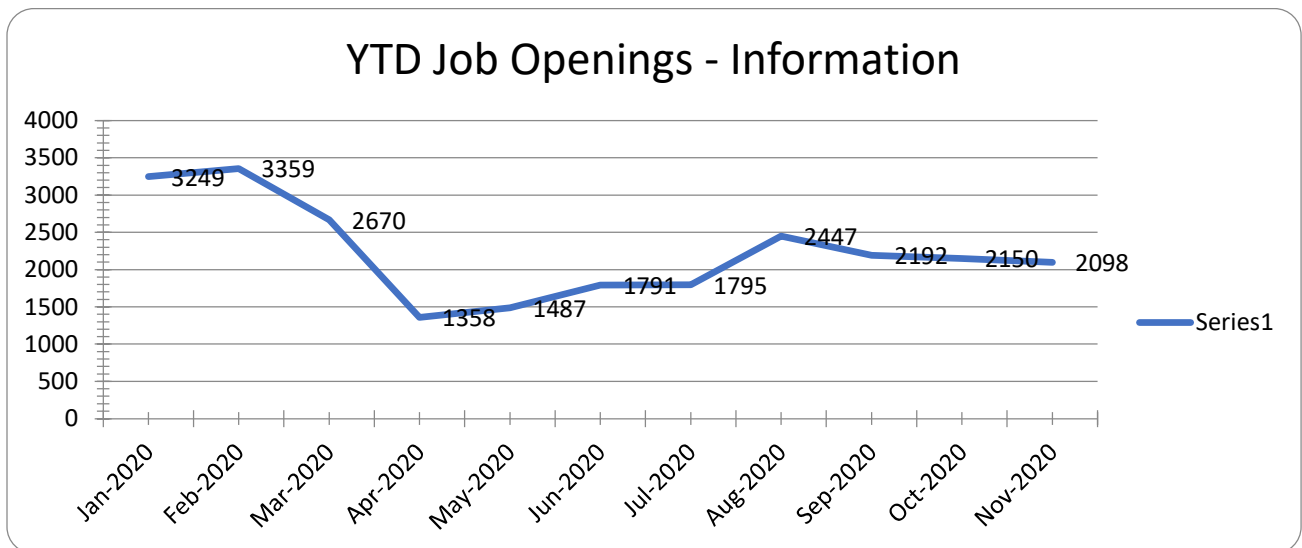
TOP TECHNICAL SKILLS



Information

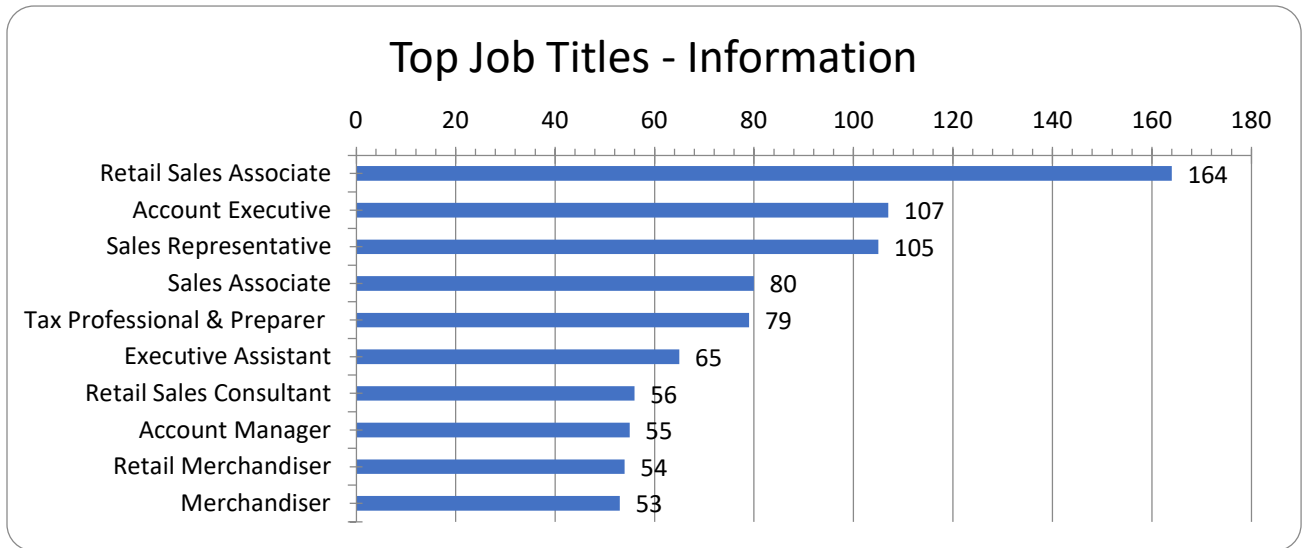
Information industry started off well by offering 3,249 job openings in the beginning of January 2020 before falling down by 58% to 1,358 job openings in April 2020. The industry has not recovered well by fluctuating between 1800-2200 job openings with current sitting at 2,098 job openings.

TIME-SERIES ANALYSIS



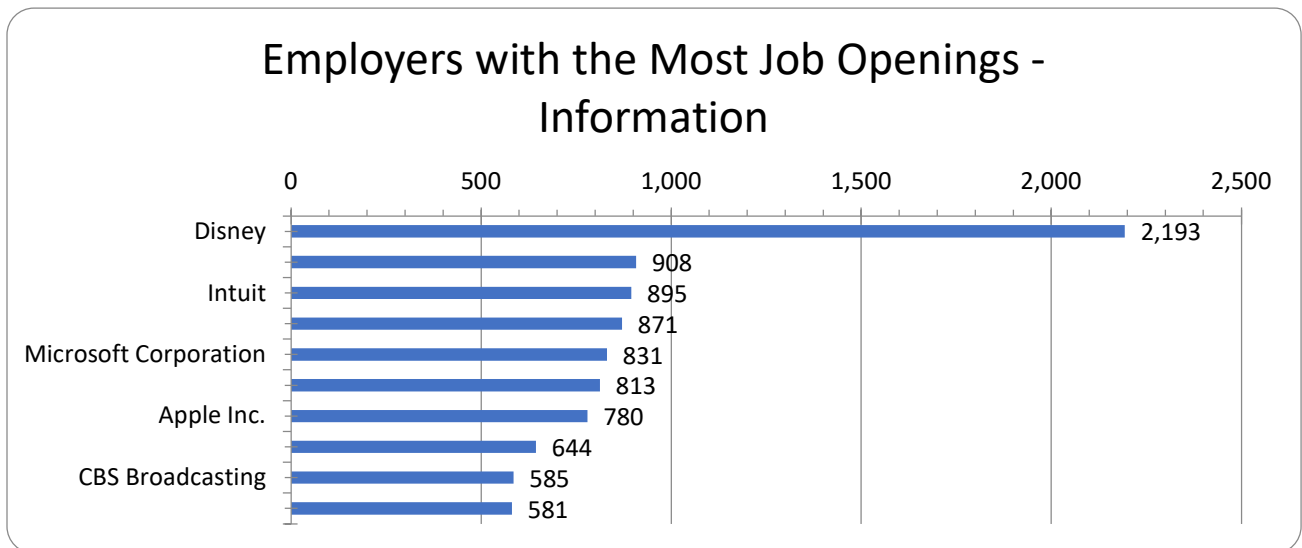
The top job titles within the information industry include Retail sales associate (164 job roles), account executive (107), Sales Representatives (105), and Sales Associates (80).

TOP 10 JOB TITLES



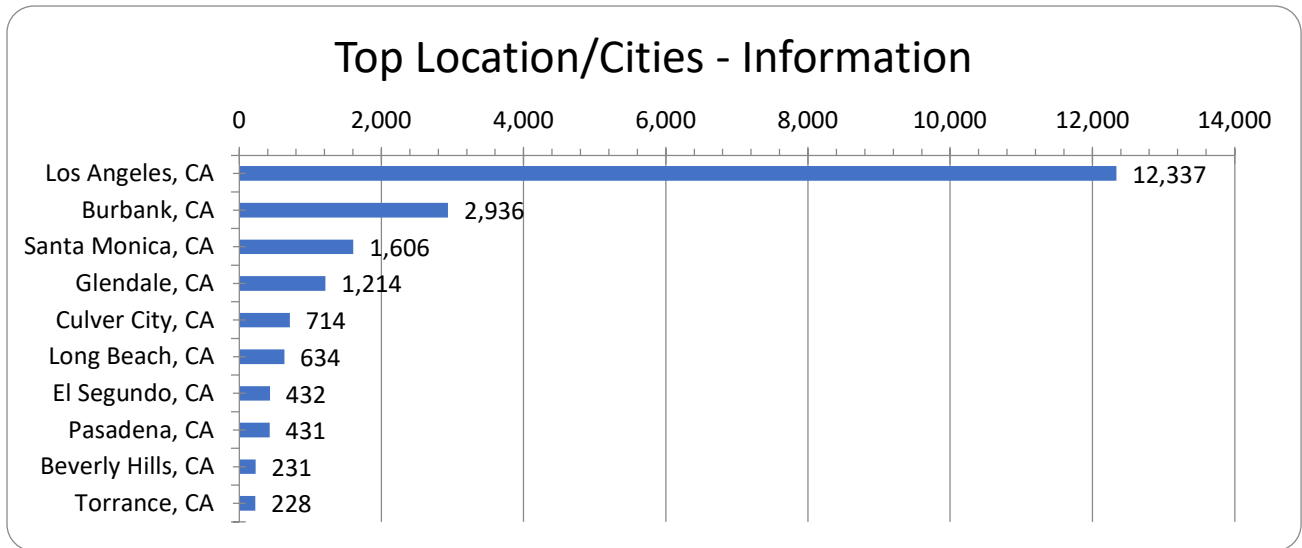
The top employers offering the greatest number of job openings within the Information industry include Disney (2,193 job openings), NBC (908), Intuit (895), and Time Warner (871).

TOP 10 EMPLOYERS



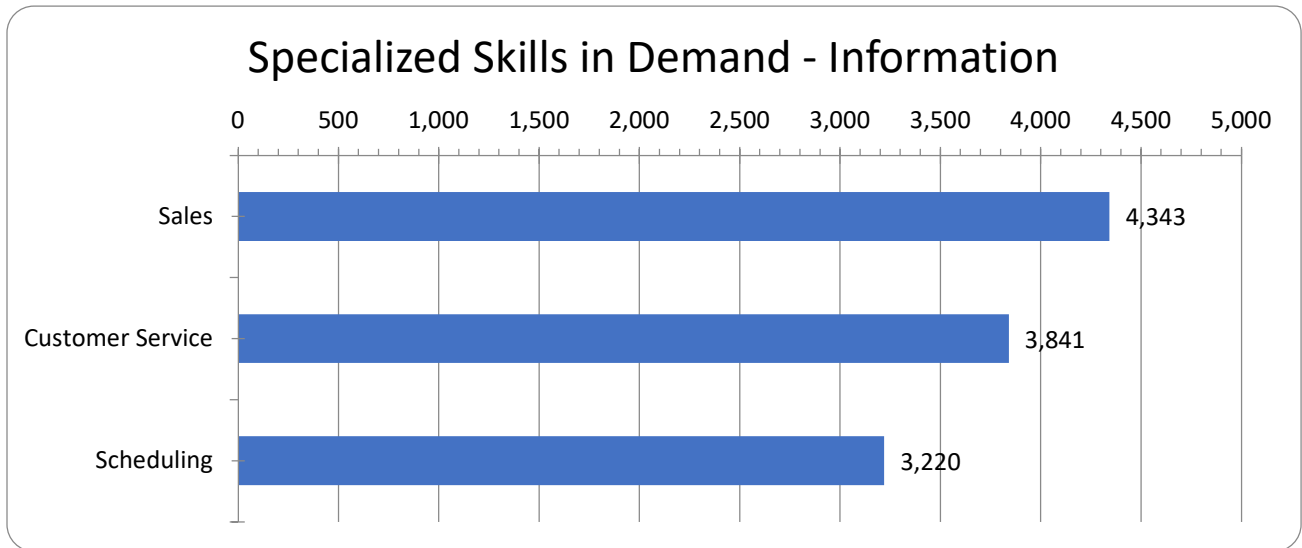
The top cities within L.A. County for Information jobs include Los Angeles (12,337 openings), Burbank (2,936), Santa Monica (1,606), and Glendale (1,214).

TOP 10 LOCATION/CITIES



The top three specialized skills within information industry include Sales (4,343 roles), Customer Service (3,841), and Scheduling (3,220).

TOP 3 SPECIALIZED SKILLS



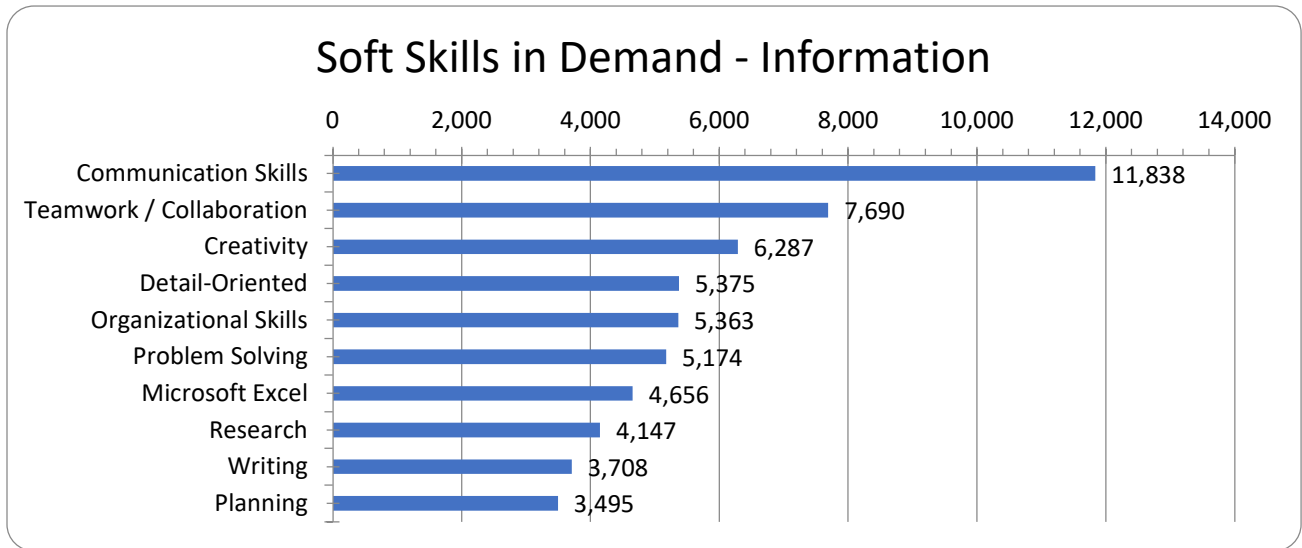
Sales – Covered

Customer Service – Covered

Scheduling – Covered

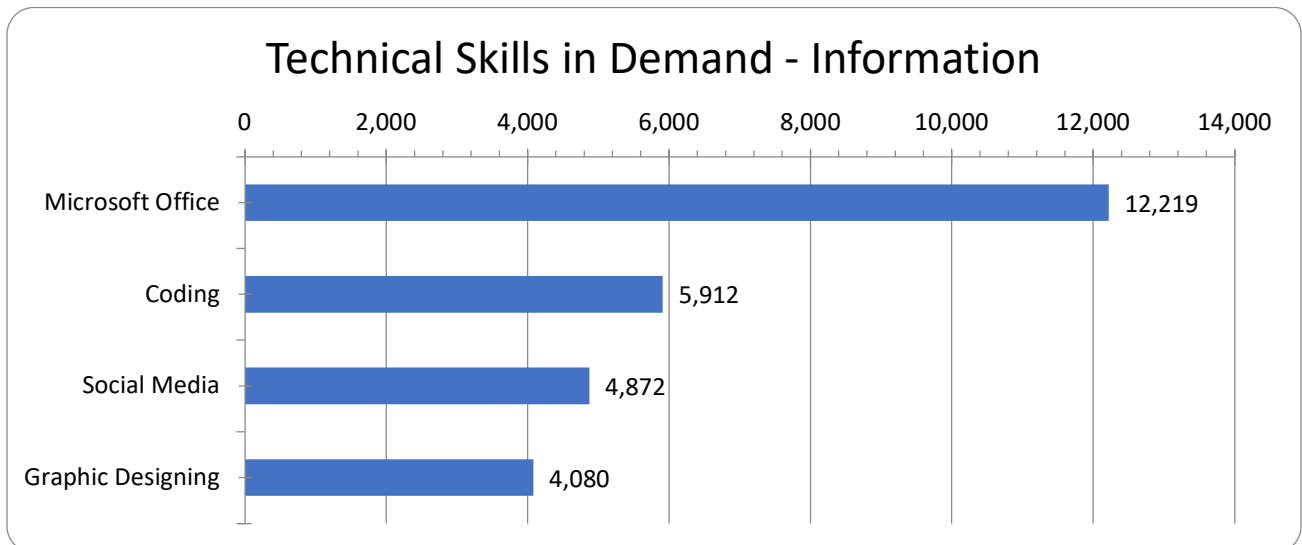
The top soft skills require by employers within the Information industry include communication skills (11,838 roles), teamwork/collaboration skills (7,690), creativity (6,287), and detail-oriented (5,375).

TOP 10 SOFT SKILLS



The most desired technical skills within the Information industry include Microsoft Office (12,219 roles), followed by Coding skills (5,912), Social Media; Facebook, Salesforce, etc. (4,872), and Graphic Designing (4,080).

TOP TECHNICAL SKILLS





Community College Programs Offering

Below is a list of community college programs that are providing opportunities to learn more about communication, customer service, logistics, patient care, cooking and sales training, and how to apply experience and knowledge within those fields into other roles.

Exhibit 288: Sales				
Community College	1-to-2-year Certificates	Associate Degrees	Undergraduate Certificate	Program Names
Cerritos College		✓		Sales, Distribution, and Marketing Operations, General, Selling Skills and Sales Operations
Compton College	✓			Sales, Distribution, and Marketing Operations, General
East LA College	✓	✓		Sales, Distribution, and Marketing Operations, General
El Camino College		✓		Sales, Distribution, and Marketing Operations, General
Glendale Community College	✓			Sales, Distribution, and Marketing Operations, General
L.A. City College	✓	✓		Sales, Distribution, and Marketing Operations, General
L.A. Pierce College	✓			Sales, Distribution, and Marketing Operations, General
L.A. Trade Technical College	✓	✓		Sales, Distribution, and Marketing Operations, General
L.A. Valley College	✓	✓		Sales, Distribution, and Marketing Operations, General
Long Beach City College	✓	✓		Sales, Distribution, and Marketing Operations, General
Mt. San Antonio College	✓	✓		Sales, Distribution, and Marketing Operations, General
Pasadena City College	✓	✓		Sales, Distribution, and Marketing Operations, General
Rio Hondo College	✓	✓		Sales, Distribution, and Marketing Operations, General
Santa Monica College	✓	✓		Sales, Distribution, and Marketing Operations, General, Selling Skills and Sales Operations
West L.A. College		✓		Sales, Distribution, and Marketing Operations, General

Target Occupations in Los Angeles County: Sales

Based on county job postings data in 2020, the LAEDC has identified the top-five occupations in demand that require this skill, which should be top targets for community college graduates. Postings refers to the number of jobs posted that list this skill.

- 7. (SOC 41-4011) Sales Representatives, Wholesale/Manufacturing (116,640 postings)
- 8. (SOC 41-2031) Retail Salespersons (96,030 postings)
- 9. (SOC 41-1011) First-Line Supervisors of Retail Sales Workers (40,880 postings)
- 10. (SOC 11-2022) Sales Managers (38,990 postings)
- 11. (SOC 43-4051) Customer Service Representatives (28,900 postings)

Exhibit 289: Logistics

Community College	1-to-2-year Certificates	Associate Degrees	Undergraduate Certificate	Program Names
East L.A. College	✓	✓		Logistics, Materials, and Supply Chain Management
Rio Hondo College		✓	✓	Logistics, Materials, and Supply Chain Management
Santa Monica College		✓	✓	Logistics, Materials, and Supply Chain Management

Exhibit 290: Communication

Community College	1-to-2-year Certificates	Associate Degrees	Undergraduate Certificate	Program Names
Cerritos College	✓	✓		Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
Citrus College	✓	✓		Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
Compton College		✓		Communication Technologies/Technicians and Support Services
East LA College	✓	✓	✓	Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
El Camino College	✓	✓		Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
Glendale Community College	✓	✓		Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
L.A. City College	✓	✓		Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
L.A. Harbor College	✓	✓		Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
L.A. Mission College	✓	✓		Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
L.A. Pierce College		✓		Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
L.A. Southwest College		✓		Communication Technologies/Technicians and Support Services
L.A. Trade Technical College	✓	✓		Communication Technologies/Technicians and Support Services
L.A. Valley College	✓	✓		Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
Long Beach City College	✓	✓		Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
Mt. San Antonio College	✓	✓		Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
Pasadena City College	✓	✓		Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs

Exhibit 291: Communication (Cont'd)

Community College	1-to-2-year Certificates	Associate Degrees	Undergraduate Certificate	Program Names
Rio Hondo College		✓	✓	Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
Santa Monica College		✓	✓	Communication Technologies/Technicians and Support Services, Communication, Journalism, and Related Programs
West L.A. College		✓		Communication Technologies/Technicians and Support Services

Exhibit 292: Customer Service

Community College	1-to-2-year Certificates	Associate Degrees	Undergraduate Certificate	Program Names
East L.A. College	✓			Customer Service Support/Call Center/Teleservice Operation

Target Occupations in Los Angeles County: Customer Service

Based on county job postings data in 2020, the LAEDC has identified the top-five occupations in demand that require this skill, which should be top targets for community college graduates. Postings refers to the number of jobs posted that list this skill.

- 12. (SOC 43-4051) Customer Service Representatives *(84,550 postings)*
- 13. (SOC 41-2031) Retail Salespersons *(57,480 postings)*
- 14. (SOC 41-4011) Sales Representatives, Wholesale/Manufacturing *(38,090 postings)*
- 15. (SOC 41-1011) First-Line Supervisors of Retail Sales Workers *(24,340 postings)*
- 16. (SOC 41-2011) Cashiers *(16,930 postings)*

Exhibit 293: Patient Care

Community College	Certificates <1 year	Associate Degrees	Undergraduate Certificate	Program Names
LA Mission College	✓			Nursing Assistant/Aide and Patient Care Assistant/Aide
Long Beach College	✓			Nursing Assistant/Aide and Patient Care Assistant/Aide

**Exhibit 294: Cooking
Community College**

Community College	Certificates <1 year	Certificates (1<2 years)	Associate Degrees	Program Names
LA Mission College	✓	✓	✓	Cooking and Related Culinary Arts, General
Long Beach College	✓	✓	✓	Cooking and Related Culinary Arts, General
Cerritos College	✓	✓	✓	Cooking and Related Culinary Arts, General
Glendale College	✓	✓	✓	Cooking and Related Culinary Arts, General
LA Harbor College	✓	✓	✓	Cooking and Related Culinary Arts, General
LA Trade College	✓	✓	✓	Cooking and Related Culinary Arts, General
Mt San Antonio	✓	✓	✓	Cooking and Related Culinary Arts, General
Pasadena College	✓	✓	✓	Cooking and Related Culinary Arts, General

Exhibit 295: Retail Industry Knowledge

Community College	Certificates <1 year	Associate Degrees	Undergraduate Certificate	Program Names
LA Trade College	✓	✓	✓	Retail Management
Pasadena	✓	✓	✓	Retail Management
Cerritos College	✓	✓	✓	Retail Management
Compton College	✓	✓	✓	Retail Management
El Camino	✓	✓	✓	Retail Management
LA City College	✓	✓	✓	Retail Management
LA Pierce	✓	✓	✓	Retail Management
LA Valley College	✓	✓	✓	Retail Management
Mt San Antonio	✓	✓	✓	Retail Management
Rio Hondo			✓	Retail Management

Target Occupations in Los Angeles County: Retail Industry Knowledge

Based on county job postings data in 2020, the LAEDC has identified the top-five occupations in demand that require this skill, which should be top targets for community college graduates. Postings refers to the number of jobs posted that list this skill.

- 17. (SOC 41-2031) Retail Salespersons *(53,170 postings)*
- 18. (SOC 41-1011) First-Line Supervisors of Retail Sales Workers *(41,050 postings)*
- 19. (SOC 27-1026) Merchandise Displayers & Window Trimmers *(14,110 postings)*
- 20. (SOC 43-4051) Customer Service Representatives *(11,560 postings)*
- 21. (SOC 41-4011) Sales Representatives, Wholesale/Manufacturing *(11,420 postings)*

Training Programs Offered By WDACS

Top Programs By Enrollment

Aircraft Fabrication and Assembly Technician
Certified Nurse Assistant (CNA)/ Accelerated
Certified Phlebotomy Technician
Class A Tractor-Trailer Course
Commercial Drivers Training - Class A
Construction and Maintenance Hire Lax
Heartland Coalition Carpentry Construction Pre-Apprenticeship
Medical Assistant
Nurse Assistant
Office Assistant WEX
Pharmacy Technician
Private Security Guard with Taser and Firearm
Professional Driver, Class A
Professional Truck-Driver Training Program
Project Management and Business Processes
Shipping and Receiving WEX
Structured Cabling Technician
Supply Chain Logistics
Truck Driving
WEX - Clerical
WEX - Sales Associate/Stock
Work Experience - Tutor

All Programs

.Net Web Application Developer (MCPD/MCITP)
A+ Certification / Introduction to Cybersecurity
A+, Network+ and MCSA Windows 8
Academic Tutor WEX
Accounting Clerk/Bookkeeper/Technician
Acute Certified Nursing Assistant
Administrative Assistant/Accelerated Program/ WEX
Adobe Certified Expert Web Specialist
Advanced Paralegal Certificate Program Online
Advanced Safety and Health Certificate
Agile/Assistant Project Management
Air Conditioning Skills Certificate or credential or Trainee
American Aerospace Technical Academy
Auto CAD and Solidworks
Automotive Service Technician (ASE Program)
Barber Stylist
Basic Welding GTAW Mild Sheet Steel
Behavioral Health Practitioner
Bookkeeping & Payroll Taxes Series
Building and Grounds Worker Fundamentals
Business - Human Resource Mgmt. Level I/Certificate
C# Programming
Cashier, Customer Services WEX
CBCS Certified Medical Administrative Assistant w/Medical Billing & Coding
Center Assistant WEX
Certificate in Business and Management of Entertainment Hybrid
Certificate in Construction Management
Certificate in Database Management Hybrid
Certificate in Human Resources Technician
Certificate in Paralegal Studies Hybrid
Certificate in Project Management

Certificate in Strategic Branding and Public Relations Hybrid
 Certified Bookkeeper Online
 Certified Drug and Alcohol Counselor Hybrid/Online with Laptop Computer
 Certified Electronic Health Records Specialist + Medical Terminology
 Certified Information Systems Security Professional (CISSP) and ITIL
 Certified Medical Assistant
 Certified Nurse Assistant (CNA) Accelerated
 Certified Phlebotomy Technician CPT-1
 Certified Professional Biller (CPB) Medical Billing
 Certified Restorative Home Health Nurse Assistant
 Chef/Culinary Specialist
 Chemical Dependency Counselor
 Child Day Care Worker / Development
 Cisco Certified Network Administrator - Level II (CCNA)
 Class A and B (Tractor-Trailer/Bus)
 Class A Refresher Course
 Class BP Bus Course
 Clerical Administration/Microsoft Office Suite/WEX
 Clinical Medical Assistant Certificate Program
 CAN/CNC Nurse Assistant Pre-Certification
 Combination Welder
 Commercial Drivers Training - Class A
 Community College Teaching Certificate
 Comp TIA A+, Network+, Security+ Certification
 Complete Professional Truck Driving
 Comprehensive Welding SMAW Structural Steel Program
 Computer and Networking Technology Level I
 Computer/Technician Operations 1 and 2
 Computerized Accounting
 Computerized Medical Billing I
 Construction and Maintenance Hire / Manager Lax
 Core Competencies Construction
 Cosmetology
 Countywide Youth Bridges Program
 Court Interpreter Spanish/English Online
 CPC Medical Billing and Coding (Voucher Included)
 Culinary Arts Restaurant Management/Baking/Chef Assistant
 Custodial/Building And Grounds
 Customer Service Insurance Agent, WEX, Hospitality
 Database Administrator/Oracle Specialist /Microsoft SQL/OJT
 Dental Assistant
 Digital Arts Certificate Online
 Digital Marketing
 Drone UAS Commercial Remote Pilot
 Early Childhood Education Assistant
 EKG / Electrocardiogram Technician
 Electrical Powerline Mechanic
 Electrician Trainee (State Certified) 468
 Electrician Training Program (Residential)
 Electrocardiogram (ECG) Technician
 Emergency Medical Technician
 Engineering and Architectural AutoCAD Certificate
 Entrepreneurship: Start-Up and Business Owner Management Online
 Entry Level CNC (Computer Numerical Control)-NIMS Certified
 Esthetician
 Food Service & Hospitality
 For The Advanced Cook Pre-Apprenticeship Online
 Forklift Certification
 General Office Assistant / Business Computer Applications

Global Logistics and Domestic Transportation
Grinder/Foundry Department
Health Information Technology
Health Path-Certified Restorative Nurse Assistant
Healthcare Revenue Cycle Administration
Heartland Coalition Carpentry Construction Pre-Apprenticeship Training Program
Heating Ventilation Air Conditioning Technician Trainee
HED100: Truck Driver Operator Class "A"
HED105: Truck Driver + Bus
HED110: Heavy Equipment Operator Truck Driver Level 1
Hemodialysis Technician
Home Inspection Certificate Online
Hospital Central Service Technician
Hospitality Training Academy (HTA) JATC
Human Resources Management
HVAC (Heating Ventilation and Air Conditioning)
In Home Support Services (IHSS)
Information Technology Network Support Specialist Certificate Program
Intermediate Security Program 90
IT Security Administrator (Network+ /Security+ /CCNA/CEH/CWNA)
Job Readiness
Lean Six Sigma Green Belt
LED Assembly
Local Program
Logistics and Supply Chain Professional
Machinist CNC/Training
Manufacturing Academy
Marketing Design Certification Online
MCSA-Microsoft Windows Server Junior Server Administrator
Medical Assistant Administrative and Clinical
Medical Assistant and Certified Phlebotomy Technician CPT-1
Medical /Pharmacy Technician
Medical Clerk/Assitant
Medical Biller/Coder/Insurance/Specialist/EMR
Medical Transcriber
Medical Unit Clerk/Medical Secretary
Microsoft Office User Specialist (MOUS)
Mobile and Desktop Web Developer/Responsive Web Online
Multi-craft Core Curriculum (MC3)
Multimedia Arts Certificate
Network Control Operator
Network Specialist II (MCSE)
Non-profit Management Online
Nurse Assistant/CAN/Accelerated - Short/Long term
Nurse Assistant/Long Term Care and Home Health Aide
Nutrition for Optimal Health, Wellness and Sport Online
Object Oriented Programming and SQL
Occupational Skills Training/Non-Approved Vendor
Office Assistant Clerk/WEX
Office Management Systems
OJT - Contract Labor Compliance Administrator
OJT - Die Cutting/Front Desk Operator
OJT - Quality Inspector
Optician Certification Online
Paralegal/Advanced Paralegal Certificate Program Online
Patient Care Technician
Personal Fitness Trainer
Pest Control - Revolution Pest Technician
Pet Grooming Specialist

Phlebotomy Online
Physical Therapy Aide/Sports Rehab
PMI Agile Certified Practitioner
Prevention Specialist
Private Security Guard with Taser/Firearm/Armed
Professional Combo Course CDL Class A & B-P
Professional Paralegal Academy
Professional Truck-Driver Training Program
Project Management and Business Processes
Project Management Professional (PMP) with Construction Certificate
Project Management Professional (PMP®) Certification Preparation
Project Management with Lean Six Sigma Green Belt Combo Certificate
PS - Work Experience - Youth
Purchasing and Supply Chain Management Online
Quickbooks and MS Office
Real Estate Principles, Practice and Property Management
Risk Management Professional (PMI-RMP) Certificate Course
SAP FICO Module
School Bus Driver Training
Security Guard-Advanced Private Security (Comprehensive)
SEO and Social Media Marketing Practitioner Certification
Shipping and Receiving WEX
SHRM Certificate in HR Management with SHRM CA Law HR Specialty Credential
Six Sigma Black Belt with Project Management
Social Media strategies and Content Marketing / Representative
Software Development/Programmer
Sorter/Stocking/Customer Service WEX
Structured Cabling Technician
Structured Query Language (SQL)
Supply Chain Logistics
Surgical Technology
Taxation
Transitional Subsidized Employment
Truck Driving Certificate II
Uniquely-Abled Academy (UAA-For High Functioning Autism Population) Entry Level
VEAP (Veterans & Youth Career Collaborative) - Security Guard Training
Vendorized Service - OST
Veterinary Assistant
Vocational Nurse (LVN)
Water Technology - Distribution 1 and Treatment 1
Website Design & Programming
Welding

Employer Engagement: Key Policy Recommendations from Industry Convenings

Background

Funded through the Coronavirus Aid, Relief, and Economic Security (“CARES”) Act, the Los Angeles County Workforce Development, Aging and Community Services Department (WDACS) partnered with the Los Angeles County Economic Development Corporation (LAEDC) to convene five key industries affected by COVID-19 and its subsequent secondary economic impacts. Understanding the importance of quickly gathering real time business intelligence and firm-level data to guide both business operations and workforce resources needed to support economic recovery, WDACS and LAEDC brought leaders from each industry together to develop policy recommendations for recovery.

These convenings focused on the Healthcare, Infrastructure, Trade & Logistics, Aerospace, and Hospitality industries under the auspices of the LA County Works Initiative completed in June 2020. LAEDC hosted ten industry convenings with key business stakeholders that took place between October 23, 2020 and November 23, 2020, where each industry had two meetings: one focused on workforce development and the other on business operations. The following recommendations outline the culmination of these convenings and focus on ideas expressed by more than one industry which could provide a valuable opportunity to alleviate pain points in multiple areas. Below these key recommendations are policy proposals that are industry specific and targeted at smaller sectors of the economy.

Key Recommendations

Industry Collaboration and Regulatory Modernization

Increased and quickly enacted regulations have created tension between the county and small businesses. As compliance with public health regulations is more crucial than ever, a change in the communication relationship is essential. In order to assist businesses with the ability to operate, it is important that the county continues to foster a public-private dialogue system that engenders a collaborative spirit with industry and provides a feedback loop in real-time. Customer-facing industries such as dining and in-store retail are interested in understanding the scientific risk of their unique activities.

In the same vein of collaboration, industry representatives expressed an opportunity to modernize regulations in specific areas that can provide short-term relief as well as future growth. The extraordinary circumstances of the pandemic have uncovered areas where industries believe targeted regulatory changes can effectuate positive benefits. Needing physical space, updating specific definitions of physical space, and permitting to accurate innovation are three distinct topics the convenings discovered.

1. *Active Engagement and Transparency*
 - Continue the LA County Works Initiative industry convenings as the platform extension of the Economic

Resiliency Task Forces created in May 2020 that actively provide feedback in the decision-making process. There is a strong feeling the collaborative spirit has diminished since the Economic Resilience Task Force meetings. Continuing these cooperative activities through the LA County Works Initiative industry convenings can ameliorate friction between industry and government.

- Provide greater foresight and predictability with new health orders and restrictions. Strive for a minimum of seven days between new order announcements and implementation. A time frame of less than seven days creates hardship in planning around business operations, including company labor.
- Include industry leaders and associations as partners in the roll out of new policies so that friction points can be identified, and where possible, resolved. Businesses are willing to be at the table with government leaders and act as co-partners in keeping our businesses safe.
- Present industry-specific data points and causal linkages to certain economic activities to illustrate the need of new orders where possible, such as warehouse work and outdoor dining.

2. *Regulation Modernization*

- Promote the research of new manufacturing techniques that accelerate innovation by creating a new class of AQMD permits tied to low-quantity or volumes outputs instead of one permit covering all sizes. This can reduce the need for companies to look at offshoring this economic activity.

- Push infrastructure development projects at the ports forward through by-right permitting.
- Investigate whether three open-air walls are scientifically superior to one or two for proper ventilation that establishes a safe environment for outdoor dining. Any reduction in the number of walls would presumably increase the number of establishments operating outdoors and reduce the need for owners' new capital investments who have limited cash on hand.
- Adopt a by-right approval process that satisfies criteria defined by the Board of Supervisors to accelerate development projects. Infrastructure projects around the port to expand capacity, and housing projects within underserved areas can be prioritized with developers committing to a number of living-wage jobs and alignment with future sustainability goals. This would potentially use the LA City 15th district modernization plan as a blueprint.

3. *Streamline Access to Physical Space*

- Leveraging underutilized county land – parking lots for example – can help businesses survive. Hospitality can use the space for outside dining and trade and logistics can expand inventory and warehousing capacity.
- Establish a pilot program to identify and leverage county-owned property in Industrial Ordinance Zone M-3: Unclassified near port for expanding warehousing activity. Instituting a fee-based permit system to use the space could bolster public revenues.
- Identify and leverage county-owned property in Industrial Ordinance Zone B-1: Buffer Strip; and Zone B-2 Corner Buffer Strip near restaurant dining

areas to expand outdoor dining when the regulatory environment allows. Institute a fee-based permit system like the City of LA's Al Fresco dining to allow businesses to expand.

- Create a county-wide challenge that solicits solutions from developers, architects and technologists to reimagine curb management and public space reconfiguration. Involve relevant agencies and trade associations in selecting winners. Allow winners to pilot their solution in county-owned spaces.

Business Expense Relief

While the county has instituted several grant and loan programs like the COVID-19 relief fund and Keep L.A. County Dining, for example, industry representatives proposed non-monetary programs to provide relief including rent moratoriums. Rent in the hospitality industry is the number one issue with representatives expressing in the convenings that most businesses will not survive the winter without assistance. Restaurants have not only been unable to make rent but are also experiencing difficulty with monthly utility bills. Providing a micro stimulus directly to restaurants is a potential solution that could incentivize take-out orders as well as provide an income guarantee for owners. Healthcare industry leaders also highlighted the declining access of care in underserved communities since smaller clinics are not able to support rent with declining revenues; many have remained closed.

1. *Rent Moratorium, Utility Reduction, & Micro-stimulus*
 - Work with public and private utility service companies to pay percentages of monthly bills that reflect

operational capacity percentages, which is closely correlated with variable monthly revenues and ability to pay.

- Establish moratorium on business rents while offering landlords the ability to apply for COVID-19 relief funds and other capital infusion programs.
- Subsidize the Department of Water/Power & SoCalGas bills for companies that have to offer at reduced capacity (i.e., if restaurants are only operating at 50% capacity, then they would only be required to pay 50% utilities)
- Provide a tax-free \$10 dining credit to all take-out and in-person food orders that goes directly to restaurant. This stimulus reduces the customer's bill and provides an incentive for more sales.

Workforce

Labor demand has varied across industries with a main distinction between essential and non-essential businesses. However, the convenings illustrated that even essential businesses like healthcare clinics are not immune to changes in the workforce, as some healthcare workers employed by smaller clinics have been displaced. On the other hand, the aerospace industry seems to have a shortage of labor supply for their government contracts, which is the avenue the industry has focused on due to its stability. Infrastructure and the trade and logistics industries highlighted the lack of knowledge around accessing talent pipelines for micro-trenching, warehousing, and distribution occupations. The difficulty also stems from a perception that there is a lack of specialization in the talent pool to satisfy job requirements. Meanwhile, workers still in the workforce are

experiencing a need for childcare assistance with both access and financial assistance.

1. *Labor Supply and Demand*

- Support a county-wide initiative to bring greater awareness of workforce development resources for employers through WDACS. This includes subsidized wages, on-the-job training, youth-at-work initiatives, pre-screening, America's Job Centers of California, regional partnerships with education and technology and intermediary solutions bridging education and community institutions with employer workforce demand like those hosted by LAEDC.
 - Establish an effort to directly transition displaced retail and hospitality workers to living wage career pathways found in trade and logistics and warehousing as electronic commerce has accelerated and will continue to do so, thus creating a higher demand for workers. Focus on the communities closest to warehousing activities to mitigate transportation difficulties.
 - Build high road training partnerships with industries and leverage WDACS and LAEDC as the regional intermediaries for employers to source talent from the region. Identify the current talent supply and demand and reverse engineer career pathways into those occupations with the requisite training and education partners with the region's employers. Prioritize partnerships that provide strong and clear pathways for individuals from vulnerable communities.
 - WDACS and LAEDC should coordinate regional work-based learning opportunities to make it seamless for employers to engage across the region's massive workforce and

education ecosystem. Employers are willing to provide regional work-based learning opportunities to support inclusive economic recovery that must also extend to our current learners to ensure a diverse and deep pool of talent.

2. *Subsidized Wages*

- Explore using COVID relief funds to directly subsidize healthcare workers at healthcare clinics with less than ten employees and that have temporarily closed. The clinic would apply for the subsidy directly, as a percentage, by estimating their need if the clinic were to reopen. Preference could be given to communities most effected by the pandemic, using transmission rates as a data point. Clinic must reopen within 30 days of being granted a subsidy or it is lost.

3. *Childcare*

- The healthcare industry has met the access to healthcare challenges by creating their own childcare in parking lots, however, access is uniquely tied to geography as not all establishments offer this service.
- Expand childcare access through vouchers beyond essential workers by leveraging the Los Angeles County Early Childhood Education COVID-19 Response Team's previous work with the voucher program.
- Leverage existing park and recreation facilities to create childcare centers for essential workers throughout the winter and leverage parks that are away from established healthcare centers (i.e., at hospitals) to ensure greater access for families.

Industry Convenings Detailed Notes

Aerospace

Business Operations

1. *Workforce Development*
 - a. Several industries are looking to hire but need easier pipelines from key subsectors as they are having troubles keeping up with hiring
 - b. Educate youth more about math/science careers to create a stronger future workforce
 - c. Partner with junior colleges to encourage students to work in manufacturing jobs
 - d. Develop training programs for current employees
2. *Commercial business operations are struggling, whereas DOD are thriving*
 - a. County may be able to provide matchmaking for low-cost for commercial work
 - b. Continue supporting government contracts that have been considered an essential business
3. *Advocacy*
 - a. Support unity/singular voice in the aerospace industry (like Colorado/Texas)
4. *Regulatory Barriers*
 - a. Create an environment with lower barriers to entry
 - b. It is currently impossible to research manufacturing techniques without an AQMD permit. As an example, as part of additive manufacturing process development, a company would like to be able to experiment with chemical milling Inconel 718 on site. However, the permit takes more than 6 months to acquire and if our efforts fail - we won't require the permit at all.
5. *Supply Chain Challenges*
 - a. County could help with the acceleration of the California Supply chain or helping with the challenges faced by the supply chain
 - b. Address executive pressure to move manufacturing overseas (ex: Mexico, Morocco, China, etc.) to lower the cost of materials
 - c. Support advanced payments by larger companies because it has allowed for smaller players to stay afloat/keep them cash solvent
 - d. Address that the supply chain is incredibly interdependent in the aerospace industry (eg: one smaller part is essential for the larger companies to function/produce product)
6. *Capital*
 - a. Continue tax deferrals/tax credits because they are incredibly helpful in preserving cash for smaller businesses
 - b. Support advanced payments by larger companies because it has allowed for smaller players getting the inputs, they need to produce
7. *Second Wave Fear*
 - a. Address the second wave fear in manufacturing companies because it is incredibly problematic to have a COVID outbreak at facilities
 - b. Halting manufacturing would impose large business risk, thus making contract tracing/testing incredibly important for this industry

Workforce Development

1. *Getting youth exposed to the industry*
 - a. Subsidized programs so youth can gain experience in soft skills and connections earlier
 - i. School credit to train individuals who will later be hired
 - b. STEM programs to guide them on an interest and early onset skills from K-12
 - c. The county and nonprofits need to continue to align with the industry workforce needs and expose nontraditional communities for these future jobs.
 - d. A lot of youth might go to retail, so need to stop that common slide

- e. Relaunching program for talent pipeline and want to line up with other to target special needs populations and diverse groups
 - f. Desire to partner with colleges to groom diverse students to change aerospace industry demographic
 - g. Use El Camino students to then push to undergrad programs (end of session)
2. *Bridging the Skills Gap*
- a. Moving manufacturing to project management/engineering workforce and has a slight skills gap
 - b. Have a program which teaches the soft skills i.e. technical writing and PNL reports
 - c. DOD skill bridge programs – Provide service members paid internships and training
3. *All are hiring and looking for new employees (especially in diverse groups)*
- a. Need help navigating the school ecosystem in advance
 - b. Connection to Universities and Community Colleges in LA
 - c. Centralized aerospace workboard to see if those furloughed from commercial side of the business are available and looking for new work
 - d. Source from historic Black colleges
 - i. Diverse population may not have ability to grow into larger educational degrees because they already have jobs before graduation
 - e. Now in the virtual environment, hiring does not necessarily have to be within the nearby geographic border
 - f. Need help hiring – thousands of openings in California with a predominate focus on Southern California
4. *Transparency and predictability needed for COVID vaccine*
- a. Information regarding position in hierarchy and timeline in receiving COVID-19 vaccine would be very helpful
 - b. Understanding the process and how the vaccine will be implemented can help plan for new hires as workers return to work
 - i. What is the short-term direction of COVID-19?
 - ii. How will HIPA laws impact employees and new hires?
 - iii. Will a vaccine be mandatory for employees?
5. *Influence the community without facilities opening up*
- a. County can assist with virtual opportunities
 - i. Can't have volunteers, programs, and new internships if the facility isn't open. A lot of outreach and programs have completely ceased, and it is unknown when those efforts can be operational again

Healthcare

1. *Access to Capital*
 - a. Replicate any of the CARES funding for smaller clinics and health providers
 - b. People are choosing to do unemployment because they receive some more income than previous job – how can we incentivize people to get back into the workforce? Need to foment a clean and safe work environment
 - c. Need to continue telehealth funding programs passed the current program expiration date
 - d. Subsidize wages for a short period of time to relieve the burden on clinics with varying monthly revenue numbers
2. *Telehealth Infrastructure for the Long-term*
 - a. Particularly in communities of color as there is a dichotomy of care arising as less infrastructure is addressing those with lower income
 - b. Opportunity for advocacy on state and federal level for community clinics
 - i. Change the statutory definition to include audio, video, audio only and virtual communication
 - ii. Add state law provision that allow telehealth as a PPF billable rate
 - iii. Change legislative language to ensure that FQHCs use telehealth to establish a patient relationship
 - c. How do you get homeless patients on telehealth – need more telehealth accessories
 - d. Need funding for this long-term as the pandemic is accelerating the use and will change patient behaviors going forward
 - e. This may be an opportunity to get long-distance families to connect with patients in the hospital and reduce mental stresses
 - f. Lower Socio-Economic Communities need blood pressure monitors & mechanisms to test themselves to get the information that is needed for the telehealth
3. *Need More PPE*
 - a. How do we get the PPE? A lot are not aware that the county has a program
 - b. Most practices only have 1-2 months of supply and still extricating supplies for practitioners
 - c. Give schools and students PPE as they have a huge shortage
4. *Employment Pipeline: training and sourcing issues*
 - a. Investing in training and resources in the delivery of care to combat implicit bias
 - b. Partner with community colleges to source training
 - i. Need commitments from the employers for the student pipeline
 - c. Scan/background check to make sure they are willing to be long-term
 - d. Training programs need a commitment from employers as well as the ramp-up of programs can take 12-18 months. There's a need to ensure those jobs will still be in demand before making investments
 - e. Can't hire employees full-time if we do not know how many patients we have now and in the future, which is impacted by both the pandemic's trends and state and local mandates
 - f. Currently the staff is not interested in getting trained on more online resources
5. *Lack of Childcare Programs*
 - a. Allocate more funds to the counties to expand childcare voucher program
 - b. Not enough care providers and access is correlated with geography i.e. the larger hospitals are able to provide childcare services but workers in smaller clinics may not have access
 - c. Spread information about childcare more widely
6. *Employee Shortages*
 - a. Government resources on how staff can take care of themselves would be helpful to circulate
 - b. Especially shortages of nurses, laboratory technicians, pharmacy technicians, social workers

- c. Burnout for low-skill and high-skill staff
- d. ETP - Rules of minimum amount of hours and length of stay with the employee is an issue

Hospitality Convening

Business Operations

1. *Rent Protection & Relief*
 - a. County could help to negotiate with landlords regarding small business rent
 - b. Payment deferral plans could help restaurants stay afloat
 - c. Rent assistant (deferment of abatement) from the county could assist businesses
 - d. Eviction moratorium on small business would be helpful
2. *Reduce Fees*
 - a. The following bills could be reduced/subsidized by the county: utility, trash, propane, heaters, etc.
 - b. If restaurants are operating at 25%-50% capacity, then bills should be decreased at this rate as well
 - c. Regulated trash pickup (there is a monopoly on the trash guy so it's impossible to negotiate rates)
 - d. Nervous about minimum wage hike in June – how can we ensure businesses can adapt to this on top of COVID's adverse effects?
 - e. Request for fee remittance for utilities
3. *Rolling back rules or modernizing rules that will stimulate business*
 - a. Allowing more alcohol consumption will increase revenue
 - b. Outdoor dining should have easy licensing for businesses who want to increase operations
 - c. Restaurants have always higher safety standards than other businesses; county should not add worker safety councils to regulate restaurants because will hurt business more than help
 - d. Street vendors have limited regulation (no bathroom/handwashing/no social distancing); county should standardize regulations across the board
 - e. Consider other public spaces for restaurant operations (ex: parking garage, etc.)
 - f. Worker safety councils may kill morale and make it more difficult for businesses to stay open
 - g. Need city to give incentives not more red tape as morale of the industry is decreasing
4. *Health department needs to be flexible with Al Fresco dining*
 - a. Readjust Al Fresco dining to 1 wall open, 3 walls closed (versus current state of needing 3 open walls)
 - b. Outdoor dining should have easy licensing for businesses who want to increase operations
 - c. Make this a permanent policy
 - d. Need immediate conversation with public health department and continue to involve hospitality workers in the conversations
5. *Adding More Protections*
 - a. Seasonal – propane gas could be provided (or credit for) by the county
 - i. Can you get propane delivered to restaurants like we are PPE ?
 - ii. Can add \$1,000/week for gas and these are things restaurants have never bought before
 - iii. Supply is the issue and there is a monopoly and price gauging
 - iv. County can help make sure that bad actors are not taking advantage of the situation
 - b. PPE – Should expand for restaurants that 100 + employees
6. *Risk of consumer sentiment changing*
 - a. Fear that consumers will lose habit of going to restaurant; county should investigate opening limited indoor dining

- b. Reshaping business model for takeout/delivery will rely on computers / ghost kitchens; this will reduce the number of employed people which the county should be concerned about

Workforce Development

1. *Need More Space*
 - a. More Space = more jobs
 - i. Employment is directly related to the capacity to serve and one knock sends a ripple effect at all levels
 - ii. No shortage of people who want to work but cannot bring people in without enough square footage
 - b. As people are people being charged for more space (in parking lots and expanded outdoor capacity), the county should credit back some of this
2. *Credit for Recruitment and Onboarding*
 - a. 90% of staff since the pandemic started with a lot of turnover
 - b. LA county has a lot of existing and new requirements for job training and should therefore credit back some of these fixed costs
 - i. Very expensive and time-consuming from recruitment, onboarding, requirements etc. and there is no guarantee they will stick around
 - c. Lots of people do not want to come back to work as there is unemployment and they are scared to come back
 - d. Collaborating between LA county and CRA program
3. *Continued Transparency and Collaboration between the County and Industry Leaders to improve morale and efficiency*
 - a. Expedited timeline for board of supervisors can define “what is outdoor dining”
 - b. Communicate the rules of what is allowed and what is not allowed promptly
 - i. Ongoing regulations that are costing more money and more furlough more employees without warning
 - ii. LA county is “inconsistent” and “arbitrary” compared to other counties which forces owners to reconsider location choices when the lease is renewed
 - c. Back in May, county went to the industries and asked for collaboration on reopening which was really appreciated and should be replicated
 - d. Employers are often painted as “the bad guys” which kills morale
 - i. A lot of policies that are meant to help the industry sometimes sidetrack and hit that morale button
 - ii. Campaign such as billboards or posters to paint a different picture
4. *Total Compensation “Tip Credit” Revaluation*
 - a. Labor cost is huge
 - b. Made 30,000 in credit card tips and now have 12,000 in tips
 - i. Bulk of the salary is tips which has been reduced
 - c. Employers do not want to come off unemployment with uncertainty of job security and less tips
 - d. Manager salaries and hourly pay has been reduced
 - i. They are moving to other industries
 - ii. How can we incentivize them to stay?

Business Operations

1. *Business Need Predictability*
 - a. Need timeline as well as consistent and readily available data from public health and relevant authorities in order to make employment decisions
 - b. Regulations put in place should be centered around sound data and made clear why those decisions were made
2. *Taking Advantage of the Moment*
 - a. An effort to concentrate activities like commercial and residential construction and push forward long-delayed projects while the traffic ratio is especially low
 - b. See if “lower-skill” industries (such as hospitality) that are struggling have transferable skills to industries that are doing well and are hiring
 - c. Looking towards the public sector to drive healthcare, higher education and transportation systems and their investments to improve the built environment and social infrastructure
3. *Workforce Development*
 - a. Several sub-industries in infrastructure are looking to hire but need easier pipelines from junior colleges and applicant pool
 - b. Want to hire applicants who are reflective of community demographics
 - c. Automation has changed the nature of employment profiles and COVID is pushing forward some long overdue restructuring. Understanding the acceleration of automation in this environment will be crucial to plan for projects and labor markets
4. *Workforce Safety*
 - a. Need access to testing and better resources on contact tracing will be critical to stabilizing the work force
 - b. Rapid testing – if someone is off a job for 2 weeks are losing hours of productivity
5. *Sustainable Infrastructure Focus*
 - a. Need to be well versed on green infrastructure investment and develop ways LA County be a market creator and encourage new capital to achieve ambitious climate goals
 - b. There is a lot of excitement around the green new deal and complete decarbonization efforts but how to finance them

Workforce Development

1. *Hyperlocal Effort to Hiring Diverse Groups*
 - a. Technical services and in-the-field occupations are lower skill and in demand, micro-trenching being a current standout
 - b. “We looked and couldn’t find anyone” is simply not a true statement and need to look harder across verticals
 - c. Community development within Los Angeles by leveraging our local business networks to reset supply relationships and hiring practices
 - d. Workforce organizations in South and East LA are partnering with local companies in the industry to be more thoughtful in hiring from diverse groups, especially women and BIPOC
2. *Standardizing Skill Sets Regionally*
 - a. Creating a framework to document the hiring process is critical to understand how the talent feeds into the industry and discover where new talent pools exist
 - b. Industry must work with education systems to understand this process and improve it, regional partnerships can help to standardize training and curriculum
 - c. Identify additional industry verticals that currently do not have a strategy for hiring low-to-mid-skill occupations
3. *Hiring Trained Staff*
 - a. Do not want to have to train employees when they come in, which creates a reliance on education systems

- b. Ideally, for lower-skilled occupations like micro-trenching the industry is looking for people not straight out of high school but a little bit older, there is some upward mobility within this industry and for this group
 - c. Lean on community colleges for positions that need training. There is more opportunity to move up within the industry when there is baseline training that can be built on
4. *Predictability in Hiring*
- a. What is the best way to get a commitment from employees? Essential to be able to grow and nurture talent. Turnover in lower-skill occupations is a problem. Teaching soft skills is fundamental to a hire's continued success.
 - b. A desire to have hires spend adequate time in a position to gain experience, and, the more time spent in the position, the more opportunity move up or move to another company and achieve middle-skill wages
 - c. Hiring can often be contingent on project and the role like prime versus sub-contractor

Trade & Logistics

Business Operations

1. *Need technical workers and training*
 - a. Lots of hiring needed to trade & logistics as it continues to be a thriving industry
 - b. County must address the labor shortage at the docks
 - i. There is a slow down due to inefficiency and lack of labor
 - ii. Focus on dual transactions – need more drivers and equipment
 - c. Need a pipeline/program that can have folks come into the professional at a seasonal basis
 - d. County should address concerns with terminal labor
 - i. Unload container vessels
 - ii. Have enough skill pick up the right jobs
 - iii. Casual labor – people working to get a different qualification, get different skills
 - e. County should address PMA
 - i. Stopped doing in person training with COVID, lack of women and men getting the skills to get the right jobs
 - ii. PMA gone back to training
 - f. County should assist with creating guarantee or incentives for employees to stay
 - i. Hire 20 people a week, but lose those same people to other industries
 - ii. Still a shortage of construction workers
 - g. Regulations at warehouses pose challenges
 - i. Difficult with regulations for staffing of warehouses; imperative to follow protocols and ensure safety between workers. This may mean the # of workers need to rotate, of how many can be in there
 - ii. 10-20% less warehouse staff - this has reduced productivity
2. *Stress the Importance of Trucks*
 - a. Incentive truckers to not take other work
 - i. Currently, they will make more money in other roles than a contractual agreement
 - b. Consider other types of transportation that are competing for the resource of skilled drivers
 - c. International goods movement has led to inconsistencies, where truckers have to 'wait' longer to pass borders - Turn Times, Dual transactions
 - d. Educating cities about how trucks are essential to the regional economy
3. *Need cities to be willing to help with the permitting and land use*
 - a. Revoke/Change permits for land use to increase warehousing and storage capacity at County-owned parking lots/land
 - b. Where you can replace these jobs, the county with land-use issues can work with the developers (employment restrictions etc.), if you can make it faster than you can cut these deals
 - c. Land use regulation, the county can say you need a certain percentage of minority hire
 - d. Through land use – can say have percentage of local hire, conditions placed on local projects, horse trade a little bit, etc.
 - e. Ecommerce puts a lot of pressure on land use & infrastructure
4. *Need Transparency from County*
 - a. Lack of federal oversight: lack of certainty - hard for cargo aviation because there are not clear standards

Need to work with elected officials - Broad Health Orders - not feasible for the airport: Need flexibility and advocacy for cargo aviation

Workforce Development

1. *Need Trained Workers – Starts in Education*



- a. Colleges may be able to achieve short term training criteria through achieving micro- credentials over time in different areas (versus only a two-year degree)
 - b. Normalize adoption of short-term skills which leads to employment: Customer service and data input skills are essential. Openings are hard to fill with lack of these softer/lighter skills
 - c. Colleges are understanding cross-border e-commerce to recruit students to CITC virtual internship program. Data analysis and digital marketing are the skills they're using for the international e-commerce curriculum.
 - d. Cal State Long Beach does a great job of training people and relationships here can be further developed
 - e. Time consuming and significant training process which could be reduced with education
 - i. 60 day on-boarding process + field process + federal testing
2. *Shortage of Personnel*
- a. The average of works gone daily has increased causing lack of efficiency. Average of 40 skilled works off daily (versus 15 pre-virus). County could help find ways to makeup this workforce gap
 - i. Tapping into the gig and contract economy is an option as long as the workers have soft and hard skills necessary
 - b. Social distancing restricts the number of employees on the floor
 - i. 10-min break time turns into 30 when going to the break room
 - ii. How do we have additional space so people can socially distance but still get the work done?
 - c. Tradesman and availability of skilled labor is needed for construction and new development.
 - i. Warehousing workers is a potential for replacement of displaced retail workers
3. *Highlight Positive Opportunities in the Industry*
- a. Need to highlight the opportunities and not shed a light on just the challenges in the port's business as there is a lack of knowledge around the opportunities within the industry and highest paid longshoremen in the world.
 - b. Have to find new and unique ways to solve issues and show importance of the gig economy
 - c. Change the way jobs are referred to and viewed as the market and people driving the market need to have a positive view of the industry to accept jobs
4. *Transparency on COVID regulations and containment measures from county/state*
- a. County needs more transparency. The continuing opening and closing of industry/businesses puts pressure on the industry that wasn't in the best place to start.
 - i. It takes time to rehire and then furlough and the elasticity is difficult
 - b. Posting materials and having conversations is key to educate the workforce and ensure they exhibit safe behavior.
 - c. Prompt changes and ongoing regulations create COVID fatigue with management staff and employees is being observed.
 - d. Need information on vaccine protocols and if they will be required
 - e. Difficulty to predict with changing administration and what the demand is after Christmas. Makes it difficult to plan for in the next 6 to 12 months.

LAEDC RRBA Performance Metrics

Business Assistance Program

The LAEDC's Business Assistance Program (BAP) scaled and mobilized WDACS' Layoff Aversion Program to provide direct strategic assistance to businesses on a one-on-one basis.

The following section will give a spatial visualization of the businesses who received and completed a customized strategy blueprint to avoid layoffs through the BAP. These businesses are first broken out by Labor and Workforce Development Agency (LWDA) priority sector status, then by geographic distribution.

RRBA Webinars

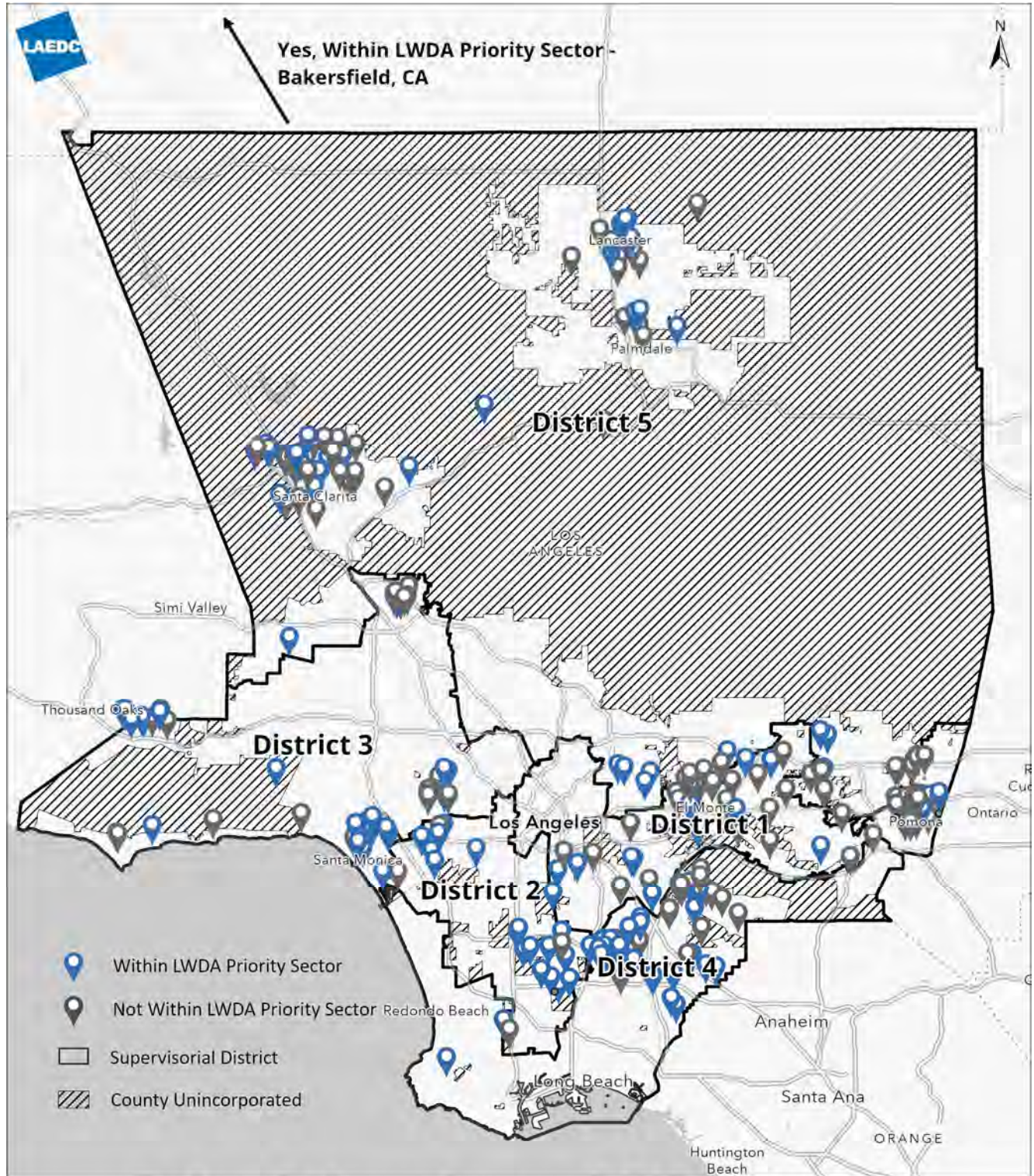
The LAEDC used webinars as a primary method to disseminate strategic and tactical assistance to businesses. These webinars were focused on specific critical business needs, including e-commerce, finance, marketing, and procurement.

This section gives a spatial representation of the LAEDC RRBA webinars' reach and engagement. The maps will show the locations of businesses who registered for the event (reach) and those who actually attended (engagement). Additionally, this analysis will break out the engagement data by women- and minority-owned businesses.



Exhibit 296

Business Assistance Program (BAP) Projects Within LWDA Priority Sector



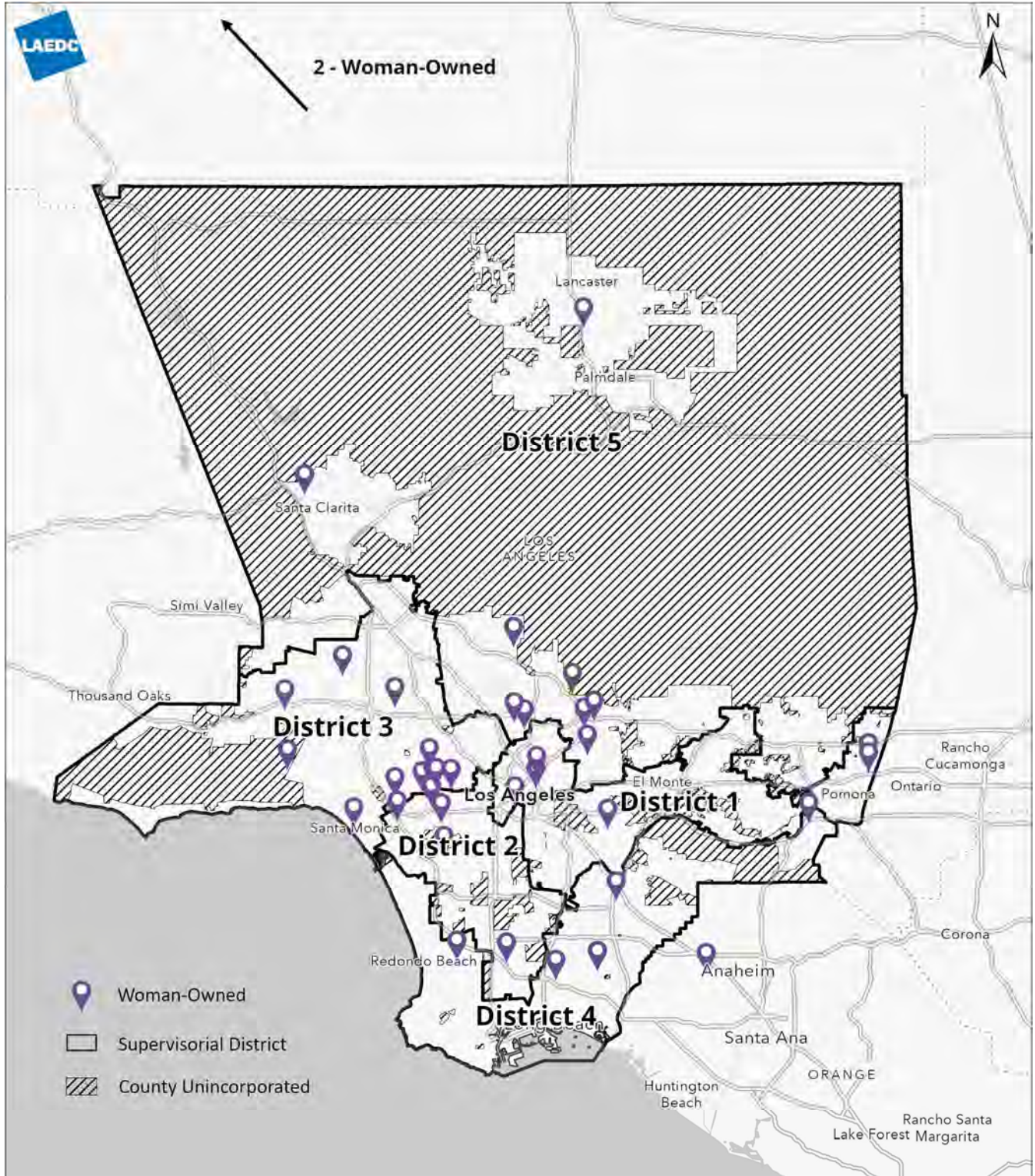
**Business Assistance Program (BAP) Projects Within
LWDA Priority Sector**

County of Los Angeles, 4000 Wilshire Blvd., Suite 1000, Los Angeles, CA 90010, (213) 473-1000

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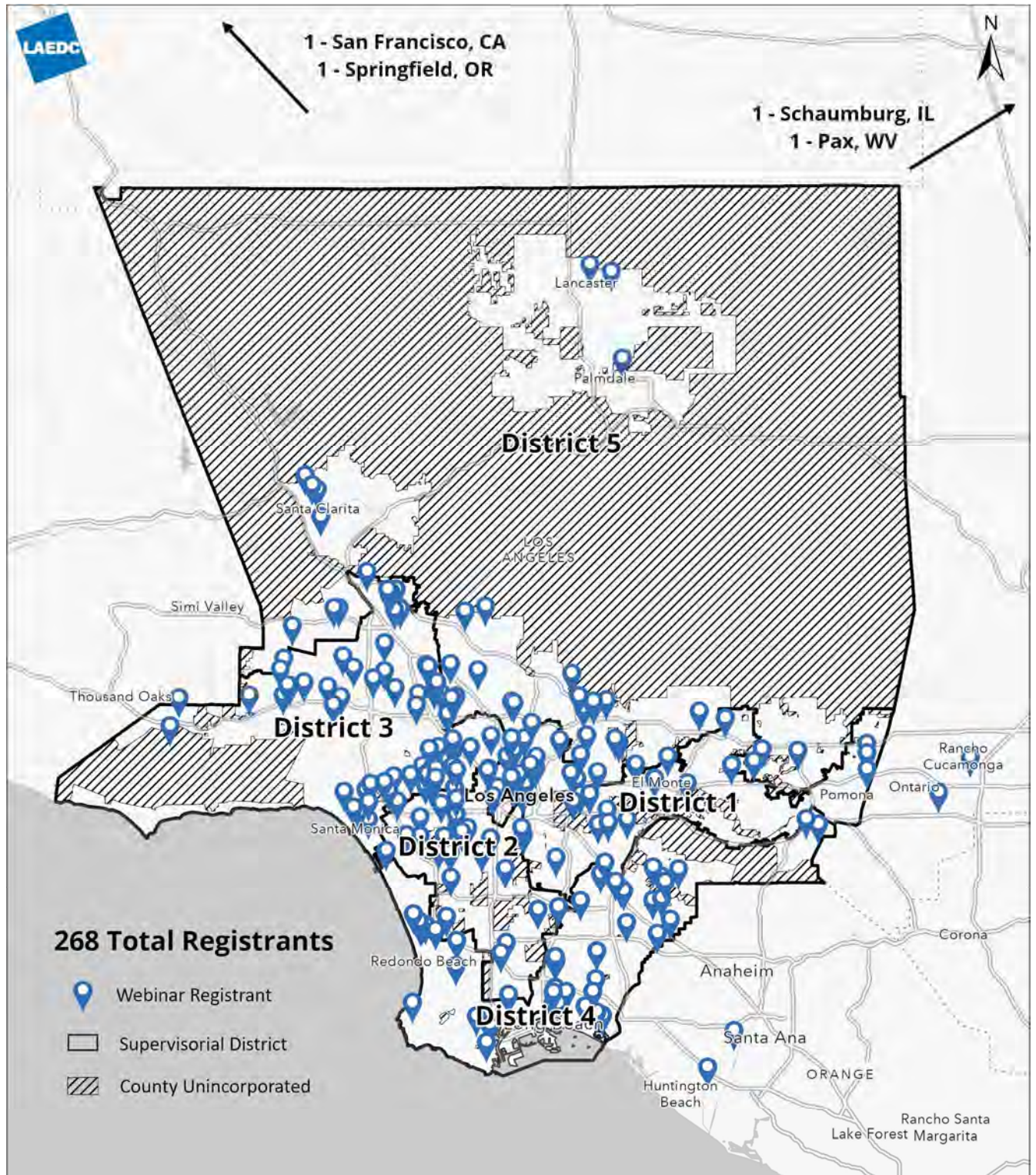
Exhibit 298
RRBA Webinar Attendees – Women-Owned Businesses



RRBA Webinar Series Attendee Geographic Distribution

County of Los Angeles, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS
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Exhibit 299
RRBA Webinar Registrants



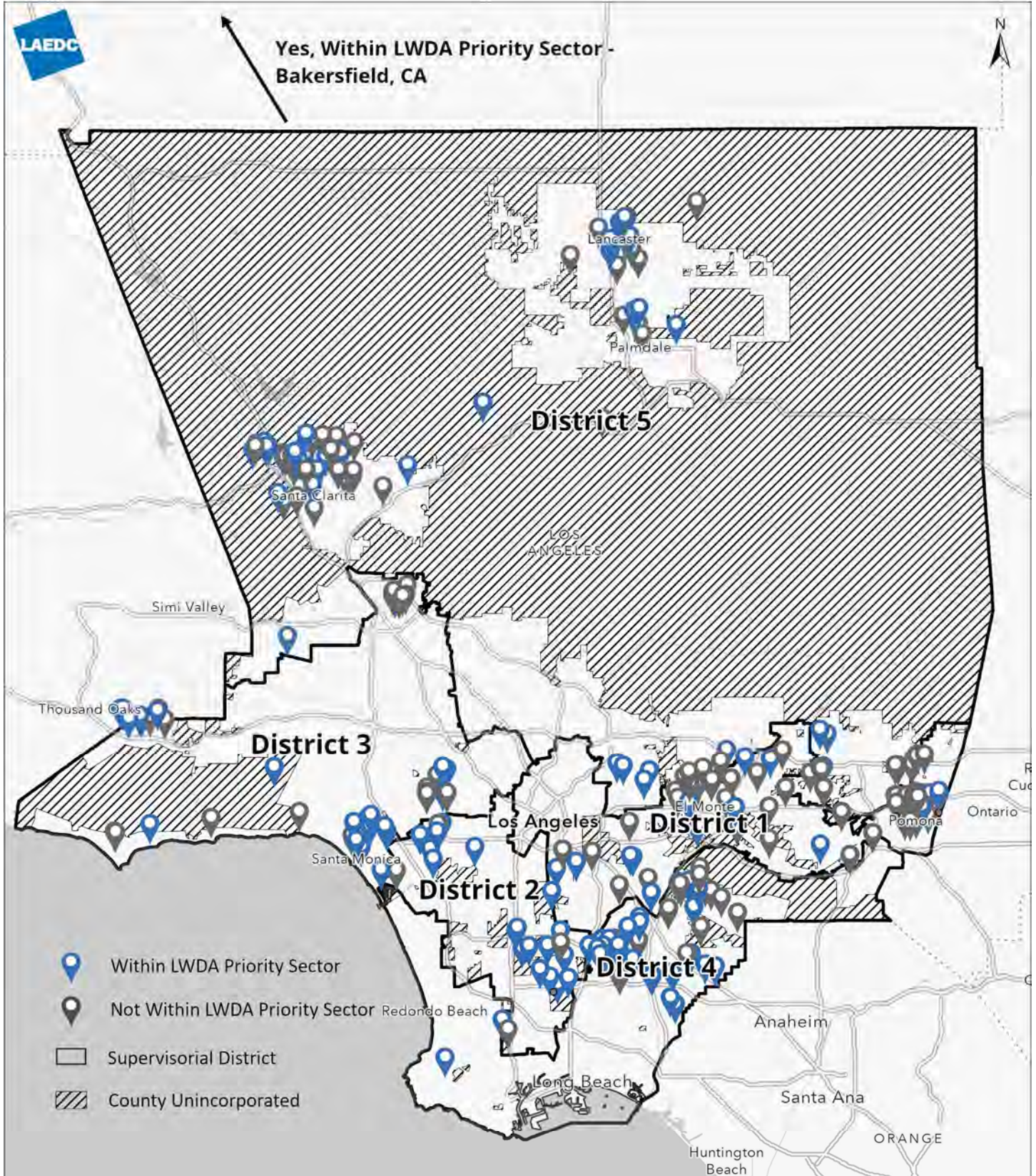
RRBA Webinar Series Registrant Geographic Distribution

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Exhibit 300
RRBA Webinar Attendees – Women-Owned Businesses



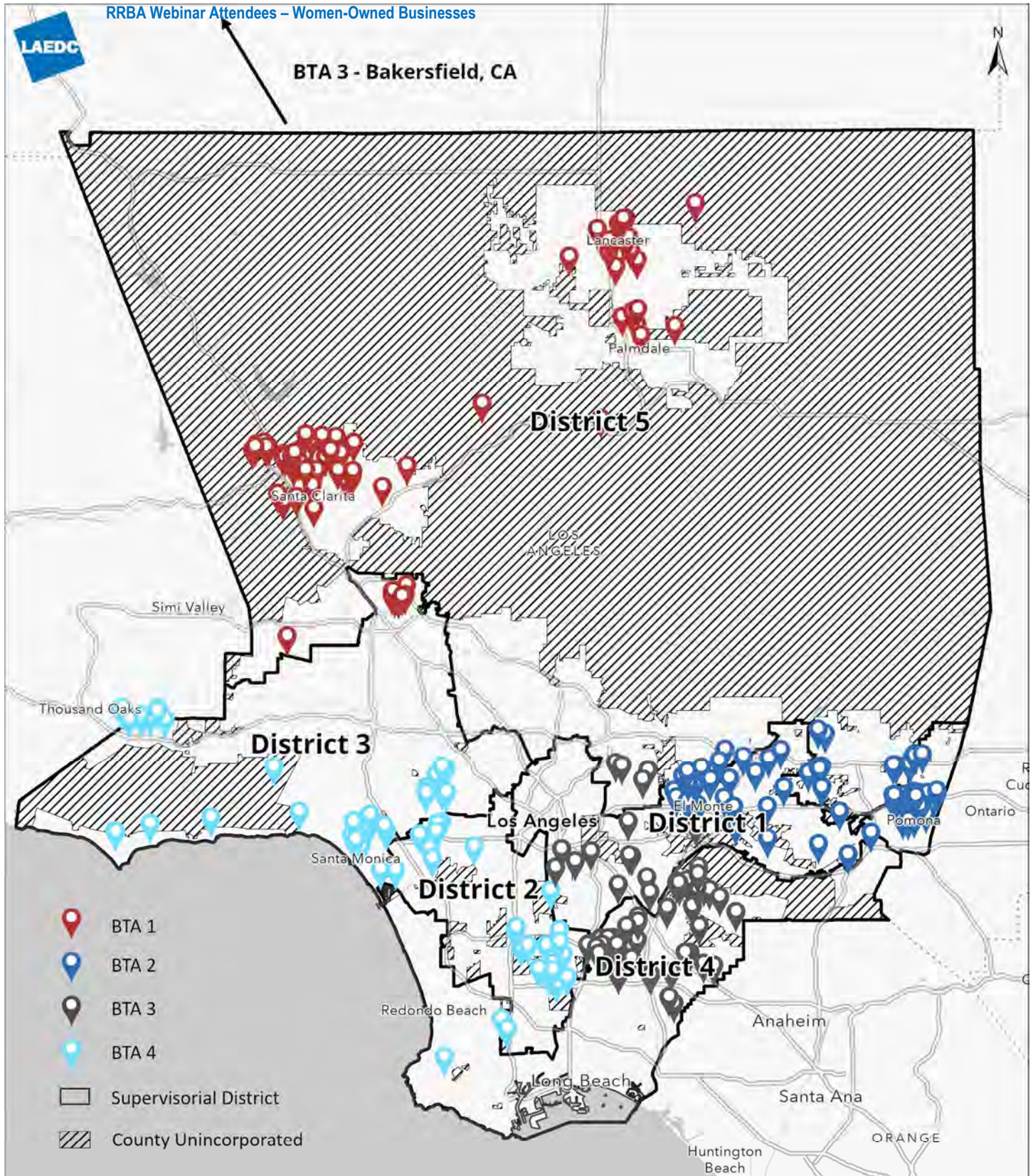
Business Assistance Program (BAP) Projects Within LWDA Priority Sector

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Exhibit 301

RRBA Webinar Attendees – Women-Owned Businesses



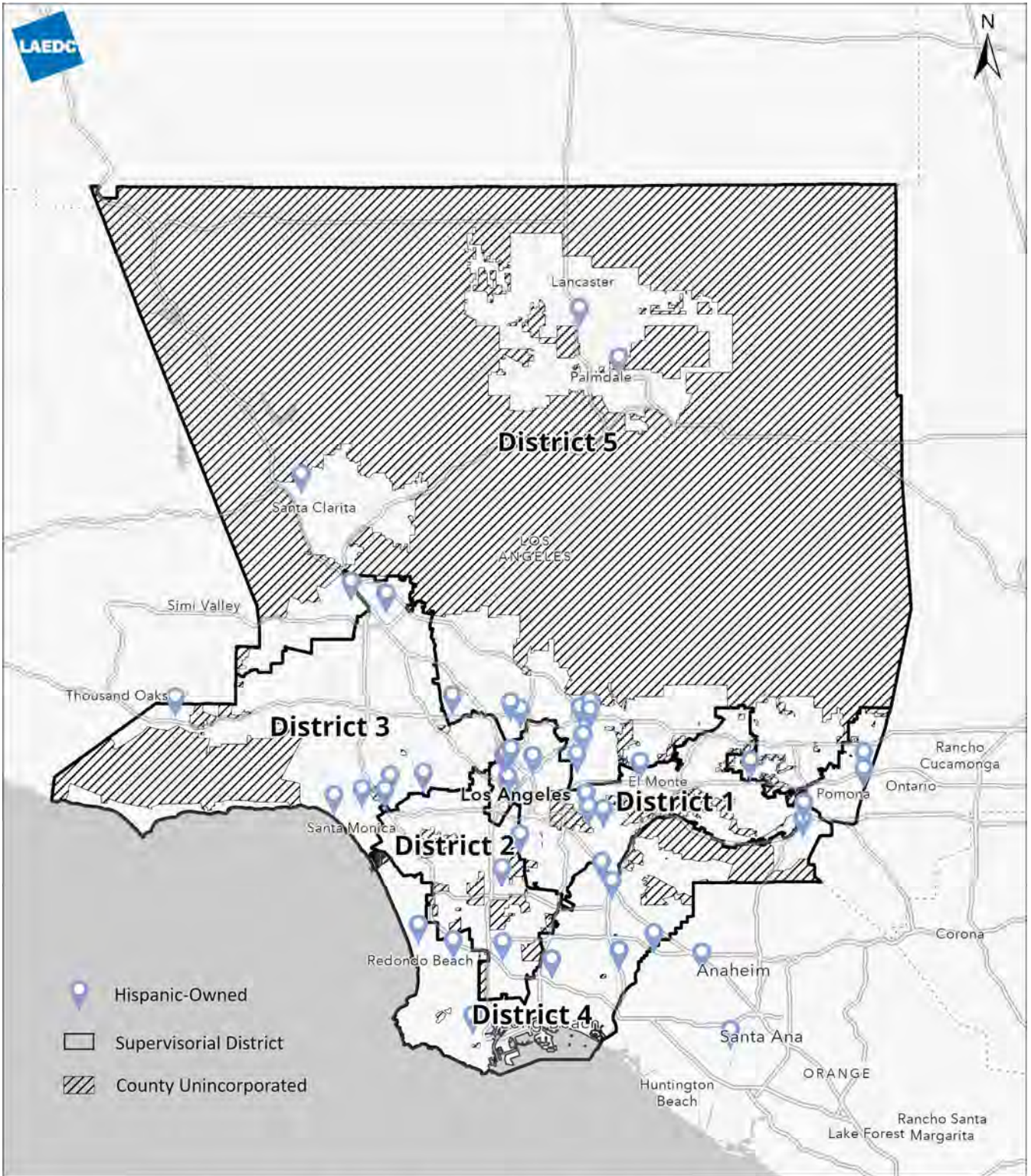
Business Assistance Program (BAP) Project Geographic Distribution

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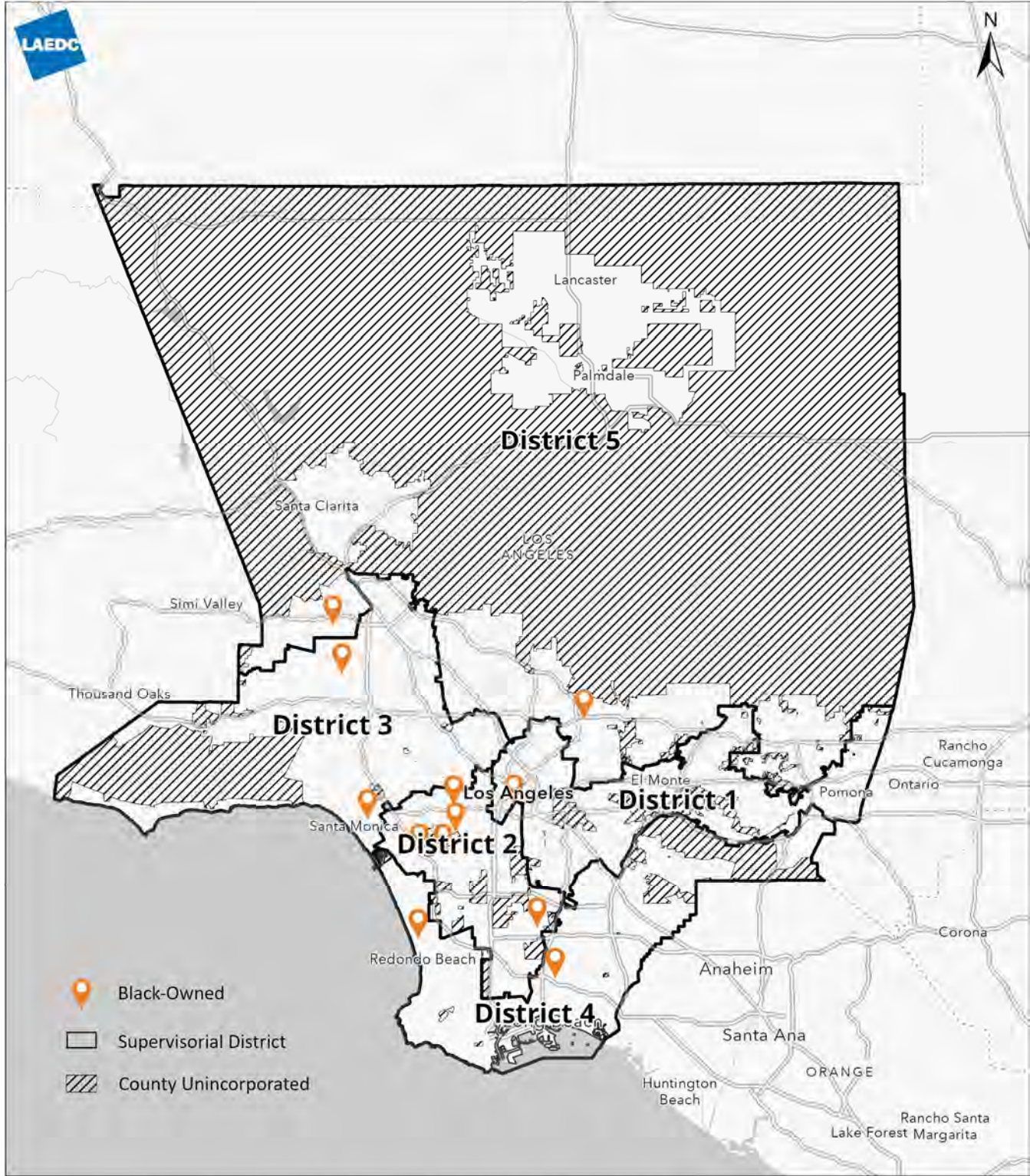
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Exhibit 302
RRBA Webinar Attendees – Hispanic-Owned Businesses



RRBA Webinar Series Attendee Geographic Distribution

Exhibit 303
RRBA Webinar Attendees – Black-Owned Businesses



RRBA Webinar Series Attendee Geographic Distribution

Exhibit 304

Density of Establishments by Industry: Accommodation Services (NAICS 721)

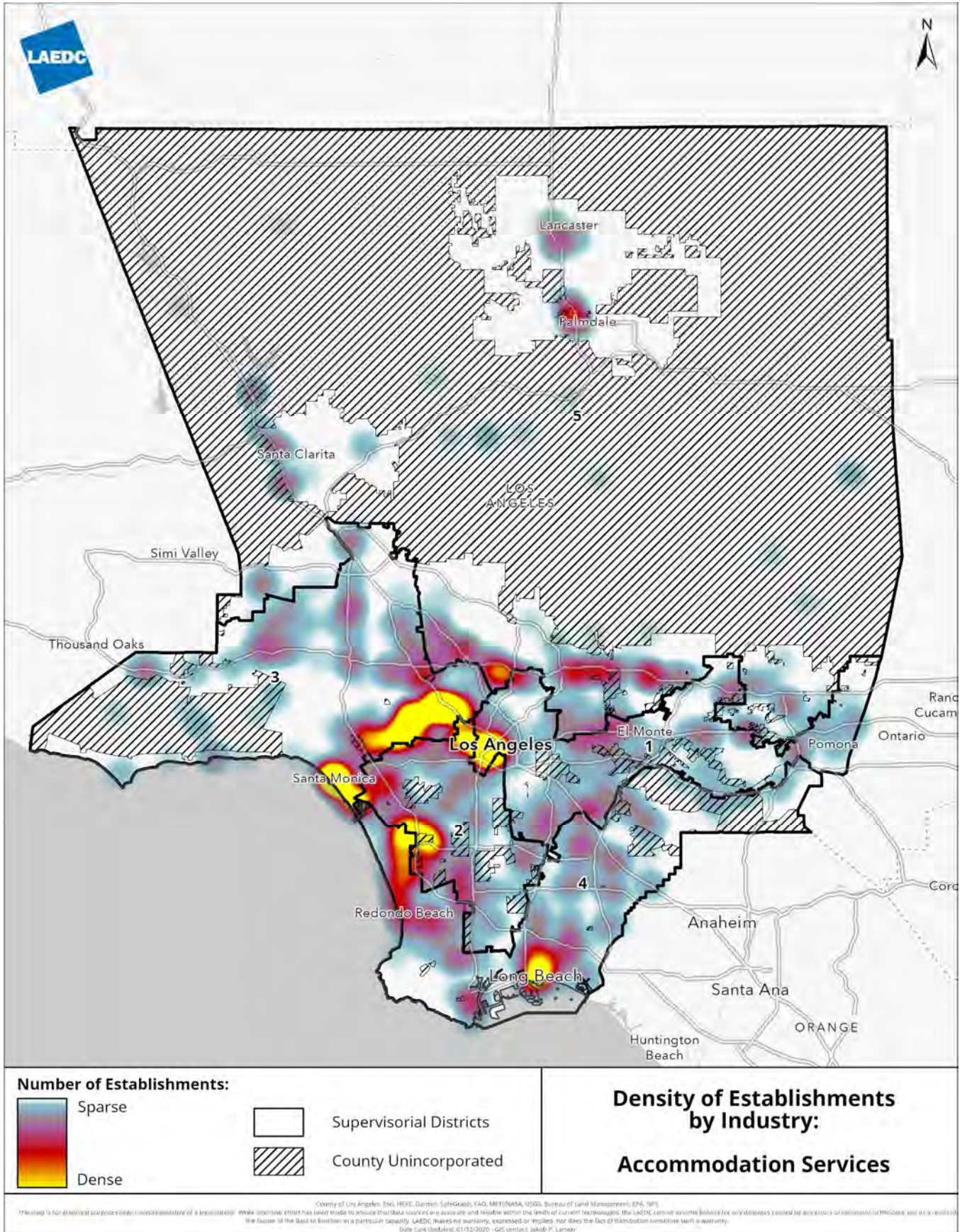


Exhibit 305

Density of Establishments by Industry: Arts/Entertainment/Recreation (NAICS 711)

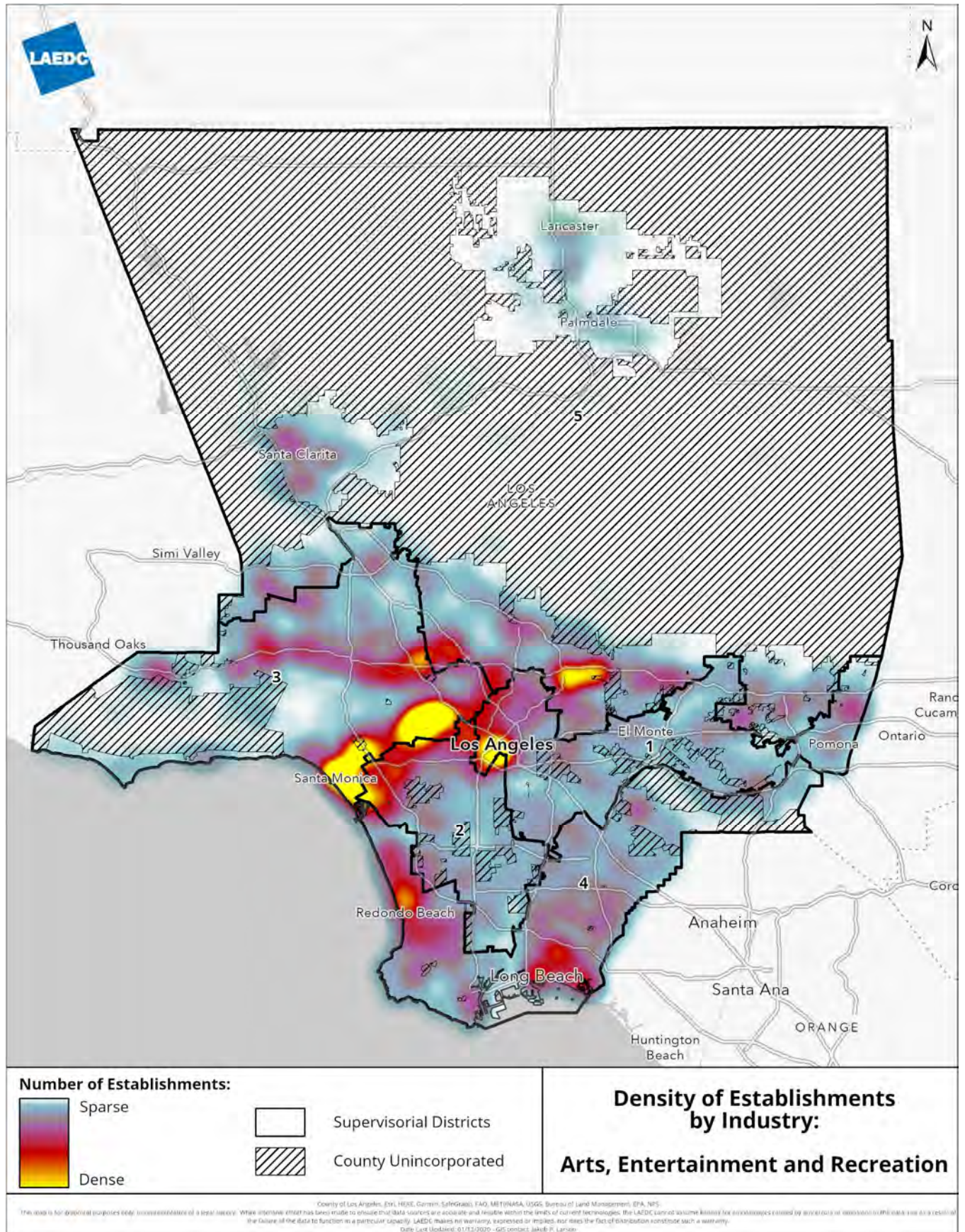


Exhibit 306

Density of Establishments by Industry: Construction (NAICS 23)

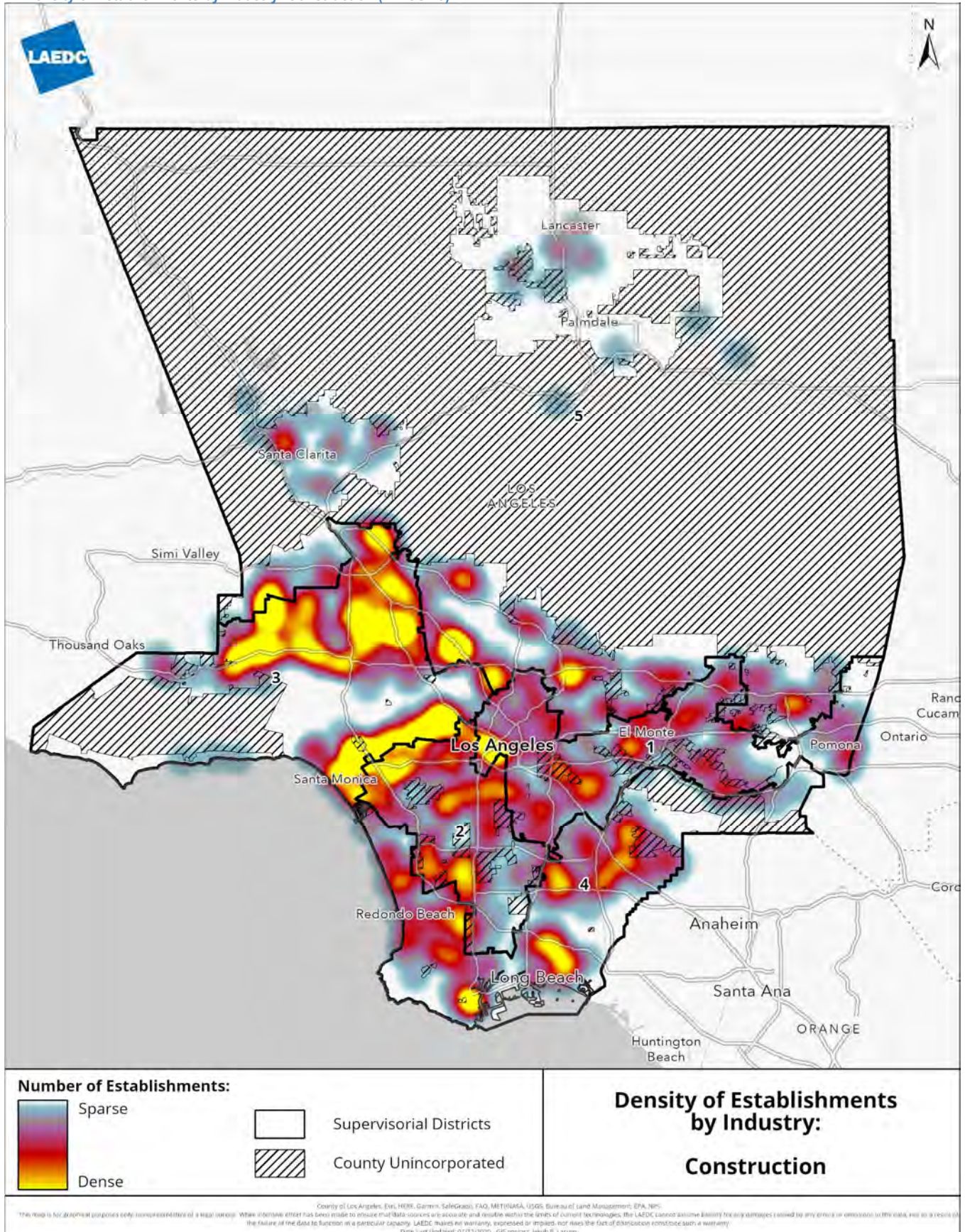


Exhibit 307

Density of Establishments by Industry: Food Service/Drinking Establishments (NAICS 722)

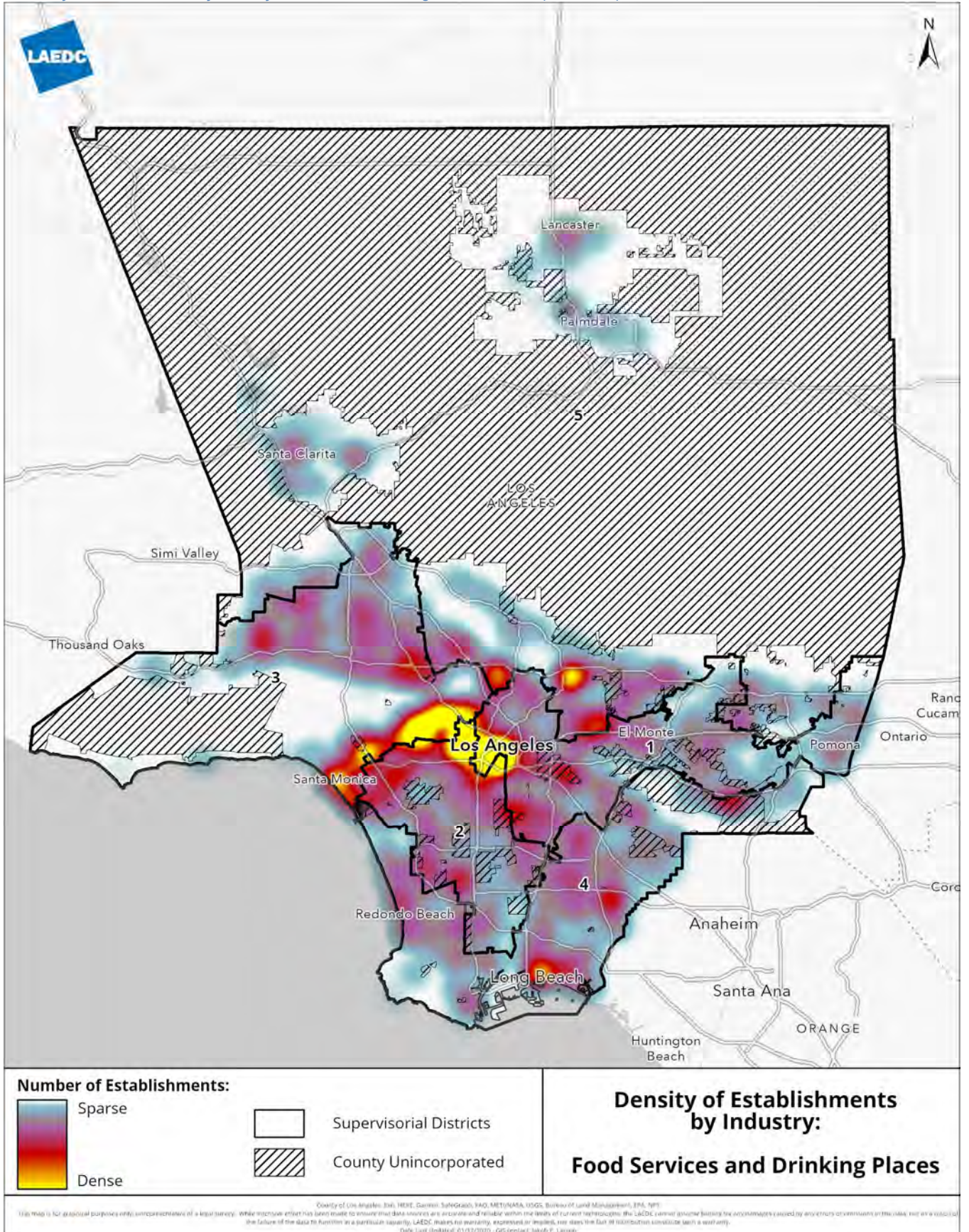


Exhibit 308

Density of Establishments by Industry: Health Care and Social Assistance (NAICS 62)

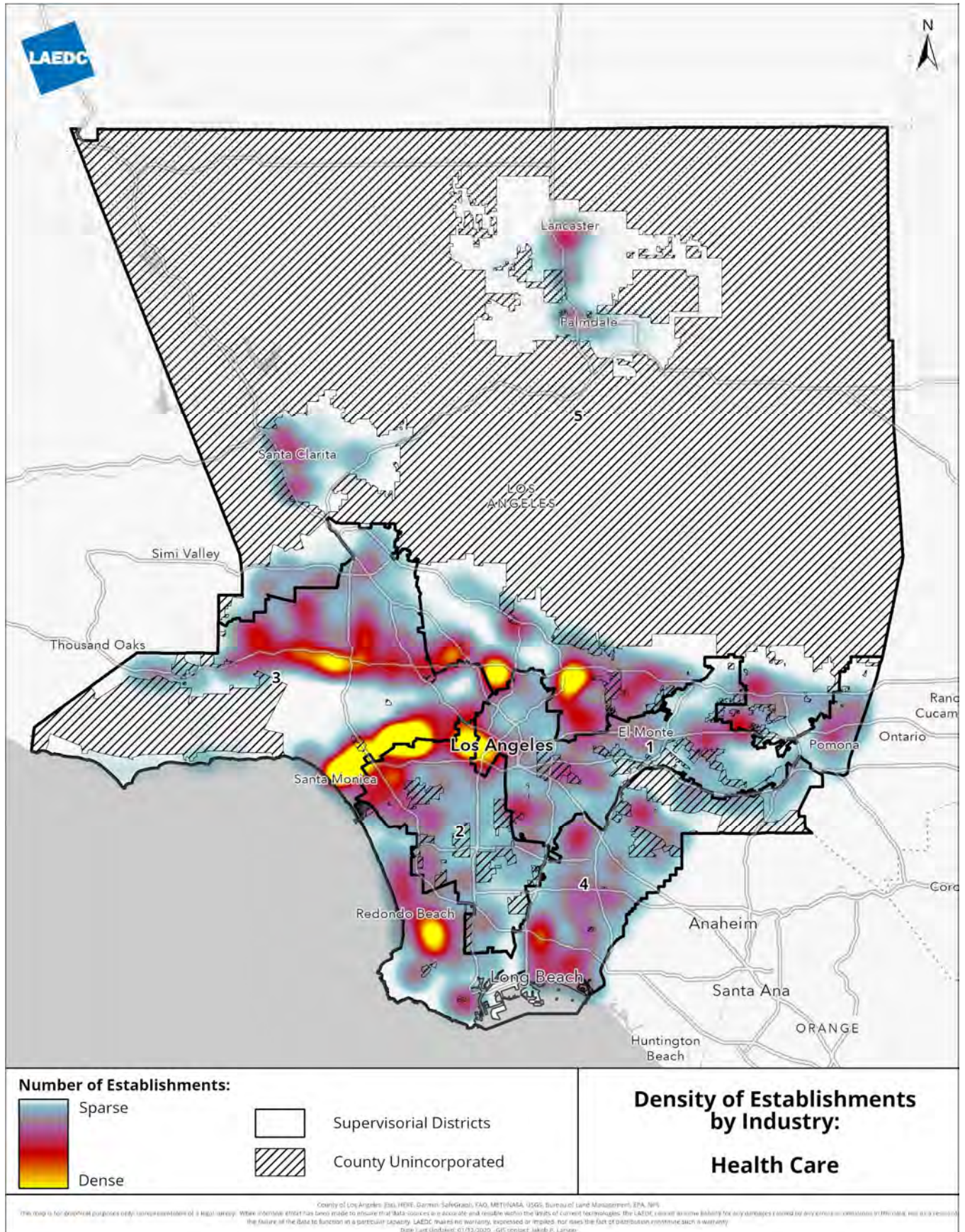
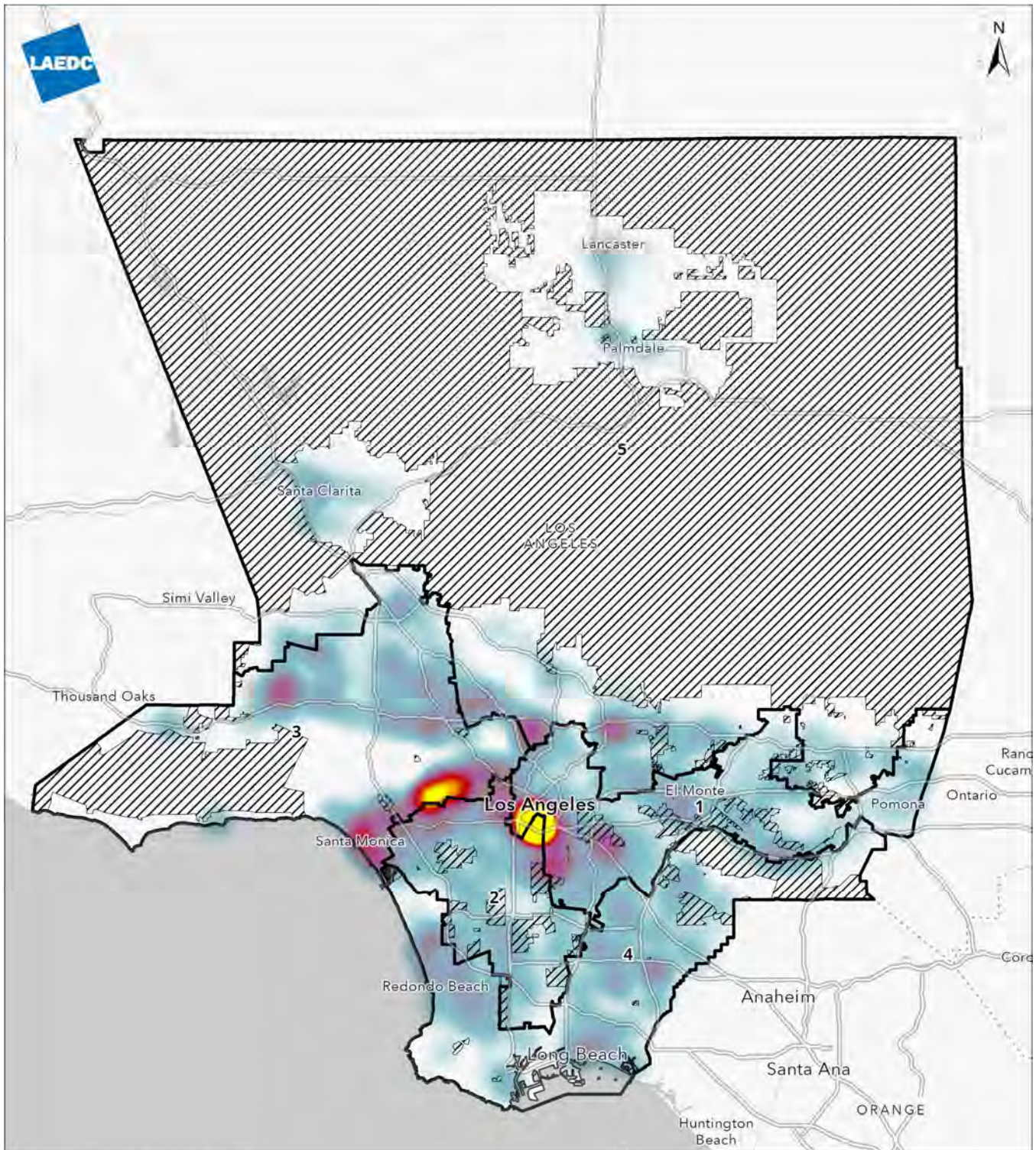


Exhibit 310

Density of Establishments by Industry: Non-Essential Retail (NAICS 453)



Number of Establishments:

	Sparse		Supervisorial Districts
	Dense		County Unincorporated

Density of Establishments by Industry:
Non-Essential Retail

County of Los Angeles, Jim, HOSE, Corbin, Salgado, TAO, MET/NASA, USGS, Bureau of Land Management, EPA, 9/11/11
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Exhibit 311

Density of Establishments by Industry: Personal Care Services (NAICS 8121)

