

# PATHWAYS FOR ECONOMIC RESILIENCY:

Los Angeles County 2021 - 2026

DECEMBER 2020



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*Los Angeles County 2021 - 2026*



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The LAEDC Institute for Applied Economics specializes in objective and unbiased economic and policy research in order to foster informed decision-making and guide strategic planning. In addition to commissioned research and analysis, the Institute conducts foundational research to ensure LAEDC's many programs for economic development are on target. The Institute focuses on economic impact studies, regional industry and cluster analysis and issue studies, particularly in workforce development and labor market analysis.

Every reasonable effort has been made to ensure that the data contained herein reflect the most accurate and timely information possible and they are believed to be reliable. This report is provided solely for informational purposes and is not to be construed as providing advice, recommendations, endorsements, representations or warranties of any kind whatsoever.

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## Preface

At the onset of 2020, the Los Angeles Basin was enjoying a long and unprecedented expansionary period where economic fundamentals were strong, and the chance of a recession was low. Circumstances changed rapidly by the end of the first quarter, overturning all forecasts of growth and stability.

First appearing in California in late February, the COVID-19 pandemic brought business and life to a grinding halt. The most recent counts confirm over 720,000 cases of COVID-19 in Los Angeles County (12/28/2020).

On March 19, 2020, California Governor Gavin Newsom issued a “Stay-at-Home Order” (Executive Order N-33-20), which required all individuals statewide to remain at their place of residence and shuttered all forms of public gathering. Social distancing measures were enacted across the state, which remain in effect at the writing of this report.

All non-essential businesses, which are generally defined as recreational and not critical to maintaining personal well-being, were mandated to close. The shutdown of restaurants, hair and nail salons, theaters, retail stores and countless other non-essential institutions left many workers in the LA Basin stuck at home without a means of providing for themselves and their families, giving rise to widespread economic hardship.

In a typical recession, the contraction may take place over several quarters or months, but the current economic disruption was nearly instantaneous and hit in just a matter of days. While COVID-19 is an exogenous, single event-driven economic shock, and some indicators may soon begin to return to their pre-crisis trend, the effects of the pandemic have been crucial in developing a deeper understanding

on how shocks impact industries here in Los Angeles County.

The measures taken to reduce the spread of the COVID-19 virus have dramatically affected employment across Los Angeles County.

## Background and Overview

The Los Angeles County Department of Workforce Development, Aging and Community Services (WDACS) engaged the Los Angeles County Economic Development Corporation (LAEDC) to undertake the Rapid Response Business Assistance Program. This program aims to mitigate the economic impact of COVID-19, promote rapid re-employment within Los Angeles County and avoid layoffs in businesses suffering from interruptions or closures. The end goal is to determine a long-term strategy for economic recovery across the region and protect businesses and workers from the effects of the pandemic.

The LAEDC Institute for Applied Economics, as a part of the program, performed this industry and workforce analysis titled *Pathways for Economic Resiliency*, which presents a situational analysis of how COVID-19 has impacted the county workforce. The report looks at those who have been most impacted or underserved in particular, and provides recommendations for both short-term and long-term economic recovery. Through the usage of qualitative and quantitative industry and workforce metrics, this report determines effective strategies to help businesses, industries, workers and, by extension, the communities in which they are spatially domiciled to facilitate long-term recovery and improve overall resilience going forward.

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# 1. The Pre-Pandemic Los Angeles County Economy

## KEY TAKEAWAYS

- *The county economy recorded rising levels of income and job growth in the decade leading up to 2019, but income inequality was also increasing.*
- *The county faced challenges such as low levels of educational attainment among residents and a significant proportion of families living below the poverty line.*

### The Los Angeles County Economy in 2019

The economy of Los Angeles County was doing well by many metrics in 2019. This strength resulted from an expansionary period that persisted since the end of the Great Recession. Gross county product grew by over 28 percent in the last decade and real wages were on a steady rise. Meanwhile, unemployment in the county had contracted to just 4.4 percent.

The economic employment base of the region is displayed in Exhibit 1-1. Total employment exceeded 4.5 million in 2019, with an annual average wage of about \$63,400. Over the past decade, the economy grew according to the county’s 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. Job growth since 2009 is displayed in Exhibit 1-2 – health care, hospitality and logistics-based industries have expanded rapidly.

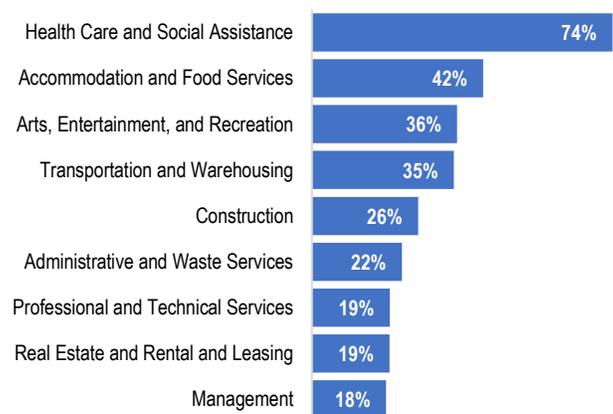
Occupations in the county mirrored industrial growth trends. Community and social service, computer and mathematical, management,

Exhibit 1-1: Economic Employment Base in LA County 2019

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

Source: BLS QCEW

Exhibit 1-2: LA County Job Growth by Industry, 2009 to 2019



Source: CA EDD

business and finance, food service and transportation occupations all posted double-digit growth over the decade. Healthcare support occupations showed massive expansion, with employment growing by 229 percent. Certain groups struggled, as

production, construction, architecture and office occupations declined in employment across the ten-year span.

**Demographic Overview of Los Angeles County in 2019**

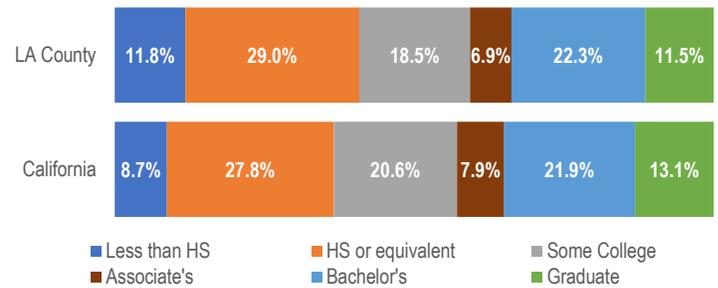
As one of the largest counties in the nation, Los Angeles County has diverse demographic and socioeconomic characteristics.

There are no immediate concerns about an aging workforce without sufficient replacements workers. Los Angeles has a slightly younger age distribution than California as a whole, with over sixty-eight percent of the population at working age (between 15 and 64 years old).

A notable number of residents in Los Angeles County have low educational attainment levels. As Exhibit 1-3 shows, nearly 41 percent of the population has a high school or less. 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. Furthermore, lower-skilled jobs are most vulnerable to displacement during economic crises, as the COVID-19 pandemic has demonstrated.

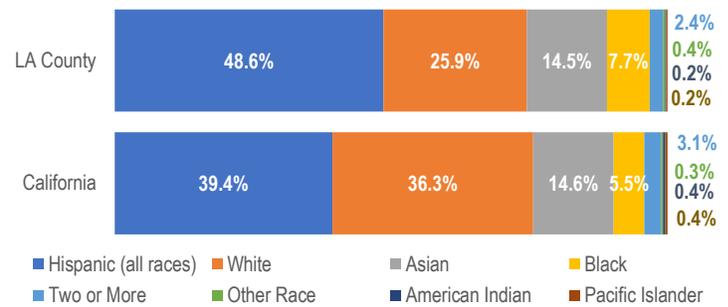
Educational attainment in the county has risen over time, as the proportion of the population with a bachelor’s degree (22.3 percent) has increased from 19.0 percent in 2010 and 16.1 percent in 2000, and the proportion of the population with a graduate degree has risen from 8.8 percent to 11.5 percent over the last twenty years.

**Exhibit 1-3**  
**Educational Attainment 2019**  
*Population Ages 25+ years*



Source: 2019 ACS 1-year estimates

**Exhibit 1-4**  
**Race and Ethnicity 2019**



Source: 2019 ACS 1-year estimates

The distribution of race and ethnicity in the county population is shown in Exhibit 1-4. While there is great diversity, there is also racial inequality. The poverty rates for Black and Hispanic residents were 19.2 percent and 15.8 percent respectively in 2019, compared with 9.1 percent for White residents<sup>1</sup>.

**Income and Poverty in Los Angeles County**

While the Los Angeles County economy was performing well on the surface in 2019, a closer look at income and inequality reveals challenges faced by the region. Exhibit 1-5 shows the distribution of earnings by county residents; sixty-one percent of workers earn between \$15,000 and \$65,000 annually while

<sup>1</sup> 2019 American Community Survey 1-year estimates, U.S. Census Bureau.

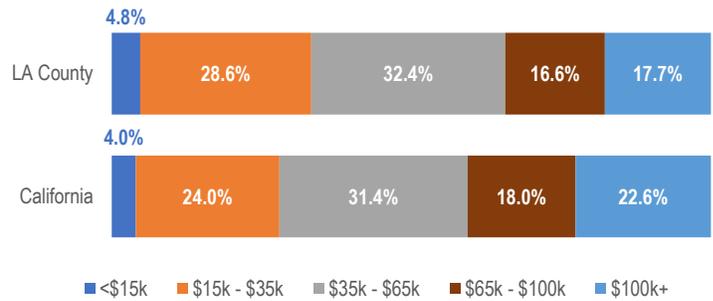
just over a third earn greater than \$65,000. Compared to the overall distribution of earnings for workers in California, there are significantly fewer high earners in Los Angeles County.

Income gaps are worsening. The County’s income inequality widened in nine out of the last ten years<sup>2</sup>. 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.

Meanwhile, over 216,000 families were living below the poverty line in 2019, which accounts for nearly 10 percent of all families in the county. About 15 percent of families with related children and over 30 percent of single mothers with related children were living in poverty.

In 2019, Los Angeles County possessed a strong and expanding economy, but with

**Exhibit 1-5  
Annual Job Earnings of Residents, 2019**



Source: 2019 ACS 1-year estimates

pressing racial, gender and class inequities that weighed down communities. While earnings and quality of life were high for those at the top, a much larger majority of county residents struggled with the challenges of income inequality and poverty.

For a more detailed look into the Los Angeles County economy of 2019, please go to Page 1 in the Appendix.

<sup>2</sup> Federal Reserve Bank of St. Louis Economic Research, *Income Inequality in Los Angeles County, CA*

## 2. The Los Angeles County Economy in 2020 and Beyond

### KEY TAKEAWAYS

- Due to the pandemic, 716,000 jobs were lost in March and April of 2020. The county reached an unemployment rate (SA) of 21.1% by May.
- We project that by 2022, the health services industry will be about 100,000 jobs over its pre-pandemic baseline, but accommodation and food services will still be nearly 125,000 jobs below.

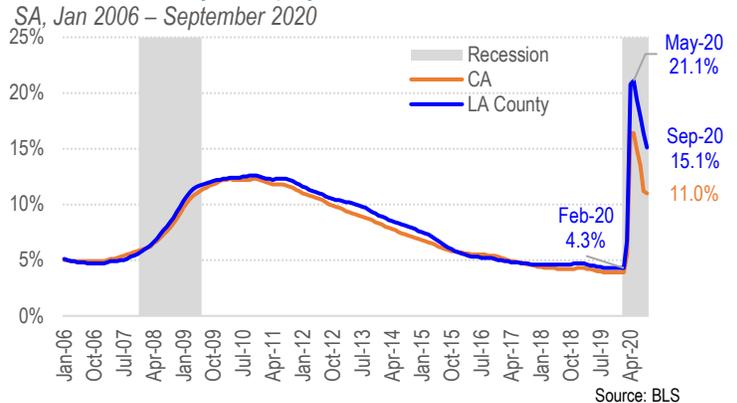
### The Economy in the Grips of the Pandemic

Unemployment in Los Angeles reached unparalleled levels in 2020 due to the pandemic. Exhibit 2-1 displays the historical seasonally adjusted monthly unemployment rate for the County from January of 2006 through September of 2020. Unemployment peaked at 21.1 percent in May 2020 and remained firmly in the double digits well into September.

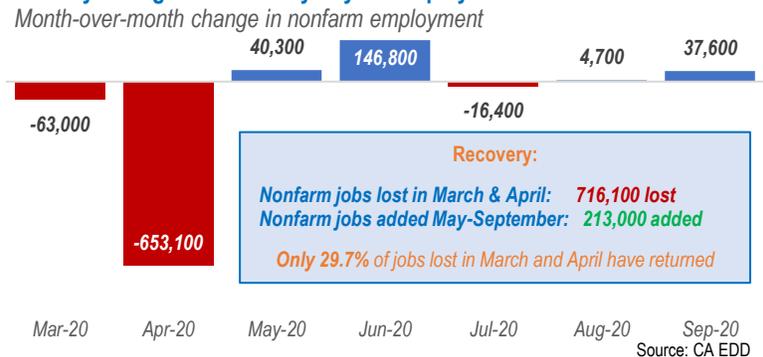
In March and April of 2020, approximately 716,000 jobs in Los Angeles County were lost. While the economy regained some of these workers over the next few months, as of September 2020 just 29.7 percent had returned and over 500,000 jobs had yet to be recovered (Exhibit 2-2).

Exhibit 2-3 shows the breakdown of year-over-year job changes by industry in Los Angeles County. Year-over-year comparisons allow us to identify trends in time series data, such as monthly employment. Total nonfarm jobs decreased by 9.6 percent between September 2019 and September 2020, a decline of 437,000 employees. Of these, the hardest hit industries by total jobs lost was leisure and hospitality; this declined by

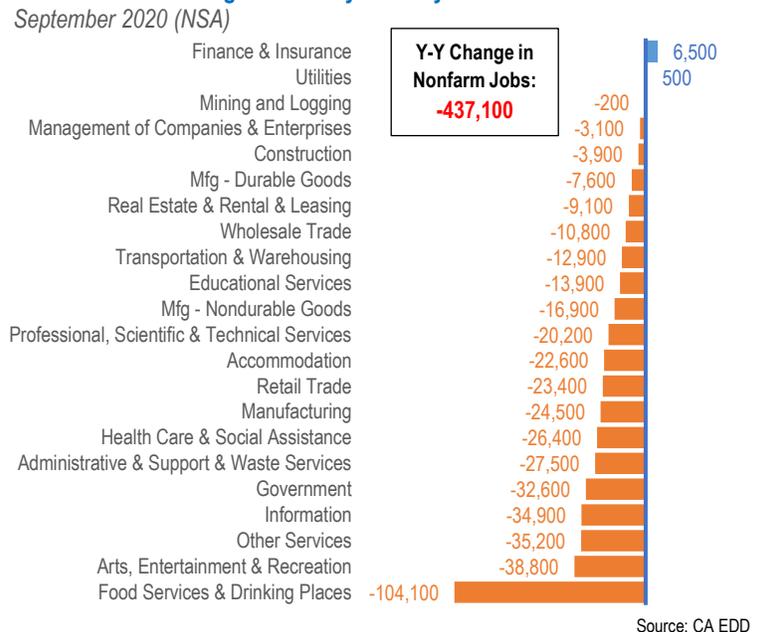
**Exhibit 2-1: Monthly Unemployment Rates**



**Exhibit 2-2: Monthly Change in LA County Payroll Employment**  
Month-over-month change in nonfarm employment



**Exhibit 2-3: Year-Over-Year Change in Jobs by Industry**  
September 2020 (NSA)



165,500 jobs including 104,100 alone in food services and drinking places.

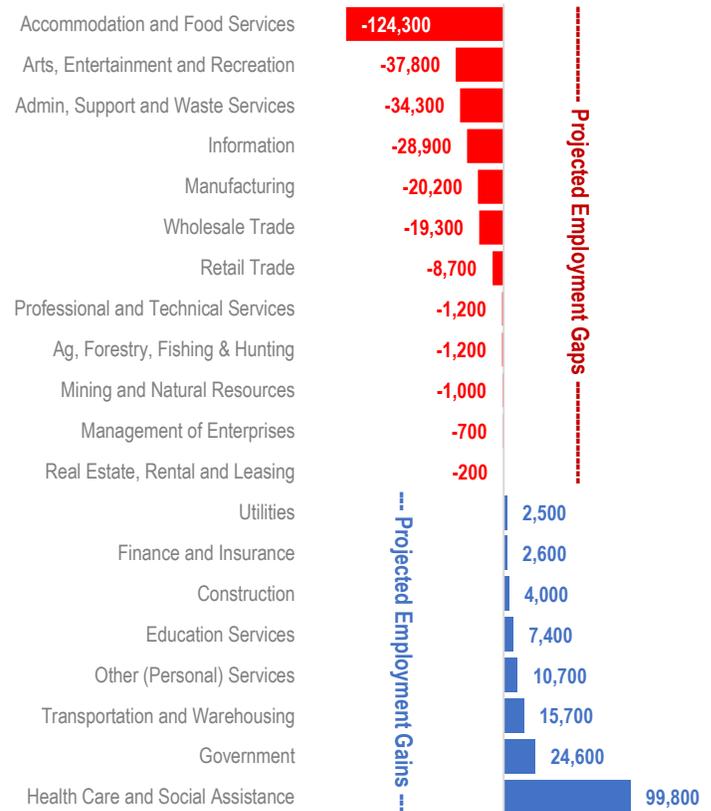
Professional and business services lost 50,800 jobs, led by administrative, support and waste services with losses of 27,500. Firms have been forced to transition to telework, so many of the occupations within this industry have become unnecessary. Trade, transportation and utilities declined by 46,600 jobs, led by a reduction of 23,400 in retail trade with the closure of brick-and-mortar storefronts. Health services declined by 40,300 in year-over-year employment, while information, government and other services all lost over 30,000 jobs. In total, all but two industries in the county saw declines in year-over-year employment.

**Looking Ahead: Economic Outlook**

This poses new challenges for the future, as the extent of unemployment, economic displacement and business failures will have ramifications beyond the end of the pandemic. 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 — a massive disruption after a decade of continuous employment growth.

In Exhibit 2-4 we present the projected employment gaps in Los Angeles County by industry sector, which represents how projected industry employment in 2022 will compare to the pre-pandemic baseline in 2019 and highlights areas of strength during the recovery process. Health care and social assistance will lead the way, adding close to 100,000 jobs by 2022, while the public administration and transportation and

**Exhibit 2-4: Projected Employment Gap in LA County by Industry Sector 2019 - 2022**



warehousing industries will show strong growth as well.

Unfortunately, over half of the county’s industry sectors are projected for a net decline in employment by 2022. Accommodation and food services is at greatest risk with an expected employment gap of 124,300 workers, while the arts and administrative support industries will be over 30,000 jobs below their pre-pandemic employment levels. Information, manufacturing and wholesale trade are also projected to have large employment gaps.

For a more detailed dive into the Los Angeles County economy in 2020, please see Page 40 in the Appendix.

### 3. Occupational Losses and Living Wage Gaps

#### 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.*

#### Living Wage Analysis

*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.”<sup>3</sup> 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 per hour.

In 2019 there were about 4.16 million living wage jobs in Los Angeles County; approximately 85 percent of workers in Los Angeles County earned a living wage.<sup>4</sup> The occupations that on average did not earn this wage included fast food and counter workers, cashiers, amusement and recreation attendants, and production clerks. These jobs are predominantly located in the accommodation and food services, retail trade, and arts and entertainment industries.

As a result of the pandemic, roughly one million living wage jobs were initially lost in

**Exhibit 3-1: 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

Source: LAEDC

the county.<sup>5</sup> 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 3-1 displays the estimated number of living wage jobs in Los Angeles County. Overall, an estimated 392,000 of these jobs were lost from 2019 to 2020, 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.

<sup>3</sup> Glasmeier, Amy K. Living Wage Calculator. 2020. Massachusetts Institute of Technology. [livingwage.mit.edu](http://livingwage.mit.edu).

<sup>4</sup> 2019 Occupational Employment Statistics, Bureau of Labor Statistics

<sup>5</sup> Measured from Dec 2019 – May 2020

### 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 the employees working in these hardest-hit groups which we have identified.

Exhibit 3-2 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.

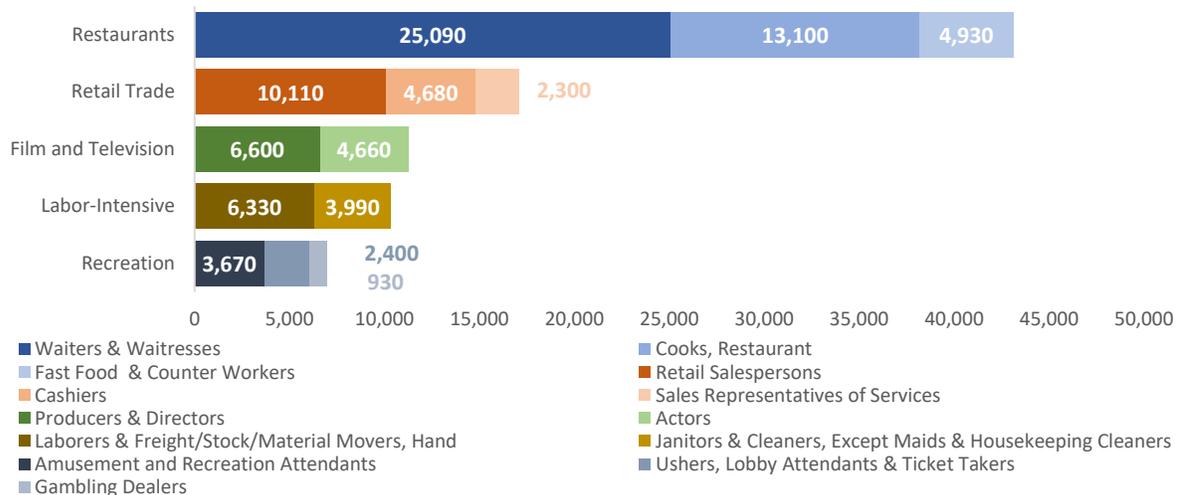
### Forecasting Occupational Recovery

*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.*

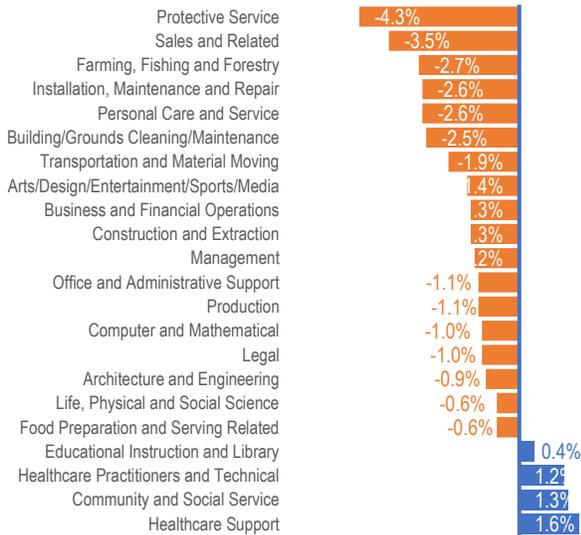
During the recovery process, certain occupations will rebound more quickly than others—and some will continue to shrink due to economic trends outside of the pandemic.

In 2022, most occupations are still forecasted to be at an employment level below the beginning of 2020 (Exhibit 3-3). Protective service and related occupations are projected

**Exhibit 3-2**  
Job Losses by Detailed Occupation Groupings in LA County  
Feb 2020 - Oct 2020



**Exhibit 3-3**  
**Projected Change in Employment By Occupation**  
 2020 to 2022



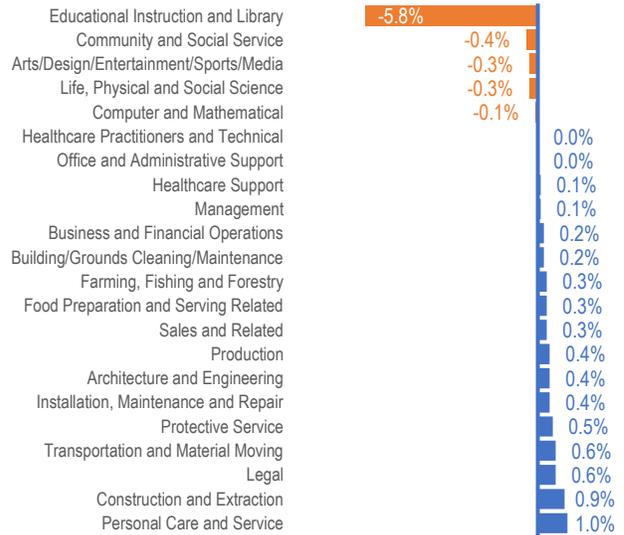
Source: CA EDD

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 employment beyond 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 3-4). For most, the growth will be smaller than one percent of total employment, but this will still be much better than their 2022 figures.

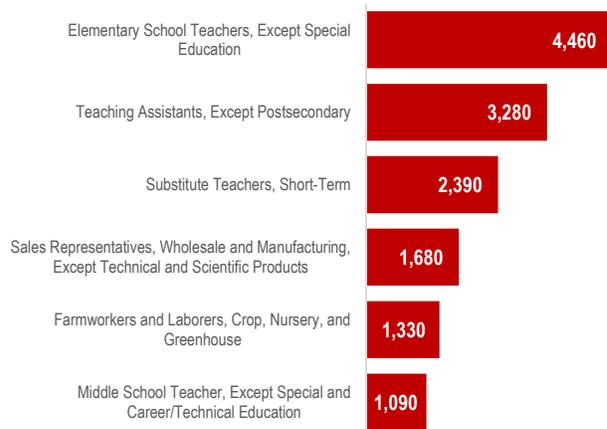
Just five major occupational groups will see an employment decline across the four-year span, led by educational instruction and library occupations with nearly six percent less jobs. We can see the cause of this decline

**Exhibit 3-4**  
**Projected Change in Employment By Occupation**  
 2020 to 2024



Source: CA EDD

**Exhibit 3-5:**  
**Selected Detailed Occupational Groups by Projected Jobs Lost 2020-2024**



Source: Burning Glass

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. Other detailed occupations expected to see job declines in the region, not caused by

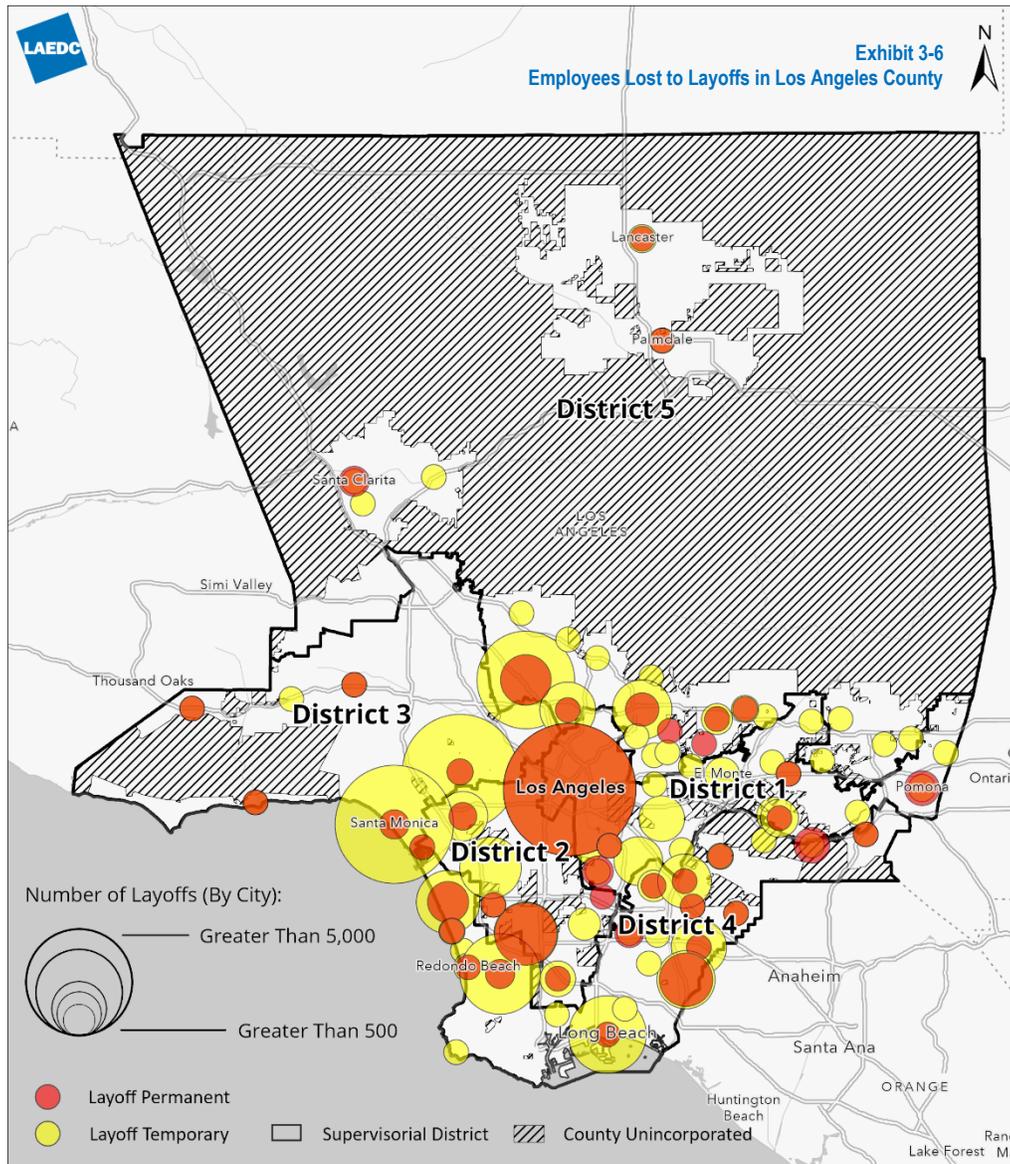
the pandemic and its economic impact, include sales representatives for wholesale and manufacturing products, and farmers and laborers.

**Geographic Impact on Employment**

Exhibit 3-6 maps the concentration of employees lost to layoffs in the county by supervisorial districts. Districts One and Four

have been impacted most heavily according to WARN notices, but layoffs have harmed every district in the county.

For a more detailed analysis of occupational losses and living wage jobs in Los Angeles County, please go to Page 78 in the Appendix. Additional maps of trends by city can be found beginning on Page 46.



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

County of Los Angeles, Esri, HERE, Garmin, SwireGraph, FAO, MET/NASA, USGS, Bureau of Land Management, EPA, NPS  
 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 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.  
 Date Last Updated: 12/02/2020 - GIS Contact: Jakob P. Larson

## 4. Hardest-Hit Industries in Los Angeles County

The pandemic upended the Los Angeles economy. Certain industries were more severely impacted than others due to their dependence on in-person customers and their inability to transition to remote work like the tech or professional services industries did. Based on employment data, we identified five industries that have been hardest hit during the pandemic. In this section we examine how each has been impacted and how they are performing through the phased reopening process thus far.

### HOSPITALITY

EMPLOYMENT SEP. 2019: **448,900** EMPLOYMENT SEP. 2020: **323,000** ↓ **28%**  
**125,900 JOBS LOST YEAR OVER YEAR**

Jobs Added May-October 2020: **94,200** (45.5% Recovered from March/April Job Losses)  
 Impacted Occupations: **Waiters and Waitresses** (25,090 Jobs Lost); **Cooks, Restaurant** (13,100 Jobs Lost)

### ARTS, ENTERTAINMENT & RECREATION

EMPLOYMENT SEP. 2019: **98,200** EMPLOYMENT SEP. 2020: **60,900** ↓ **38%**  
**37,300 JOBS LOST YEAR OVER YEAR**

Jobs Added May-October 2020: **15,700** (38.1% Recovered from March/April Job Losses)  
 Impacted Occupations: **Amusement & Rec Attendants** (3,670 Jobs Lost); **Ushers & Lobby Attendants** (2,400 Jobs Lost)

### MOTION PICTURE & SOUND RECORDING

EMPLOYMENT SEP. 2019: **135,300** EMPLOYMENT SEP. 2020: **98,800** ↓ **27%**  
**36,500 JOBS LOST YEAR OVER YEAR**

Jobs Added May-October 2020: **8,700** (15.2% Recovered from March/April Job Losses)  
 Impacted Occupations: **Producers & Directors** (6,600 Jobs Lost); **Actors** (4,660 Jobs Lost)

### NON-ESSENTIAL RETAIL

EMPLOYMENT SEP. 2019: **106,000** EMPLOYMENT SEP. 2020: **82,600** ↓ **22%**  
**23,400 JOBS LOST YEAR OVER YEAR**

Jobs Added May-October 2020: **31,500** (58.4% Recovered from March/April Job Losses)  
 Impacted Occupations: **Retail Salespersons** (10,570 Jobs Lost); **Cashiers** (5,160 Jobs Lost)

### PERSONAL CARE & LAUNDRY SERVICES

EMPLOYMENT SEP. 2019: **58,300** EMPLOYMENT SEP. 2020: **37,900** ↓ **35%**  
**20,400 JOBS LOST YEAR OVER YEAR**

Jobs Added May-October 2020: **12,400** (44.0% Recovered from March/April Job Losses)  
 Impacted Occupations: **Hairdressers & Hairstylists** (2,560 Jobs Lost); **Manicurists & Pedicurists** (1,970 Jobs Lost)

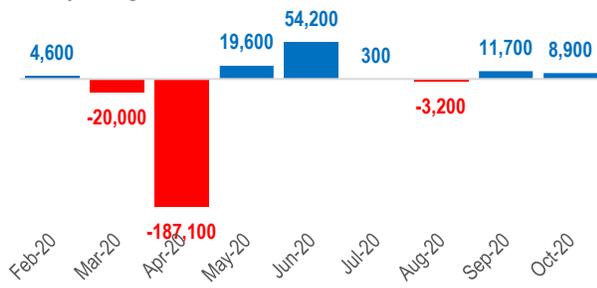
## Hospitality

The hospitality industry, primarily the sectors of accommodation and food services, has been one of the hardest hit industries by the pandemic in Los Angeles County. Employment declined by 125,900 jobs between September of 2019 and 2020, a 28 percent decrease year-over-year.

This contraction has been extremely apparent in food services and drinking places, where reservations in November 2020 were down 60.9 percent from the previous year due to mandated closures and on-site dining restrictions (Exhibit 4-1). The accommodation industry also saw severe declines in occupancy. At the end of November 2020, occupancy rates for hotels were at just 39.7 percent, compared to over 62 percent at the end of November 2019.

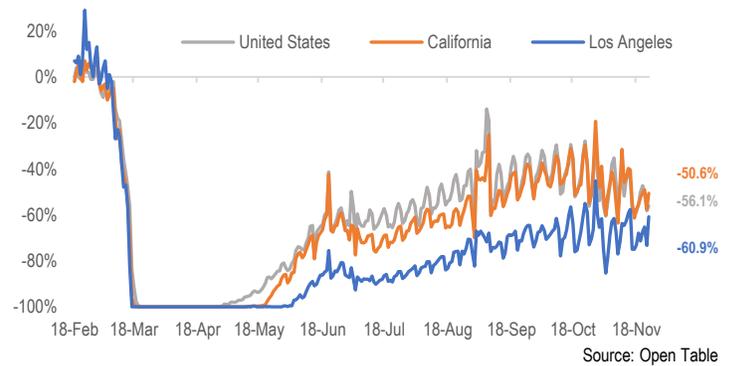
Los Angeles County has a strong tourism industry, but the pandemic's travel restrictions have been severe constraints that continue to affect tourism dependent businesses. Exhibit 4-2 shows the dramatic decline in airline passengers at LAX throughout 2020; tourism-related spending at restaurants, bars, hotels and other venues across the county has flatlined. With these dramatic declines in revenues and

**Exhibit 4-3**  
**Monthly Change in Jobs: Hospitality**  
 February through October 2020



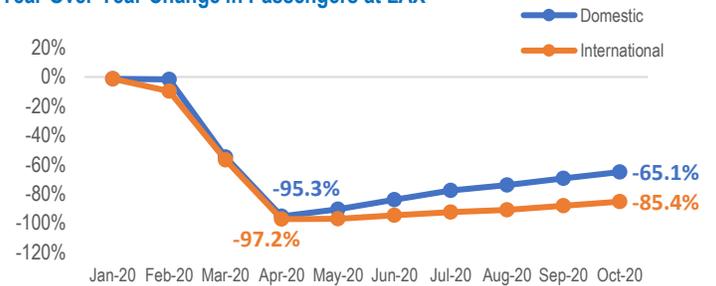
Source: CA EDD, LMID

**Exhibit 4-1**  
**Restaurant Reservations: Year-Over-Year % of Seated Diners**



Source: Open Table

**Exhibit 4-2**  
**Year-Over-Year Change in Passengers at LAX**

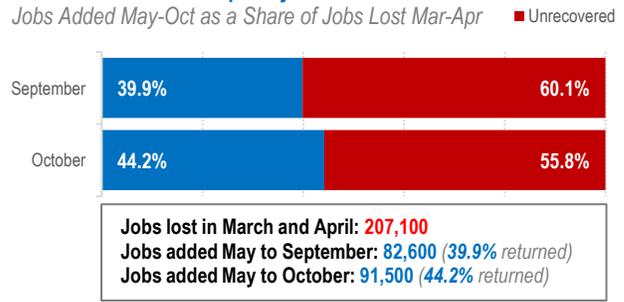


Source: LAWA

profitability have come widespread business closures and layoffs.

Exhibits 4-3 and 4-4 show the employment impact the pandemic has had on hospitality industry workers in the county. Over 200,000 jobs were lost in the months of March and April alone, and, despite gains throughout the summer, just 44.2 percent of those jobs had been recovered by October 2020.

**Exhibit 4-4**  
**Jobs Recovered in Hospitality**



**Jobs lost in March and April: 207,100**  
**Jobs added May to September: 82,600 (39.9% returned)**  
**Jobs added May to October: 91,500 (44.2% returned)**

Source: CA EDD, LMID

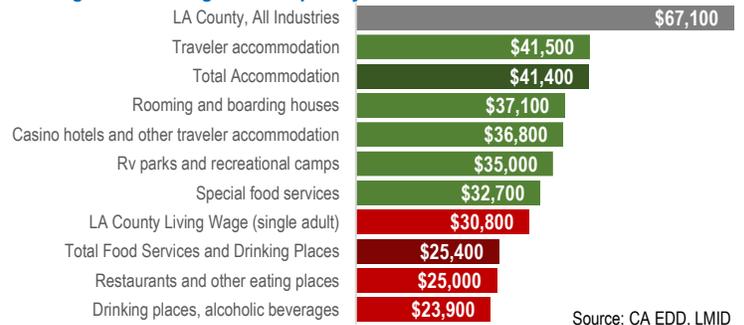
### Demographics and Wages

Exhibit 4-5 displays the average annual wages by industry in hospitality, compared to the average county wage of \$67,100. The average wage in accommodation is \$41,400, and in food services and drinking places just \$25,400 — well below the annual living wage of \$30,800 (single adult) in Los Angeles County.

The most impacted occupations in the hospitality industry are shown in Exhibit 4-6. Waiters and Waitresses lost over 25,000 jobs, and restaurant and fast food cooks a combined 21,000. All five of these occupations were classified as low-skill and were paid, on average, below the living wage.

We examine the demographic characteristics of the industry in Exhibits 4-7 through 4-10, compared to the county average. We can see that many workers in this industry have low levels of educational attainment and that the workforce is extremely young, with nearly half of all workers below the age of 35. There is also high representation of Hispanic and Latino workers in the industry. These cohorts were among the most likely to file for unemployment insurance claims at the onset of the pandemic. The preponderance of low

**Exhibit 4-5**  
Average Annual Wages in Hospitality



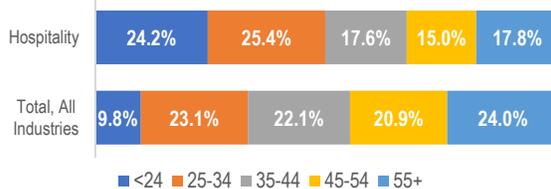
**Exhibit 4-6: Most Impacted Occupations**

Occupation	Median Wage in California	Estimated Jobs Lost
Waiters and Waitresses	\$25,895	25,090
Cooks, Restaurant	\$30,065	13,100
Cooks, Fast Food	\$25,255	7,830
Food Preparation Workers	\$25,338	5,550
Fast Food and Counter Workers	\$25,338	4,930

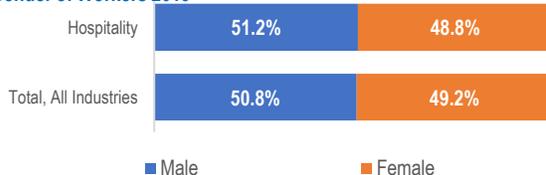
Source: LAEDC, BLS

skill jobs in the hospitality industry combined with the high degree of layoffs and closures led many to become unemployed without the possibility of quickly finding new career opportunities. As workers in the food services and drinking places industry were already earning below the county’s living wage on average, this group is likely to have been one of the most severely impacted.

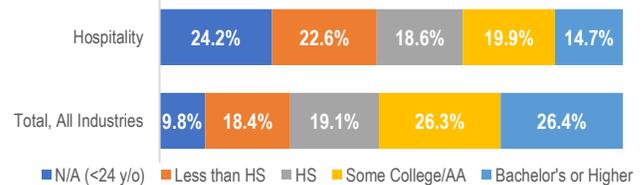
**Exhibit 4-7**  
Age of Workers 2019



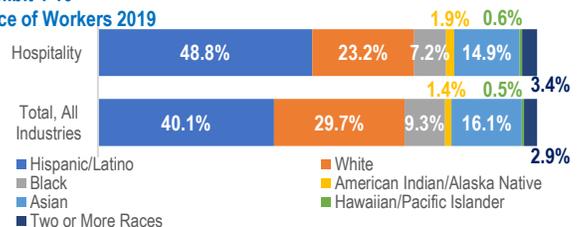
**Exhibit 4-9**  
Gender of Workers 2019



**Exhibit 4-8**  
Educational Attainment of Workers 2019



**Exhibit 4-10**  
Race of Workers 2019



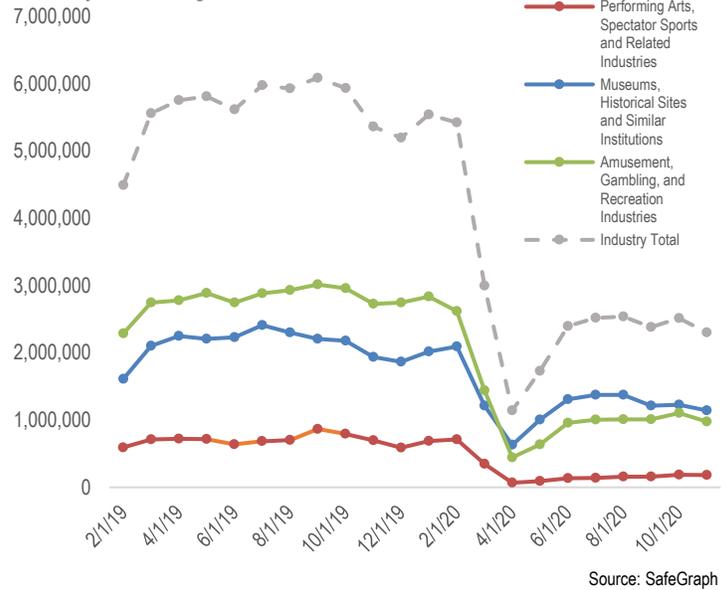
## Arts, Entertainment and Recreation

This industry contains a wide range of entertainment and recreational activities, including: 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 the current county 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 has removed the need for most gameday jobs meant for spectator interaction.

Exhibit 4-11 tracks foot traffic data from SafeGraph to estimate the number of monthly visits to these industries. In a span of just a couple of months, the arts, entertainment and recreation industry in Los Angeles County dropped from about 5.5 million monthly visits to just over 1 million due to the pandemic.

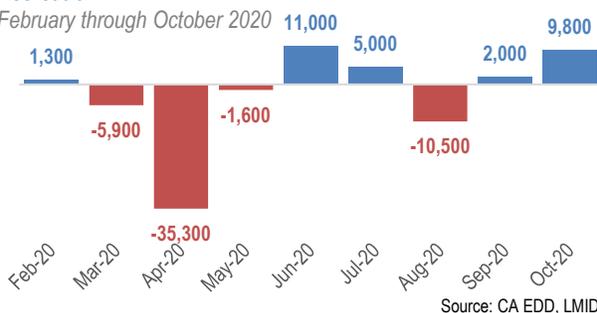
**Exhibit 4-11**  
**Monthly Industry Visits: Arts, Entertainment & Recreation**  
 February 2019 through November 2020



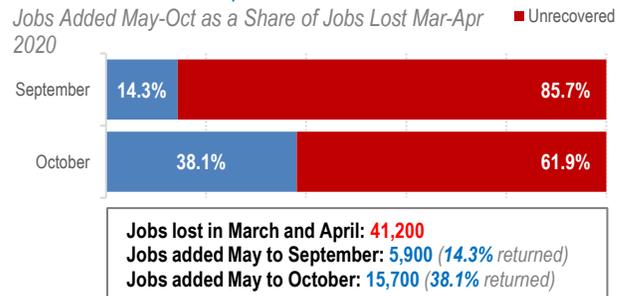
While activity has picked up again, monthly visits were still down by well over 50 percent in November.

The decrease in foot traffic has had a dramatic impact on revenue and industry employment. As Exhibit 4-12 and 4-13 display, over 41,000 jobs were lost in March and April of 2020, and only 15,700 had been regained by October, leaving nearly 62 percent of jobs unrecovered.

**Exhibit 4-12**  
**Monthly Change in Jobs: Arts, Entertainment & Recreation**  
 February through October 2020



**Exhibit 4-13**  
**Jobs Recovered in Arts, Entertainment & Recreation**  
 Jobs Added May-Oct as a Share of Jobs Lost Mar-Apr 2020



### Demographics and Wages

Exhibit 4-14 displays the average annual wages by industry in arts, entertainment and recreation, compared to the average county wage of \$67,100. The average wage in arts, entertainment and recreation is over \$114,500, though this is inflated by high salaries in spectator sports. Amusements, gambling and recreation, which accounts for half of industry employment overall, paid just slightly above the living wage on average.

As shown in Exhibit 4-15, all of the most impacted occupations are classified as low-skill, with amusement and recreation attendant and ushers, lobby attendants and ticket takers the hardest hit. Both occupations were paid below the living wage on average.

In Exhibits 4-16 to 4-19 we examine the demographic composition of the workforce in arts, entertainment and recreation. There is a high concentration of White workers in the industry due to their prevalence in the independent artists, writers and performers industry. Educational attainment levels are generally similar to those of the overall county despite the fact that this industry is on the younger side.

**Exhibit 4-14**  
Average Annual Wages in Arts, Entertainment & Recreation



Source: CA EDD, LMID

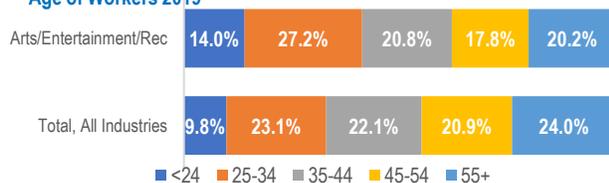
**Exhibit 4-15: Most Impacted Occupations**

Occupation	Median Wage in California	Estimated Jobs Lost
Amusement and Recreation Attendants	\$25,668	3,670
Ushers, Lobby Attendants and Ticket Takers	\$25,214	2,400
Gaming Dealers	\$24,326	930
Waiters and Waitresses	\$25,895	850
Janitors and Cleaners (not maids/housekeeping cleaners)	\$31,076	820

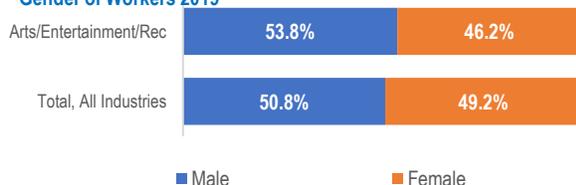
Source: LAEDC, BLS

The workforce has many higher skilled employees, as over half of workers have at least some college experience. Most of the jobs that were lost fall at the lower end of the educational spectrum, such as those highlighted in Exhibit 3-15. These are the occupations that are unlikely to return en masse until business restrictions are lifted.

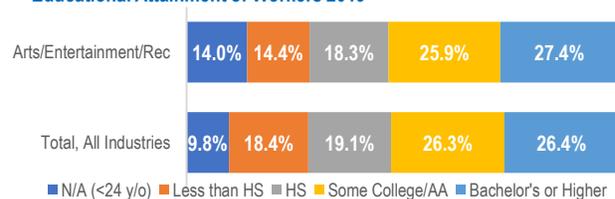
**Exhibit 4-16**  
Age of Workers 2019



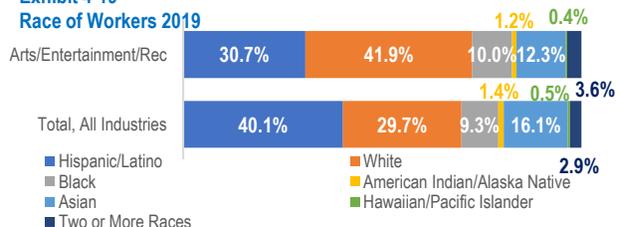
**Exhibit 4-18**  
Gender of Workers 2019



**Exhibit 4-17**  
Educational Attainment of Workers 2019



**Exhibit 4-19**  
Race of Workers 2019



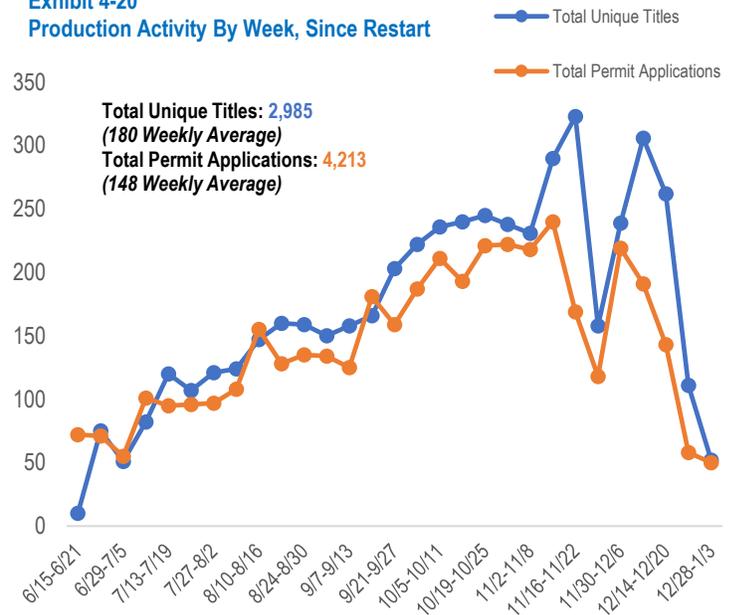
### Motion Picture and Sound Recording

The motion picture and sound recording industry lost 37,300 jobs between September 2019 and 2020, a year-over-year employment decline of 27 percent. Filming was suspended for months in the county and creative professionals working in unions struggled. Negotiations between studios and unions, about the safest approach to resuming production, continued to September and left many out of jobs for an extended period of time.

The motion picture and sound recording workforce also has a large number of freelancers, self-employed and gig workers. Many of these independent contractors were left relying on unemployment benefits, newly available through the Pandemic Unemployment Assistance (PUA) program, to provide for themselves and their families.

FilmLA, the official film office of the City and County of Los Angeles, has been tracking production activity since filming was allowed to restart in mid-June 2020 (Exhibit 4-20). While activity grew throughout the fall, it sharply declined again in December and January, which has been attributed to voluntary industry efforts to deal with the winter surge of COVID-19.

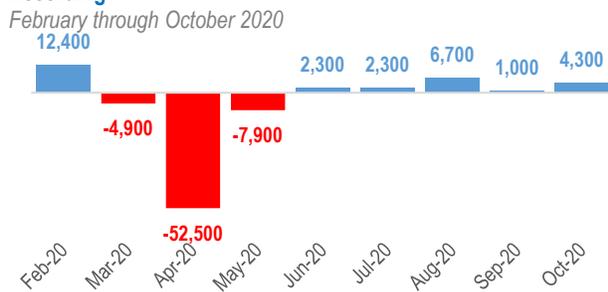
**Exhibit 4-20**  
Production Activity By Week, Since Restart



Source: Film LA

The employment effects of the pandemic and the suspension of filming were felt heavily in March, April and May where 65,300 jobs were lost. As shown in Exhibit 4-22, recovery has been slow due to the slow resumption of filming activity, and as of October 2020 only 15.2 percent of the jobs lost in March and April had returned, leaving close to 50,000 jobs still unrecovered. With another decline in production in progress in January, it is likely that employment figures will remain well below the pre-pandemic baseline for some time.

**Exhibit 4-21**  
Monthly Change in Jobs: Motion Picture & Sound Recording



Source: CA EDD, LMID

**Exhibit 4-22**  
Jobs Recovered in Motion Picture & Sound Recording



Jobs lost in March and April: **57,400**  
Jobs added May to September: **4,400 (7.7% returned)**  
Jobs added May to October: **8,700 (15.2% returned)**

Source: CA EDD, LMID

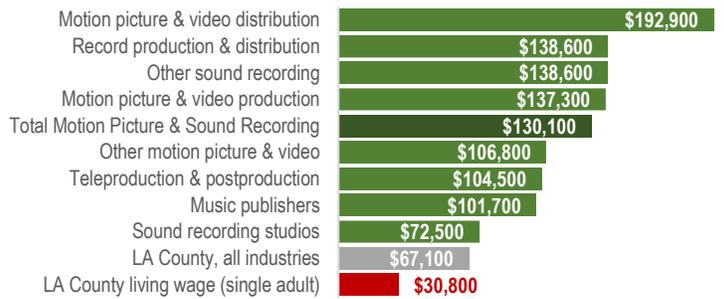
### Demographics and Wages

Exhibit 4-23 displays the average annual wages by industry in motion picture and sound recording, compared to the average county wage of \$67,100. The industry’s average wage is \$130,100 and all of its component industries pay well above the average county wage.

The most impacted occupations were producers and directors, actors and film and video editors—all higher-skill occupations that earned well over the living wage. This demonstrates how workers with all levels of skill were affected by the shutdown in this industry, unlike other hardest-hit industries. However, the occupations with the fourth and fifth most job losses were both low-skill, low-wage positions.

When examining the demographics of the industry workforce, it is readily apparent that workers have high levels of educational attainment, as about 37 percent have a bachelor’s degree or higher and another 27 percent have some college experience or an associate degree. The workforce is predominantly white and male, and slightly older than the county workforce on average.

**Exhibit 4-23: Average Annual Wages in Motion Picture & Sound Recording**



Source: CA EDD, LMID

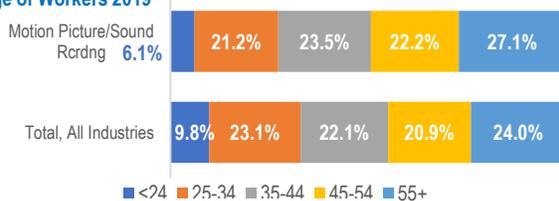
**Exhibit 4-24: Most Impacted Occupations**

Occupation	Median Wage in California	Estimated Jobs Lost
Producers and Directors	\$99,248	6,600
Actors	\$44,304	4,660
Film and Video Editors	\$76,204	2,740
Ushers, Lobby Attendants and Ticket Takers	\$25,214	2,340
Fast Food and Counter Workers	\$25,338	1,880

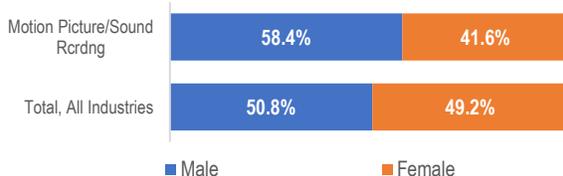
Source: LAEDC, BLS

Given that the majority of the workforce does not fall into the demographic cohorts that struggled the most with unemployment, the high job losses may be confusing. This is explained by the nature of the film production shutdown, which affected industry jobs across the entire spectrum of skill levels. There is also a high number of gig workers and independent contractors in the industry, many of which have filed for unemployment benefits.

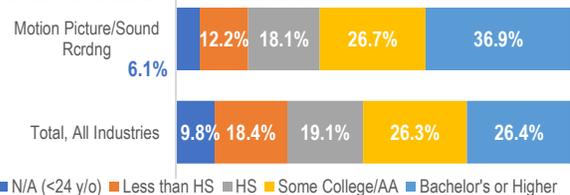
**Exhibit 4-25 Age of Workers 2019**



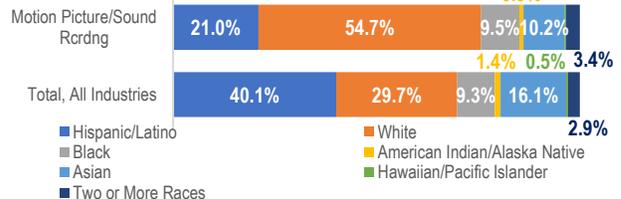
**Exhibit 4-27 Gender of Workers 2019**



**Exhibit 4-26 Educational Attainment of Workers 2019**



**Exhibit 4-28 Race of Workers 2019**



## Non-Essential Retail

The non-essential retail industry has struggled mightily in the face of the pandemic, with a 22 percent year-over-year decline in employment. Retail stores that are typically brick-and-mortar rely upon foot traffic and customer interaction to provide revenue. Pandemic capacity restrictions and business closures have taken a heavy toll, as well as cautious consumption habits by Los Angeles residents worried about their savings.

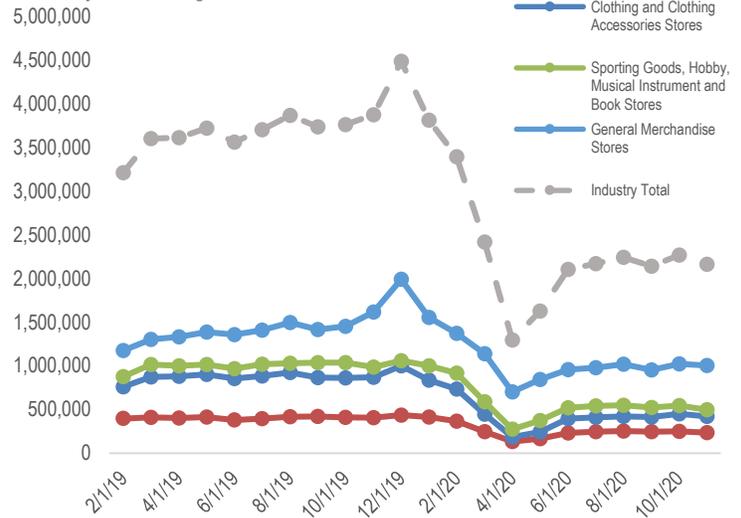
Additionally, many of the consumers that would have traditionally frequented shopping malls and in-person retail operations have moved online. Many major retailers had already begun closing locations in Los Angeles County, and the pandemic has accelerated the transition online retailing. With a number of businesses closing up shop for good in the face of Safer-at-Home orders, workers that become unemployed will find fewer and fewer employers looking to hire in this industry.

As shown in Exhibit 4-29, outside of the holiday season the county averages over 3.5 million monthly visits to non-essential retail locations. Even after the most damaging months of the pandemic and the most severe lockdowns, monthly non-essential retail visits averaged just over 2 million at the end of 2020. Sales declined significantly, as taxable sales in general merchandise stores decreased 18.4 percent year-over-year and taxable sales in clothing and clothing accessories stores decreased 55 percent year-over-year in the second quarter of 2020.

The recovery of industry employment has been slow. In March and April of 2020, about 53,900 workers lost jobs. Though employment increased for most of the following months, by

**Exhibit 4-29**  
**Monthly Industry Visits: Non-Essential Retail**

February 2019 through November 2020



Source: SafeGraph

**Exhibit 4-30**  
**Monthly Change in Jobs: Non-Essential Retail**

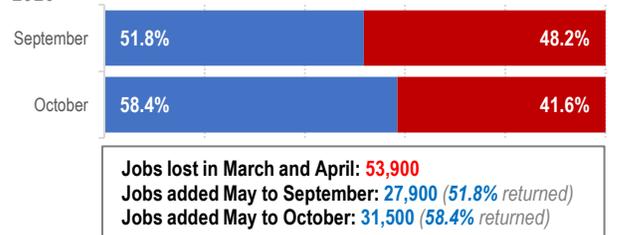
February through October 2020



Source: CA EDD, LMID

**Exhibit 4-31**  
**Jobs Recovered in Non-Essential Retail**

Jobs Added May-Oct as a Share of Jobs Lost Mar-Apr 2020



Source: CA EDD, LMID

October only 58.4 percent of jobs had returned. There were over 20,000 jobs unrecovered in this industry as of October.

### Demographics and Wages

Exhibit 4-32 displays the average annual wages by industry in the non-essential retail industry, compared to the average county wage of \$67,100. Wages in non-essential retail are quite low on average and just barely over the living wage. In department stores and hobby stores, wages are below the living wage.

Retail salespersons have been the most impacted occupation by far in this industry, with over 10,500 jobs lost. Cashiers also lost over 5,100 workers. Both of these occupations earn well below the living wage on average. Stockers and order fillers and first-line supervisors of retail workers also suffered employment losses in the thousands, while sales managers lost jobs as locations closed.

The demographic composition of the non-essential retail workforce has contributed to its high levels of unemployment. The average age of workers is quite low, and there are relatively low levels of educational attainment as well. The workforce is majority female, and there is a high proportion of Hispanic and Latino workers, two cohorts that have been highly impacted by unemployment. Thus, non-essential retail has an extremely vulnerable

**Exhibit 4-32**  
Average Annual Wages in Non-Essential Retail



Source: CA EDD, LMID

**Exhibit 4-33: Most Impacted Occupations**

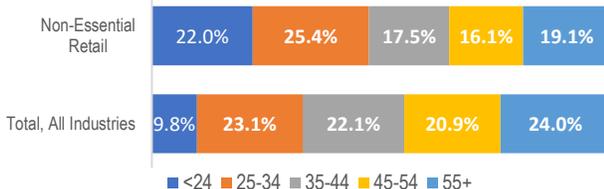
Occupation	Median Wage in California	Estimated Jobs Lost
Retail Salespersons	\$27,498	10,570
Cashiers	\$25,538	5,160
Stockers and Order Fillers	\$28,321	2,430
First-Line Supervisors, Retail Sales Workers	\$41,707	2,130
Sales Managers	\$118,268	500

Source: LAEDC, BLS

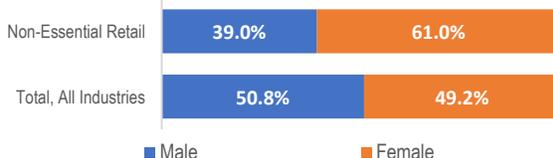
workforce with a great deal of young, low-skill retail or customer service workers.

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.

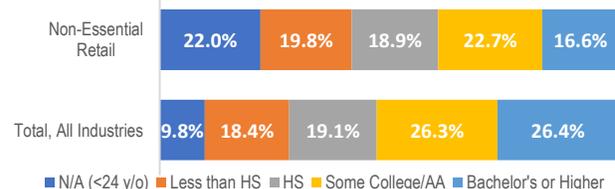
**Exhibit 4-34**  
Age of Workers 2019



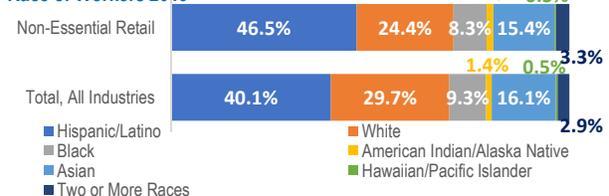
**Exhibit 4-36**  
Gender of Workers 2019



**Exhibit 4-35**  
Educational Attainment of Workers 2019



**Exhibit 4-37**  
Race of Workers 2019



## Personal Care and Laundry Services

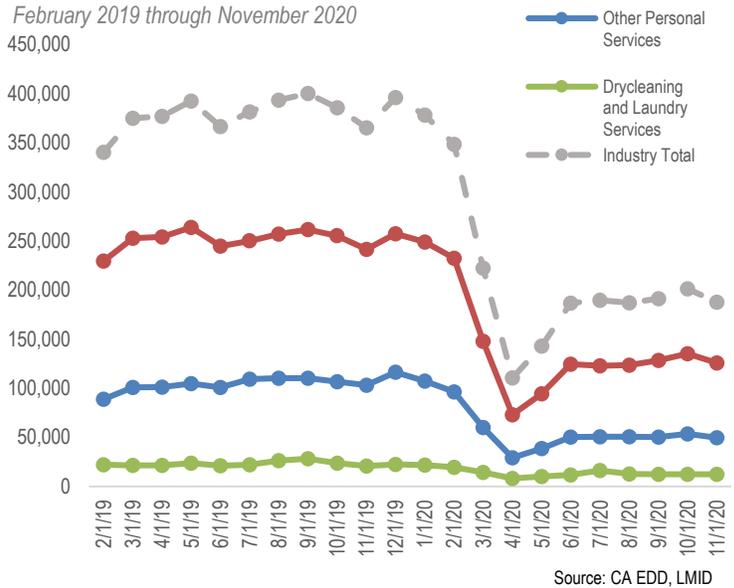
Personal care and laundry services in Los Angeles County include estheticians, skin care and cosmetology services, tattoo parlors, nail salons, hair salons and barbershops, massage therapy and more. The industry lost 20,400 jobs between September 2019 and September 2020, accounting for a decline of 35 percent year-over-year.

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 early 2020. Businesses have only been allowed to operate outdoors for the most part, and the maximum occupancy for personal care establishments was capped at 25 percent of capacity.

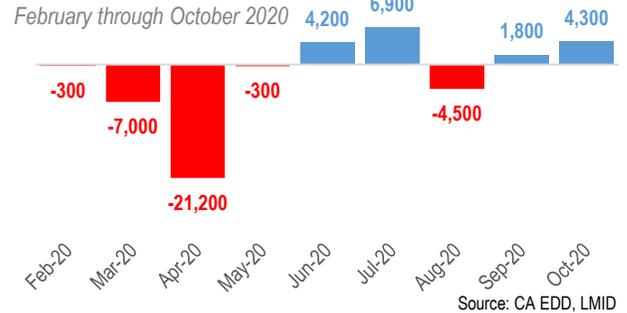
Thus, monthly industry visits have decreased dramatically due to these restrictions and the fear of easy virus transmission. As displayed in Exhibit 4-38, total monthly visits declined from nearly 350,000 to just over 100,000 at the onset of the pandemic, and even in November 2020 remained below 200,000. In the personal care services industry, monthly visits were only about half of what they would be otherwise at the end of 2020.

Exhibits 4-39 and 4-40 demonstrate the employment effects of the pandemic on the personal care and laundry services industry. 28,200 jobs were lost in March and April, and recovery has been slow. Just 12,400 jobs returned from May to October, leaving 56 percent of those lost in March and April unrecovered. As restrictions remain in place due to the surging spread of the virus over the holidays, it will take some time for the industry to recover the majority of these jobs.

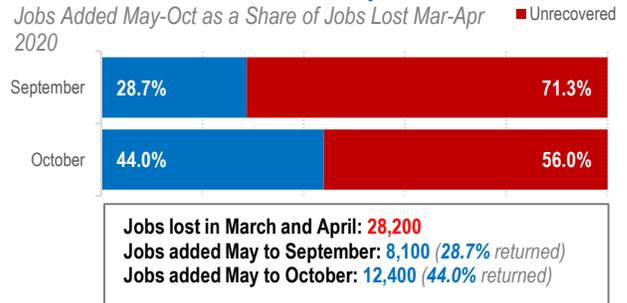
**Exhibit 4-38**  
Monthly Industry Visits: Personal Care and Laundry Services



**Exhibit 4-39**  
Monthly Change in Jobs: Personal & Laundry Services



**Exhibit 4-40**  
Jobs Recovered in Personal & Laundry Services



### Demographics and Wages

Exhibit 4-41 displays the average annual wages by industry in the personal care and laundry services industry, compared to the average county wage of \$67,100. The average industry wage is quite low at \$33,300, and several of its component industries fall below the county living wage, including beauty salons and nail salons.

Many of the most impacted occupations also earn below the living wage in Los Angeles County. Hairdressers, hairstylists and cosmetologists lost over 2,500 jobs, and manicurists and pedicurists close to 2,000. About 1,000 massage therapists lost jobs as well, an occupation that earns slightly above the living wage.

The personal care and laundry services industry has a high proportion of workers with a high school diploma or less, making them vulnerable to unemployment during the pandemic. Just 18 percent of the workforce had a bachelor's degree or higher. Workers in this industry are more likely to be female as well, who have had a higher rate of unemployment than men.

**Exhibit 4-41: Average Annual Wages in Personal & Laundry Services**



Source: CA EDD, LMID

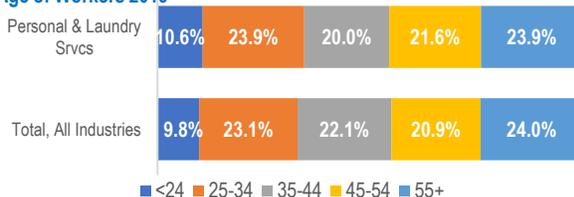
**Exhibit 4-42: Most Impacted Occupations**

Occupation	Median Wage in California	Estimated Jobs Lost
Hairdressers/Hairstylists/Cosmetologists	\$26,483	2,560
Manicurists and Pedicurists	\$25,782	1,970
Parking Attendants	\$26,888	1,500
Massage Therapists	\$35,277	970
Animal Caretakers	\$27,165	810

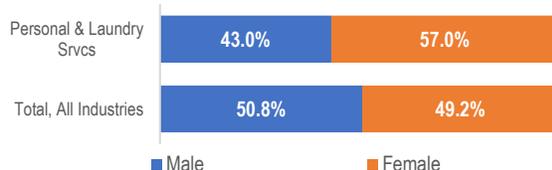
Source: LAEDC, BLS

Asian workers are also highly represented in personal care services. Our analysis of unemployment claims data found that the number of unique unemployment claims from Asian workers with just a high school education was equal to 75 percent of this cohort's labor force. In fact, it is likely that the struggling personal care industry has contributed greatly to this cohort's employment challenges.

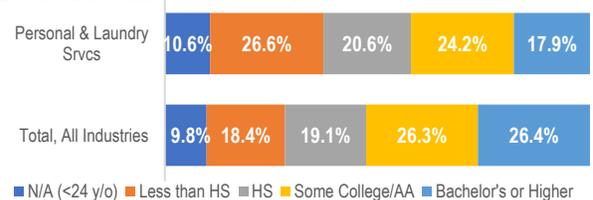
**Exhibit 4-43: Age of Workers 2019**



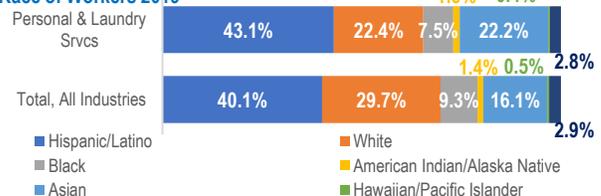
**Exhibit 4-45: Gender of Workers 2019**



**Exhibit 4-44: Educational Attainment of Workers 2019**



**Exhibit 4-46: Race of Workers 2019**



## 5. Growth Industries in Los Angeles County

While many industries have struggled with the economic challenges of the pandemic, we have also identified industries primed for growth in the near future. These industries will provide a base for economic recovery in Los Angeles County in the coming years. In this section we examine how these industries have been resilient during the pandemic and the growth opportunities they provide.

### HEALTH CARE

EMPLOYMENT SEP. 2019: **440,110** EMPLOYMENT SEP. 2020: **444,400** **↑ 1%**  
*4,300 JOBS GAINED YEAR OVER YEAR*

Jobs Added May-October 2020: **33,000** (Over 100% Recovered from March/April Job Losses)  
 Impacted Occupations: **Registered Nurses** (790 Jobs Added); **Medical Assistants** (730 Jobs Added)

### INFRASTRUCTURE: CONSTRUCTION

EMPLOYMENT SEP. 2019: **147,900** EMPLOYMENT SEP. 2020: **151,100** **↓ 2%**  
*3,200 JOBS LOST YEAR OVER YEAR*

Jobs Added May-October 2020: **20,400** (94% Recovered from March/April Job Losses)  
 Impacted Occupations: **Carpenters** (210 Jobs Added); **Construction Laborers** (190 Jobs Added)

### TRADE AND LOGISTICS: TRANSPORTATION AND WAREHOUSING

EMPLOYMENT SEP. 2019: **203,600** EMPLOYMENT SEP. 2020: **191,300** **↓ 6%**  
*12,300 JOBS LOST YEAR OVER YEAR*

Jobs Added May-October 2020: **8,300** (40.9% Recovered from March/April Job Losses)  
 Impacted Occupations: **Laborers & Freight/Stock/Material Movers** (120 Jobs Lost);  
**Heavy & Tractor-Trailer Truck Drivers** (110 Jobs Lost)

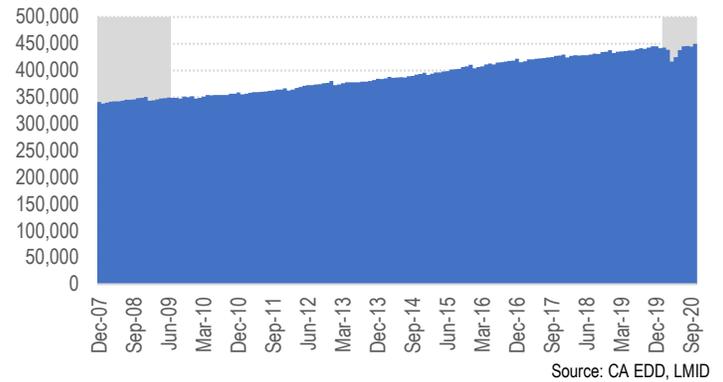
## Health Care

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. They include ambulatory health care services, hospitals and nursing and residential care facilities.

Health care workers have been on the front lines of the pandemic since its onset, and to combat the virus hospitals have been operating at full staff around the clock. As a result, health care employment in the county actually increased year-over-year by 4,300 jobs. As Exhibit 5-1 demonstrates, health care employment has been steadily rising in Los Angeles County for over a decade, and the initial decline in employment in the pandemic's early months was quickly recovered as growth continued.

While the industry has played an essential role in the county, it has been forced to deal with both economic pressures and the safety hazards of dealing with the virus. Health care workers have been disproportionately exposed to the virus as their work often brings them into close contact with infected patients. In financial terms, the expenses incurred from acquiring equipment like ventilators and PPE, combined with the costs of rising overtime and

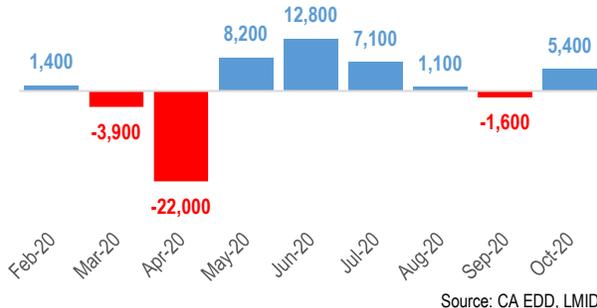
**Exhibit 5-1**  
**Monthly Industry Employment: Health Care**  
Dec 2007 through October 2020



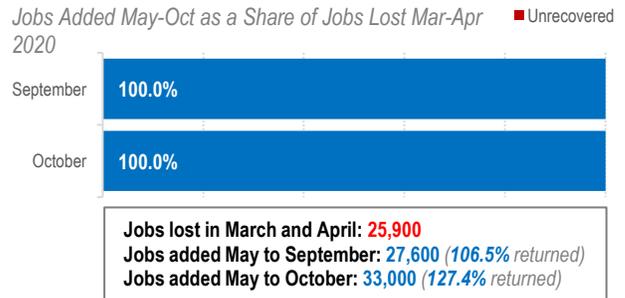
temporary staffing needs, have made a dent in operating revenues. When factoring in a decline in patients with non-COVID issues the health care industry has faced a challenging economic situation.

Industry employment is shown in Exhibits 5-2 and 5-3. The health care industry lost nearly 26,000 jobs in March and April of 2020, but completely recovered by adding over 2,800 in the following three months. As of October 2020, the industry was actually 7,100 jobs above its pre-pandemic baseline. Some of this increase can be attributed to the need for additional staff on-hand during the crisis, but long-term industry trends indicate that employment will continue to grow throughout the recovery period.

**Exhibit 5-2**  
**Monthly Change in Jobs: Health Care**  
February through October 2020



**Exhibit 5-3**  
**Jobs Recovered in Health Care**



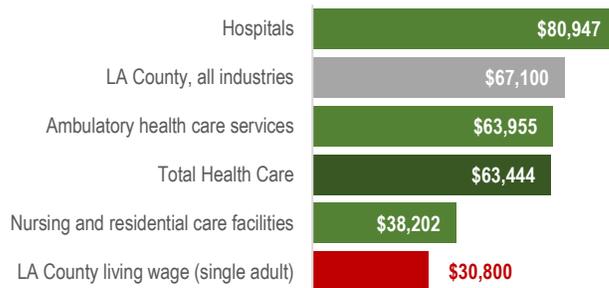
### Demographics and Wages

Exhibit 5-4 displays the average annual wages by industry in health care. The average wage across all health care industries is \$63,444, slightly below the county average of \$67,100. Hospitals are the highest paying industry with an average wage of over \$80,000, while nursing and residential care facilities have much lower wages.

In Exhibit 5-5 we highlight the four occupations that have gained the most jobs during the pandemic. Registered nurses, medical assistants and medical secretaries all added over 600 jobs, and receptionists gained 250. These occupations all pay higher than the living wage, and well above the average county wage in the case of registered nurses.

Exhibits 5-6 to 5-10 display the demographic composition of the health care industry. We can see that the industry is dominated by female employees, and there is a much higher proportion of Asian workers than the county's all industry average. Educational attainment is slightly above average for the health care workforce, with nearly 30 percent of workers earning a bachelor's degree or higher.

**Exhibit 5-4**  
Average Annual Wages in Health Care



Source: CA EDD, LMID

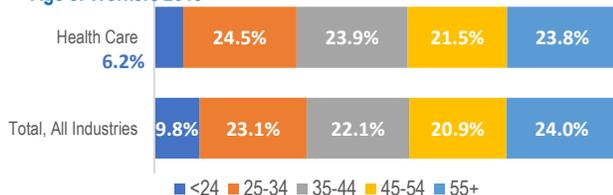
**Exhibit 5-5: Most Impacted Occupations**

Occupation	Median Wage in California	Estimated Jobs Gained
Registered Nurses	\$106,228	790
Medical Assistants	\$37,238	730
Medical Secretaries/Admin Assistants	\$42,364	640
Receptionists and Information Clerks	\$32,234	250

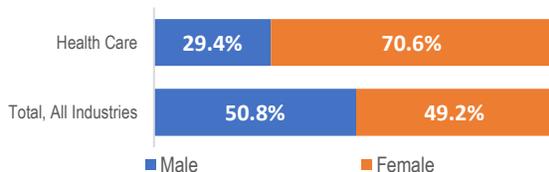
Source: LAEDC, BLS

While jobs have been secure, the challenge for health care workers is facing burnout, as 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 burden on these workers has been heavy.

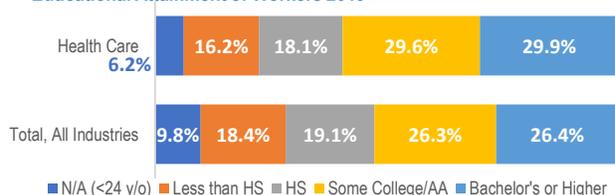
**Exhibit 5-6**  
Age of Workers 2019



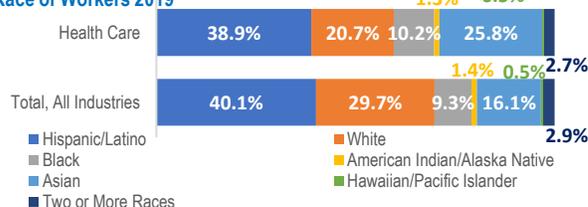
**Exhibit 5-8**  
Gender of Workers 2019



**Exhibit 5-7**  
Educational Attainment of Workers 2019



**Exhibit 5-9**  
Race of Workers 2019

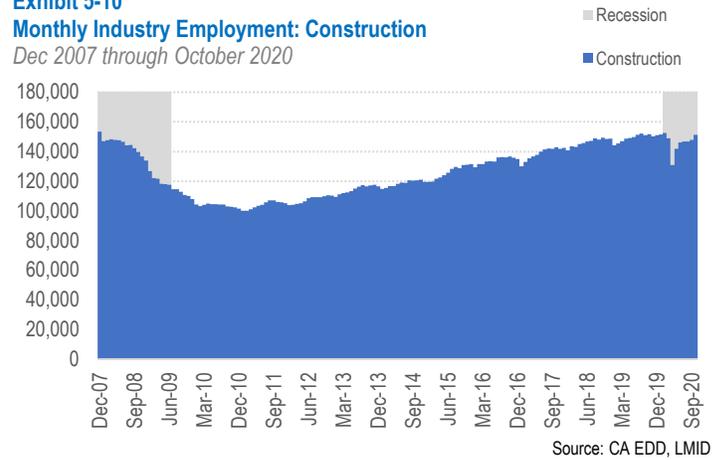


## Infrastructure: Construction

The construction industry in Los Angeles County has persevered through the pandemic and provided stable work. Building trades in Los Angeles pushed to keep infrastructure running due to its essential nature. Because of budget shortfalls, many non-critical infrastructure and capital projects have been deferred to the future, but they have not been cancelled. This 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.

The pandemic has also brought to light infrastructure inequalities within the county, which could create future opportunities for the industry. 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 at a severe disadvantage. Meanwhile, utilities systems such as 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 examples of issues for the infrastructure

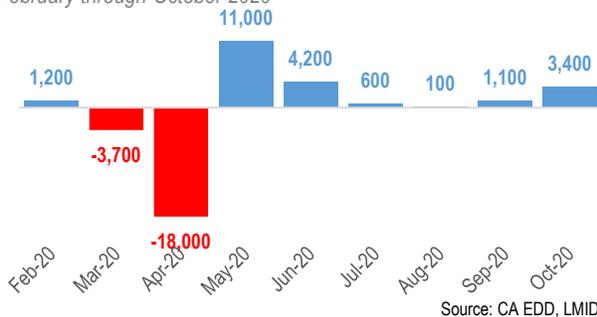
**Exhibit 5-10**  
**Monthly Industry Employment: Construction**  
 Dec 2007 through October 2020



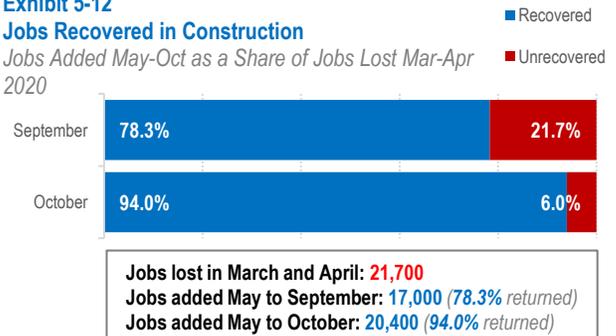
industry to solve in the years to come, which could allow for further contract work and construction employment.

As Exhibit 5-10 illustrates, employment in construction has been on a long rebound from the Great Recession in Los Angeles County. Despite job losses at the onset of the pandemic growth has again resumed. Exhibits 5-11 and 5-12 show the detailed changes in industry employment during the pandemic’s early months. The industry lost 21,700 jobs in March and April of 2020 but added back workers in each of the following six months. As of October 2020, 20,400 jobs had been recovered, 94 percent of the total number lost initially.

**Exhibit 5-11**  
**Monthly Change in Jobs: Construction**  
 February through October 2020



**Exhibit 5-12**  
**Jobs Recovered in Construction**  
 Jobs Added May-Oct as a Share of Jobs Lost Mar-Apr 2020



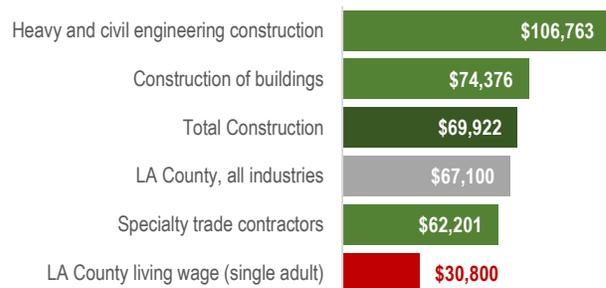
### Demographics and Wages

Exhibit 5-13 displays the average annual wages by industry in the construction industry, compared to the average county wage of \$67,100. Construction pays \$69,222 on average, and its component industries all pay well above the living wage in Los Angeles County; heavy and civil engineering construction has an average wage above \$100,000.

In Exhibit 5-14 we highlight occupations that have added jobs during the pandemic; carpenters, construction laborers and electricians have been most successful. Each of these five occupations pays well above the county's living wage.

The demographic characteristics of the construction workforce are shown in Exhibits 5-15 through 5-18. Workers are overwhelmingly male, and over half of the workforce is Hispanic. There are relatively low levels of educational attainment among these workers, as close to 50 percent have a high school diploma or less while only 18 percent have a bachelor's degree or higher. This industry would have been vulnerable to serious job losses and financial hardship had it not been classified as essential and mandated

**Exhibit 5-13**  
Average Annual Wages in Construction



Source: CA EDD, LMID

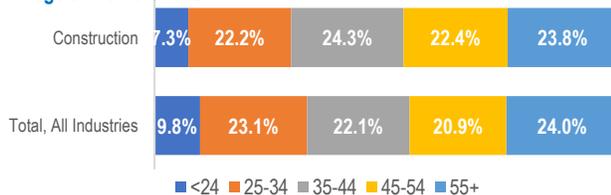
**Exhibit 5-14: Most Impacted Occupations**

Occupation	Median Wage in California	Estimated Jobs Gained
Carpenters	\$57,757	210
Construction Laborers	\$44,694	190
Electricians	\$65,377	130
First-Line Supervisors of Construction Trades and Extraction Workers	\$77,882	100
Plumbers, Pipefitters, and Steamfitters	\$57,248	90

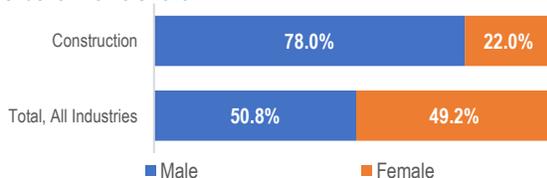
Source: LAEDC, BLS

to close, as these cohorts were already among the hardest hit in the county and many lower-skilled workers would have found it difficult to fill other available employment positions. However, due to its essential classification workers in construction in Los Angeles County have had greater job security than many of their lower-skilled counterparts in other industries, which has largely insulated them from the challenges of unemployment.

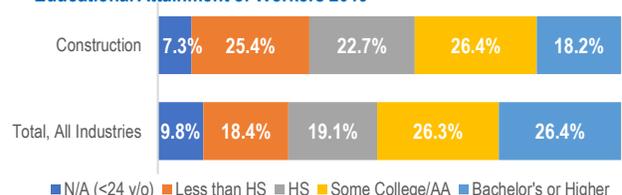
**Exhibit 5-15**  
Age of Workers 2019



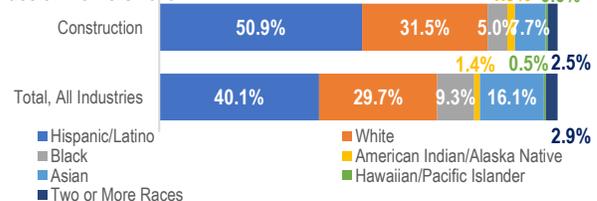
**Exhibit 5-17**  
Gender of Workers 2019



**Exhibit 5-16**  
Educational Attainment of Workers 2019



**Exhibit 5-18**  
Race of Workers 2019



## 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.

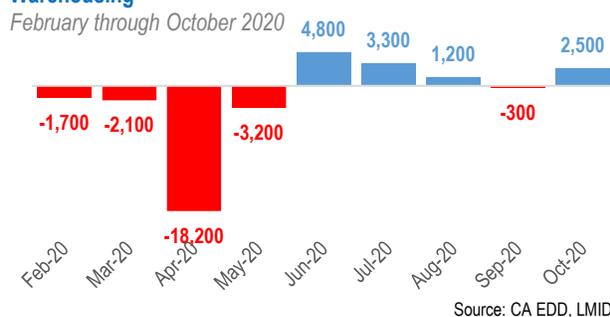
Los Angeles County is home to one of the largest port complexes in the world, the ports of Long Beach and Los Angeles at the San Pedro Bay. However, the transportation and warehousing industry was significantly affected by the pandemic, as the number of twenty-foot equivalent units (TEUs) moved through the complex dropped significantly in

February 2020 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 and the total value of exports in March down by 13 percent. Longshore shifts at the Port of Los Angeles also dropped by 19 percent from last year.

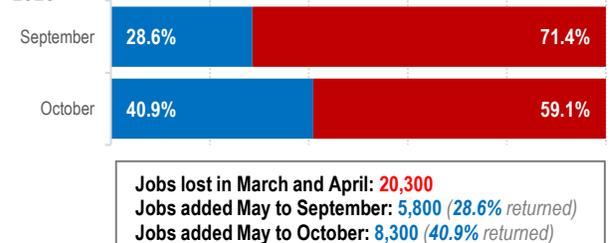
Transportation by air has also experienced disruptions resulting from the pandemic, as passenger demand has dropped dramatically due to quarantines, travel advisories and the fear of infection. According to the Los Angeles Board of Airport Commissioners, LAX air passenger traffic dropped by 85 percent in late March<sup>6</sup>.

As shown in Exhibits 5-19 and 5-20, transportation and warehousing lost 20,300 jobs in March and April of 2020. While 8,300 of these jobs returned by October, there were still nearly 60 percent that remained unrecovered. Approximately 6 percent of the employment base was lost year-over-year.

**Exhibit 5-19**  
**Monthly Change in Jobs: Transportation and Warehousing**



**Exhibit 5-20:**  
**Jobs Recovered in Transportation and Warehousing**  
 Jobs Added May-Oct as a Share of Jobs Lost Mar-Apr 2020



<sup>6</sup> 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.

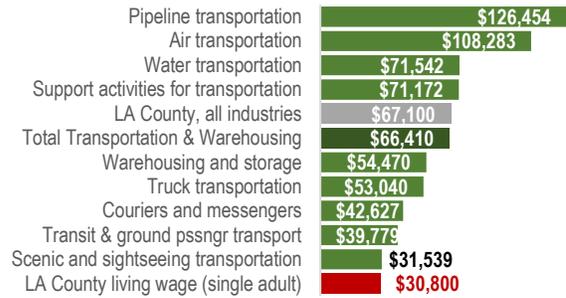
### Demographics and Wages

Exhibit 5-21 displays the average annual wages by industry in transportation and warehousing, compared to the average county wage of \$67,100. The industry’s average wage is right around the county average, with a wide distribution among its component industries. Pipeline transportation pays well over \$100,000, but other sectors are just slightly over the living wage in the county.

Exhibit 5-22 shows the occupations that lost the greatest number of jobs due to the pandemic. Laborers and freight, stock and material movers, as well as stockers and order fillers, are two occupations which lost jobs and are normally paid below the living wage In Los Angeles County.

Demographically, there is a high proportion of male and Hispanic workers in transportation and warehousing, with lower representation by White and Asian workers than the county’s average across all industries. Levels of educational attainment are slightly low, with under 20 percent of the workforce earning a bachelor’s degree or higher; however, many workers have received an associate degree or similar certification. With a diverse base of workers and the continued dependence of Los

**Exhibit 5-21**  
Average Annual Wages in Transportation and Warehousing



Source: CA EDD, LMID

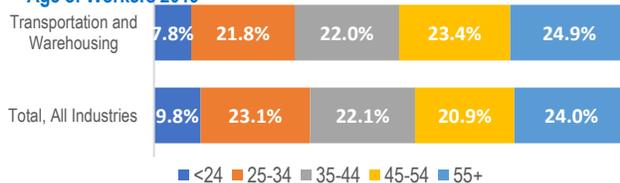
**Exhibit 5-22: Most Impacted Occupations**

Occupation	Median Wage in California	Estimated Jobs Lost
Laborers & Freight/Stock/Material Movers, Hand	\$30,144	120
Heavy and Tractor-Trailer Truck Drivers	\$47,482	110
Light Truck Drivers	\$37,113	50
Stockers and Order Fillers	\$28,321	50
Postal Service Mail Carriers	\$64,007	40

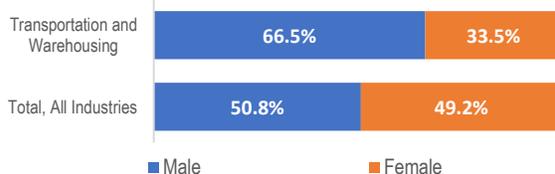
Source: LAEDC, BLS

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.

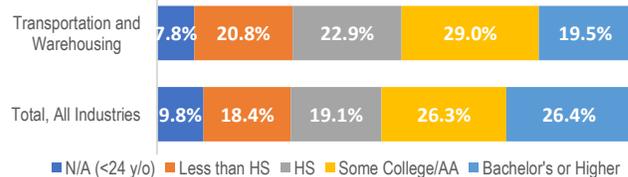
**Exhibit 5-23**  
Age of Workers 2019



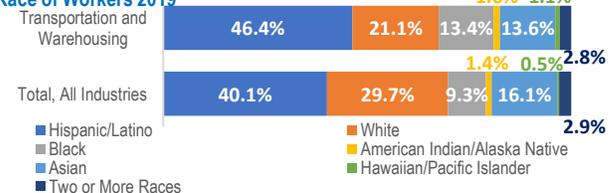
**Exhibit 5-25**  
Gender of Workers 2019



**Exhibit 5-24**  
Educational Attainment of Workers 2019



**Exhibit 5-26**  
Race of Workers 2019



## 6. Other Key Industries in Los Angeles County

There are also several other key industries that are regularly tracked by the County of Los Angeles. These key industries have had varying performance during the pandemic but are included due to their significance in the Los Angeles economy. Industries not already covered in the previous two sections are discussed here.

### AEROSPACE

EMPLOYMENT SEP. 2019: **39,900** EMPLOYMENT SEP. 2020: **42,300** **↑ 6%**  
**2,400 JOBS GAINED YEAR OVER YEAR**

Jobs Added May-October 2020: **3,000** (Over 100% Recovered from March/April Job Losses)  
 Impacted Occupations: **Software Developers & QA Analysts** (150 Jobs Added); **Industrial Engineers** (100 Jobs Added)

### INFRASTRUCTURE: TELECOMMUNICATIONS & UTILITIES

EMPLOYMENT SEP. 2019: **29,900** EMPLOYMENT SEP. 2020: **29,900** **-0%**  
**NO CHANGE YEAR OVER YEAR**

Jobs Added May-October 2020: **200** (28.6% Recovered from March/April Job Losses)  
 Impacted Occupations: **Telecommunications Equipment Installers & Repairers** (360 Jobs Lost);  
**Telecommunications Line Installers & Repairers** (240 Jobs Lost)

### TRADE AND LOGISTICS: WHOLESALE TRADE

EMPLOYMENT SEP. 2019: **219,100** EMPLOYMENT SEP. 2020: **209,300** **↓ 5%**  
**9,800 JOBS LOST YEAR OVER YEAR**

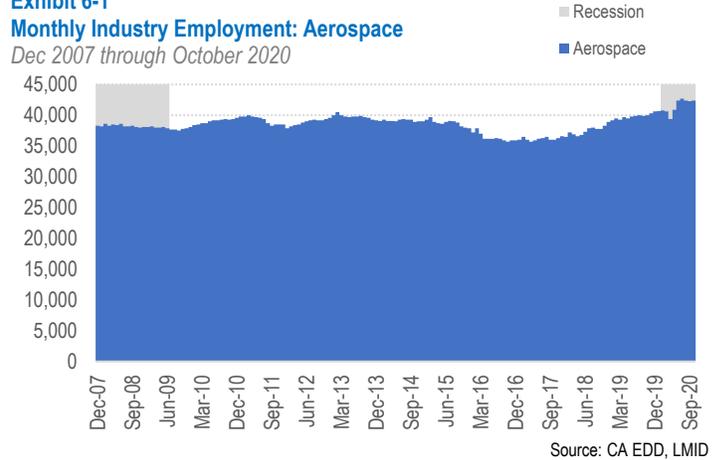
Jobs Added May-October 2020: **17,300** (76.9% Recovered from March/April Job Losses)  
 Impacted Occupations: **Sales Representatives, Wholesale & Manufacturing** (160 Jobs Added);  
**Laborers & Freight/Stock/Material Movers** (90 Jobs Added)

## Aerospace

The aerospace industry is a staple of Los Angeles County’s economy. Facilities like the Jet Propulsion Laboratory (JPL) 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 also have offices or headquarters in the county, creating a hub for technological advancement, intellectual property, and scientific discovery.

The decrease in travel and tourism as a result of stay-at-home orders and international travel bans have negatively impacted the commercial aerospace industry, as demand for commercial aircraft has declined. 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 JPL has made headlines for developing a NASA-designed COVID-19 ventilator (VITAL)

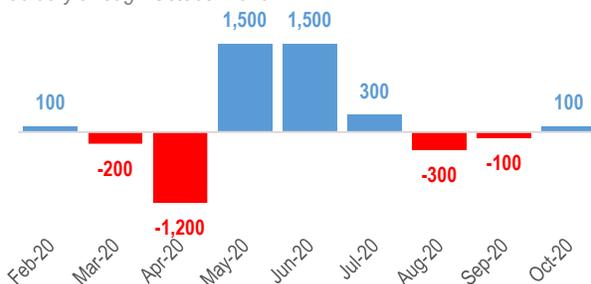
**Exhibit 6-1**  
**Monthly Industry Employment: Aerospace**  
 Dec 2007 through October 2020



to free up the nation’s limited supply of traditional ventilators.

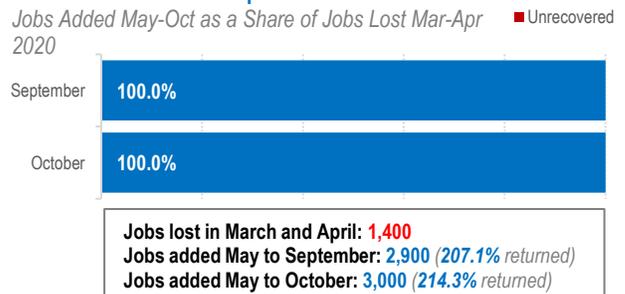
With a good degree of federal funding and the ability to quickly transition from aircraft manufacturing to space technology in the short-term, the aerospace industry has been resilient during the pandemic and in many cases has proceeded without pause. This is reflected in the continued employment growth shown in Exhibit 6-1, where the early months of the pandemic provided only a momentary decrease in workers. Just 1,400 jobs were lost during the months of March and April 2020, and from May to October 3,000 new jobs had been added, more than doubling the amount needed to return to a pre-pandemic baseline. As Exhibit 6-3 shows, recovery was swift in the aerospace industry.

**Exhibit 6-2**  
**Monthly Change in Jobs: Aerospace**  
 February through October 2020



Source: CA EDD, LMID

**Exhibit 6-3**  
**Jobs Recovered in Aerospace**



Source: CA EDD, LMID

### Demographics and Wages

Exhibit 6-4 displays the average annual wages by industry in aerospace, compared to the average county wage of \$67,100. Aerospace is a high-paying industry with average wages over \$100,000, and all of its smaller component sectors pay over the county's average wage across all industries.

The occupations which have gained the most jobs during the pandemic are shown in Exhibit 6-5. Software developers and software quality assurance analysts and testers gained over 100 jobs, as did industrial engineers. Four of the five highlighted occupations earn six figures annually; the fifth, machinists, makes around \$46,000 per year but is experiencing growth.

The aerospace industry is defined by older, well-educated men, as shown in Exhibits 6-6 through 6-9. Workers aged 55 years or older represented 34 percent of the aerospace workforce, and nearly 80 percent of all workers were male. There were also high concentrations of White and Asian workers in the distribution of race and ethnicity.

The prevalence of telework in the industry has allowed many workers to retain their jobs, and

**Exhibit 6-4**  
Average Annual Wages in Aerospace



Source: CA EDD, LMID

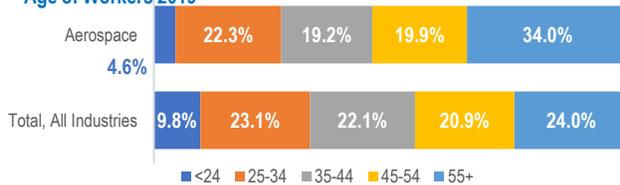
**Exhibit 6-5: Most Impacted Occupations**

Occupation	Median Wage in California	Estimated Jobs Gained
Software Developers and Software Quality Assurance Analysts and Testers	\$125,783	150
Industrial Engineers	\$103,695	100
Aerospace Engineers	\$125,101	70
Machinists	\$46,109	60
Mechanical Engineers	\$103,196	60

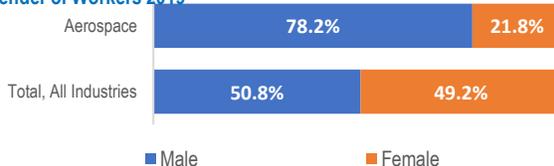
Source: LAEDC, BLS

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.

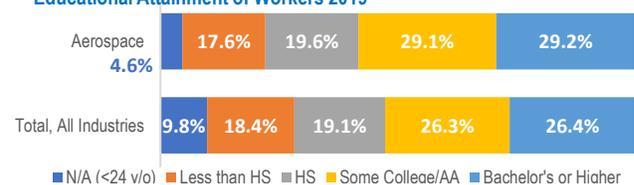
**Exhibit 6-6**  
Age of Workers 2019



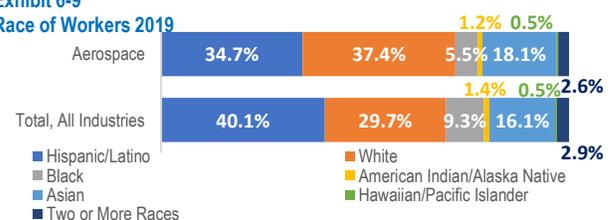
**Exhibit 6-8**  
Gender of Workers 2019



**Exhibit 6-7**  
Educational Attainment of Workers 2019



**Exhibit 6-9**  
Race of Workers 2019

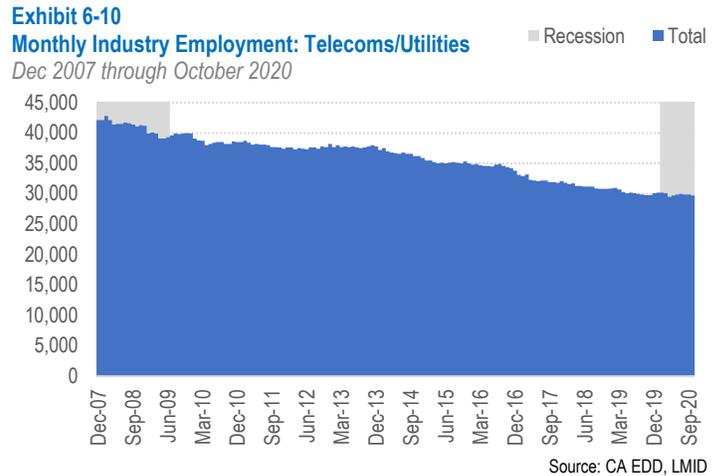


## Infrastructure: Telecommunications and Utilities

Job growth has been relatively stagnant in telecommunications and utilities year-over-year, but this industry still plays an important role in the county.

The facets of telecommunications that enable remote communication and information sharing have become even more critical during the pandemic, as these services are essential to living and working from home. 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.

The necessity of remote communication tools during the pandemic ensures relatively stable demand for residential telecommunications services. Major 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 stay. 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



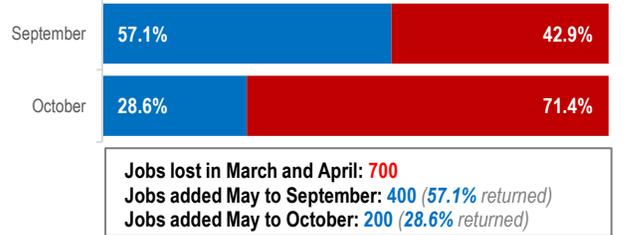
or even permanent closures are likely to cancel telecommunications contracts until restrictions are lifted, as cost minimization is a priority for struggling businesses. Business closures also represent a major threat to telecommunications companies, as contracts with operations facing permanent shutdown may never be renewed.

Exhibit 6-10 shows that employment in telecommunications has been steadily contracting for over a decade, and the pandemic has not had much of an impact. 700 jobs were lost in March and April, and just 200 had returned by October; as employment is expected to continue trending downward, it is unclear whether these jobs will ever return.

**Exhibit 6-11**  
**Monthly Change in Jobs: Telecoms/Utilities**  
 February through October 2020



**Exhibit 6-12**  
**Jobs Recovered in Telecoms/Utilities**  
 Jobs Added May-Oct as a Share of Jobs Lost Mar-Apr 2020



### Demographics and Wages

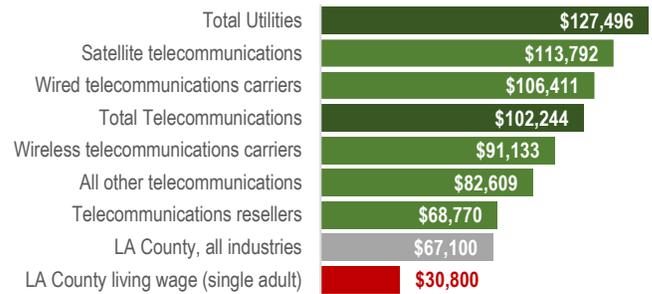
Exhibit 6-13 displays the average annual wages by industry in telecommunications and utilities, compared to the average county wage of \$67,100. Both these sectors have average wages over \$100,000 annually, and all smaller component industries pay over the average county wage.

The occupations which have been struggling the most are displayed in Exhibit 6-14. All of these pay well above the living wage in Los Angeles County, but in the face of a declining telecommunications industry, job prospects for these occupations are not positive in the long run.

The demographic composition of this industry shows that the workforce is highly educated, older and predominantly male. Over two-thirds of workers had at least some college experience, with 34 percent earning a bachelor's degree or higher.

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

**Exhibit 6-13**  
Average Annual Wages in Telecommunications



Source: CA EDD, LMID

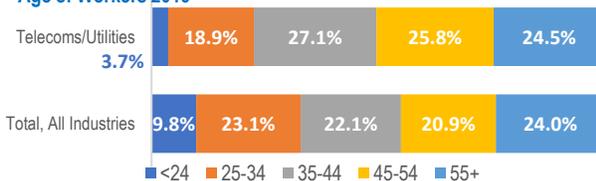
**Exhibit 6-14: Most Impacted Occupations**

Occupation	Median Wage in California	Estimated Jobs Lost
Telecommunications Equipment Installers/Repairers, Except Line Installers	\$59,275	360
Telecommunications Line Installers and Repairers	\$70,629	240
Sales Representatives of Services, not Adverts/Insurance/Fin Services/Travel	\$59,547	180
Software Developers and Software Quality Assurance Analysts and Testers	\$125,783	60
Project Management/Business Operations Specialists, All Other	\$76,514	60

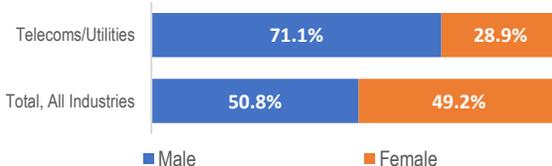
Source: LAEDC, BLS

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.

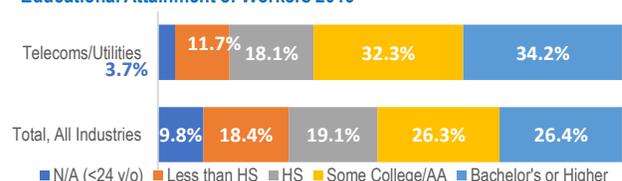
**Exhibit 6-15**  
Age of Workers 2019



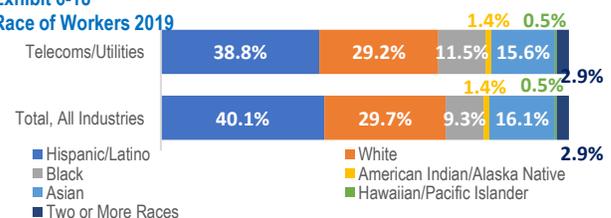
**Exhibit 6-17**  
Gender of Workers 2019



**Exhibit 6-16**  
Educational Attainment of Workers 2019



**Exhibit 6-18**  
Race of Workers 2019

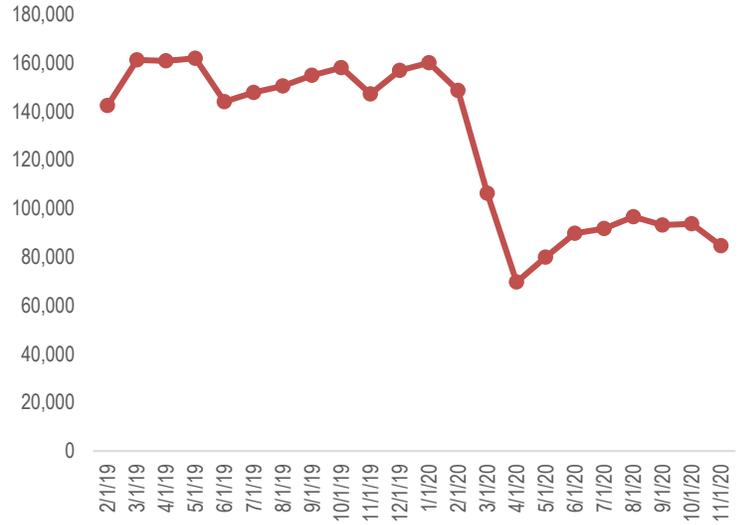


## Trade and Logistics: Wholesale Trade

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. The industry lost nearly 10,000 jobs between September 2019 and 2020 as a result of the pandemic, a year-over-year employment decline of 4.5 percent.

The pandemic has negatively impacted the demand for wholesale goods, and businesses across Los Angeles are facing financial hardships stemming from mandatory closures. As such, the demand for goods that are normally purchased from wholesalers is decreasing. Exhibit 6-19 displays the number of monthly visits to businesses in the wholesale trade industry in Los Angeles County. While visits averaged about 150,000 per month in 2019, they dropped to less than 70,000 in the initial months of the pandemic. Even after businesses were allowed to resume operation under restrictions, throughout the last two quarters of 2020 monthly visits remained around 80,000 to 90,000. This is a dramatic decrease in foot traffic that has undoubtedly cost wholesale trade merchants a

**Exhibit 6-19**  
**Monthly Industry Visits: Wholesale Trade**  
 February 2019 through November 2020

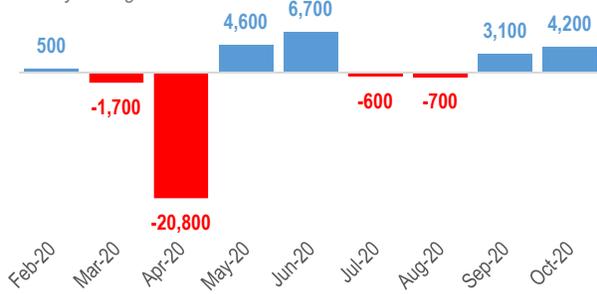


Source: SafeGraph

high amount of revenue, and in turn has led to many layoffs.

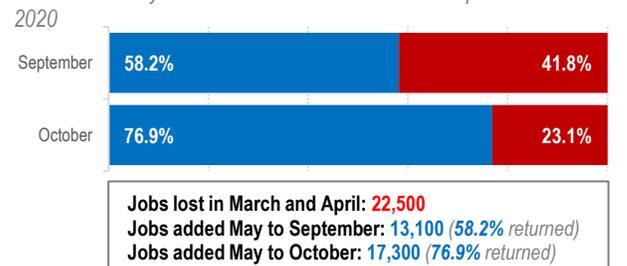
Exhibits 6-20 and 6-21 show how the wholesale trade industry was impacted by the pandemic in terms of employment. 22,500 jobs were lost in March and April of 2020, and although growth resumed soon after, the added restrictions during the summer prevented a stronger recovery. However, by October the industry had recovered 17,300 jobs that had been lost initially and was less than 25 percent below its pre-pandemic baseline for employment.

**Exhibit 6-20**  
**Monthly Change in Jobs: Wholesale Trade**  
 February through October 2020



Source: CA EDD, LMID

**Exhibit 6-21**  
**Jobs Recovered in Wholesale Trade**  
 Jobs Added May-Oct as a Share of Jobs Lost Mar-Apr 2020



Source: CA EDD, LMID

### Demographics and Wages

Exhibit 6-22 displays the average annual wages by industry in wholesale trade, compared to the average county wage of \$67,100. The wholesale trade industry pays about the county average wage, with all component industries well above the living wage in Los Angeles County.

The occupations which have gained the most jobs during the pandemic are shown in Exhibit 6-23. Sales representatives for wholesale and manufacturing added over 150 jobs, while material moving and stocking jobs that paid below the county living wage were also showing growth.

When examining the industry by its demographic composition, its 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. It is likely that this industry suffered most of its employment losses in lower-wage,

**Exhibit 6-22**  
Average Annual Wages in Wholesale Trade



Source: CA EDD, LMID

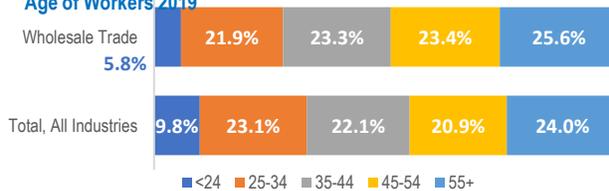
**Exhibit 6-23: Most Impacted Occupations**

Occupation	Median Wage in California	Estimated Jobs Gained
Sales Representatives, Wholesale/Manufacturing, not Tech/Scientific	\$62,250	160
Laborers & Freight/Stock/Material Movers, Hand	\$30,144	90
Stockers and Order Fillers	\$28,321	50
Shipping/Receiving/Inventory Clerks	\$34,600	40
Customer Service Representatives	\$39,025	40

Source: LAEDC, BLS

low-skilled jobs more directly related to order volumes, while higher-skilled positions, including management, remained insulated from unemployment.

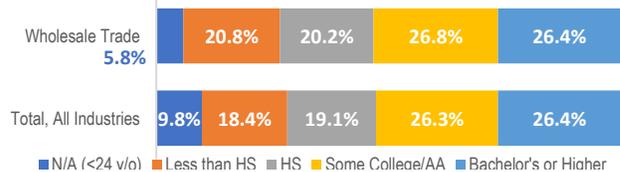
**Exhibit 6-24**  
Age of Workers 2019



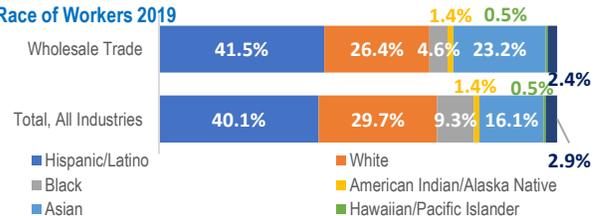
**Exhibit 6-26**  
Gender of Workers 2019



**Exhibit 6-25**  
Educational Attainment of Workers 2019



**Exhibit 6-27**  
Race of Workers 2019



## 7. Targeted Skills and Occupations for Workforce Recovery

### KEY TAKEAWAYS

- The addition of 139,000 middle-skill occupations to the workforce by 2024 is projected, with key industries being construction, health care services and transportation and warehousing.
- Analysis of job postings data shows that basic customer service is the skill in highest demand from employers, followed by proficiency with Microsoft Office and general sales.

### Middle-Skill Occupations

Key middle-skill occupations adding over 7,000 new jobs between 2020 and 2024 will be laborers and material movers, heavy and tractor-trailer truck drivers and registered nurses.

As we look towards the recovery process in 2021 and the future, our report identified sectors with growth potential: transportation and warehousing, health care services and construction. If properly aligned with supportive services and training programs, these growth sectors could provide a pathway to stable living wage jobs for the displaced workers in the hardest hit industries. In this section we focus on middle-skill occupations in these industries, which are jobs that require a higher level of education than a high school diploma but less than a bachelor’s degree, pay decent wages and provide greater financial security and the possibility of moving up career ladders to even better jobs in the future.

In construction, both carpenters and construction laborers are expected to add over 2,500 jobs in the next four years. As an industry that was largely unaffected by the employment impacts of the pandemic and that

Exhibit 7-1:  
Key Middle-Skill Occupations in Construction in LA County 2020 to 2024

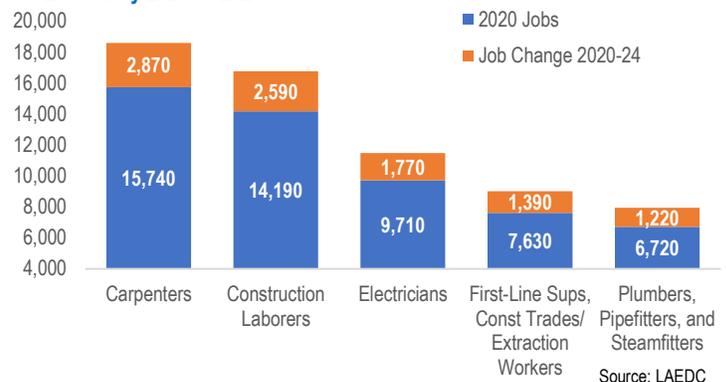
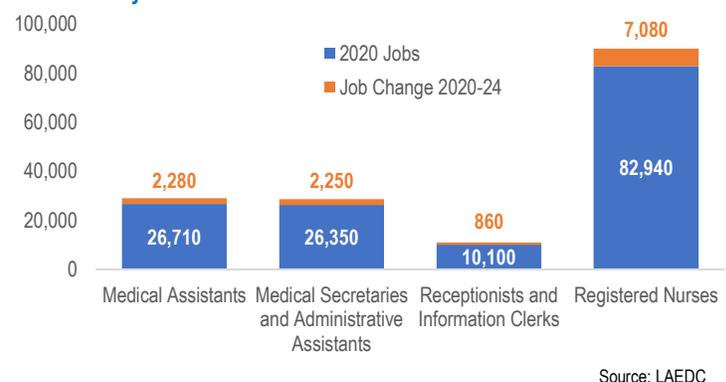


Exhibit 7-2:  
Key Middle-Skill Occupations in Health Care Services in LA County 2020 to 2024



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.

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 are projected in the county by 2024. 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.

The transportation and warehousing industry has many attractive middle-skill opportunities. 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 warehousing centers, the ports, and much more. Heavy and tractor-trailer truck drivers are also needed as nearly 8,000 jobs will be added by 2024. Other middle-skill occupations that will add thousands of jobs in the coming years include light truck drivers, stockers and order fillers, and postal service mail carriers. The transportation and warehousing industry in the county will experience strong growth, and jobs will be abundant for those with the right qualifications.

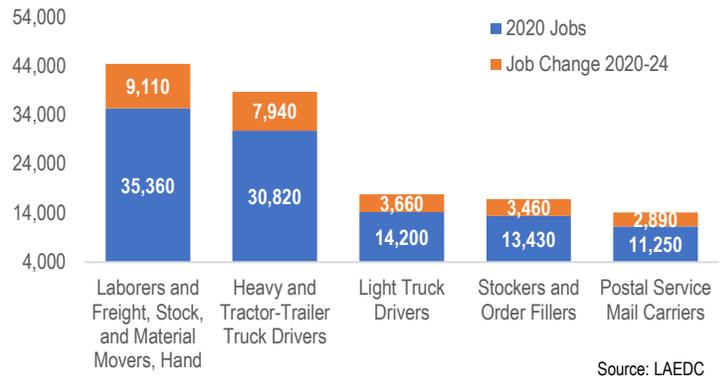
In total, we expect that there will be 139,000 middle-skill jobs added to the workforce between 2020 and 2024 — accounting for over a quarter of total jobs added in the county. In the fifteen occupations highlighted here alone, there will be nearly 50,000 new jobs overall. These represent good opportunities for new entrants to the workforce or employees who are transferring from other industries to target, as they are expanding occupations in growing industries that will aid career development.

***In-Demand Skills in Los Angeles County***

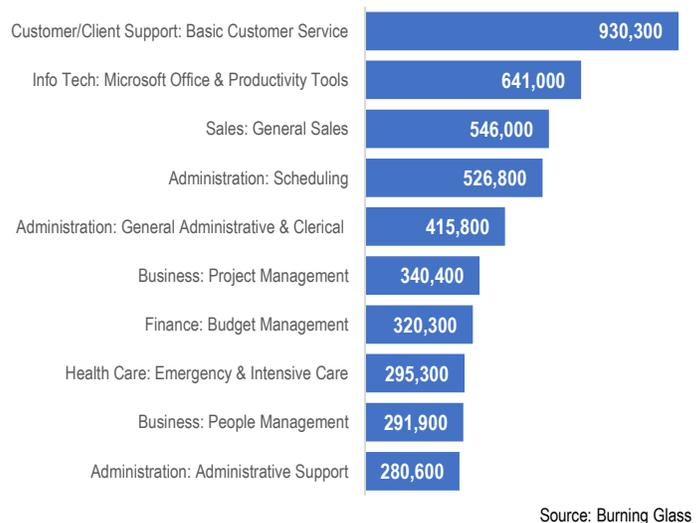
*Employers are looking for workers who can easily interface with both customers and basic productivity technology.*

The spread of the pandemic across the region caused widespread business closures and layoffs, putting many out of work and reducing the amount of available job openings. Based on job postings data from Burning Glass, we estimate that job openings in Los Angeles County were down 16.3 percent in October of

**Exhibit 7-3:**  
Key Middle-Skill Occupations in Transportation and Warehousing in LA County 2020 to 2024



**Exhibit 7-4:**  
Skill Clusters in Demand: LA County  
Jan 2020 through October 2020



2020 from the start of the year, with over 80,000 less openings than in January 2020.

As of October, job openings number about 411,780. From the available data, companies have indicated that certain skill clusters are currently more in-demand than others. Exhibit 7-4 shows the most in-demand clusters from January to October of 2020, with the bars representing the amount of job postings that listed these skills. Skill clusters represent groups of related skills in a single category, which can be analyzed to determine

in-demand occupations and facilitate the development of targeted curriculum that can give workers the tools they need to succeed in the regional economy.

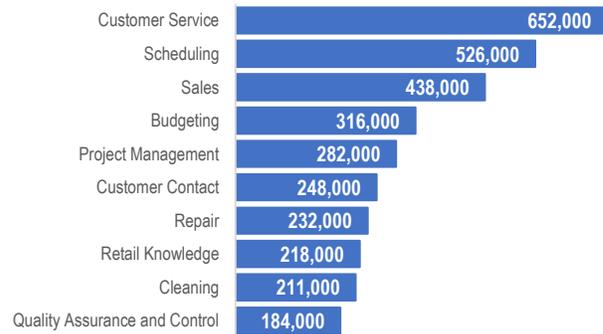
The most demanded skill cluster has been basic customer service, listed on over 930,000 job postings; despite the limitations on physical locations for selling products, companies continue to interact with consumers online and over the phone, and there is high demand for workers with these talents. The similar cluster of general sales is the third-most demanded, which reinforces how essential these skills are for workers to possess.

The second most demanded skill cluster is Microsoft Office and Productivity Tools with 641,000 mentions on job postings. Also in demand are two administrative skill clusters, Scheduling and General Administrative and Clerical. From this data, we can determine that the greatest focus for employers in Los Angeles County currently are sales and business support skills.

We can also break these skill clusters down into two distinct groups: soft skills and technical skills. As displayed in Exhibit 7-5, the top soft skills in demand by county employers are customer service, scheduling and sales. Customer service and sales skills can be applied to occupations such as customer service representatives, retail salespersons and cashier, while scheduling skills are useful in occupations like managerial and secretarial roles. Project management is another highlighted skill that employers are seeking, which can lead workers towards managerial occupations such as information technology project manager or construction manager.

**Exhibit 7-5:**  
**Number of Job Postings with Soft Skill Listed**

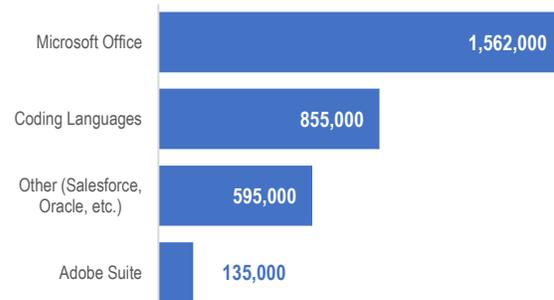
Jan 2020 through October 2020



Source: Burning Glass

**Exhibit 7-6:**  
**Number of Job Postings with Technical Skill Listed**

Jan 2020 through October 2020



Source: Burning Glass

The most highly demanded technical skills are shown in Exhibit 7-6. 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 makes them necessities for displaced workers. Microsoft Office proficiency is the most sought out skill by employers in Los Angeles County, and experience with coding languages is in demand as well.

For a closer look at job postings data, go to Page 202 in the Appendix.

**Skills Needed for the Jobs of the Future**

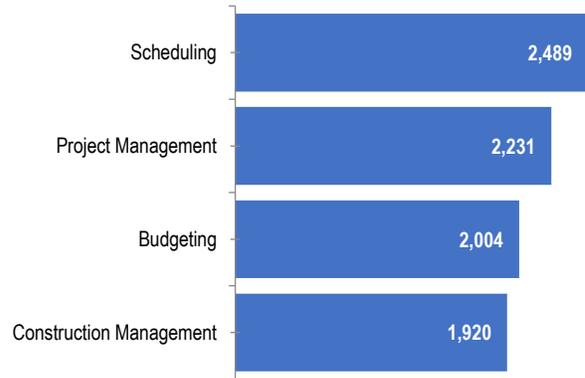
The transportation and warehousing industry has dealt with some job losses during the pandemic, but there are still opportunities for new employees due to the increased number of people shopping online. The growing trend towards providing fast delivery through optimized logistics and last-mile shipping services has helped job postings in the sector increase by 58 percent since the start of pandemic. Workers who are interested in securing positions in the transportation and warehousing occupations should be trained or upskilled for customer service, scheduling and logistics.

The health care and social services industry started off strong by posting 11,778 job openings in L.A. County before falling down by 40 percent to 7,002 posted openings in April 2020. However, the industry saw an increase in demand as there was a clear shortage of labor to keep up with patient demand due to COVID-19. The industry is offering 9,905 job openings as of November 2020. Workers interested in securing jobs in the health care and social services industries would benefit in developing specialized skills in Patient Care, scheduling, and Cardiopulmonary Resuscitation (CPR).

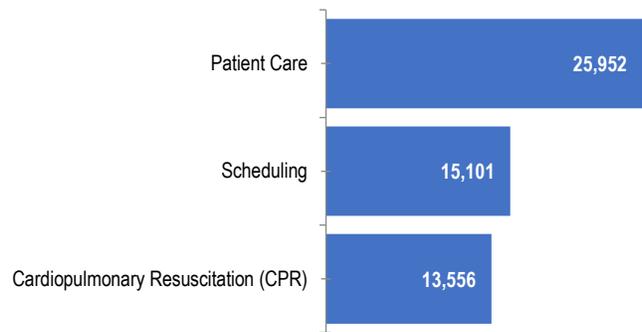
In construction, both construction laborers and carpenters are expected to add over 2,500 jobs in the next four years. As an industry that was largely unaffected by the employment impacts of the pandemic, and that retains high demand for its services in the county, middle-skill jobs here are good targets 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. For this industry, the skills in highest



**Specialized Skills in Demand Construction**



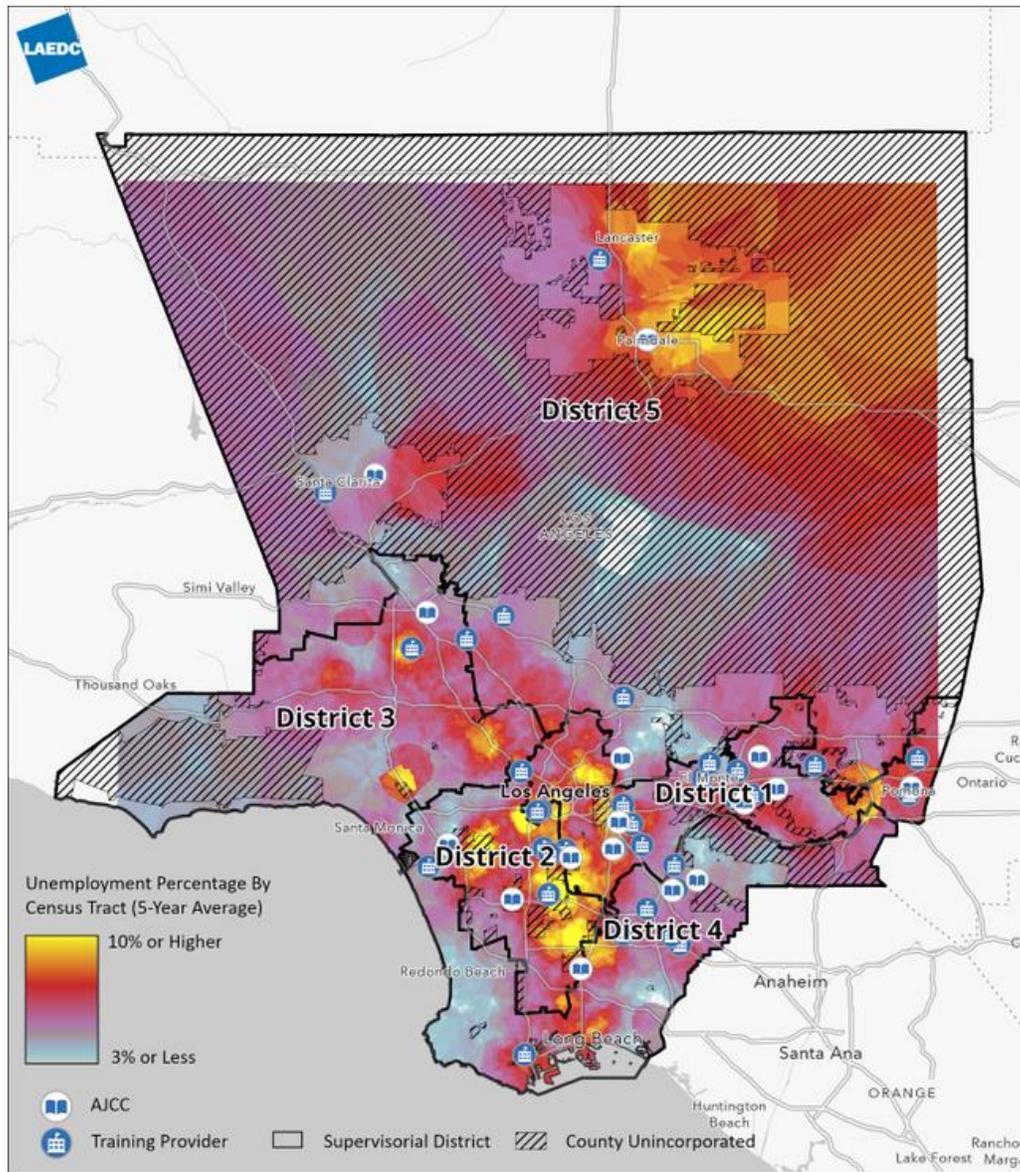
**Specialized Skills in Demand Healthcare and Social Services**



demand include scheduling, project management, budgeting, construction management, plumbing, repair, customer service, quality/assurance and control, sales and estimating.

### Training Programs Available

Our analysis demonstrated that workers in California with educational attainment above a high school degree have filed for unemployment at a lower rate than those who have a high school diploma (or equivalent) or less as their highest level of educational attainment. Through the local community colleges, America’s Job Center of California (AJCC) and training centers located throughout Los Angeles County, displaced workers have the opportunity to up-skill or train for skills needed for the Healthcare, Construction, Transportation and Warehousing industries, and many others with high growth potentials.



**AJCC & Training Centers in Relation to Unemployment (ACS 2014-2018)**

County of Los Angeles, Esri, HERE, Garmin, Swirebird, DeLorme, GeoEye, IGN, NOAA, USGS, Bureau of Land Management, SNA, NPS, American Community Survey. This map is for graphical purposes only, a representation of a legal survey. While extensive effort has been made to ensure that data sources are accurate and reliable with the best of current technology, the DMEC cannot assume liability for any damages caused by any errors or omissions in the data, nor as a result of the future 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. (Data last updated 01/14/2021) - GIS Contact: jacob@laedc.com

## 8. The Impact of COVID-19 on the County Population and Businesses

### KEY TAKEAWAYS

- *Demographics that have experienced disproportionately high rates of unemployment are workers below 24 years old, minority workers and those with a high school education.*
- *Low-wage workers have lost jobs at much higher rates than those with higher incomes.*

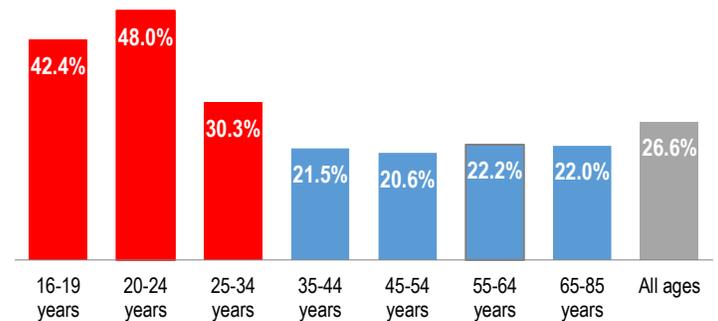
The economic challenges of the COVID-19 pandemic have not been equally distributed, as the fortunes of businesses and households have been split along demographic lines, access to aid and more. Perhaps the clearest example of this divide has been the difference in struggle between low-income and high-income workers. High-income workers in computer and mathematical, professional services and management occupations were able to smoothly transition to online work, which has provided steady income and stability throughout the pandemic. Conversely, low-income jobs performed on location such as food service and personal care were unable to make this transition, and these occupations have faced reduced hours, furloughs and layoffs due to their non-essential status. In this section, we examine the groups which have been most impacted by the pandemic and its economic burdens.

### **The Hardest-Hit Demographics by Unemployment Insurance Claims**

*The following groups filed unemployment insurance claims at disproportionately high rates:*

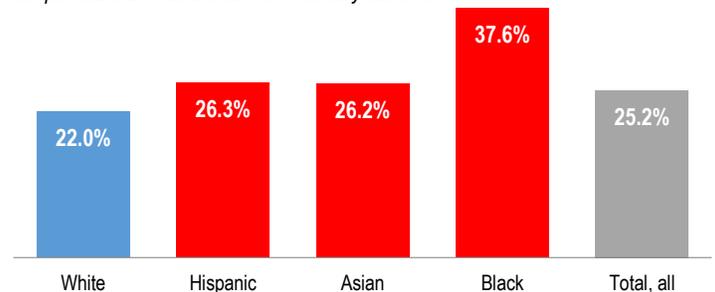
- *Under 34 years old.*
- *Identify as Black, Hispanic, or Asian.*
- *Have only a high school education.*
- *Identify as female.*

**Exhibit 8-1**  
Initial UI Claims in CA by Age Group\*  
unique claimants as a share of February labor force



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

**Exhibit 8-2**  
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

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 the magnitude of COVID-19’s labor market impacts and how different types of workers feel these effects. From mid-March to the end of August 2020, close to 6.9 million unique California claimants, just over 39 percent of the state’s labor force in February, 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.

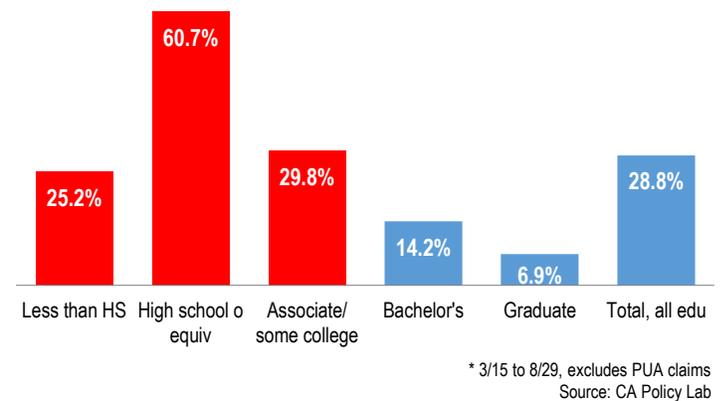
Younger workers have been impacted by the pandemic disproportionately, as over 44 percent of unique claimants are under 35 years old. Exhibit 8-1 compares the number of unique claimants by age group to the size of that cohort’s labor force in February 2020, it shows the number of unique claimants between 20 and 24 years old was equal to nearly half of the pre-pandemic labor force in that cohort.

There are also disparities in unemployment claims when dividing the county population by race and ethnicity. The share of unique claimants that reported as Black was equal to 37.6 percent of the Black labor force in February 2020. Hispanic and Asian claimants accounted for about a quarter of their respective labor forces, while White workers fared the best at just 22 percent (Exhibit 8-2).

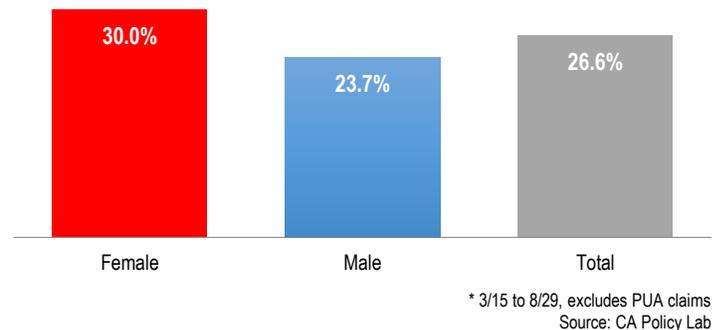
Exhibit 8-3 breaks down unemployment insurance claims by educational attainment and shows that workers with lower levels of education have been massively affected by unemployment. The number of workers with a high school education that filed a unique claim was equivalent to over 60 percent of the county’s pre-pandemic labor force with this education level. Those with less than a high school diploma, an associate degree or some college experience have also struggled, while workers with a bachelor’s or graduate degree have been much less affected.

Extremely high proportions of Black and Asian individuals with a high school diploma or equivalent, filed unemployment claims (equivalent to 88.6 percent and 74.4 percent of these groups’ labor force, respectively).

**Exhibit 8-3**  
Initial UI Claims in CA by Educational Attainment\*  
unique claimants as a share of February labor force



**Exhibit 8-4**  
Initial UI Claims in CA by Gender\*  
unique claimants as a share of February labor force



Other severely affected groups include female workers with a high school diploma (52.8 percent of the labor force filed claims) and workers between the ages of 16 and 23 with a high school diploma (67 percent filed claims).

Overall, women have been harmed by unemployment to a higher degree than men, as demonstrated in Exhibit 8-4. Women are employed at higher rates in hardest hit industries, such as hospitality and personal services, they are typically responsible for childcare duties and have also voluntarily left the workforce at higher rates to care for children who are being homeschooled, leading to higher numbers of unemployment claims.

### Small Businesses

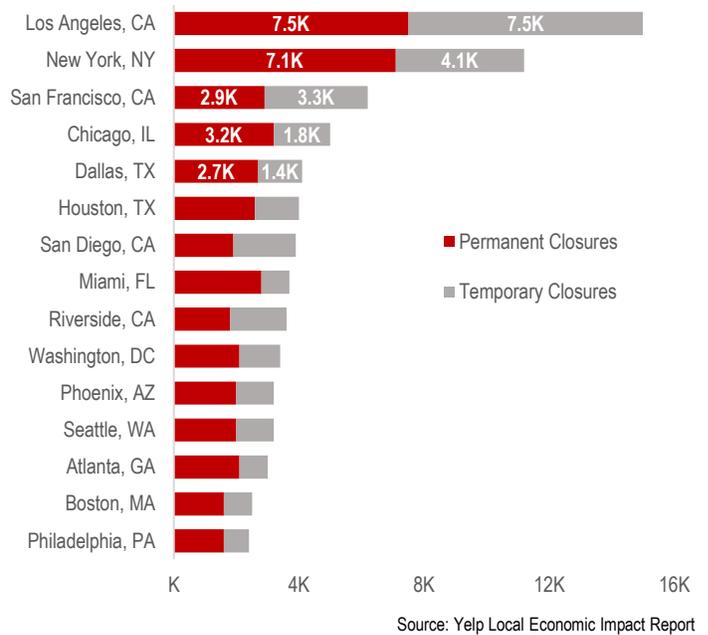
*Support to small businesses struggling during the pandemic has been flawed, as those with established banking relationships or higher amounts of employees received priority for assistance.*

It has been a trying time for all types of businesses in Los Angeles County, due to strict closure guidelines and the slow trajectory of recovery which has limited revenue for an extended period of time. From March 1 to August 31, Yelp reported more temporary and permanent business closures in Los Angeles than any other metro in the country (Exhibit 8-5).

Small businesses in particular have struggled immensely in the county, as Exhibit 8-6 shows. In mid-April, nearly half of all small businesses were closed, and even as of November 9 there was still a 28.6 percent decline in the number of small businesses open in Los Angeles.

Compounding these challenges was unequal access to aid programs in the first few months of the pandemic. More often than not, small businesses receiving assistance were closer to the 500-employee mark (the Small Business Administration classifies businesses with 0-500 employees as “small”), as these organizations tended to have more resources and are more familiar with applying for financial assistance programs. For example, in the first round of the Paycheck Protection Program (PPP), banks awarded assistance to those with established banking relationships first<sup>7</sup>. Therefore, much of the funding designated for “small businesses” went to

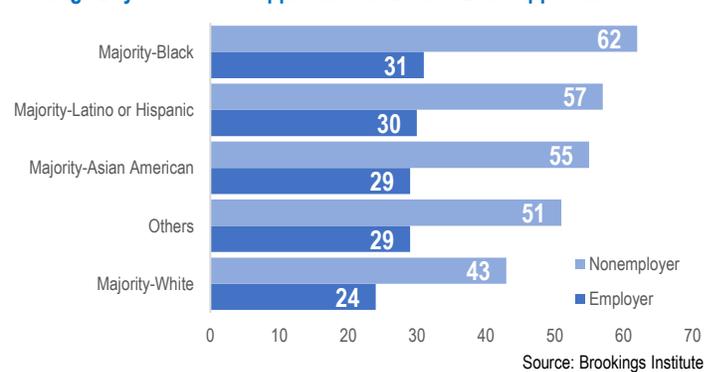
**Exhibit 8-5**  
Business Closures by U.S. Metro Since March 1



**Exhibit 8-6**  
Percent Change in Number of Small Businesses Open



**Exhibit 8-7**  
Average Days Since PPP Application Started to Loan Approval



<sup>7</sup> "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>.

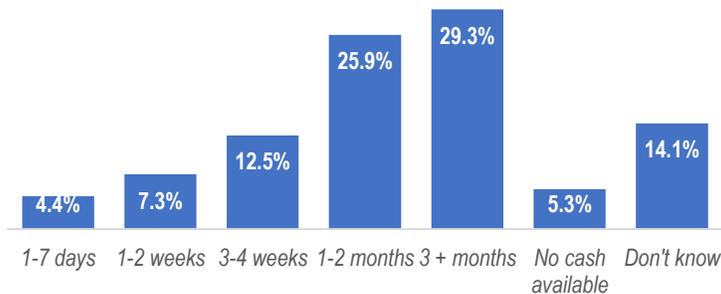
larger companies rather than truly small and micro-enterprises.

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 8-7 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 high proportions of Black and Hispanic workers filed for unemployment insurance in California, clearly these loans failed to effectively keep small businesses in minority communities afloat.

The Small Business Pulse Survey gives us more detailed insight into the fortunes of small businesses in Los Angeles County. At the end of May, about 87 percent of survey respondents reported moderate or large negative effects related to COVID-19, and 57 percent reported their operating revenues, sales and receipts had decreased. Even by mid-November, a disturbing 79 percent of survey respondents were still reporting negative effects from the pandemic, though only 36 percent were reporting decreased revenues.

Exhibit 8-8 shows how businesses were faring in the middle of November according to cash on hand for business operations. Less than 30 percent of small businesses had enough to cover operations for over three months, while 29.5 percent had cash available for less than a month or none at all. This does not account for businesses that had already run out of cash and were forced to close earlier in the pandemic.

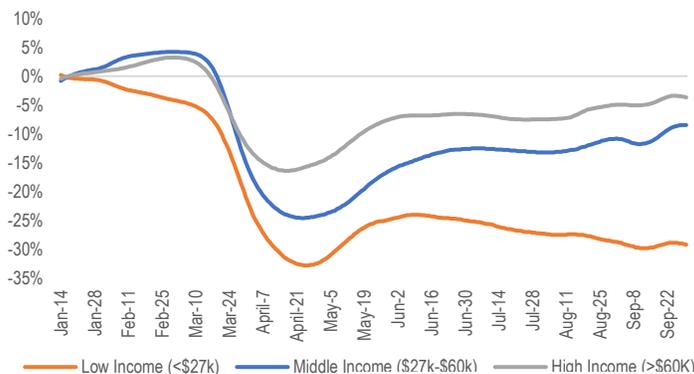
**Exhibit 8-8**  
Businesses With Cash on Hand to Cover Business Operations For:



The Week of 11/9 - 11/5

Source: Small Business Pulse Survey

**Exhibit 8-9**  
Percent Change in Employment by Income Bracket, LA County



Source: Opportunity Insights Economic Tracker

**Low-Income Households**

*Low-wage workers have lost jobs at higher rates than those with higher wages, potentially leading to greater income inequality challenges in the coming years.*

In the midst of the pandemic, lower income households have been facing a tremendous amount of difficulty related to the disruption. Statistics from the Opportunity Insights Economic Tracker, developed by Harvard University and Brown University, show that while high wage (greater than \$60,000 annually) employment began to rebound expeditiously and efficiently by August, low wage employment (less than \$27,000 annually) has remained down by almost 30 percent (Exhibit 8-9).

As low income is often coupled with lower levels of educational attainment, workers who have lost their jobs will find it more difficult to reacquire new ones in similar sectors decimated by the economic effects of this pandemic. 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.

The Census Bureau’s Household Pulse Survey measures how households have been impacted by the pandemic at home. In their October 28 to November 9 release, results found that 37.6 percent of adults in Los Angeles County reported living in households where it had been somewhat or very difficult to pay for usual household expenses. Additionally, 12.4 percent of adults were living in households where there was either sometimes or often not enough to eat in the last seven days, and 6 percent were behind on rent or mortgage payments or had little confidence about paying on time next month.

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.



### ***Vulnerable Populations***

*Homeless workers are concentrated in industries that have been hardest hit by the pandemic.*

### ***Homelessness During the Pandemic***

The annual count of individuals experiencing homelessness in Los Angeles County, conducted by Los Angeles Homeless Services Authority (LAHSA), reported that there were 66,346 homeless in January 2020, an increase of 12.7 percent year-over-year<sup>8</sup>. 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 homeless.

<sup>8</sup> 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>

In terms of employment, the pandemic has also negatively affected employment in several industries where homeless workers are concentrated. Exhibit 8-10 shows the breakdown of recent industry employment in Los Angeles County’s Homeless Management Information System through the years of 2010 to 2018.

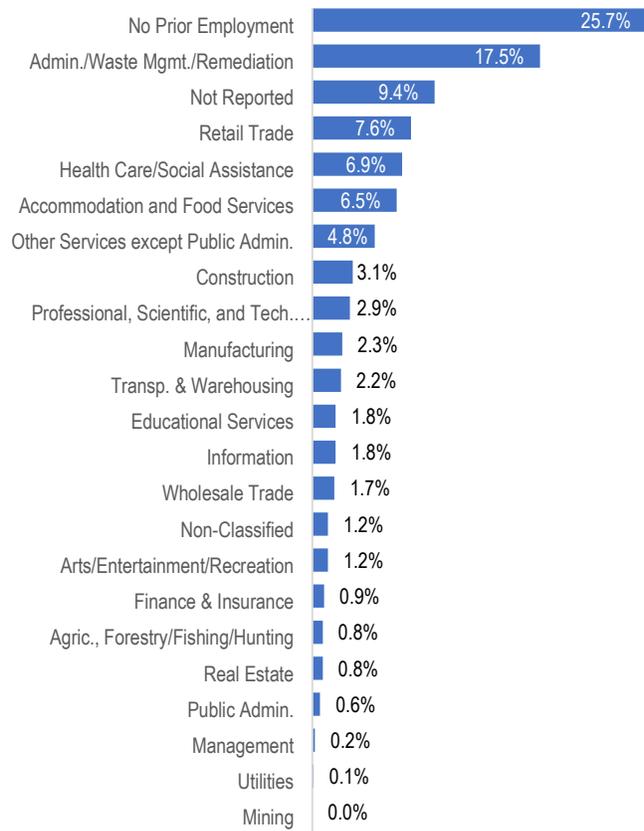
Homeless service clients are largely concentrated in low wage jobs; 7.6 percent last worked in retail trade occupations, 6.9 percent in health care and social assistance, and 6.5 percent in accommodations and food services. Another 17.5 percent were located in administrative and support or waste management 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 18,799<sup>9</sup>. 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 inadequate services for both children and biological

<sup>9</sup> DCFS Data and Monthly Factsheets. (n.d.). Retrieved January 12, 2021, from <https://dcfs.lacounty.gov/resources/data-and-monthly-fact-sheets/>  
 10 Font, S. (2020, July 29). The Impact of the COVID-19 Pandemic on Children in Foster Care. Retrieved January 12, 2021,

**Exhibit 8-10**  
**Most Recent Industry Employment at Time of HMIS Entry**  
*by Industry, 2010 to 2018*



Source: CA Policy Lab

parents<sup>10</sup>. Additionally, group foster homes have a high risk for viral spread of COVID-19, making care an even larger challenge.

**High Cases in Criminal Justice**

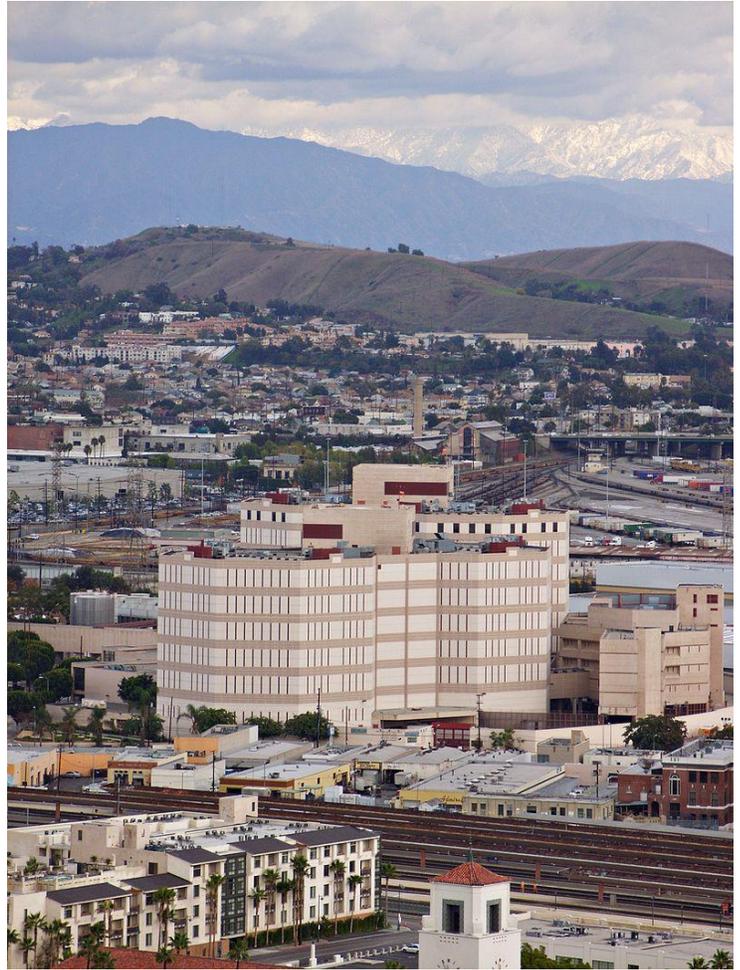
According to data collected by the Vera Institute, the daily jail population in Los Angeles County declined from the pre-COVID average of 17,000 people to around 12,000 from April to June 2020. This was the result of active steps taken by the Los Angeles criminal justice system to limit arrests, as transmission

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

of the virus in jails and prisons became a major concern<sup>11</sup>. This did not last however, as recent data shows the daily jail population sits around 15,450 as of December 9.

The virus has impacted the prison population, there have been over 45,000 cases of COVID-19 in California state facilities (a 37 percent cumulative case rate) and nearly 4,500 in federal facilities (a 39 percent cumulative case rate)<sup>12</sup>. These case rates are far higher than that of all California residents, which was around 7 percent in mid-January. There have been just over 200 deaths due to COVID-19 among incarcerated people in California since the onset of the pandemic.

For a much more detailed report on unemployment claims, small businesses, households and vulnerable populations during the pandemic, begin at Page 53 in the Appendix.



Source: <https://commons.wikimedia.org/wiki/User:BDS2006>

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11 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>

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

## 9. 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.
- 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 15<sup>th</sup> 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.