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The State of Work: Transportation, Distribution, and Logistics in the Inland Empire

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The State of Work



Transportation, Distribution, and Logistics in the Inland Empire

FEBRUARY 2024



Plug In IE



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EXECUTIVE SUMMARY

“The State of Work: Transportation, Distribution, and Logistics in the Inland Empire” offers a comprehensive exploration of the Transportation, Distribution, and Logistics (TDL) sector in Southern California’s Inland Empire. This pivotal sector, integral to both national and global economies, includes transportation services, warehousing, and logistics services. Despite recent size decline, the TDL sector has shown rapid expansion over the last five years, particularly in warehousing and transportation, significantly impacting the region’s employment landscape.

This report delves into the various challenges and opportunities presented by the TDL sector. Notably, the concentration of warehouses and distribution centers has sparked concerns about environmental impacts, traffic congestion, and job quality. The authors also examine the geographic spread of warehouse developments and their community and environmental ramifications, highlighting the complex balance between economic growth and maintaining quality of life.

A key focus of this report is the detailed occupational and industry analyses, underpinned by both quantitative and qualitative research. This includes insights from interviews with warehouse workers and truck drivers, offering a closer look at the realities of working conditions in the sector. The findings reveal disparities in wages, job security, and working conditions, particularly for blue-collar roles, and discusses the implications of automation and technological advancements in the TDL sector.

This report emphasizes the need for policy interventions to enhance labor standards, enforce labor laws, and integrate labor considerations into climate policies, drawing inspiration from recent legislation like the temporary agency workers’ bill of rights. It also highlights future research directions, focusing on the sector’s continuous evolution and ensuring that the voices of those most affected remain central. The report advocates for a balanced approach, prioritizing both economic growth and the well-being of workers and the community.

The report concludes with a call to address the multifaceted impacts of the TDL sector. It underscores the importance of informed policymaking and strategic planning to harness the sector’s economic potential while mitigating its challenges. By providing a nuanced view of the TDL sector, the report aims to guide decision-makers, employers, workers, and community activists towards a sustainable and equitable economic future in the Inland Empire.

INTRODUCTION

The Inland Empire (IE), consisting of Riverside and San Bernardino Counties in Southern California, has emerged as a critical nexus for the Transportation, Distribution, and Logistics (TDL) or goods movement sector. The TDL sector, pivotal to the functioning of both the national and global economy, encompasses a wide range of jobs or activities involved in the movement of retail and wholesale goods and business supplies from producers to consumers and businesses. It includes transportation services (via road, rail, air, and water), warehousing and storage facilities, and logistics services that coordinate and manage the flow of consumer products, manufacturing parts, and other goods from manufacturing sites and the Ports of Los Angeles and Long Beach to retail stores, businesses, and, increasingly to consumers' homes.

This sector is very large and, although its growth has stalled over the past year (Southern California Association of Governments 2023), it grew significantly over the past five or more years (CSI and IELCC at UCR 2023; Emmons Allison and Reese 2023). As a result, the "transportation and warehousing" industry was the second largest employing industry in the IE, providing 13 percent of all jobs in 2021–2022 (see Table 1 in Appendix 1). By 2023, it was the largest employing industry, employing 16.4 percent of payroll jobs (Southern California Association of Governments 2023). Within the IE, most Transportation and Warehousing jobs are located within San Bernardino County. In fact, Transportation and Warehousing provides the largest percentage of all jobs (16.2%) in San Bernardino County and the fourth highest percentage of jobs in Riverside County (9.7%). Moreover, we find that employment in Transportation and Warehousing grew rapidly (84%) over the five year period between 2016–17 and 2021–22 (see Tables 1 and 2 in Appendix 1).

The extent and growth of employment in the TDL sector is likely to be even larger than these statistics suggest since workers involved in the movement and storage of goods, or logistics, are commonly employed by other industries, such as employment services (temporary agencies), wholesale trade, and retail.

When we consider whether the TDL industry has had a "positive" or "negative" impact for IE workers, we must consider the sector holistically, from the bottom-up, from the perspective of local residents, many of whom are workers who make our economy run.

Our approach is guided by the following three assumptions:

- Environmental impacts are worker impacts since many workers both work and live in the IE.
- When assessing the impacts of TDL on workers, we need to examine the conditions of blue-collar, non-supervisory workers, and not just focus on higher-paying occupations.
- Both quantitative data and worker experiences (as workers themselves understand them) matter.

DEFINING THE TDL SECTOR

At its core, the TDL sector is characterized by its focus on the efficient and effective transportation and storage of physical goods. This encompasses everything from the management of supply chains to the actual physical movement of products, and sometimes their final assembly for preparation for consumers and retail stores. The sector is broad, covering a range of sub-sectors such as trucking, warehousing, freight rail, air cargo, and logistics services. The occupational landscape of the TDL sector within the IE is diverse, ranging from airline pilots, blue collar truck drivers and warehouse workers, to white collar logistics analysts and supply chain managers and supervisors.

The broader goods movement sector involves at least 30 industries, among which the warehousing, delivery, and trucking industries are the largest. Most of the job growth in this sector in Southern California over the next decade is expected to be among heavy tractor-trailer truck drivers and laborers and freight, stock, and material movers within warehouses. While most (60%) of Southern California's trucking and freight transportation companies are located in Los Angeles County, Riverside and San Bernardino are home to about 69% of the warehousing and storage facilities. Warehouse and storage facilities and jobs within them are expected to further increase in the IE over the next decade due to their proximity to freeways and the relatively lower cost of land compared to coastal counties (ICF Incorporated, LLC 2019).

This report examines the state of work in the IE's TDL sector, particularly the most common blue-collar occupations that serve commercial goods movement: long-haul and local delivery truck drivers and warehouse

workers, including those employed in large distribution centers as well as small delivery stations. Among blue-collar warehouse workers, we focus on 5 common non-supervisory occupations: laborers, forklift drivers, packagers, order fillers, and inventory clerks.¹ We also examine the state of work among the supervisors and managers of truck drivers and blue-collar warehouse workers. Our research combines information from previous studies as well as presenting new findings from both quantitative and qualitative data.

Our quantitative analyses focus on the extent of full-year and full-time employment, earnings, and access to employment benefits among workers employed within key occupations and industries within the TDL sector. For these analyses, we use public data from government surveys, including the American Community Survey (ACS), Current Population Survey (CPS), and Quarterly Workforce Indicators (QWI). In addition, we report findings from an analysis of Burning Glass data on job advertisements from the most recent year available to our research team (November 2020 through October 2021).

Our qualitative analysis draws on in-depth interviews collected by our research team with current and former workers employed within trucking and warehousing in the IE as well as several key informants that were representatives of organized labor and/or involved in workforce development. Our research team interviewed a total of 32 workers currently or formerly employed in the TDL sector. Of these, 12 were blue-collar warehouse workers, 15 were truck drivers, 1 provided administration and business support for a family member's independent trucking operation, 2 owned a small logistics company, and 2 were warehouse managers. Our truck driver interview sample included both short-haul and long-haul truck drivers and drivers that were owner operators as well as employees. Our warehouse worker interview sample was mostly direct hires, but at least two were hired through temporary agencies. Interviewees' ages ranged from early twenties to mid-fifties. Seven were women and 25 were men. In terms of race and ethnicity, 14 identified as Latino only,² 7 identified as Black only, 1 as white only, 9 as Asian only (1 Thai and 8 Punjabi/Sikh), and 1 as mixed race (Mexican and Cambodian). Interviews were transcribed and then analyzed in terms of common themes. We also summarized our interview findings through worker profiles. Throughout this report, we put our research findings into context by reviewing previous research findings on working and employment conditions of the TDL sector both in the region and the United States.

THE TDL SECTOR IN THE INLAND EMPIRE: CHALLENGES AND OPPORTUNITIES

The TDL sector's impact on the region is multifaceted. While it offers significant economic opportunities for the IE, it also presents challenges.

For example, the geographical expanse of the IE, with its proximity to major ports like Los Angeles and Long Beach and its extensive transportation infrastructure, makes it an ideal location for TDL activities. The region's vast network of highways, such as the I-10, I-15, and I-215, rail lines, and intermodal yards (Union Pacific and BNSF) facilitate the movement of goods, connecting the area to other parts of California and other states.

However, the concentration of warehouses and distribution centers has raised concerns about environmental impacts, traffic congestion, and the quality of jobs available to local residents. Although most IE residents experience increased traffic and air pollution associated with the rise of the TDL sector in the region, some IE communities are more heavily impacted by its growth than others since warehouses are more densely concentrated within particular cities than others. Work in the TDL sector, particularly for truck drivers and warehouse workers, is often marked by demanding physical labor, long hours, and, in many cases, precarious employment conditions. The recent surge in e-commerce has further intensified the pressure on these workers, with higher demands for rapid order fulfillment.

Research also finds that only a small fraction of warehouse owners are located in the region. As a result, the profits from the logistics industry seem to be leaving the region rather than benefiting it, and most warehouse owners do not experience their negative impacts on local communities (Horseman 2023).

Understanding the occupational composition, geographical qualifications, and the realities of work within this sector is essential for policymakers, employers, workers, and community and labor activists. As the IE continues to evolve as a key hub in the national and global supply chain, addressing these challenges and leveraging opportunities will be crucial for sustainable and equitable economic growth.

KEY AREAS WITH DENSE WAREHOUSE DEVELOPMENTS

Certain areas within the IE have become hotspots for warehouse developments, driven by the burgeoning demand for storage and distribution centers. These cities have witnessed rapid growth of warehouses and distribution centers given their strategic locations along major highways, railroads, and/or airports, as well as having large tracts of land suitable for such developments.

Research on the amount of land in the region being developed for warehousing and logistics uses finds that 2,275 warehouses were built in the IE region between 2005 and 2021 (Robert Redford Conservancy 2024).

The warehouses also account for a significant portion of the region's developable land. Altogether, by 2021 there were about 4,299 warehouses located in the IE, and about 9,500 in Southern California that are over 1 acre in size. The warehouses are part of a vast network connecting the ports of Los Angeles and LA to other parts of California (and the nation), with high concentrations in the cities of Industry, Commerce, and Carson in LA County (Robert Redford Conservancy 2024; Robert Redford Conservancy et al. 2024; Singh and Uteuova 2022). By 2022, the top 10 cities in the IE with the most space dedicated to warehouses were (in rank order of square footage of existing and planned and approved warehouse space): (1) Ontario, (2) Moreno Valley, (3) Fontana, (4) March Joint Powers Authority, (5) Perris, (6) Rialto, (7) Chino, (8) Jurupa Valley, (9) Beaumont, and (10) Rancho Cucamonga (Horseman 2024).

While many of the highest concentrations of warehouses in the IE are in places that have historically been heavily industrial, warehouses are also starting to move into areas that were formerly primarily residential, like Bloomington and Rialto, with large industrial trucks traveling within residential areas. Residents in many of these areas oppose these new warehouse and logistics-related developments, though the typical narrative from municipal-level entities like county board of supervisors, planning departments, and local officials is that these developments will bring in jobs and economic stimulus (De Lara 2018; Emmons Allison and Reese 2023; Muñoz et al. 2023). A few cities have issued warehouse moratoriums, but even in these areas, new logistics-related developments continue to be approved.

Among IE cities, Ontario has, by far, the largest square footage of warehouse space (Singh and Uteuova 2022). Known for its Ontario International Airport and proximity to major highways, the city has become a major

hub for air cargo and freight movement. The city's landscape has been transformed as warehouses have replaced dairies and rural farmlands. Amazon is building its largest known warehouse in Ontario, California, covering 4,055,000 square feet, almost a fifth the size of Disneyland. Once completed, the facility is expected to dispatch about 125 million packages annually. In 2022, another 5.3-million-square-foot logistics center was planned adjacent to Amazon's warehouse (Singh 2022).

The World Logistics Center (WLC) in Moreno Valley, designed to be a 40.6-million-square-foot warehouse park, will be among the largest of its kind globally. Approved in 2015 and expected to be completed by 2030, the WLC will occupy 2,610 acres or 10% of the city's land (equivalent to 700 football fields). Proponents of the project suggest that it will help to boost employment in the region by generating over 33,000 jobs in construction and operations. Local residents and environmental organizations, on the other hand, remain concerned that it will increase traffic, air pollution, and harm native wildlife. Environmental lawsuits against the approval of this project were settled in 2021 for \$47 million and required the developer to adopt various measures to minimize environmental and social impacts, including the installation of rooftop solar panels and electric vehicle charging points (Bartholomew 2023).

COMMUNITY AND ENVIRONMENTAL IMPACTS

The expansion of warehouses and consequent pollution of the IE is an environmental justice concern that is exacerbating existing social, economic, and health inequities in the region. As of 2023, the IE has 1 billion square feet of warehouse space and is awaiting the approval of an additional 170 million square feet, which will increase the production of emissions in the region by 10%. Focusing on the impacts of the 3,321 warehouses larger than 100,000 square feet in the South Coast Air Basin (which includes the counties of Los Angeles, Orange, Riverside, and San Bernardino), researchers found that warehouses generate over 200 million diesel truck trips, which in turn produce over 300,000 pounds of diesel particulate matter, 30 million pounds of nitrogen oxide, and 15 billion pounds of carbon dioxide per year (Muñoz et al. 2023).

Geography and extreme weather such as "heat waves, temperature inversions and atmospheric stagnation episodes" make the bad air quality worse (Muñoz et al. 2023: 10). The IE is a basin surrounded by the San Gabriel, San Bernardino, Santa Ana, and San Jacinto

mountains. This geography channels air currents through the IE's mountain passes, carrying pollutants from the Los Angeles basin, but also prevents pollution from escaping (Muñoz et al. 2023). The combination of geographic and socio-economic factors have resulted in the Inland Empire having the highest ozone levels in the country (American Lung Association 2023).

Communities that are close to warehouses are also adversely impacted by nuisances such as noise pollution, increased traffic congestion, and monotonous warehouse facades stretching along for miles on roads that have been made unwalkable because they exist at the scale of semi-truck traffic, not humans. Warehouse expansion also disrupts communities' ecology and way of life, replacing agricultural lands, areas of cultural significance, green spaces, and natural carbon sinks such as desert lands (Muñoz et al. 2023). The South Ontario Logistics Center Specific Plan of 2021, for example, was designed to replace more than 200 acres of open lands (Kaneko 2022).

Community advocates view the disproportionate location of warehouses in low-income communities of color as environmental racism. A 2021 report by think tank Economic Roundtable examined Southern California census tracts that spend the most amount of money on Amazon shopping, census tracts where warehouses are located, and census tracts where warehouse workers live. The results showed the economic polarization and structure of privilege in the four-county region. Amazon's consumers are concentrated in affluent coastal and hillside communities. Warehouses and workers are concentrated in struggling working class communities. And public infrastructure bears the cost of trucking goods from ports to warehouses to consumers (Flaming and Burns 2019).

HEALTH IMPACTS

The concentration of warehouses being built near residential areas puts community members at greater potential risk for air pollution-related health problems. For example, residents living near distribution centers or corridors with heavy diesel truck traffic have a higher risk of experiencing asthma or cancer. Some census tracts in Riverside County have over a 15% asthma rate, with some in San Bernardino County at almost 20% (Muñoz et al. 2023). Cancer risk is within the 95th percentile near the Ontario warehouse gigacenter (Muñoz et al. 2023). These rates become particularly concerning when considering where these warehouses are being

built. Within the South Coast Air Basin, 640 schools are within a half-mile radius of a warehouse (Torres et al. 2021). There are also racial and socio-economic disparities related to warehouse locations. Historically marginalized groups are also over-represented when examining proximity to warehouse locations. In Riverside County, 61% of Latino residents live within 300 feet of a warehouse, though Latino residents make up only 46% of the population. In San Bernardino County, the comparable figures are only slightly better: 61% and 50%, respectively (Flaming and Burns 2023).

Environmental justice and other community activists have pressured public regulatory agencies to protect residents from bad air quality (Torres et al. 2021). In response, the South Coast Air Quality Management District passed an Indirect Source Rule in 2021 that requires warehouses over 100,000 square feet to offset pollution from truck traffic by investing in zero-emissions or near-zero-emissions technology or pay fines. Since the rule came into effect recently, its effects are not yet known.

Another issue is health care access. Not only are IE residents more likely to be exposed to air pollution than those living in coastal counties, such as Orange County, but they also have lower access to health care. There are fewer doctors in the IE per person compared to Orange County, potentially because doctors in the IE are paid less and might seek out more lucrative positions in more affluent neighboring counties. Family incomes also tend to be lower in the IE than in Orange County, which tends to further reduce children's and other residents' access to health care (Muñoz et al. 2023).

As discussed in our interview findings below, air quality as a public health issue is also a worker issue when so many residents work in the TDL sector yet receive inadequate health care through their employers. The intersection of environment, health, and work is further evident in the push for California's Occupational Safety and Health Agency to implement a meaningful indoor heat standard for workers (Warehouse Worker Resource Center 2023). On a macro level, carbon emissions, worsened by the concentration of warehouses in the IE, exacerbate indoor heat issues. At the workplace, the combination of heat, poor air flow, higher incidence of respiratory illnesses, and lack of support for worker relief can lead to deadly working conditions.

Logistics developers continue to be drawn to the IE by regional boosters such as the Inland Empire Economic Partnership because of a vicious cycle. The region's low numbers of college graduates rely on so-called low-

skill jobs (Guilhem 2015), yet as the region's economy has grown ever more dependent on warehouses, this limits the options for workers, and workers have little leverage to demand and attain high-quality employment. The remainder of this report examines the state of TDL workers in the Inland Empire and then presents models for considering environmental impacts, the state of TDL work, and overall quality of life within the same frame.

IMPACTS ON WORKERS: QUANTITATIVE RESEARCH FINDINGS

Who are TDL workers and what are their employment conditions? To begin to respond to these questions, we analyzed survey findings from government surveys (ACS and CPS), focusing on key occupations and industries.

OCCUPATIONAL ANALYSES: KEY FINDINGS

Below, we compare the social and job characteristics of those employed as heavy-duty, medium-duty, and light-duty truck drivers and five of the most common blue-collar warehouse occupations (following De Lara 2013), and their supervisors and managers using 5-year ACS data unless otherwise specified. Unless otherwise specified, the occupational category used in these analyses includes both long distance and local delivery

drivers. For a detailed list and description of these selected eight occupations, see Appendix 2. We also consider how working conditions among blue-collar warehouse laborers (the most common blue-collar warehousing occupation) compares across several key industries.

Figure 1 shows the size of these occupations across all industries in the IE relative to the total number of employed workers in the IE. The most common blue-collar occupations in the TDL sector are laborers and freight, stock, and material movers (hand) and truck drivers. As might be expected, supervisors and managers are the least common among the eight occupations selected for analysis, making up the smallest percentages of employed workers.

As Figure 2 shows, most employed workers in each selected TDL occupation were Black or Latino, but the percentage of Black or Latino workers was the smallest among supervisors and managers in comparison to the blue-collar warehouse and truck driving occupations. Most of those employed in these 8 occupations are native-born, but immigrant workers made up significant percentages (19% to 43%) of those employed in these jobs. The occupations with the highest percentages of immigrant workers employed in them were hand packers and packagers (43%) and truck drivers and sales workers (40%). Immigrant workers made up the smallest percentages (19% each) of supervisors of

FIGURE 1.

Employment in select TDL occupations

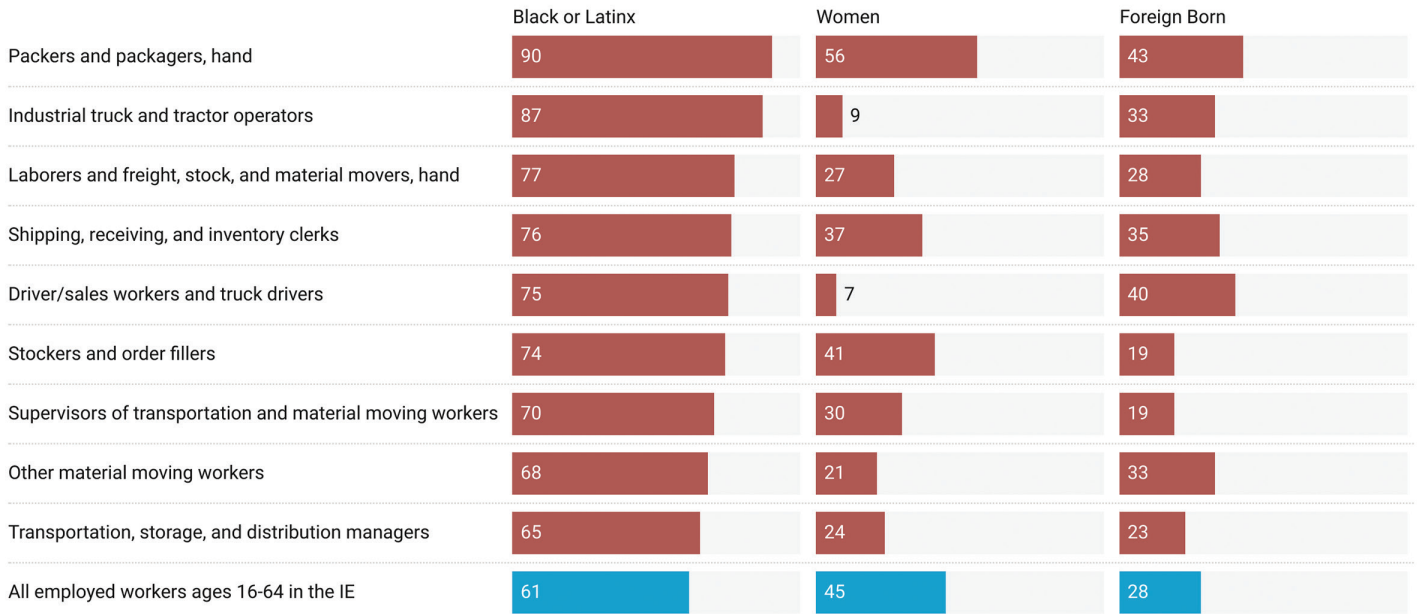
Workers employed in select, common TDL occupations by raw number and as a percentage of the total number of employed workers in the Inland Empire. Data are restricted to employed workers ages 16-64.

	Number of workers	Percentage of all employed workers
Transportation, storage, and distribution managers	1,545	0.04
Supervisors of transportation and material moving workers	2,830	0.08
Shipping, receiving, and inventory clerks	7,975	0.21
Industrial truck and tractor operators	11,325	0.25
Packers and packagers, hand	13,400	0.3
Stockers and order fillers	17,375	0.43
Driver/sales workers and truck drivers	29,707	0.77
Laborers and freight, stock, and material movers, hand	31,532	0.77

FIGURE 2.

Occupational segregation in select TDL occupations

"Occupational segregation" is the term used to describe when a demographic group is overrepresented in a particular type of work. This chart shows the percentage of Black or Latinx workers, women workers, and foreign-born workers in selected TDL occupations. It shows that Black or Latinx workers make up 61 percent of all employed workers ages 16-64 in Riverside and San Bernardino counties, but in every TDL sector occupation that we looked at, they are overrepresented. On the other hand, women are overrepresented in packer and packager jobs but underrepresented in every other occupation we examined. Women are drastically underrepresented in industrial truck and tractor (forklift and yard truck) operator jobs and truck driver jobs.



Source: American Community Survey 5-Year Data, 2021 (from IPUMS) • Created with Datawrapper

Transportation and Material Moving occupations and stockers and order fillers.

As we can see from Figure 2, the TDL sector has been and continues to be male dominated. Most of those employed in all of the TDL occupations shown were men with the exception of hand packers and packagers, an occupation where women made up a slight majority (56%) of employed workers. Stockers and order fillers were the second most gender integrated occupation shown, with 41% women. In all other occupations, women made up no more than 30% of the workers employed. The most male dominated occupations were industrial truck and tractor operators (9% of whom are women) and truck drivers and sales workers (7% of whom are women).

Figure 3 shows the median personal annual income from employment for each occupation. As expected, managers are the highest paid occupation, followed by supervisors. Median personal income is also notably higher among truck drivers and sales workers in comparison to all five of the selected blue-collar warehouse occupations. In fact, their median personal income

is just over \$11,000 more per year in comparison to the highest paid blue-collar warehouse occupation, industrial truck and tractor operators (or forklift drivers). Shipping, receiving and inventory clerks are the second highest paid among these selected blue-collar warehouse occupations. Hand packers and packagers receive the lowest median annual income (\$23,211) among all 8 occupations. Laborers and stockers and order fillers are also low paid positions, receiving a median salary of just over \$25,000 per year.

Figure 4 compares the median monthly incomes among each selected TDL occupation with the median monthly rent paid in the IE. The three lowest paid occupations (packers and packagers, laborers, and stockers/order fillers), each have about less than \$700 left over after paying rent to pay for all other bills, such as food, transportation, child care, health care and prescription medications, utilities, cell phones, clothing, etc. These findings suggest that these workers struggle to pay for basic bills and many likely rely on help from friends, family, or social assistance programs. Monthly budgets are tightest among packers and packagers, who only

end up with about \$520 per month to pay for non-housing related expenses after paying rent.

The contrast between managers and blue-collar warehouse workers is fairly stark. Managers can have about \$3,000 per month left over for non-housing related expenses after paying the median monthly rent for the region (see Figure 4). In comparison, truck drivers and supervisors end up with over \$1,000 less in monthly disposable income. This extra income may provide managers with greater ability to afford higher quality housing, establish savings, and/or spend money on leisure activities. Even so, median earnings are relatively low relative to the overall cost of living in the IE even among managers.

Median personal incomes among workers employed in the TDL sector do not provide living wages for workers with another non-working adult or child in their family according to the estimates provided by the MIT Living Wage calculator for Riverside County and San Bernardino County for 2021. According to these estimates for 2021, a worker with a family composed of two adults (one not working) and no children would need to earn an annual income of at least \$59,120 in 2021 to afford basic living expenses (including food, housing, transportation, health care, etc.), and workers with families with children, even single-parent families with one child, need to earn even more than this to earn a living wage for their families. Even transportation, storage, and distribution managers, with a median personal income of \$53,380 in 2021, are earning less than a living wage if they live with another non-working adult or a child, and just above the

living wage if they live with another wage earning adult and have two children (Glasmeier 2021a, 2021b; see Figure 3).

Most workers in these 8 TDL occupations are employed full-time and full-year (see Appendix 1 Figure 6). More than two thirds of workers primarily employed in each of these 8 occupations are employed full-year (or 50–52 weeks per year) but the extent of full-year employment varies across these occupations. More than 90% of managers, supervisors, and truck drivers/sales workers—the three occupations that have the highest median personal annual incomes—are employed full-year. In contrast, 77% of packers and packagers, which earn the lowest median personal incomes, are employed full-year.

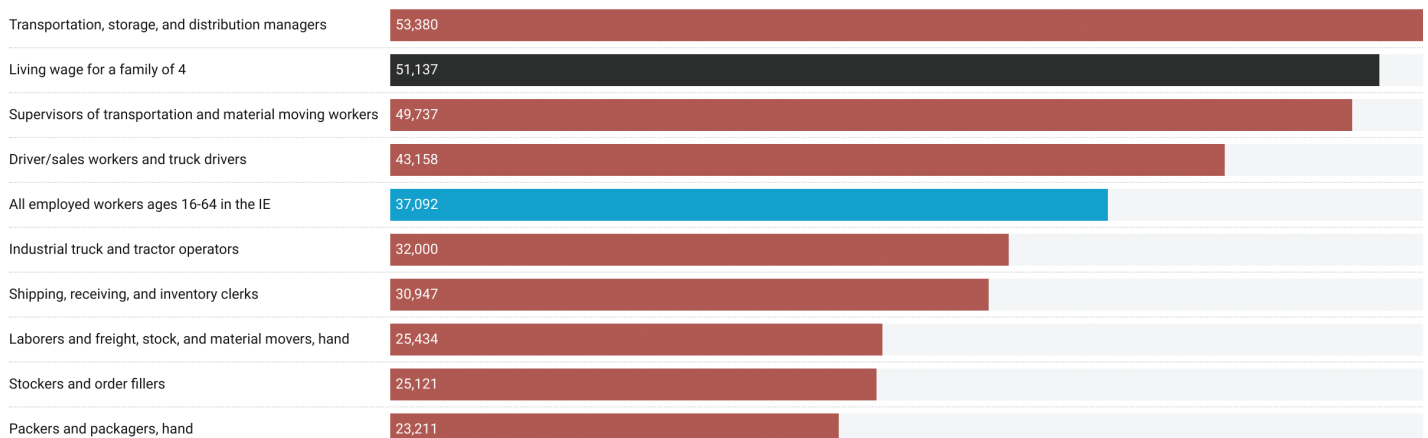
Most workers in each of the 8 selected occupations are also employed full-time (30 hours or more per week). Part-time workers are most common among laborers and stockers/order fillers, of whom 24% and 31% respectively are employed part-time. These figures may underestimate the extent of part-time and part-year employment within these industries since it only includes workers for which these occupations are their primary job. Undocumented immigrant workers are also likely to be under-represented in the ACS data since many avoid interactions with government officials.

Self-employment is most common among truck drivers/sales workers, 13% of whom are self-employed. Many of these drivers own and operate their own vehicles, some of whom may be misclassified drivers who mostly serve large logistics or retail companies. About 6%

FIGURE 3.

Median real annual earnings for select TDL occupations

Figures for each occupation are the median total pre-tax wage and salary income (i.e., money received as an employee) per worker for the previous year. Data are limited to employed workers ages 16-64. The black bar shows the required annual income before taxes that each adult would have to make (the "living wage") to cover all basic needs in a household with two working adults and two children across Riverside and San Bernardino counties. By this measure, only transportation, storage, and distribution managers made a living wage.



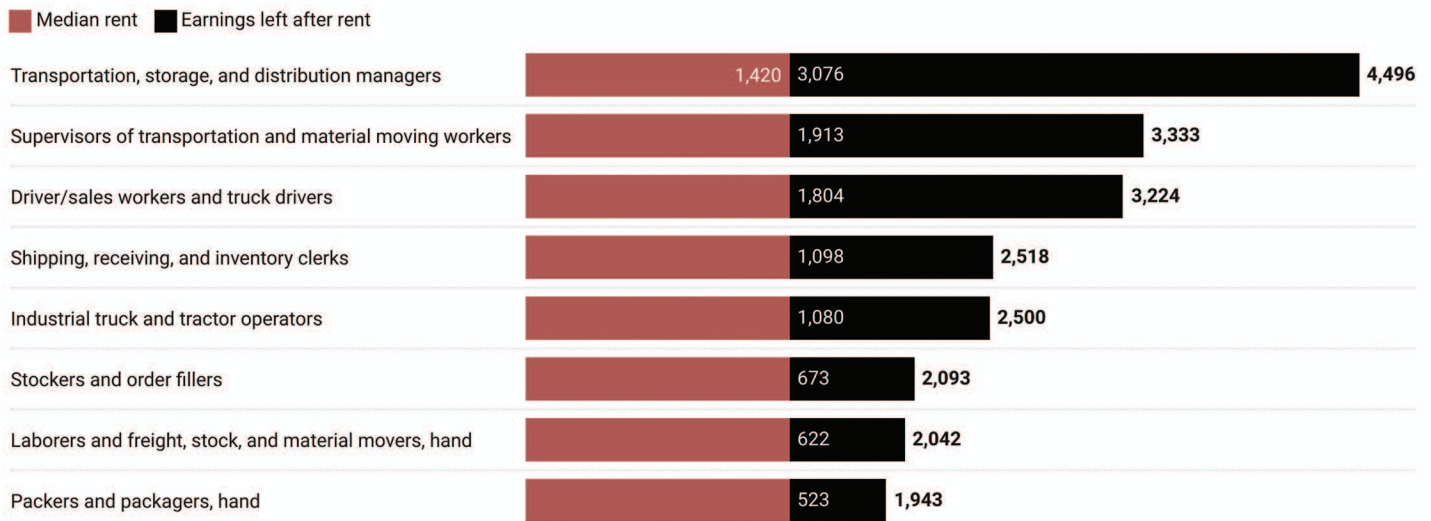
The living wage for Riverside and San Bernardino counties was calculated by averaging the required annual income before taxes for a family of four in each of the two counties, then dividing that figure in half to account for two working adults.

Source: American Community Survey 5-Year Data, 2021 (from IPUMS); MIT Living Wage Calculator for Riverside County, CA, and San Bernardino County, CA, 2021 (from Archive.org) • Created with Datawrapper

FIGURE 4.

What's left after rent

According to the US Department of Housing and Urban Development, a household is cost burdened if it spends more than 30 percent of its income on housing costs. For Inland Empire TDL workers in a sampling of occupations, the housing cost burden ranges from 73.1 percent for packers and packagers to 31.6 percent for transportation, storage, and distribution managers. The median monthly wage for each occupation is displayed in bold to the right of each bar.

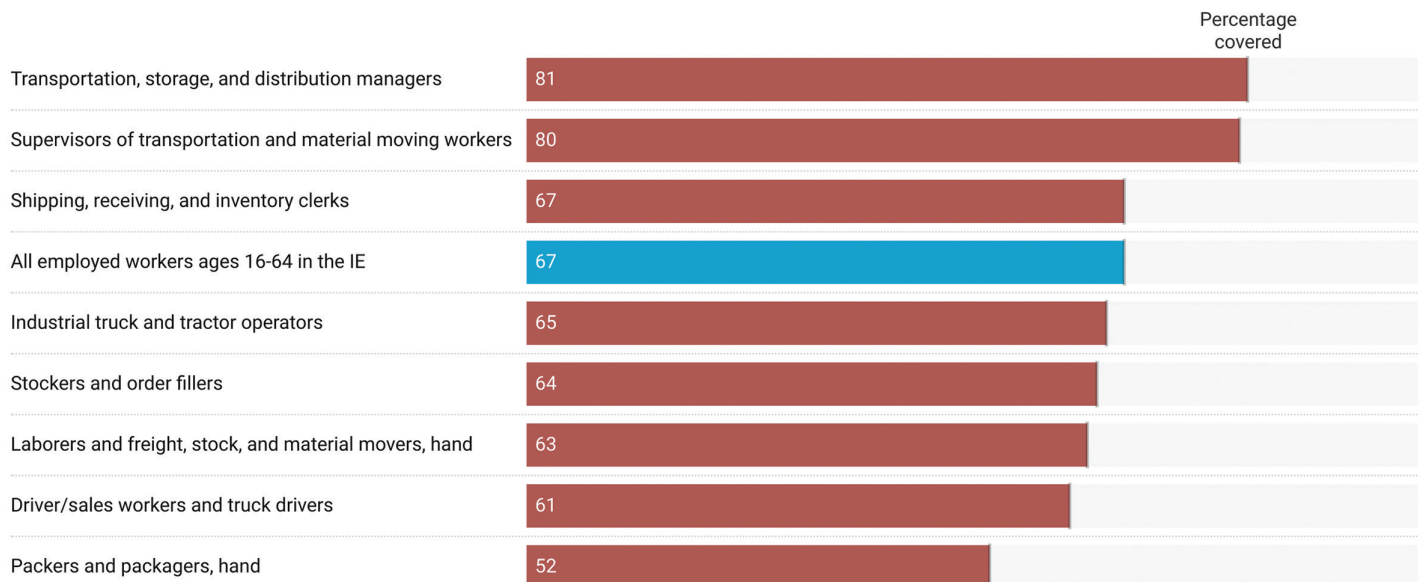


Earnings left after rent equal the median monthly wage across the region for each occupation minus the median monthly rent for the region of \$1,420.
 Source: American Community Survey 5-Year Data, 2021 (from IPUMS) • Created with Datawrapper

FIGURE 5.

Health insurance coverage with employer contributions for select TDL occupations

One hallmark of high job quality is for workers to have health insurance with employer contributions (U.S. Department of Commerce 2022). For statistical purposes, the American Community Survey counts workers who receive health insurance coverage through a family member's employer in this category. It is also important to note that health insurance coverage is a baseline. In practice, variations in co-pays, deductibles, provider networks, pharmaceutical costs, access to flexible spending plans, and other factors can shape the quality of health care that workers are able to receive.



Source: American Community Survey 5-Year Data, 2021 (from IPUMS) • Created with Datawrapper

of managers are self-employed, perhaps at smaller warehouses or logistics companies. Among all other occupations, only about 1–2% of employed workers are self-employed.

While most workers employed in all 8 occupations have employer-provided health insurance, as seen in Figure 5, coverage rates vary. At the lowest end of the spectrum, 48% of packers and packagers and 37% of laborers lack employer-provided health insurance. Among blue-collar truck drivers, 39% lack access to employer-provided health insurance. In contrast, 19% of managers and 20% of supervisors lack access to employer-provided health insurance.

Overall, these findings reveal that managers and supervisors tend to earn the most income, have the greatest access to employer-provided health insurance, and nearly all are employed full-time and full-year. On the other hand, packers and packagers tend to earn the least, have the lowest access to health insurance, and are the least likely to have full-time, full-year employment. Among blue-collar workers, truck drivers tend to earn more than warehouse workers. Additional analyses of employed workers in selected TDL occupations based on ACS data can be found in Table 3 in Appendix 1.

JOB OPPORTUNITIES BY OCCUPATION & SUBREGION: BURNING GLASS DATA FINDINGS

To further examine how job opportunities for truck driving and warehouse labor vary across subregions within the IE, we analyzed Burning Glass data on job postings for the most recent year of data available to our research team. According to data from November 2020 to October 2021, the majority of job postings across the heavy duty truck drivers, light duty truck drivers, and laborers occupations are concentrated in either East San Bernardino County or in Northwest Riverside County. The desert regions, which have smaller populations, have fewer job postings, but do have a significantly higher ratio of all job postings in Heavy and Tractor-Trailer occupations than the other occupations studied. These findings show how TDL workers in the IE have more employment opportunities to obtain work in some subregions than others (see Figure 6).

INDUSTRY ANALYSES: KEY FINDINGS

As Table 4 in Appendix 1 shows, workers employed in the Transportation and Warehousing (2-digit) industry earned lower average monthly incomes in the Inland

Empire (\$4,372) compared to other Southern California counties (\$5,729) and the state (\$5,983) according to the most recent year of QWI available (third quarter 2021 through the second quarter of 2022). The difference in average monthly incomes was sizable, with IE workers in this sector earning an average of \$1,300 less per month than their counterparts in the rest of Southern California and the state.

Warehouse workers, truckers, and other logistics types of TDL workers are employed across a broad range of specific industries, including industries such as passenger bus transportation and commercial airlines, that are mostly focused on activities outside of the good movement sector. For this reason, we examined the social and job characteristics of workers employed by 25 specific (4-digit) industries that are involved in the transportation, storage, and final assembly of products for sale and distribution using QWI data from 2022 (see Table 5 in Appendix 1).

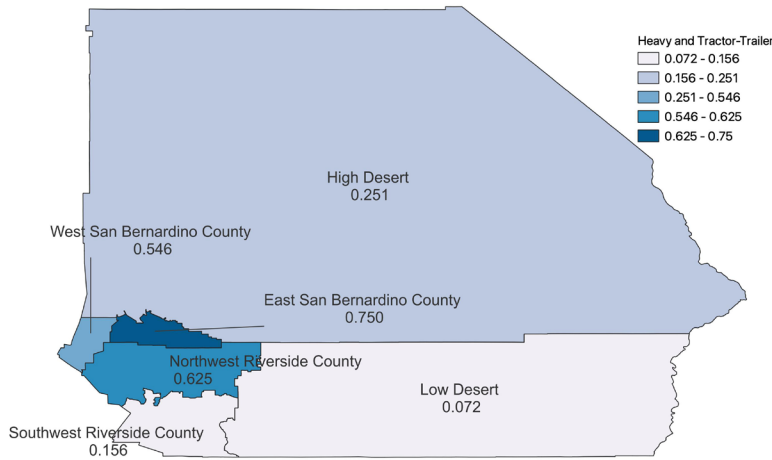
Overall, this analysis reveals that in most of these 25 TDL industries, employed workers were predominantly male and mostly Black or Latino workers (see Table 5 in Appendix 1 for details). The percentage of employed female workers is especially low (less than 20%) in general freight trucking (19%), specialized freight trucking (17%), commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance (16%), and beer, wine, and distilled alcoholic beverage merchant wholesalers (16%).

Several of these 25 TDL industries are quite large and play important roles within the regional economy, especially within San Bernardino County. Table 6 and 7 in Appendix 1 show the top employing 4-digit industries in Riverside County and San Bernardino County respectively. As they indicate, Warehousing and Storage employed the second highest number of workers in Riverside County and the largest number in San Bernardino County. In San Bernardino County, General Freight Trucking was the seventh largest employer, while Grocery and Related Product Merchant Wholesalers was the 20th largest.

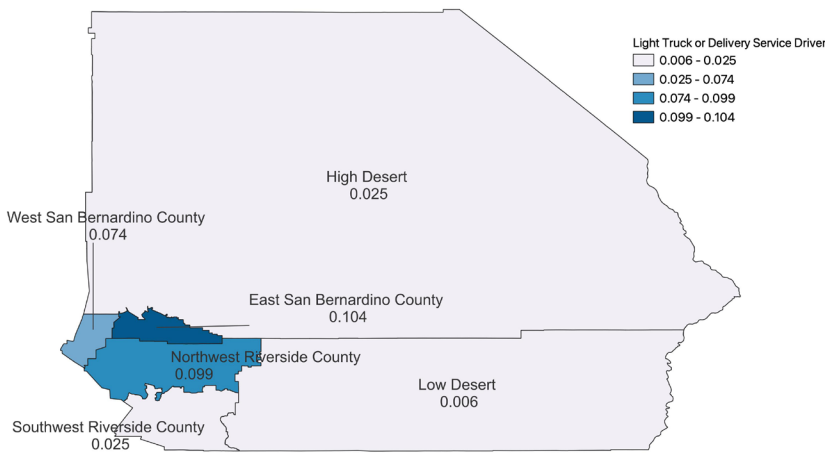
Average monthly earnings across these 25 industries ranged from a low of \$4,425 per month (in miscellaneous non-durable goods merchants wholesalers) to a high of \$8,304 per month (in lumber and other construction materials wholesalers). It is important to note that these findings are for workers employed in a broad range of occupations within these 25 industries which could be an important contributing factor to the

FIGURE 6. JOB POSTING RATIOS

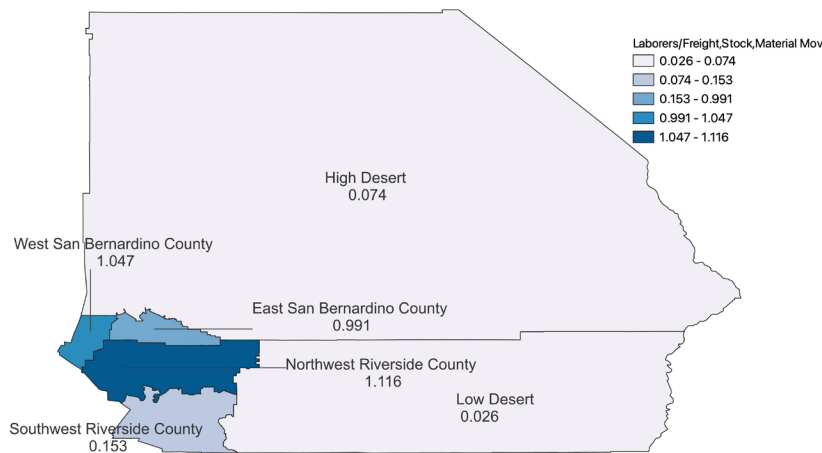
Job Posting Ratio: Heavy and Tractor-Trailer occupations as a proportion of all job postings by Sub-Region



Job Posting Ratio: Light Truck or Delivery Service Driver occupations as a proportion of all job postings by Sub-Region



Job Posting Ratio: Laborers and Freight, Stock, and Material Movers, Hand occupations as a proportion of all job postings by Sub-Region



earnings inequality observed across them (see Table 5 in Appendix 1).

Unequal earnings across industries becomes even more pronounced when one considers annual incomes. For example, among laborers, the most common occupation in the warehouse industry, median annual earnings in the IE are notably lower among those employed within the employment services (temporary agency) industry than in electronic shopping or warehousing and storage, which is partly due to the lower percentage of workers employed full-year (50-52 weeks per year) and full-time (35 hours or more per week). Less than 35% of laborers in the IE’s employment services sector have access to employer-provided health insurance, compared to 52% in the warehousing and storage industry and 73% in the electronic shopping industry (see Table 8 in Appendix 1). Similar inequalities across industries are found when we consider the findings for blue-collar warehouse occupations more generally by combining five of the most common occupations (see Table 9 in Appendix 1).

Analyses of ACS data over time reveal that the percentage of self-employed workers to total employed workers in the transportation and warehousing industry (2-digit) has risen over time in the IE, similar to what has occurred in Southern California and the state. Within the IE, the share of self-employed as a percentage of total employed workers in transportation and warehousing for the county has hovered around 10 percent over the last decade. **In other words, there is one self-employed worker for every 10 employed workers in this sector** (see Appendix 1, Figures 1–5). These self-employed workers include truck drivers who are owner-operators as well as other types of self-employed workers, such as gig delivery drivers that are classified as independent contractors. Many of these workers, especially many of those in the gig economy, may be misclassified and as a result are denied employment benefits and other labor rights provided to other workers.

Research has shown that when workers are misclassified as independent contractors, they lose workplace protections, access to benefits, and experience a reduction in wages. To address the vulnerabilities workers experience as independent contractors, particularly truck drivers in the logistics industry, the U.S. Department of Labor announced a final rule for employee or independent contractor classification. Beginning on March 11, 2024, employers must abide by new standards to classify employees, which are consistent with the Fair Labor Standards Act (FLSA), to reduce the number of misclassified workers (US Department of Labor 2024). The new rule seeks to protect workers from being denied minimum wage and overtime pay and establishes consistent standards business owners can reference to classify workers.

JOB QUALITY: A CLOSER LOOK

In recent years, *good jobs* and *job quality* have become buzzwords as the COVID pandemic has compelled workers, employers, and policymakers to rethink what makes work fulfilling. Yet in the Inland Empire, many elected officials and business leaders are quick to tell anyone that a good job is one that exists. How can the region move beyond this low bar?

To assess job quality in the TDL sector in the IE, we adapt categories from the U.S. Department of Commerce's *Job Quality Toolkit*. The toolkit draws on input from a range of experts, including labor unions, in order to guide employers in developing strategies to reduce employee turnover, increase workers' satisfaction and productivity, and promote customer satisfaction (2022:3–4). The strategies offered are categorized by eight drivers of job quality: recruitment and hiring; pay; benefits; job security and working conditions; organizational culture; diversity, equity, inclusion and accessibility; empowerment and representation; and skills and career advancement.

The following summary of findings from worker interviews is organized by the five drivers of job quality from the Toolkit that workers and researchers mentioned the most: (1) job security and working conditions, broken down into the lack of job security and inequalities related to employment status, excessive work hours and lack of work-life balance, physical and mental health concerns, and, for truckers, parking and routing; (2) pay, benefits, and costs (condensed into a single discussion); (3) entry, skills, and opportunities for advancement; and (4) empowerment and representation.

JOB SECURITY AND WORKING CONDITIONS

Employment Status and the Lack of Job Security

Subcontracting and other non-standard employment arrangements that are commonly used in the trucking and warehouse industries often make it difficult to hold employers accountable for working conditions and for workers to access various labor rights and employment benefits. Workers sometimes do not even know the large retailers or companies for whom they are working and who set the terms of their employment contracts. While subcontracting is common within both warehousing and trucking, temporary and seasonal work contracts are more common within the warehouse industry while the misclassification of truck drivers as independent contractors is more commonly found in trucking. All of these arrangements tend to increase workers' precarity and vulnerability to abusive and exploitative working conditions (De Lara 2018; Viscelli 2016; Emmons Allison and Reese 2023; Gutelius and Theodore 2019).

Warehouse Workers

Warehouse employers' reliance on temporary help (or employment service) agencies to recruit warehouse workers negatively affects their job quality. In comparison to workers who are directly employed by firms, temporary agency workers tend to earn less and have less access to employment benefits such as employer-provided health insurance (e.g., see Allison et al. 2015a, 2015b; De Lara 2013, 2018; Emmons Allison and Reese 2023; Gutelius and Theodore 2019; and see Table 9 in Appendix 1). Warehouse employers' reliance on temporary agency workers has declined in recent years. Many employers are instead recruiting warehouse workers directly as "seasonal employees," a status through which new workers are hired for a limited period of time and paid less and given fewer employment benefits than regular employees.

While the hiring of seasonal and temporary workers tends to increase during peak seasons of consumer spending, such as during the holidays, it often occurs throughout the year. Similar to temporary agency and subcontracted workers, employers' obligations to employ seasonal workers are time limited, rendering them precarious and vulnerable to job loss (Emmons Allison and Reese 2023; Gutelius and Theodore 2023).

Warehouse workers like Mike and Samantha shared their stress over job security, particularly as seasonal workers. Samantha's experience transitioning from a

WORKER PROFILES

JOHN

Location: Moreno Valley

Occupation: Long-haul trucker (small company)

John is a Black man in his fifties who was born in New Orleans and moved to the Inland Empire in the 2000s after living in other states. He has been driving trucks for close to 10 years, specializing in long hauls and refrigerated trucks. He works for a small trucking company and lives in Moreno Valley, supporting a multi-generational household with 10 dependents. He was convicted of a felony in another state. Upon his release, the women in his family encouraged him to seek a credential to support himself.

John began training as a travel agent and then as a mechanic, but faced multiple challenges. Eventually he attended an eight-month commercial driver's license (CDL) training program in Fontana. He took the test three times before he passed it. John emphasized that he was actively recruited by a Black woman whose job was to bring in more truckers of color. He credits his successful entry and license to her tenacity in following up with him.

John's training program offered a wage during training, but at \$400–\$500 a week, he called it “slave” labor. Students did not have to pay for the program if they completed it in the prescribed 8 months. He said such training programs extract a tremendous amount of work from trainees that isn't compensated, and he wished the system weren't so exploitative. Offering benefits (health, dental, sick pay) to trainees, he said, would be ideal.

John started out driving for a megacarrier, but he has worked for smaller companies for most of his career. He loves the trucking industry, he said, and believes it's a viable sector for people who need an alternative to college, including people with criminal records and young men of color. He said he loves not having a supervisor standing over his shoulder and the “serenity” of being on the road.

On the other hand, John said, he doesn't feel that he gets a consistent, fair wage from the company with which he contracts. Although the company covers most of his maintenance costs, John is responsible for paying any tickets he receives while working. He also said that truckers typically aren't covered for “pre-check” work they do prior to a long trip.

John owned a truck for the past two years, but it was repossessed a few months prior to our interview with him. He had made a \$25,000 down payment to initiate his lease. He shared that leasing programs for truckers are scams; all profits are eaten up by hidden fees that owners pass along to truckers. High fuel and operating costs made it difficult to continue his truck lease, he said, but he plans to get the truck back. He also complained that owner-operators undercut each other by offering ridiculously low prices.

John explained that as an independent contractor he doesn't receive any health or dental benefits, paid sick time, or leave. When he needs medical care, he said, he goes to the hospital and pays out of pocket. The time he spends away from his family also affects him, especially since his employer will change his route and timeline mid-trip.

John is aware of the political influence that can be garnered from collective action, saying, “If we [truck drivers] shut down for three days, it's gonna be problems. ... You get no fuel, no gas, no food, no medicine—madness. Nothing. It would be chaos out here.” He said, however, that he has no interest in joining a union, even though he knows unions offer better benefits. He cited the bankruptcy of national trucking megacarrier Yellow and how its unionized workers had their supposedly secure pensions reduced. He thinks unions do not offer enough of a guarantee that the benefits will be worth the cost of paying dues.

John lamented the racial tension between Black and Latino workers. Once, he recounted, a worker at a dock to which he was delivering called him a “n-----” and “bitch” in Spanish and repeatedly ordered him to leave. He said the racist worker forced a physical confrontation that was recorded by company cameras. The company fired him a month later, he said, even though he did not instigate the incident.

seasonal to a permanent employee sheds light on the additional stress and uncertainty faced by temporary workers. As she explained, “Seasonal work is basically the same as like a temp, you don’t get all the benefits... you get like partial benefits... you have to work harder to prove that you’re gonna be a good worker.”

While prior to the pandemic warehouses drew on staffing agencies to address worker shortage, the pandemic’s rising dependency on online shopping not only increased the volume of orders but also labor costs due to rising pay rates. Warehouses sought to recruit and retain employees by directly hiring workers through sign-on bonuses, increased hourly wages, and allowing for flexible schedules (Gutelius and Theodore 2019). However, third-party logistics firms continued to hire temporary workers since their contract terms inhibited many from increasing their costs of labor. These firms managed the increase in demand for services and labor by requiring overtime, increasing recruitment and retention, and relying on temporary workers (Gutelius and Theodore 2023).

Truck Drivers

A critical issue in the trucking industry is the misclassification of truckers as independent contractors. This employee misclassification, which increased after the passage of the Motor Carrier Act in 1980, is especially prevalent in California’s for-hire local freight sector, particularly in port trucking (Smith, Marvy, and Zerolnick 2014). Legitimate independent contractors often work in specialized segments of the trucking industry, handle specialized cargo, arrange their own business with shippers, and work unaffiliated with one company on an exclusive basis.

However, we often see “dependent contractors” today rather than independent contractors. The Transportation Research Board (TRB) defines “dependent contractors” as drivers who “operate under another motor carrier’s authority, hauls that motor carrier’s freight, and that motor carrier manages its affairs to a significant degree” (Appel and Zabin 2019: 6). Many drivers that own or lease their trucks lease their services for long periods of time to particular freight or logistics companies, giving those companies considerable control over their working conditions (Viscelli 2016).

The misclassification of truck drivers results in lower compensation for drivers and strips these drivers of essential labor rights typically afforded to regular employees. As owner-operators, many truckers are

considered self-employed, which means they are responsible for their own vehicle maintenance, insurance, and operating costs. While this arrangement offers a degree of independence, it also means they are denied employment benefits like health insurance, workers’ compensation, and retirement plans. Furthermore, being classified as independent contractors prevents these drivers from engaging in collective bargaining, leaving them more vulnerable to exploitative practices by trucking companies (Appel and Zabin 2019).

Misclassification not only impacts truck drivers’ financial stability and job security but also affects their ability to seek redress for grievances, negotiate better working conditions, and receive fair compensation (Appel and Zabin 2019; Smith et al. 2014). As Viscelli describes, misclassified long-haul truck drivers “shoulder the expenses of owning and operating the truck they drive but get no real benefits in terms of pay or control over their work” (Viscelli 2018: 6). Turnover tends to be high among drivers who are misclassified as independent contractors and who are especially vulnerable to highly exploitative working conditions since they are not covered by many labor laws. As a result, these drivers are also “likely to be less-skilled, less-safe, and less-efficient drivers” (Viscelli 2018: 6).

The Department of Labor’s 2024 final rule distinguishing employees from independent contractors may help to discourage the misclassification of truck drivers (U.S. Department of Labor 2024). To have its intended effect, however, it will require additional monitoring and enforcement.

Excessive Work Hours and Lack of Work-Life Balance

Warehouse Workers

Warehouse workers interviewed described the pressure to work long hours, especially during peak times, as a common theme. Melissa described the stress of meeting high quotas during busy periods, while other workers highlighted the challenges in balancing work with personal, student, and family responsibilities. Long and exhausting work hours also created challenges for workers enrolled in college to succeed academically, creating barriers for their upward mobility (Emmons Allison and Reese 2023: 87–90).

Samantha’s struggle with caregiving responsibilities illustrates the hard choices workers face due to rigid schedules: “Sometimes I have to choose between

going to work and I have to go to San Diego to help her [mother]. So I have to choose between picking up an extra shift or going down there to help her. So I don't get a lot of rest for myself or time for myself."

Long and inflexible working hours strain the work-life balance of warehouse workers. Workers like Mike and Xavier lamented missing out on family time and personal commitments. For Ivy, this was why she left warehouse work: "I couldn't stay because I was rarely seeing my family ... they were with, you know, my husband or childcare all day, and then my husband would get them. By the time I'm home they're asleep. And all I want to do is sleep [during] my day off because I'm so exhausted. ... Those overtime checks. Yeah, they look nice. But for what like what am I really doing that for? You know, I'm wearing, tearing my body, but I'm not spending any time with my family. So that was why it was like, OK, you guys can have that. This is for them single people who ain't got no kids."

Truck Drivers

Similarly, a common theme that comes across from truck drivers is the long hours that are spent on the road each day. For instance, Mateo, when asked about his biggest dislike of his job as a feeder trailer truck driver for UPS, stated, "It takes up all your time." Mateo was like many other interviewees, who work 11 hours per day on average. Such long work hours interfered with his work-life balance "because your whole day would be gone."

Long-haul driving jobs are especially taxing on workers' physical and mental health. Drivers are typically away from home for days, often 5 days or sometimes even more. As Mateo describes it, "So when you're long haul you just pick up and go and you drive right? You drive for about 10 hours straight." Solo owner-operators often work seven days a week. Many drivers miss their family and friends when they are away for days or weeks at a time, and frequent absences from home often put a strain on family relationships and routines. Sahib, a driver whose father started driving in 1990, summarized how, "while growing up, you don't realize, like, hey, why is he missing out on all these events?"

Physical and Mental Health Concerns

Warehouse Workers

Warehouse workers, in their interviews with members of our research team, reported being asked to perform unsafe tasks, often contradicting company policies. The physical toll of the job, including injuries and muscle strains, was a significant concern. Samantha's experience with a pinched nerve and general body soreness illustrates the long-term impact of physically demanding work. As Mike put it, "Working at a warehouse is fine, but doing it for 10 years, 20 years, basically, like all your life is, you know, it'll eventually catch up to you."

Workplace safety issues are common among warehouse workers, especially Amazon warehouse workers. In a 2023 report, the Strategic Organizing Center (SOC) found that the overall injury rate among Amazon warehouse workers was about 7.0 per 100 workers in 2022 (4). While this rate has slightly improved since 2021, it remains high compared to non-Amazon warehouses. During 2022, 95% of Amazon's 38,609 injuries were considered serious, forcing workers to take time off or be given a different position. Workers stated they were given different responsibilities to heal their injuries rather than being given time off. If workers did receive time off, they were pressured to return to work by their supervisors although they had not fully recovered from their injury (Rosenblatt 2023).

As a result of Amazon's egregious failure to ensure the safety of their warehouse workers, some safety violations at their warehouses have been deemed "willful." This is the most serious type of safety violation that OSHA can issue, and is given when companies are found to be "'knowingly fail[ing] to comply with a legal requirement' or operating with 'plain indifference to employee safety'" (cited in Strategic Organizing Center 2023: 9). In 2018, Amazon rolled out a "temporary light duty" (now called "return to work") program that created additional positions for workers that were hurt too badly to perform their normal jobs. This program allows Amazon to reduce the number of injuries it has to report in the most severe injury category and helps to reduce Lost Time Injuries and workers compensation costs. Some investigations have also found that some Amazon facility managers have repeatedly failed to keep accurate records of workplace injuries. Amazon has the expertise to identify dangers in the workplace and the power to mitigate them, but often fails to do so. In light of Amazon continuously choosing to prioritize profit over people, it is evident that workers, regulators, share-

holders, and consumers must force Amazon to make its workplaces safer (Strategic Organizing Center 2023).

The high injury rates found at Amazon and other warehouses are related to employers' fixation on speed, with workers being continuously surveilled by productivity monitoring systems that pressure them to move and work at a dangerous pace. In response, California passed Assembly Bill 701 (2021), which aims to protect workers from the use of unreasonable production quotas that lead to health and safety and other labor law violations (Strategic Organizing Center 2023).

Many warehouse workers reported being under relentless pressure to meet unreasonably high productivity standards, often leading to stress and unfair penalization, particularly for those physically less capable of handling heavy loads quickly. "They would know our rate and how many boxes we were doing, like per hour. And if we weren't like doing enough, they would come talk to us," said Melissa. Marcos recounted times that he would be going so fast that he was sweating, but managers would still tell him that he was going too slow. He also described how there was a "big board" in the workplace that showed all of the employees' names and the rate at which they were working, which was akin to a "public humiliation" board. Christina, on the other hand, said she was thankful for the incentive to exercise every day.

Several of the warehouse workers we interviewed described extremely hot temperatures in warehouses. "During the summer the warehouse does have air conditioning, but since it's such a big warehouse it's almost impossible to cool off," Christina said. "And in the area that we pick, since there's so much product, the aisles are small, the heat just gets trapped." Melissa described how "people got heatstroke from like, being in the warehouse... If we would try to, like take breaks and stuff, they'd be like, oh, why aren't you working?... I witness[ed] one lady. She was like, a bit older. She worked outside a lot. She was the one directing the truck. And she collapsed."

Mental health concerns, including concerns related to mental stress, alienation, social isolation, and boredom, are also commonly reported among warehouse workers (Emmons Allison and Reese 2023). The warehouse environment often lacks supportive interpersonal relations, leading to feelings of undervaluation and insincerity. Favoritism and cliques contribute to a sense of unfairness and alienation, while the vast and solitary nature of the work leads to isolation and disconnection from a supportive work community. "People look down

on you. Nobody's ever motivating you or complimenting you," said Kay.

The repetitive and monotonous nature of warehouse work was noted by several workers, including Melissa, as mentally taxing. Xavier described the job as physically and mentally draining, while Tabitha and Kay discussed the boredom and physical strain associated with tedious, repetitive tasks. Mike explained that as a packer, he has been asked to stand in one spot for a full 12-hour shift. He takes the items that are handed to him, places them into a box, seals it, and repeats the process again and again for the full shift. Day after day, he returns to the warehouse to place items in a box and seal it. Mike said there is no satisfaction in completing a task because it never ends. The work is unbearable because he cannot move.

Truck Drivers

With their long hours, discussed above, long-haul truck drivers are at risk of experiencing vehicular accidents. They must constantly stay alert while driving to scan for driving hazards, including deer and road traffic. However, many drivers, especially when they are working long hours, find that they tend to "become complacent on the road" and to "get tunnel vision out there at night, especially when you drive through the night," stated Mateo.

Sleeping away from home, often in the back of a truck, reduces the quality of sleep among many long-haul truck drivers. Drivers sometimes need to leave their engines on overnight to keep the heat or air conditioning on if it is very cold or hot. "Yea, I keep my air conditioning on—the heat is no joke" (Simranjit). The engine makes a lot of noise so this practice often reduces the quality of sleep among long haul drivers. Although some drivers, like Mateo, Alex, and Sahib bring their own food with them, many of the food options on the road, such as fast food, are not healthy.

Others describe the impacts of back-to-back round trips between the IE and East Coast in terms of the persistent stress of making time, getting a return load, and being attentive to noises and road conditions, to make sure their engine and tires will get them to their destination without any mishaps. "After driving for 10 years," Gurjant said, "a person's body gets tired. You eat, sit, and sleep. I got high blood pressure from driving. There's no time for exercise.... [We are] constantly on the road." Drivers sometimes skip or reduce their

meal and other work breaks to get to their destination in a timely fashion.

Sitting for long hours every day takes its toll—it's bad for your back, and it interferes with drivers' ability to get sufficient exercise. As Mateo put it, "You just go to shit." Although some drivers go to the gym and exercise after work, long work hours, lack of daylight or good weather conditions in winter months, and many days of travel on the road can make it difficult for long-haul truckers to get sufficient exercise. Basic hygiene is also a challenge for drivers, who do not have toilets in their trucks. "You have to wait for the next truck stop or navigate accordingly." The same is true for showers. "I might not be able to shower today because the showers book up" or "there's a four hour wait," Sahib said. Mateo summed it up: "If I were to just sit down, do my job every day. It is detrimental to your health."

Electronic monitoring of drivers is also on the rise, contributing to stressful working conditions (Alima-homed-Wilson 2020). Joe described how his truck with a previous employer was equipped with a driver-facing camera that tracked his eyeballs. This was stressful for him, he said, because if he looked down, the camera would identify him as being in a distracted state, and it would begin recording. His current truck does not have a camera, and he is relieved that he is more trusted to do his job.

Parking and Routing

Truck drivers find that they have to pay for traffic tickets for parking in no-truck zones even when there is no other place to park and they are forced to do so to deliver their goods. Carlos described how he "can get literally ticketed for just parking at a local Walmart." When he's "driving for eight plus hours a day, and wants to go to the bathroom or eat," it feels inhumane to be cited just for taking a parking spot.

Finding lots in which to park while at home in the IE has become increasingly difficult and expensive. Since so much formerly open space is now occupied by "a lot of warehouses," truck drivers face a dilemma: "You can't park on the streets or on the side. 'No commercial parking,' are signs over and over. I don't want to risk getting towed. And wherever I try to find parking, it's ... full price is way too much. If I go to a truck stop in the area, there's never any parking because everybody parks their truck there, leaves their truck there for weeks on end because they're not taking any loads" (Simranjit). Some blame it on "these big companies.

They're just buying up all the land" (Maninder). Truck lots take up commercial real estate, so as property prices "have gone significantly higher, in order for the truck yards to break even, especially for new owners, they have to upcharge." "It used to be like \$150 to \$200 a spot, but now they're charging \$500 plus" (Sahib).

Others noted that the locations where trucks have more restrictions are biased in terms of race, class, and ethnicity. Commenting on the much-protested difference in warehouse developments between south and north Fontana (Gongora 2020), Simranjit said, "Pull up the map of Fontana [showing] south Fontana and north Fontana. All the commercial traffic is on the south side. All the north side has houses, they have plazas of convenience stores. You'll see road signs saying 'No trucks over five tons,' 'Local deliveries only,' 'Trucks: No right turn, no left turn.' And on south Fontana's side, you'll barely see one."

Gurjant and Karamjit noted the contradictions of living close to warehouses where it is more convenient to pick up loads. Karamjit remarked, "It is dangerous to have "warehouses all close to residences. One person was killed because they got run over by a trailer. His car went underneath the trailer and immediately died." The traffic is terrible and the costs of living there have risen. But, Gurjant explained, as warehouses "keep expanding outwards away from where people are living, it will be further to drive to pick up loads."

PAY, BENEFITS & COSTS

Warehouse Workers

Wages within the goods movement sector depend on the type of job, workers' education and training credentials, and collective bargaining agreements (ICF Incorporated, LLC 2019). Within the interviews conducted, many workers expressed concerns over unfair pay practices, such as low pay and newer employees earning more than long-term workers. For example, Melissa reported that when she was hired by Amazon as a warehouse worker she was offered \$17 per hour. Several years later, new hires were offered \$19 per hour, but there were no raises for incumbent workers.

Samantha, employed as a picker at an Amazon warehouse, also desired better compensation. Samantha said, "I would like to work 40 [hours per week] and get paid the same amount as working 60. Yeah, but I have bills to pay, so 60 it is." As a result, Samantha typically works long shifts, often beginning her workday at 7:30 AM

and leaving work at 6:00 PM. Similarly, Kay reported that she felt pressure to work overtime in order to make more money to pay her bills: “I should be able to work a regular eight-hour shift and make some good money out here in California because [the cost of] everything is high! They should be paying us well. We are tax-paying citizens.... We are getting taxed off everything, so why not raise everything [prices and wages]?!”

Kay suggested that, given the high costs of living in California, warehouse workers should earn at least \$20–25 per hour. Xavier viewed his employer’s practice of offering small incentives to motivate workers to work hard as insufficient: “The joke is, they want you to work 10 times harder to make their department look really good, and then, in return you’re getting a 25-cent slice of pizza on your break.”

Although warehouse jobs might offer health care, medical visits can come with copays that add up or with strings attached. Marcos described how he obtained a bad injury on the job, which caused him to have to go to the doctor and be absent for a week. He went to his own primary care provider because that is who he was most comfortable with, but because of this, his company would not pay him for the full week he was absent. His employer argued that in order to get paid for the time off, he had to use the company doctor.

Not all warehouse workers were dissatisfied with their pay and benefits. Christina’s company offers a beginning hourly rate of \$22. In addition, her employer provides workers with two reviews a year to determine their performance. If employees are exceeding their metrics, they are provided with a 50-cent raise and a \$600 bonus check. Christina also receives holidays off, 12 hours per month of paid vacation, and a 5% employer match for her 401(k) retirement account.

Truck Drivers

Since the deregulation of trucking in the 1980s, and increasing prevalence of subcontracting within the industry since the 1970s, union density and working conditions among truck drivers have declined. Truck drivers often experience financial problems due to low pay and unpredictable work hours. Owner-operators also have to pay out-of-pocket expenses for their vehicles, fuel, insurance, and vehicle repairs and maintenance. This further reduces their take-home pay and often puts them into debt (Viscelli 2016; Smith et al. 2014). James expressed wishing he was part of a union

WORKER PROFILES

PRABH

Location: Fontana

Occupation: Truck Driver

Prabh is a 43-year-old man, born in Punjab into a family of farmers. He emigrated to the U.S. in 1999, first to San Jose then Fontana, in order to enter the trucking industry. He drove a truck in order to be self-employed and self-sustaining. He and his parents received high school educations in Punjab, and he had some college in the U.S. His three brothers and one brother-in-law are in trucking, which Prabh explains was because they could get into it without having a higher education or having completed a degree.

Prabh started out doing long-haul, interstate driving for five years, and now does short-haul refrigerated and dry van truck trips within Southern California, starting and ending in Fontana. He does not own his own truck. He said he keeps track of changes in the industry, such as those pertaining to emissions, technology, and safety and operation challenges, through social media and Punjabi papers and cultural events.

For a period of time Prabh made trips in and out of the Port of Long Beach, where he became familiar with electric trucks and the fact that there were government subsidies to purchase them. At \$300,000, however, new electric trucks are well beyond his means even with subsidies. He also said there are many “unknowns” regarding maintenance. He is skeptical that he would ever be able to afford one, but he would be happy to drive one if charging it were as convenient as pulling into a gas station now to fill up.

Prabh lives in a house about 15 minutes from warehouses and experiences the noise and traffic from trucks. He wishes there were better planning so truck traffic would not affect schools and residential neighborhoods. He also wishes there were more government involvement in helping truckers with concerns like better pay, good health care plans, and safety.

WORKER PROFILES

XAVIER

Location: San Bernardino

Occupation: Warehouse worker

Xavier is a Mexican-American man in his early twenties who is originally from Los Angeles. He currently works as a forklift operator in a warehouse in the Inland Empire for a major retailer. Often working 10–12 hours per day, five days a week, Xavier brings in \$27,000 annually. For the past three years, his daily work routine has been to pack semi-trailers with products that are distributed to retail stores across the country.

Xavier turned to warehouse work in 2020 when he lost his immediate family to the pandemic. Overnight, Xavier found himself unhoused. He moved to the Inland Empire where he could find more affordable housing and a full-time job that required little experience.

Xavier is not attached to his current work. He sees it as a stepping stone as he finishes school. He is a full-time student who will receive his bachelor's degree in mechanical engineering this year and intends to find a job within that industry. He lives close to his campus and lives frugally. For now, he is dependent on his warehouse work. He said he prefers having a job that he doesn't have to think about after clocking out for the night. He also does not seek advancement or worry about termination.

Even though his warehouse work is transitory, Xavier is critical of it being regarded as a viable long-term option for other workers. He described it as "slaving away for a small amount of money when you know someone on the other end is profiting millions of dollars." He said the work is "physically and mentally depressing," and he doesn't wish it on anyone. "Who wants to walk around for 12 hours without music playing through their heads to distract them from the fact that they're participating in capitalism and completely selling their life away for a small paycheck? That's gonna get them by for a month, and then after the same thing, over and over and over and over again." He is hopeful things will one day change.

so he could have access to health care and retirement benefits.

Some truck drivers incur considerable debt through exploitative lease-to-own contracts that charge high interest rates for their trucks (Viscelli 2018). Even when they own their trucks, the costs of maintaining them are substantial. As Sahib put it, "You want to have savings.... I might not work for the next month. My truck might break down. So, the biggest thing is don't get into debt; that's how you weather through all these market fluctuations." Drivers' incomes tend to be unpredictable because demand for their labor is seasonal, and often fluctuates over time due to many factors beyond their control, such as those related to the "just in time" consumer economy.

Various drivers interviewed claimed that the pay rates for carrying cargo have declined or are too low given the high cost of living and their work expenses, including the high price of fuel. They describe how the pandemic brought a lot of business, but also led to inflated truck prices. "During COVID everybody saw how much money you can make. And everybody got so greedy. And then they're like, Oh, it's going to keep happening forever and ever. Everybody went out. They bought multiple trucks. That's why now you see, like people are going out of business because they can't afford it," stated Maninder. Other truck drivers believe "the industry is getting oversaturated, ...all these newcomers, they're killing the rates" (Varinder).

Some drivers have to pay high fees to brokers that further reduce their incomes. Maninder described how, if he gets a long haul direct from a customer, he might get \$6 a mile, but "that same load I got from a broker, the broker, he was quoting me, he's like, 'Oh, the best I can do is like \$2'.... That's the story every broker will tell you, 'Dude, that's the best I can do.'" Alex expressed that he wished he could be part of a union because he believes that unions could push for legislation that would regulate brokers.

Drivers are usually only paid for the time they spend driving, or by the mile. They are not paid for wait times, although they often must wait a long time to load and unload cargo (Viscelli 2016). The American Transportation Research Institute (2023), an industry think tank, has repeatedly found driver detention (an industry term for wait times) to be one of the top 10 issues facing drivers, with frequent delays of six hours or more to load or unload. Simranjit explained that at "bigger warehouses like Amazon or Walmart or Costco, my appointment will be at eight. I won't be free from there 'til 11, sometimes

12, because they're such a large area. You're waiting about an hour to even get a [dock]. By the time you get your paperwork and out the door it is about three, four hours there."

One driver, Randy, said that his current position pays him hourly for all of his work time, including waiting, loading, and unloading. Nonetheless, he said, the cost of traffic tickets adds up. Many customers are located on streets that are no-truck zones. As a result, he receives tickets that go on his personal driving record and that he has to pay for out of pocket.

ENTRY, SKILLS & OPPORTUNITIES FOR ADVANCEMENT

Warehouse Workers

Lack of Other Options: Workers like Mike and Kay expressed frustration over the lack of opportunities in other industries, feeling pigeonholed into warehouse work despite aspirations for different careers. "School wasn't really my thing," Jonny explained. "Trying to find a job was hard. No one was giving me a shot, let alone hiring me, so I just took the route that my mom did... I really wasn't trying to stay in that role, but I had no choice."

Opportunities for Advancement: Many workers believe, like Kay, that there is no financial motivation to continue doing warehouse work and that promises of promotion are rarely fulfilled. This view is reinforced by common hiring practices for management positions found within the warehouse industry, including Amazon, which give preference to workers with college degrees rather than years of warehouse work experience (Emmons Allison and Reese 2023: 112-113). A few warehouse workers had positive views or experiences however. "They don't know what we want unless we voice our opinion," Christina said. "I recently just had my review. And that's what I told my supervisors, that I was looking into going into cross-training into other departments just to get experience on everything."

Alfonso pursued upskilling on his own, paying out of pocket to obtain forklift training. His forklift certification was ultimately valuable because it qualified him for his union job. He then thought he could obtain a truck driver position with a different employer and again paid out of pocket for a commercial driver's license (CDL) program, comparison-shopping for the one with the lowest fee. He did not ask his union employer to cover the cost, he explained, because his workplace didn't

employ distribution drivers and he didn't want management to know he was considering leaving.

Unfortunately, Alfonso didn't realize that many companies hiring truck drivers required one or two years of experience. He ended up remaining at his job and, with his CDL, was able to take on a yard truck driving role, which involves repositioning trailers within the truck yard. It came with a \$2-per-hour wage increase on top of his warehouse floor job.

Truck Drivers

Training and Retention: There is a seemingly endless cycle of headlines about the so-called truck driver shortage. Research suggests, however, that the alleged shortage is largely a myth perpetuated by large trucking companies. For example, Semuels (2021) and Fuller (2023) indicate that there is actually an excess of drivers with commercial driver's licenses (CDLs) in comparison to the jobs available. According to Semuels (2021), competition among drivers for scarce jobs, along with inadequate government regulations, has led to a "race for the bottom" that exacerbates bad working conditions and contributes to a significant problem of worker retention within the industry. Companies with revenues exceeding \$30 million experience turnover rates around 92%.

Furthermore, the use of drivers is often inefficient, as brokers can pit a large number of drivers against each other, resulting in lower wages and working conditions, and longer wait times for load pickups. Researchers contend that the deregulation of the trucking industry and decline in unionization has contributed to the decline in labor standards in the industry. Following the deregulation of trucking, wages in truck driving fell 44% from 1977 to 1987 (Semuels 2021).

The industry also faces challenges in training and training-related debt for new drivers. Federal and state governments have funded driver training since the COVID pandemic's onset. Many drivers, however, are required to enter training contracts that require drivers to work for the same company that provides their training for a certain period post-training in order to repay the cost (Viscelli 2016). Several drivers we interviewed, including Randy and Roberto, said they took such opportunities and fulfilled the post-training work period requirement, but they did not stay with the carrier that provided the training. James and John opted to attend driving school, both completing their programs in eight months. Alex

learned the trade through an informal apprenticeship with an uncle who was already in the industry.

Systemic Gender Bias: Gender inequalities and barriers to women’s entry and retention are persistent in the trucking industry, despite some gains in terms of gender diversity. Research finds that diversity and inclusion policies are becoming more common within the industry and that an increasing percentage of those employed in managerial positions, safety and dispatch positions, as well as truck drivers are women compared to the past. There is a very notable lack of gender diversity and a massive need for positions among technicians. It is estimated that an additional 200,000 technicians in the US will be needed over the next 10 years, but schools are only producing 3,500 new technicians per year (Women in Trucking Association 2023).

As of 2021, women made up only 4.8% of 1.37 million truck drivers nationally. Women truck drivers often encounter gender discrimination and sexual harassment, which discourage many from remaining in the field (Eavis 2023). Policies such as same-gender training, while intended to reduce harassment, have been criticized for functioning as barriers to women’s participation in trucking (Eavis 2023; Fernández and Molloy 2022). Because there are so few women truck drivers, it is often impossible to find one to train another.

In 2023, three women truck drivers filed a discrimination complaint against Stevens Transport for its same-gender training policy. Apparently such policies are still common within the trucking industry despite a 2014 federal ruling that prohibited them. Proponents of these rules, including trucking companies and Ellen Voie, who founded the nonprofit Women in Trucking Association, argue that these policies help to reduce sexual harassment of women drivers because trainers spend weeks on the road with their trainees and often sleep in the same cabin. Yet, critics of these policies contend that sexual harassment would be better addressed through other mechanisms, such as anti-harassment policies or providing hotel rooms to truck drivers when traveling (Eavis 2023).

We made repeated efforts to interview women truck drivers for this report but were unable to secure any interviews. We recommend that future research be conducted on the experiences of women truck drivers in the IE.

EMPOWERMENT & REPRESENTATION

As prior research and our findings here have demonstrated, workers across the nation are seeking to join workplaces that have supportive work environments and policies and give workers opportunities for growth. The U.S. Department of Commerce’s (2022) *Job Quality Toolkit* includes job quality principles such as workers having the ability to voice their concerns without fear of employer retaliation, to engage in decision-making processes, and to provide insight on an organization’s future work initiatives.

In order to cultivate a workplace where workers truly feel empowered and have their voices heard, employers must develop regular processes of communication with workers, create a system where workers can file complaints and receive protections from retaliation, and conduct workforce assessments to assess workers’ satisfaction. Most important, employers should encourage and support workers’ rights to organize, form unions, and engage in collective bargaining (U.S. Department of Commerce 2022). Unionization establishes democratic mechanisms for workers’ concerns to be addressed, and collective bargaining agreements—contracts negotiated between workers and management—are the only legally enforceable way that workers can ensure their rights and interests are protected.

On top of the strategies for worker empowerment and representation outlined in the *Job Quality Toolkit*, California’s High Road Training Partnerships (H RTP) initiative offers guidelines on designing worker training programs in ways that foster worker voice and worker power. The term *high road* in H RTP refers to approaches to work and the economy that “are guided by policies that jointly uphold and advance the social values of shared prosperity, environmental sustainability, and shared decision-making” (González-Vásquez and López 2021: 8).

In the H RTP model, worker training programs are an opportunity for workers to develop and share their own strategies for industry and worker success. Workers can provide insights on training and workforce needs, provide recommendations on wraparound services to reduce any barriers that prevent trainees from becoming successful in the field, and effectively design and execute programs themselves (UC Berkeley Labor Center 2020).

In its study of how worker voice empowers both current workers and workers in training, the UC Berkeley Labor Center (2020) showcases how one of the core H RTP concepts, whole person support, recognizes that

workers' lived experiences are a form of expertise they bring to the job and that it is in the overall interest of the workplace to create cultural alignment between workers and workplace culture. Experienced workers can be tapped as peer mentors for new workers. In these ways, industries can provide underserved and under-represented workers with leadership opportunities and access to career advancement, thereby increasing overall job quality. Union collective bargaining agreements can help ensure the long-term success of measures that center worker voice (González-Vásquez and López 2021: 27).

The Union Difference

Although the details of union contracts differ across employers, unionized workers tend to be paid more than non-union workers, have greater access to employment benefits, and have more rights on the job (Fieveson 2023). What is the degree of union density among transportation and warehouse workers?

Figure 7 shows the valid percentages of employed workers (age 16-64) in select occupations in transportation and warehousing that are union members and covered by a union contract in the IE using IPUMS data sourced from the CPS (Aug 2021 – Aug 2023).³ It shows that, among the 8 occupations shown, union density is greatest among truck drivers. About 15 percent of truck drivers belong to a union and about 22 percent are covered by a union contract. Viscelli (2016) finds that, among truck drivers, unionization tends to be greatest among those that do not carry full loads, such as parcel delivery.

Among blue-collar warehouse workers, industrial truck and tractor operators (or forklift drivers) have the highest union density. About 10 percent of workers in these jobs belong to a union and about 12 percent of them are covered by a union contract. In contrast, packers and packagers have the lowest union density among blue-collar workers. Less than 5 percent of workers in this occupation belong to a union and only about 7 percent are covered by a union contract.⁴

Using national data reported by Hirsch, MacPherson, and Even (2024), we find that, compared to the U.S., union density is greater in the IE in four of the eight occupations shown in Figure 7 but it is lower among laborers, packers and packagers, transportation and material moving workers' supervisors, and transportation, storage, and distribution managers. The difference between national and regional union density among

WORKER PROFILES

SAHIB

Location: Fontana

Occupation: Truck Driver and dispatcher

Sahib is a 26-year-old Punjabi American male whose parents immigrated to the U.S. in the nineties. He lives with his parents and three other siblings in Fontana, where he grew up. His father started driving a truck in 1990, and he has other relatives who are also in the industry. Sahib describes going to the truck yard with his father as a youth to work on his truck, and notes the growth in the size of the truck yards, the number of trucks parked there, and the cost from \$150 or \$200 a spot to \$500+ today.

Sahib graduated from college and, during COVID in 2020, got his Class A license in order to help his father. His father owns one truck, but started off working for other companies. He never expanded beyond one truck because he didn't want to worry about the additional risk or to put trust in other drivers. Sahib, however, also does truck dispatching.

Sahib recognizes the challenges of the job, remembering that his father missed a lot of Sahib and his siblings' special events because he was on the road. As an independent owner-operator, his father handles his own truck maintenance and repair, so there was rarely any down time.

Their family keeps up with industry news from Punjabi language radio and word of mouth from their immediate community. Though some people in their community are competitive and don't help one another, Sahib said, most "back each other up." He explained that an immigrant from Punjab might first get a job in a gas station, "but you can only work at the gas station and grind for so long, you know?" Most of Punjab is agricultural, and political problems with India have resulted in unequal access to jobs and land ownership, segregation, and restrictive legislation that makes it "hard to make a dollar". Punjabi men of Sahib's father's generation brought a work ethic from their impoverished agricultural background that Sahib said his generation doesn't have or want.

MATEO

Location: West San Bernardino County

Occupation: Truck Driver

Mateo is a Chicano male in his early thirties who has been working for UPS for 15 years. After working his way up, he now earns \$42 per hour as a driver. He grew up in the Inland Empire and has been working since he was 16, starting in fast food and transitioning into warehouse work before UPS. "My union contract helped me out of poverty," he said. Nonetheless, Mateo and his wife rent an apartment in Rancho Cucamonga because they cannot afford a house.

Mateo has driven both long-haul and local runs for UPS. He currently works local runs, driving an average of 11 hours per day. During the COVID-19 shutdown, he recounted, management pressured workers to be "heroes" and do twice the amount of work for the same pay. With their Teamsters union contract, however, workers were able to receive a form of hazard pay by signing up for the "9.5 list." Signing up for the list limits a worker's daily hours to 9.5, and if a worker exceeds the limit three times in one week, they're guaranteed triple pay.

Mateo is active in his union, Teamsters Local 63. His first exposure to labor organizing began when he supported striking workers at Republic Services, a waste management company, in San Diego. When the workers obtained their contract, Mateo said, "I saw the impact of supporting your fellow brothers and sisters. Even if it's [a different] industry." He described going door-to-door as an organizer and asking residents about the impact of the logistics industry on the Inland Empire: "A lot of the responses [are], 'You know what, man, I tried to leave this place. ... I'm trying to get out of here.' They see it as a lost cause. They see it as these companies are going to win no matter what ... I see that as an opportunity to empower people, saying, 'The only way big corporations win is with an uninformed electorate.'"

DOUG

Location: Riverside and San Bernardino

Occupation: Warehouse worker

Doug is a Black man in his mid-thirties and former warehouse worker who grew up in and around the Inland Empire. He holds an AA in automotive technology from Chaffey College. He currently lives with and cares for his grandmother, helping her with routine household tasks.

Doug's first warehouse job was at a non-union manufacturing facility in Riverside County that stored its goods in an adjoining warehouse. Although he mostly worked in the manufacturing side of the facility, he obtained his forklift license through his work obtaining parts from the warehouse side. He did not like the management because they were disrespectful to workers. He recalled an incident when a physical fight nearly broke out between the workers and the manager after the manager called the workers "a bunch of monkeys."

More recently, Doug worked for a freight company in San Bernardino whose workers were unionized by Teamsters Local 63. He was proud to be working at a union job and was encouraged that his co-workers expressed that they were "ready to work and willing to strike." He earned a relatively low \$17.50 per hour because the workers had lost some of their wage gains through concessionary contract negotiations. The union contract still included good medical, dental, and vision insurance, however, which he greatly appreciated.

Doug enjoyed his medical benefits and working with pro-union coworkers. He said, however, that hours were long, with occasional mandatory overtime, and he developed muscle strain from heavy lifting and poorly maintained equipment. The work was also dangerous. Doug described how one trailer he was working in almost tipped over, and he observed other workers being injured from trailers tipping over or goods falling on them, including one worker who was hospitalized and had to go on disability. The management, he said, did not train workers sufficiently. Workers relied on one another to learn how to work safely and sometimes intervened to protect each other from accidents.

After about a year of working at this facility, Doug was laid off when work slowed down. He now commutes to a public transit job in Orange County.

supervisors is especially striking. In the IE, there are apparently no supervisors that belong to a union, compared to 10.1% in the United States (see Table 10 in Appendix 1 for details).

The Teamsters is the largest union to represent workers in Southern California’s TDL sector, with IE Teamsters belonging primarily to Local 63 (warehousing and trucking) and Local 848 (mostly trucking). Both Teamsters locals include workers across Southern California in a region that is far larger than the IE. A few other Teamsters locals, such as 630 (food distribution) and 638, represent smaller numbers of warehouse workers employed by particular companies. Other unions that represent TDL workers in the IE, albeit in smaller numbers, include the United Auto Workers (auto parts distribution center workers), the United Food & Commercial Workers (distribution workers at meatpacking facilities), and the United Steelworkers (distribution workers at manufacturing facilities).

Teamsters union contracts typically provide workers with medical benefits as well as retirement benefits or pensions. Teamsters members usually have access to various health benefits, including medical, dental, and vision insurance as well as vacation time.⁵ The UPS Teamsters contract, the largest private sector union

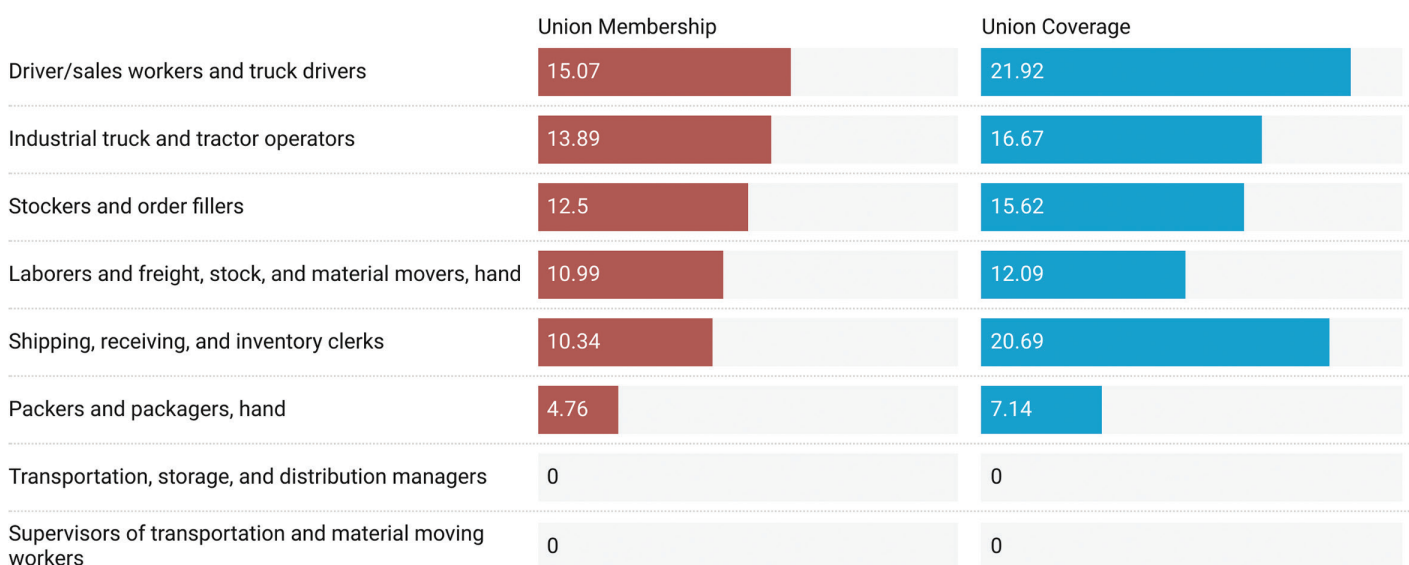
contract in North America, is widely regarded as among the best in the industry. Teamsters’ new UPS contract adopted in 2023 provides UPS drivers and warehouse workers with good wages and retirement pensions. According to Eidlin (2023), this contract “eliminates the two-tier driver classification that had sparked widespread member anger in the 2018 contract. It provides sizable wage increases, especially for the lowest-paid part-timers, which will do more to raise the wage floor at UPS than any previous contract. It also requires UPS to create more full-time jobs, provide protections against excessive heat, restrict management surveillance, and limit forced overtime, among other gains.”

Alfonso, a Teamsters member, described his transition from a non-union job to his current union position. At the non-union job, he was earning \$19.75 per hour after working there for four years, and he paid about \$480 per month for insurance. When he moved to his union position, he took a pay cut, starting at \$17.77. However, he received health insurance for his family of four with no premiums. He also had a clear path to promotion after his fifth year due to the seniority provisions of the workers’ collective bargaining agreement. Now on his sixth year with his current employer, he receives \$28.88 per hour and is entitled to five weeks of vacation time per year. He also notes that his employer offers a path-

FIGURE 7. PERCENTAGE OF EMPLOYED WORKERS THAT BELONG TO A UNION AND ARE COVERED BY A UNION CONTRACT IN SELECTED TDL OCCUPATIONS

Union membership and coverage in select TDL occupations

Percentage of workers who are members of unions and percentage of workers who report no union affiliation but who are covered by a union contract. Managers and supervisors often are not eligible for union membership.



Source: Current Population Survey, August 2021–August 2023 (from IPUMS) • Created with Datawrapper

way to advancement by hiring management staff from among rank-and-file workers—he has actually turned down a management position, because he thought there was more job security in being part of the union rank-and-file—and offers \$100 to any worker who makes a suggestion for improvement that is then implemented. Alfonso has seen the \$100 incentive given out multiple times.

As elsewhere in the United States, union members and leaders in the IE region are very concerned not only with the rapid growth of non-unionized TDL employers, such as Amazon, that compete with companies with unionized TDL workers, such as UPS. The recent demise of Yellow, a unionized trucking company, is another concern for workers seeking union employment in the region. Yellow, which had been in operation for 99 years, filed for bankruptcy in 2023 after experiencing a series of mergers and mounting debt, resulting in the loss of 30,000 jobs nationwide, 22,000 of which were Teamster positions. Unfortunately, Yellow’s demise could also mean trouble for the Central State Pension Fund, a multi-employee pension fund that already received a federal bailout in December of 2022 (Page and Biswas 2023). Nonetheless, many transportation and warehouse workers are continuing to organize in the region and some have made gains, even amid enormous challenges.

Worker Centers

In the absence of unions, worker centers play a critical role for worker empowerment and representation. A 2022 UCLA Labor Center study found worker centers to be an essential complement to the public workforce development system because of the way in which they combine “workforce development, community organizing, strategic labor law enforcement, and policy advocacy ... in an attempt to break down the systemic barriers to economic prosperity” (Lee et al. 2022: 2).

Racism, discrimination and systemic vulnerability due to immigration status, and the predominance of temporary and subcontracted work in an industry are issues that may create extra barriers to unionization but that can still be addressed by worker center organizing, policy, and legal efforts (De Lara, Reese, and Struna 2016). The Warehouse Worker Resource Center (WWRC), formed in 2011, has helped to organize, educate, and provide services, including health and legal services, to warehouse workers and their families in Southern California, especially the IE. Warehouse workers that they helped to organize won access to more secure

jobs, wage increases, and other improvements in their working conditions.

WWRC has also helped many warehouse workers to win historic legal settlements worth millions of dollars against various employers, including temporary agencies and third party logistics firms, that engaged in wage theft or violated other labor laws, including workplace health and safety regulations. WWRC and its allies in the labor movement have also promoted and won the adoption of new state policies to better protect warehouse workers’ rights and workplace health and safety, such as new indoor heat regulations and new restrictions on work quotas within warehouses (Emmons Allison and Reese 2023).

In 2022, the U.S. Equal Employment Opportunity Commission filed the two largest racial bias lawsuits in California history on behalf of 300 Black warehouse workers at two warehouse operators’ facilities, primarily employed through temporary agencies (Roosevelt 2022). The research, organizing, and workforce development efforts of the Inland Empire Black Worker Center help illuminate how a historic case such as this one is part of a larger pattern of the systemic, intergenerational discrimination and disinvestment that Black workers and their families particularly face (Smallwood-Cuevas et al. 2020). James, a truck driver, described how the Drive-A-Check (DAC) report card system, which tracks drivers’ records over 10 years in the industry, is wielded as a tool of systemic discrimination and exclusion. He said that often drivers of color are targeted and “blacklisted” in the industry because of negative DAC reports. When workers lack a union and collective bargaining power, worker centers can step in to foster mutual support and cultivate collective leadership around shared issues (Lee et al. 2022).

Worker Organizing

IE Amazon Workers United and other Amazon worker organizing: Among warehouse workers, Amazon workers have conducted the most visible organizing efforts in the IE’s TDL sector over the past 10 years, in part due to their sheer numbers across the region. Amazon worker organizing in the IE has been a core part of the larger movement in the region to gain greater community benefits from the TDL sector. Perhaps the longest sustained Amazon worker organizing campaign has been at the Amazon Air hub in San Bernardino, under the name of IE Amazon Workers United (AWU). AWU has staged multiple walkouts to call for pay increases, safer working conditions, and no retaliation for worker

organizing (Emmons Allison and Reese 2023; Yee 2022). Since AWU workers are assigned to tarmac operations in extreme heat conditions, their calls for a safer workplace have included access to cold water, breaks to cool down, and fans while working indoors (Warehouse Worker Resource Center 2023b).

As workers at an air hub, AWU members do not receive additional compensation for their high-risk conditions. As one worker, Rex, explained, “Because we have associates standing in front of aircrafts with running engines ... we are given extra responsibility, but there’s no extra compensation for it” (cited in Salazar 2023). AWU workers have also expressed concerns about Amazon hiring anti-union consultants to surveil workers and prevent them from joining the union. According to Jamieson (2023), Amazon paid external consultants \$3,000 a day to host meetings to convince workers not to unionize, spending over \$14.2 million dollars in 2022. AWU has filed an Unfair Labor Practice complaint against Amazon for threats, surveillance, and retaliation (Salazar 2023).

Amazon warehouse workers, both in the IE and in other U.S. regions, have been inspired by the 2023 UPS Teamsters contract. Some hoped that the new UPS wages could raise standards for similar occupations across the logistics industry (Leon 2023). Amazon workers in Southern California have also pursued new strategies, such as unionizing delivery drivers who are technically employed by third-party contractors (or delivery service providers [DSP]). In 2023, unionized delivery drivers in Palmdale, Los Angeles County, who delivered packages for Amazon but were employed by a DSP (Battle Tested Strategies), took their strike to Amazon facilities across the region and across the country. The drivers continue to protest their layoffs which resulted from Amazon’s decision to terminate its contract with Battle Tested Strategies after the drivers had successfully unionized with the Teamsters and negotiated their first union contract with this DSP (Sainato 2023).

THE FUTURE OF TDL WORK IN THE IE AUTOMATION

Given the central role of the TDL sector in the IE economy, the impact of automation on workers is of great concern. Muro et al. (2019) find that, between 1980 and 2016, the implementation of information technology produced 54 million net new jobs nationally. Yet, most of these new jobs were on the so-called lower and higher

WORKER PROFILES

MELISSA

Location: Riverside

Occupation: Patient care assistant, former warehouse worker

Melissa, a 26-year-old Mexican-Cambodian woman, is a patient care assistant and nursing student who previously worked as a warehouse associate at Amazon. She obtained the warehouse job after being laid off as a medical scribe during the pandemic shutdown. Although Melissa had read about the fast-paced work environment, she said she was taken by surprise by the large number of orders received each day and the intense supervision. Some of her friends were terminated for not meeting the expected work rate, and Melissa received a warning for her work rate. Being petite, Melissa said she struggled to haul large containers that weighed approximately 300 pounds.

Along with sorting packages for routes, Melissa had to stock heavy boxes of bags, which resulted in a shoulder injury. She said she did not report the injury, fearing her managers would not believe her, and instead often requested days off or a different position for the day to let her shoulder heal. When it was not possible to switch roles, Melissa said she worked through her shoulder pain, performing the same motions that had resulted in her injury. Even after leaving the job, she continues to feel the pain and has been required to undergo physical therapy.

Melissa said that technology could prevent many worker injuries and health concerns. She also wished that warehouses would introduce large ventilation systems. After witnessing a coworker collapse from heat illness during a shift, Melissa sought to take breaks to cool off, but her productivity was questioned.

Melissa wanted to draw attention to the pay gaps between long-term employees and newly hired ones. She was hired at a wage of \$17 dollars per hour. Later, she witnessed new employees being offered \$19 per hour, which was more than her pay after two and a half years on the job. Melissa believed it was unfair for newly hired employees to earn higher wages that were not offered to longer-term workers.

WORKER PROFILES

TABITHA

Location: San Bernardino

Occupation: Warehouse worker

Tabitha is a Black woman who began working in the warehouse industry at age 18, accumulating over 20 years of experience within the field. She has worked in multiple warehouses through temporary staffing agencies, earning about \$30,000 annually. Along with her three children and fiancé, she financially and emotionally supports two of her younger siblings.

Although staffing agencies do not provide their workers with health care, pay increases, or pensions, Tabitha thought they offered certain advantages. She found that their workers tended to be paid \$1–\$2 more per hour compared to direct hires. Temp agencies also make it convenient to find employment. Tabitha recalled walking off a job site one morning and finding a new warehouse position later the same day.

Nonetheless, working through temp agencies prevented Tabitha from being recognized for her hard work and being promoted to management. As Tabitha described, “They started asking me to train the temps. After this, I was like a lead, but I didn’t get paid like a lead.” When Tabitha asked her supervisor about being hired directly as a manager, she was told her responsibilities would still include intense physical labor and offer a lower wage than her temp position.

Tabitha described experiencing numerous unsafe working conditions, including working with moldy fruit for eight hours a day, working in extreme heat and cold, and hearing stories from her uncle about being crushed by a machine while working at a warehouse. At one of her jobs, she said, a fire broke out and “they just wanted us to ... continue working without no explanation.” Tabitha also recounted experiences with sexual harassment.

Tabitha made it clear she would never return to a warehouse job due to being undervalued, mistreated, harassed, and placed in danger. More than anything, however, it was the never-ending, monotonous work that made her unwilling to return. She is now developing her own videography business. Along with seeing her company flourish, she would like to see her children graduate from high school and go to college, and for her son to “never work in a warehouse ever in his life.”

ends of skill distribution rather than middle-skill, middle-wage jobs.

Among the groups projected to be most impacted by automation are men, young adults ages 16–24, and Latinos, American Indians, and Black workers, since they tend to be employed in industries and occupations, including those in the TDL sector, that are likely to be heavily impacted by automation (Broady et al. 2021; Muro et al. 2019). Jobs based on repetitive tasks, whether physical or cognitive, have been and continue to be at high risk of automation. Muro et al. (2019) estimate that about 78% of light truck and delivery service driver positions will be affected by automation. Other researchers similarly find that workers employed as warehouse laborers, truck drivers, and forklift drivers are among those with the largest need for skill development and training in the goods movement sector due to the impacts of workplace automation (ICF Incorporated, LLC 2019).

Trucking

Currently, automation in trucking can take the form of software—the use of integrated transportation management systems that analyze data and employ machine learning to calibrate loads, routes, and other operations in real time—and hardware, in the form of driverless trucks.

The prospect of automated trucks presents a significant threat to the job security of truck drivers. Companies investing in this technology argue that autonomous trucks can increase efficiency, reduce accidents, and cut costs. However, the human cost of such advancements is substantial. Many truck drivers fear that automation will eventually lead to widespread job losses, fundamentally changing the industry landscape. As the technology continues to develop, the trucking industry faces the challenge of attending to the livelihoods of millions of truck drivers and helping truck drivers to obtain the training needed for new positions (Gittleman and Monaco 2020; Viscelli 2018).

Researchers vary in their estimates of the extent of job losses that are likely to result from automation within trucking. In an analysis of how susceptible more than 700 occupations are to machine learning and robotics, Frey and Osborne (2017) found that 47% of all US jobs are at high risk of automation, with heavy-truck drivers at a 79% risk. Gittleman and Monaco (2020) estimate that as many as 419,00 truck drivers with a primary range of 201 or more miles could be displaced through

what they call “high automation,” one step short of full automation (15). Viscelli (2018) projects that over the next 25 years, up to 294,000 long-distance drivers could be replaced by autonomous trucks.

Research by Arntz et al. (cited in Gittleman and Monaco 2020) suggests that a change in methodology for how one classifies jobs changes the percentage of jobs that are at risk due to full automation. Gittleman and Monaco (2020) claim that estimates of job losses from automation and driverless trucks within truck driving may be overstating job displacements because they include occupations that are not directly involved in driving or likely to be impacted by the automation of driving. They also note that even when automation does take place, labor market impacts are likely to depend on the occupation, tasks, and how the rest of the economy responds to automation.

Various factors are likely to discourage or slow down the displacement of drivers through automation. First, truck drivers do more than simply drive. They provide security for goods, maintain their vehicles, and complete paperwork. Such additional tasks could help to mitigate job losses to automation. Researchers also suggest that “first- and last-mile problems” will still require a professional driver. Meanwhile, regulation and the infrastructure required for autonomous trucks to operate safely, such as systems for handling vehicles that break down in transit, could discourage widespread use of driverless vehicles (Gittleman and Monaco 2020; Viscelli 2018).

Automation does not simply replace human labor with machines; it can also change the types of jobs needed and the nature of the tasks performed within jobs (Gittleman and Monaco, 2020). For example, there are various modes for the use of driverless trucks, some of which are more reliant on human drivers than others (Viscelli 2018).

The Teamsters have been heavily involved in attempting to preempt the most destructive projected impacts of autonomous trucking. In 2022, Doug Bloch, then the political director for Teamsters Joint Council 7, called on a U.S. House of Representatives transportation subcommittee to ensure that autonomous trucks maintain human drivers trained to intervene for safety; to maintain data on injuries, crashes, fatalities, and malfunctions for regulatory purposes; and to support training programs to assist workers during the transition to autonomous vehicles.

In line with Bloch’s testimony, the Teamsters supported Assembly Bill 316 (2023), which required a trained human operator in autonomous vehicles weighing over 10,000 pounds in order to prevent accidents and injuries on the road. AB 316 aimed to ensure public safety and create high-quality jobs for workers (Teamsters 2023b). Although the bill passed the California Legislature with bipartisan support, it was vetoed by Governor Gavin Newsom. In 2024, the State Legislature will consider Senate Bill 915, which, if passed, would give local jurisdictions the authority to regulate autonomous vehicles (Cortese 2024), as well as a new version of AB 316. Both of these bills enjoy Teamsters support (Teamsters 2024).

Warehouses

Similar to trucking, warehouse automation takes the form of both software and hardware. Integrated warehouse management systems, or process automation, can cut back on inventory paperwork, use machine learning to adjust operations in real time, and employ algorithmic labor management systems that track worker productivity. Physical automation can include conveyor belts; scanners; voice-directed picking; automated guided vehicles, such as driverless forklifts; automated storage and retrieval systems, which can compress goods into a more compact space; and autonomous mobile robots, which cut down on human workers’ walking time. Forms of automation may be implemented permanently or as a subscription-based service during peak times (Gutelius and Theodore 2019).

Gutelius and Theodore (2019) find that technological change is unevenly distributed across the warehouse industry. While some warehouses may utilize conveyors or track goods with radio frequency identification (RFID) technology, they may also use older software systems that rely on human decision-making. And while technological uptake may be more common in e-commerce warehouses, which emphasize speed, Gutelius and Theodore (2019) note that many e-commerce distribution operations are outsourced to third-party logistics providers (3PLs), who may be less inclined to accommodate physical automation because of the relatively short length of their contracts (3–5 years) and the fact that they may serve multiple customers with a range of product characteristics.

According to Gutelius and Theodore (2019), the introduction of automated machinery can reduce the physical impact of workers’ tasks, but it can also deskill and displace workers and subject them to new health

and safety problems. For instance, worker monitoring technologies, as discussed in our interview findings, can put pressure on workers to increase their pace to an unsafe level. The negative impact of productivity monitoring technologies on worker health and safety is well documented in research on Amazon workers (Gutelius and Pinto 2023; Strategic Organizing Center 2021, 2022).

Alfonso, one of the warehouse workers we interviewed, described his experiences with automation at a unionized wholesale food distribution facility. His employer adopted an autonomous guided vehicle (AGV) to shuttle pallets around the facility. The AGV was supposed to adhere to a path marked by a yellow line. However, the AGV would often lose sight of the yellow line and “get lost.” It became a safety hazard, Alfonso said, because it would get in the way of workers when it was not supposed to. He also noted that the AGV’s battery would die, so it would stop in the middle of the path, and workers would have to attend to it when that was not part of their role.

Alfonso recounted that workers ultimately resented that their employer had invested in the AGV when the company could have given human workers more overtime and weekend hours. The workers used their union collective bargaining process to ensure that if any automated equipment was adopted in the future, it would come with labor hours for a human to oversee the equipment.

The demand by workers at Alfonso’s facility for automated equipment to be assigned a human supervisor aligns with research that calls for workers to be upskilled to manage new technologies. Gutelius and Theodore (2019), however, predict that such recommendations will not be implemented and that workers will instead be deskilled as technology removes the ability to engage in decision-making and critical thinking. The reliance of many warehouses on 3PLs and temporary agencies to meet their demands for labor complicates the implementation of workplace protections, making temporary and contract workers especially vulnerable to safety problems related to technological change.

Gutelius and Theodore (2019) predict that full, human-replacing automation is “little more than a remote possibility over the near to medium term” (67). Nonetheless, policymakers, workforce development professionals, and labor organizers should be attentive to the nuances by which partial automation is implemented at regional facilities. If properly managed by companies, Nantee and Sureeyatanapas (2021) suggest, the introduction of new technologies in some cases can

help warehouse floor workers to gain analytical and computing skills, and also increase “soft” skills such as problem-solving. They draw on two case studies to show that “no layoff” policies can pave the way for worker upskilling.

To further protect workers from the negative impacts of technological change, Muro et al. (2019) urge federal, state, local, business, and civic leaders to work together to ensure technological advancements support workers’ living standards. Collective bargaining by union representatives, as in Alfonso’s experience, can protect workers from job displacements, prevent significant impacts from technological changes in the workplace, and shield workers from intrusive forms of electronic surveillance (AFL-CIO 2019). By involving workers in decision-making processes, collective bargaining helps ensure workers continue to have access to good jobs, including benefits such as full-time employment, union representation, and retirement pensions.

The national contract negotiated between the Teamsters and UPS in 2023 is one example of how collective bargaining agreements can address the impacts of automation for workers. The contract bans the “use of drones or driverless vehicles to transport, deliver or pick up packages” and requires that if UPS were to seek to reverse this ban, the company would have to negotiate the change with the union (Teamsters 2023a: 17). The contract also requires existing union workers to perform any “new or modified work” created by technological change, and to be trained to do so if necessary (Teamsters 2023a: 18–19). Although Teamsters UPS workers have been able to use the collective bargaining process to maintain a voice in technological change, UPS operates a non-union freight forwarding, warehousing and distribution, and customs brokerage unit, UPS Supply Chain Solutions, which recently opened a facility in Kentucky designed to be operated by 3,000 robots and 200 human workers (Black 2023). For reasons such as this, broader labor protections that prevent logistics operators from evading collective bargaining through corporate restructuring are necessary.

ELECTRIFICATION

The TDL sector in California is currently being reshaped by new federal and state regulations, programs, and funding that aim to improve air quality and respond to the climate crisis by requiring and facilitating the transition to zero-emissions transportation. These changes are the outcome of many years of activist demands by

environmental, health, and other community organizations.

Among the most significant of these new policies is the state's mandate to transition to zero-emissions transportation by 2045 (Governor's Executive Order N-79-20). The rule serving this mandate that will have the most direct impact on logistics fleet operators is Advanced Clean Fleets, which was adopted by the California Air Resources Board (CARB) in 2023 and is pending approval by the Environmental Protection Agency (EPA) as of January 2024. The initial timeline for Advanced Clean Fleets required all drayage trucks registering for operation at seaports and railyards to be zero-emissions beginning January 1, 2024, with the goal of phasing out any combustion-powered drayage trucks by 2035. Advanced Clean Fleets also mandates a timeline for phasing out all other medium- and heavy-duty vehicles by 2045 (California Air Resources Board 2024).

A small number of IE heavy-duty truck drivers, dealers, and technicians began to experience the transition to battery electric trucks through demonstration projects by 2021. Through a project called Volvo LIGHTS (Low Impact Green Heavy Transport Solutions), funded by California Climate Investments, two IE-based fleet operators deployed battery electric heavy-duty trucks, yard tractors, and forklifts at their yards in Chino and Ontario. A truck dealership in Fontana also participated in the project, and San Bernardino Valley College's Heavy/Medium Duty Truck Technology program piloted an electric truck technician course. In addition, a community organization trained first responders in the potential hazards of high-voltage electrical equipment. As part of the lessons learned from Volvo LIGHTS, the project team highlighted the need for charging infrastructure technicians (Volvo Group North America 2022).

Electric truck demonstration projects and early-adopter fleets indicate how workforce needs, whether skills or occupations, will change in the near term for large fleet operators. For dependent contractors, however, the issues are distinct (for the definition of dependent contractors, see p. 14). The zero-emissions mandate harkens back to the state's earlier efforts to implement rules to lessen trucking emissions. As Appel and Zabin (2019) show, several thousand trucks most likely fell out of compliance with the 2008 Truck and Bus Rule due to compliance costs falling on misclassified contractors, even as the companies for whom they transported freight reported hundreds of millions of dollars in revenue (12–13).

WORKER PROFILES

SOPHIA

Location: San Bernardino

Occupation: Full-time student, former warehouse worker

Sophia migrated from Central America at age 11 and is currently in her early thirties. At age 18, she began working in warehouses due to having limited employment opportunities because of her Temporary Protected Status (TPS). With the instability of TPS, Sophia had to work two full-time jobs and help her sister clean buildings part-time. This work helped her pay for the childcare of her two children out of pocket.

She later met her current husband, who has financially assisted Sophia in enrolling in community college and enabled her to work one full-time job to spend more quality time with her family. Sophia decided to enroll in community college after realizing that she wasn't spending quality time with her children, that she wasn't making a lot of money, and that she didn't want to work in warehouses her whole life. "I didn't spend quality time with my kids," she said. "I was always at work ... I was always tired. And I had to do it because my kids were everything for me."

While working at Amazon, Sophia worked 10–12 hour shifts during peak season and stayed up late to finish her homework. During midterms, she used her Personal Time Off (PTO) to prepare for exams and communicated with her professors about being an employed student-parent. She also planned her school schedule around her work schedule to use less of her PTO.

Sophia decided to leave Amazon and continue her journey in higher education when she found out she was pregnant. A big motivation was being diagnosed with a high-risk pregnancy. "[The] doctor put in the doctor's note that they don't want me to take the stairs; they don't want me to be standing for more than an hour. And they [Amazon supervisors] don't care," Sophia said. She was given verbal warnings and write-ups for not reaching her daily performance goals. "I remember crying because nobody was helping me and I feel that I was gonna lose my baby because I was already bleeding."

As a full-time college student preparing to apply to graduate school, Sophia continues to experience barriers that inhibit her success, including childcare subsidy restrictions. Sophia hopes employers and higher education institutions can create spaces where student parents can thrive along with their children.

KARLA

Location: Victorville

Occupation: Unemployed; previously a small business owner

Karla is a 49-year-old Mexican woman and undocumented immigrant. She lives with her domestic partner and three sons. She previously owned a third-party logistics business but is currently unemployed. She estimated that her household's total annual income is \$80,000, with members of her household receiving public benefits such as SSI and CalFresh. Karla said her legal status has had an economic impact on her in terms of available employment opportunities and ability to receive public assistance.

Karla's logistics business was established by her husband. While working as a welder, he saved up enough money to buy his own truck. As a truck driver, he saved from 1998 through 2016. In 2017, he used his savings to invest in his own business.

Karla's husband passed away due to COVID in 2021. At that point, Karla took charge of all operations, including hiring a dispatcher and a truck driver to do the long-haul driving her husband had previously done. Karla said the dispatcher and truck driver with her company worked as independent contractors. Any employment benefits they received, she said, came from contracts with bigger companies.

Karla decided to close the business in May 2023. She cited intense stress from being responsible for any and every eventuality; low profit margins, if any; few jobs; and an accident involving the truck driver. Karla said that brokers take a large percentage of income per cargo job. During the business's final year, it was in the red. When she closed the company, she said she was left with \$6,000.

JACK

Location: Redlands

Occupation: Warehouse service manager

Jack is a Southeast Asian man in his late thirties who works as a warehouse service manager at a small warehouse in Redlands. Born and raised in San Diego, he resides in Redlands with his two sisters and girlfriend.

Jack has worked for his current employer since 2017, starting as a team lead at \$19/hour. He has worked in the lowest-tier warehouse positions and spent 10 years in fulfillment at Home Depot, along with working service-sector jobs in his teen years.

At his current position, Jack is salaried and makes \$120,000–\$150,000 per year. The warehouse operator is a multinational firm headquartered in London with thousands of warehouses across the globe. Jack's workplace has about 15 employees, who, he says, are treated fairly and have access to a variety of benefits. Jack said he is mindful of how laborious warehouse work can be, so he tries to be accommodating. He said his company hires only full-time workers and they receive the same health care package he does.

Jack said that his company tends to give in-house workers priority for promotions instead of hiring from outside for higher positions. Reflecting on perceptions of the warehouse industry, Jack said, "Pretty soon it'll be like every other person's gonna have worked at Amazon at some point in their life. ... I heard there's some ambulance outside that they keep, you know, just to work people until the point of exhaustion ... and then I think [Amazon and other warehouses] don't have roles for people to grow into. They'll take them, use them until they don't need them anymore. ... [At] a company such as ours there's a lot of roles they could step into after."

Although the State of California currently offers small truck fleets subsidies to alleviate the costs of purchasing electric trucks, they do not cover the full amount, and most incentive programs require a large amount of upfront capital because they are reimbursement-based. Many operators withdraw from applying to subsidies due to the extensive documentation required (Flaming and Burns 2023). Paperwork for incentive programs is perceived to be difficult and burdensome. Even with incentives, “You need competitive pricing to bring those trucks to a reasonable price,” says Karamjit. Several owner-operators mention that repairs will also be out of the orbit of most mechanics, “it would be like me trying to fix the computer... I can only imagine the cost to fix a mechanical failure” (Carlos).

Some who own and operate only a few trucks are angry about the changing regulations, and believe that independent owners are being priced out of the industry. Drivers mentioned that government subsidies that encourage truck electrification focus on the initial transition or purchase of vehicles rather than the long-term maintenance costs, such as battery replacements. While new trucks tend to be more expensive to purchase, older trucks tend to require more costs to maintain them. Yet many truck drivers, like Carlos, believe that a well-maintained truck is better for the environment than scrapping it for a new vehicle. He wishes agencies were better at communicating new regulations, too, and that they went through the DMV to reach truck drivers directly, instead of at the moment when you are told you are out of compliance.

Most truck drivers point to the huge burdens ahead in regards to “the charging situation.” As it is, “people can’t even find a parking spot at truck stops. They’re parking on the side of roads, they’re parking on the shoulders of exits, they’re parking at rest areas. I don’t feel like there are enough places to be able to give everybody an EV charger at the end of the night” (Simranjit). Varinder wonders, “Where are they going to get the electricity to power all these batteries? I mean, they can’t even sustain AC during the summer months out here in California.... The state doesn’t have any sort of infrastructure set up to support electric charging.” While some long-haul drivers only see EVs working for local use since that would take less charging time, short-haul drivers don’t believe electrification of their trucks will make a difference to air quality.

Several owner-operators grouse that regulatory agencies such as CARB are “putting fines and regulations and all this stuff on the trucking industry, and they need to provide information about it in advance” through

people, not just the Internet (Carlos). Others worry about privatization, and that the government needs to step in more. “I believe the government should come in and help truckers with concerns like getting better pay, good health care plans for truckers, and also on the safety and maintenance, where the government can provide us better programs to help individuals and self-employed” (Prabh).

The zero-emissions transition within logistics has important implications for workforce development. The state and region must prepare workers, including workers that could be displaced through this transition, to enter into new green jobs created by it and help to ensure good labor standards within those jobs. Such new jobs include those related to developing and maintaining new charging stations; electric grid construction and maintenance; the manufacture, sale, operation, and repair of zero-emissions vehicles, including electric delivery trucks; the production and sale of lithium batteries; and the installation and repair of solar rooftop panels on warehouses (Economic Policy Institute 2021; Phadke et al. 2021). Recommendations for preparing for these changes in workforce needs are discussed on p. 39.

WORKFORCE DEVELOPMENT

The current landscape of workforce development in the TDL sector in the IE should be considered in light of what federal and state labor agencies regard as low-skill versus middle-skill jobs. These broad categories are roughly tied to the U.S. Bureau of Labor Statistics’ (2023) education and training classification system, which considers the typical education needed for entry to an occupation, the commonly required work experience, and the typical on-the-job training needed to obtain competency in the occupation. The Inland Empire Regional Planning Unit of California’s Employment Development Department (2024) lists only heavy and tractor-trailer truck drivers and order clerks among the region’s top 20 in-demand middle-skill TDL sector occupations for 2020 through 2030. The most common TDL sector occupations, discussed in the quantitative findings of this report, are regarded as low skill.

In a 2019 workforce needs assessment for the goods movement sector that was conducted for the Port of Los Angeles, researchers found that across 38 occupations, 47% of employers required short-term on-the-job training, 45% required moderate on-the-job training, and 8% did not require any training at all. About 65% of employers also required workers to have a high school diploma. The needs assessment found a shortage of

community-based workforce training programs in the sector, especially for “higher-skilled” occupations (ICF Incorporated, LLC 2019: 3).

As our research findings and the Port of Los Angeles needs assessment show, a lack of workforce development plagues the TDL sector in the IE. Entry-level workers are too often seen as cheap, disposable labor to fulfill menial tasks, not whole people whose development as workers is worth investing in. In this section we look at several approaches to workforce development in low- and middle-skill occupations. We then examine the outlook for workforce development with the changes the sector is undergoing.

Case Studies: “Low-Skill” Jobs

Young Visionaries

Young Visionaries collaborates with Community Action Partnership (CAP) in San Bernardino to provide community members with free forklift training and, once finalized, Occupational Safety and Health Administration (OSHA) certification. The training program occurs once a month, from Monday through Thursday during a single week. The first two days are spent on orientation, obtaining materials, and filing documentation, with the last two days focused on having participants obtain hands-on experience by managing forklift operations in CAP’s warehouse facility.

Many San Bernardino residents experience food, housing, and financial insecurity. As a result, many of the participants that undergo the forklift training program are unemployed, men, and over the age of 30. In order to reduce the barriers to participating, Young Visionaries provides childcare, gas gift cards and bus passes when available, and food during the training days, but funding limits the availability of these wraparound services. During the program, participants also have access to learn about financial literacy through Chase Bank. Shakoya Henderson, project manager for Young Visionaries who oversees multiple programs including the forklift training program, states,

“The ultimate goal for the program, I would say, is to definitely expand one’s horizon. Land a job hopefully in the field of the forklift. And just a better way of life, a better improvement for oneself.”

While Young Visionaries does not have the capacity to place workers in occupations, they collaborate closely with San Bernardino’s Violence Intervention Prevention program to connect its training graduates to employ-

ment opportunities and follow up with them throughout their journeys. The training program helps increase participants’ chances to be hired as forklift drivers across temporary, seasonal, and full-time positions. In the future, Young Visionaries hopes to expand their free forklift training program to residents in the High Desert, including in Victorville and Hesperia.⁶

Teamsters 1932 Training Center

The Teamsters 1932 Training Center, based in San Bernardino, offers a warehouse and distribution program whose aim is to create a pipeline for workers to access union jobs in logistics. It is based on the needs of unionized companies to recruit and retain employees, and it provides workers interested in this industry with the skills they need for a long-term career with opportunities for advancement. In these ways, the training program challenges the stereotype of jobs in the TDL sector as only being “dead-end jobs.”

The warehouse and distribution training program piloted in 2023 as a four-week course for six hours per week, free of charge, and taught by a rank-and-file Teamsters warehouse worker. Participants have ranged in age from high school seniors to workers in their forties. Both men and women are included, and the participants are racially and ethnically diverse. In 2024, the program is set to transition to six hours per week and include forklift and OSHA 10 training (an industry-recognized health and safety certification).

In addition to occupation-specific skills, training participants receive job preparedness training, resume feedback, and one-on-one job placement support. Participants also learn about environmental justice issues associated with the TDL sector and about the importance of a union contract and how it improves workers’ access to employment benefits. The program’s instructor, Fredy Campos, shared that he felt fortunate to have learned about his union warehouse job only because he worked at a non-union facility across the street and would encounter the union workers at the corner store. He wants to introduce people to union possibilities in an inclusive environment, he said, explaining, “Given the way my life has shaped out, I want that for everybody. ... I don’t want it to seem like [union jobs] are hoarded.”⁷

Case Studies: “Middle-Skill” Jobs

Transportation and Advanced Technology Center, Pacific High School

In early 2023, Pacific High School in San Bernardino unveiled a Transportation and Advanced Technology Center. The center is the first public school facility of its kind in California, according to district officials, and serves students that are interested in assorted mechanical and electrical training. At more than 20,000 square feet, the facility is equipped like a professional auto shop with the capacity to work on heavy-duty vehicles (Whitehead 2023).

Through a partnership with San Bernardino Valley College, students in the course associated with this facility learn the intricacies of heavy- and-medium-duty trucks, while some are simultaneously enrolled in an after-school college-level course. Course professor Mike Stayton spoke to the value of the course for students who are more trade-oriented:

“I’m a trade school guy,” Stayton said. “When I graduated high school, I didn’t want to go to college, just like some of these kids here. Some will go to college, but a lot of them are not interested right now. They want to get done with school and go to work or a trade school, like when I was a kid” (cited in Whitehead 2023).

Since opening, the facility has garnered enough interest to justify hiring another teacher for the course.

Amazon Logistics Pathway, Cajon High School

Another career pathway program related to logistics has been developed at Cajon High School in San Bernardino. In 2019, Cajon High received \$50,000 from Amazon to develop a curriculum to prepare and motivate students for managerial careers in logistics. The Amazon Logistics and Business Management Pathway program emerged through a collaboration with educators at Cajon High, California State University San Bernardino, and Chaffey College. Students who enroll in the curriculum are provided with college credit at both institutions. As of 2022, there were 96 students enrolled, including 64 students in 10th grade.

The curriculum teaches students about Amazon’s impacts on global supply chains and e-commerce and includes classes that focus on working with labor unions, ethical decision making, and maintaining motivated employees. Students are required to work in teams to develop managerial methods for maintaining

skilled employees’ motivation without offering higher salaries and bonuses. Although Amazon is very well known for engaging in union-busting across the nation, students in this program were trained in collective bargaining. The program also requires students to participate in an internship at Amazon facilities or other nearby logistics companies. The program has been criticized for its seemingly purposeful promotion of Amazon corporate propaganda (Gordon and Gurley 2022).

While the Cajon High program and others like it may prepare some students for management positions in the TDL sector, it is not clear how they will benefit the vast majority of workers, who are employed in blue-collar occupations. Union representation and collective bargaining remains critical to maintaining and improving the labor standards within the industry (AFL-CIO 2019).

InTech Center, Chaffey College

Since 2019, the InTech Center at Chaffey College in Fontana has received more than \$3 million in grants for its advanced manufacturing training programs, which include a three-month pre-apprenticeship in automation, robotics, and mechatronics (ARM). The ARM program is designed to train students for careers as mid-level technicians in automated warehouse equipment, such as robotic and automated conveyor belt systems. InTech staff advertise an average starting wage of \$25 per hour in this field (Scauzillo 2022).

Workforce Development Outlooks

The cornerstone of workforce development in the TDL sector must be individual and community development. TDL sector workers must be viewed with dignity regardless of wage or “skill” level and have the opportunity to develop as whole people with the right to grow and thrive. The COVID pandemic shutdown sharply illustrated that frontline TDL sector workers do essential work in a consumer economy.

As discussed in the “Automation” section above, automation presents an opportunity for workers to be upskilled rather than deskilled. On the warehouse floor and on the road, workers can supervise and maintain automated technologies. In the office, workers can use data analytics for advanced problem-solving. Regardless of role, all workers can benefit from honing skills in critical thinking, communication and interpersonal interactions, adaptability and resilience, and collabo-

ration and teamwork (O'Brien et al. 2020). Fostering “uniquely human qualities” is a key way to ensure work remains meaningful for humans (Muro et al. 2019: 55).

The U.S. Government Accountability Office (GAO) (2022) recommends preparing workers for the impacts of automation by training them in work skills that will be in high demand to ensure workers have sustainable employment, addressing the psychological impacts of losing their previous jobs, and providing them with employer-recognized credentials, thereby developing career pathways that can lead to increased wages.

Multiple studies on the impact of automation for TDL sector workers recommend planning and preparing for change through partnerships between employers, training providers, and worker leaders (ICF Incorporated, LLC 2019: 42–43; U.S. GAO 2022: 29). Training can take various forms, including hands-on training, paid internships, mentorship, summer employment, career exploration programs, and contract training (O'Brien et al. 2020: 27). Stakeholders can promote active learning by investing in reskilling workers, developing accelerated training programs and certifications, and providing on-the-job training or tuition reimbursement (Muro et al. 2019: 52). Insufficient funding and a lack of qualified instructors, training providers, and equipment are identified as obstacles to meeting these training and educational needs (O'Brien et al. 2020: 28).

One study examining the potential impact of automation on workers urges federal, state, local, business and civic organizations to work together to ensure technological advancements are not only maintaining high productivity, but also supporting workers' living standards (Muro et al. 2019: 48). Similarly, Viscelli (2018) suggests that statewide trucking innovation and jobs councils should be created in order to ensure that training, career counseling, and financial assistance is provided to workers, particularly truck drivers, facing displacement through technological innovations.

The implementation and enforcement of what Muro et al. (2019) call a Universal Adjustment Benefit—encompassing career counseling, retraining opportunities, and income support—across industries can assist workers who experience displacement to reduce the barriers to enter the workforce again. Along the same lines, stakeholders can provide displaced or struggling workers access to government benefits such as the Earned Income Tax Credit and expanded unemployment benefits. Lastly, when automation is implemented, stakeholders should invest in reducing the impact of new technologies by supporting communities to develop

in-demand skills for new occupations and invest in impacted communities to develop regional growth (Muro et al. 2019: 57–67).⁸

The following section outlines broader, more holistic ways to pursue the workforce development recommendations summarized here.

CHANGING THE NARRATIVE: WORKER WELL-BEING AS COMMUNITY WELL-BEING

Residents and policymakers hold a spectrum of views on the proliferation of warehouses in the Inland Empire. Although the most polarized perspectives receive the most publicity, many residents have measured opinions. They might resent the truck traffic and pollution, for example, but concede that warehouse work is what enables them to support their family. As one San Bernardino resident told the *New York Times*, “It’s taken away the neighborhood feel. Kids don’t play outside. No one is in their yards. ... [But] if you want jobs, they’re out here in the warehouses, and that’s a fact” (Lee 2022).

This section focuses on collective, bottom-up interventions in logistics development that begin with that middle ground. But, rather than simply responding to the sector’s dominance in the IE, these interventions assert holistic, people-centered visions in which worker well-being is community well-being: Residents can have great jobs that pay enough to support a family, prioritize their health and safety in a pandemic, and let them retire without worry. Residents can also have secure housing, clean air, outdoor spaces for recreation, and time to devote to their communities. Most of all, as residents, legislation, and investors press logistics developers and operators to transform their operations for people and the planet, stakeholders can and must collaborate to ensure that no workers are left behind.

Below we review some ways that residents, policymakers, and logistics developers have worked to calibrate what outcomes the TDL sector has for residents who have felt the greatest negative impacts of its dominance in the IE economy. Subsequently, we outline models of action in which visions of worker well-being and community well-being become reality because residents come together to demand them and policymakers rise to the challenge of meeting those demands.

COMMUNITY ACTION AND CONSTRAINING FACTORS

Until recent years, IE policymakers rarely held developers accountable for mitigating the adverse effects of logistics development upon residents. Elected officials and developers neglected to be proactive about seeking resident input. New developments slipped by, buried in planning commission meeting agendas.

The environmental review process that developers must go through when seeking to build new facilities has been the main opportunity for residents to participate in decision-making. Participation, however, is constrained by the realities of the process. Developers hire their own environmental consultants to influence decisions with zoning changes, general plan amendments, and project approvals. These third-party consultants have no accountability to local residents and tend to minimize the public health risks that warehouses present. The consultants often produce environmental reports that are hundreds of pages long just days before a city is set to vote on a project (De Lara 2018; Emmons Allison and Reese 2023; Muñoz et al. 2023).

Campaign contributions are a driving force for elected officials favoring developers' voices over those of residents (Muñoz et al. 2023: 31–33). Thousands of dollars worth of campaign contributions from developers and individuals who list an employer within the TDL sector can be found in the campaign finance reports of elected officials in jurisdictions with dense warehouse development.

In addition, cities may provide tax breaks to attract employers. For fiscal years 2018 through 2022, for example, the City of Rialto reported a 20-year tax abatement agreement of 50% with an unnamed distribution center for constructing the facility and establishing its point of sale there. The total amount of taxes abated over the five fiscal years was \$14,380,066 (City of Rialto 2018: 97; City of Rialto 2019: 94; City of Rialto 2020: 93; City of Rialto 2021: 89; City of Rialto 2022: 100). Aside from local funding, the State of California has granted tax credits of more than \$26,000,000 to three distribution and fulfillment center projects potentially to be located in San Bernardino or Riverside counties. These credits have been awarded through the California Competes program since 2014 (California GO-Biz 2024).

As residents and some elected officials have grown weary of warehouse development, a variety of groups and city councils have mobilized to keep it in check. Their efforts have mostly focused on environmental and

health impacts, however, while leaving out the long-term working conditions that warehouses tend to bring.

In south Fontana, for example, where warehouses occupy more than 16 million square feet, a group of residents called the South Fontana Concerned Citizens Coalition formally appealed the city planning commission's approval of a warehouse proposed by Duke Realty in 2021. The planned warehouse of approximately 205,000 square feet at Slover and Oleander avenues was set to abut one high school and sit within less than one mile of another. The city denied the residents' appeal (City of Fontana 2021: 349–57).

Subsequently, California Attorney General Rob Bonta filed a lawsuit against the city for violating the California Environmental Quality Act. In response, the City of Fontana revised its municipal code to incorporate "sustainability standards" for new industrial developments. The new regulations included building landscape buffers, the development and enforcement of truck routes to prevent trucks from driving in residential neighborhoods, the use of zero-emission vehicles, solar panel installation, and the use of environmentally friendly construction materials (City of Fontana 2022). The city and the Attorney General thereafter reached a settlement that also involved Duke Realty creating a \$210,000 "community benefit fund" for specific forms of environmental impact mitigation (Office of the Attorney General 2022). Since the scope of the lawsuit and settlement were limited to direct environmental impacts, there were no long-term labor provisions.

Developers have begun to preempt residents' concerns with "voluntary" community benefit payouts. One recent example can be found in documents that Howard Industrial Partners (HIP), a developer based in Orange County, submitted to the City of Rialto upon seeking approval to develop a 470,000-square-foot warehouse in 2023. HIP proposed donations of \$5 million to fund a Rialto charter high school focused on entrepreneurship, \$1 million to the National Latina Business Women Association Inland Empire Institute to support women of color entrepreneurs and small businesses, and \$5 million to the city's police department to train officers on commercial enforcement policies and construct a new police station. HIP also agreed to fund infrastructural improvements in the city. The developer's labor offerings were limited to three construction project labor agreements and one job fair—no provisions for long-term labor standards (City of Rialto 2023).

The exclusion of long-term labor provisions as a key community benefit can be explained in some part by the

fact that warehouse developers tend to gain support from unions in the building trades, who view the construction of new warehouse projects as job security for their members. At a January 2024 hearing for a warehouse in unincorporated San Bernardino County, one county supervisor lamented that development approval votes always came down to a choice between jobs and the environment. Nonetheless, he said, addressing the “orange shirts” (worn by construction union members) in the audience, he would side with workers (San Bernardino County 2024).

The county supervisor skirted the real issue: Why do the region’s elected representatives not reshape the circumstances so that workers never have to choose between a job and clean air?

COMMUNITY BENEFITS AGREEMENTS

Inland Empire residents and organizations have worked hard to counter the false opposition of “jobs versus the environment.” Perhaps the largest coordinated effort toward this to date has been the San Bernardino Airport Communities (SBAC) 2019–2020 Eastgate community benefits agreement campaign. The campaign centered on the Eastgate Air Cargo Logistics Center at the San Bernardino Airport. The developer, Hillwood Properties, was set to sign a 35-year lease with an unnamed tenant suspected to be Amazon. The project’s aviation aspect meant that the impact would be much larger than usual, involving residents living all along the airport’s flight path, and that it would require federal approval.

SBAC brought together unions and environmental and social justice organizations in a shared effort to impose labor standards, enable local access to high-quality logistics jobs, and take specific steps toward emissions mitigation and public health. Despite a concerted campaign involving community meetings, door-to-door canvassing, and the collection of about 600 pledge cards from residents, Hillwood and allied policymakers bulldozed through the approval process for the Eastgate project, which eventually became the Amazon Air regional hub (Emmons Allison and Reese 2023: 212–16).

SBAC pushed for a community benefits agreement (CBA) because it is a legally binding contract that originates with the needs of low-income residents who will be most directly impacted by a development. CBAs are designed through negotiation between developers, community organizations, and labor organizations to address residents’ concerns, allow community members to be engaged in decision-making processes, hold

developers accountable, and contribute to the development of sustainable projects (PowerSwitch Action 2024).

Although agreements to share the benefits of private land development have existed in the US for over a century (Rosen 2023: 178), the specific form of CBAs was a response to the presumption that development processes are “shaped by powerful corporate actors who use their influence to gain city subsidies and help in the entitlement process to support their interests while working against those of others,” namely stakeholders with the fewest resources to shape development outcomes (Saito 2012: 130).

As discussed above, municipalities might use tax breaks as an incentive for desired development projects under the premise of job creation and economic development. However, low-wage workers often have little power to ensure that the long-term jobs that will be created as a result of proposed developments will pay well, will meet the job quality standards discussed earlier in this report, and will not displace them. At the same time, developers often face complex bureaucracy and extensive public review processes before they can break ground. The CBA model addresses both of these circumstances.

In one of the earliest and most well-studied CBA cases, the 2001 LA Live CBA, a large community coalition facilitated the environmental review and permitting process for a downtown Los Angeles development that includes what is now the Crypto.com Arena and the housing and entertainment complex surrounding it. In this case, the coalition was able to gain leverage for city council support by citing the millions of dollars in subsidies that the city offered to the developer. The CBA’s key workforce provision was for the developer to contribute \$82,000 to local hiring and job training programs and to collaborate with community groups to fulfill the local hiring requirements. Most notably, the jobs in question were permanent, so-called low-skill jobs, not only project construction jobs (Saito 2012: 142–43).

In the TDL sector, a landmark CBA is the Port of Oakland Good Jobs Policy. The policy was enacted in 2012 and expanded in 2017 after negotiations between the City of Oakland; Revive Oakland, a coalition of community and labor organizations; and logistics developers at the former Oakland Army Base. It established the West Oakland Job Resource Center, which offers TDL pre-apprenticeship and truck driver (commercial driver’s license) apprenticeship programs. Located in an area with 44 percent unemployment at the time of the agreement, the job center acts as the first source of

hire for the port warehouse complex (González-Vásquez and López 2021: 35). Oakland's Good Jobs Policy also provided for living wages, limits on temp workers, preference for workers from disadvantaged zip codes, and a "ban the box" policy (Baldassari 2017; PowerSwitch Action 2024).

Just San Bernardino, a coalition of eight community organizations that work in the city of San Bernardino, has a toolkit on CBA campaigns that is tailored to the area. The main points of the toolkit are as follows:

1. **Unite the coalition:** Ensure each party is represented and there are clear channels of communication.
2. **Identify the development project:** This requires proactively following news about upcoming local decisions regarding land use.
3. **Research, research, research:** Learn the details of the developer, the development plan, and the plan's projected impacts for local residents.
4. **Engage the neighborhood:** Speak with neighbors by going door-to-door, holding in-person meetings, and being creative about other kinds of events that will draw people in. Hire local artists to create engaging materials.
5. **Identify community priorities:** Use a democratic voting process among stakeholders.
6. **Draft the CBA outline:** Work with an attorney to translate community priorities into contractual language.
7. **Educate decision makers:** Draw on existing relationships and researchers to decide on city council members and other decision makers to engage.
8. **Approach the developer:** Highlight the scope of your support based on the results of the previous steps.
9. **Negotiate:** Ideally, seek an attorney for this process, and maintain a united front.
10. **Use city processes and media to your advantage:** Be familiar with every aspect of the local jurisdiction's approval process. Use the timeline the developer must work with to create deadlines in the negotiation process.
11. **Sign the CBA:** As the coalition and the developer reach an agreement, the coalition should be ready to show its support of the project based on the agreed-upon benefits.

12. **Implement, monitor, and enforce:** The coalition should keep track of whether the developer is holding up its end of the bargain (Just San Bernardino 2023: 11-38).

As with any toolkit, we recommend reading and discussing the Just SB resource with potential partners to design an overall strategy that takes into account the characteristics of specific cities or neighborhoods within the Inland Empire. Coalitions should also be aware that specific economic and political conditions in an area can be critical to their success. These include the strength of existing relationships between labor and community organizations (Saito 2022).

THE HIGH ROAD MODEL OF WORKFORCE DEVELOPMENT

Equity, climate resilience, and job quality: These were the three core principles that the California Workforce Development Board emphasized when it rolled out its High Road Training Partnership (H RTP) initiative in 2017. Drawing on a model that revitalized manufacturing in Wisconsin beginning in the 1990s, California's initial H RTP projects tested the success of workforce development that was designed through partnerships of employers, workers, and labor representatives; driven by industry needs; and guided by the expertise of workers themselves (González-Vásquez and López 2021: 13–16).

The West Oakland Job Resource Center (WOJRC) was one of the H RTP demonstration projects funded in 2017. As mentioned in the previous section, WOJRC runs a pre-apprenticeship program in TDL and a truck driver (commercial driver's license, or CDL) apprenticeship. The TDL pre-apprenticeship combines occupational skills, such as OSHA 10 (an industry-recognized health and safety certification) and forklift training, with life skills such as computer literacy, financial literacy, and mental health awareness. Since WOJRC serves an area burdened by disinvestment, it offers individual case management for participants who may need a range of basic needs met: housing, transportation, legal services, and one-on-one financial counseling, among others.

When participants complete the TDL pre-apprenticeship, they may seek employment at logistics facilities at the Port of Oakland, which must fulfill local hiring mandates that are enforced by the city's Good Jobs Policy committee (described above). If they choose to pursue a CDL apprenticeship, they receive points toward

an application with the Northern California Teamsters Apprentice Training and Education Trust Fund or can enroll at a private, employee-owned CDL school. In both cases, the apprenticeship has no cost for the trainee. Both the pre-apprenticeship and apprenticeship are linked to equipment electrification efforts at the Port of Oakland.⁹

As the WOJRC example illustrates, the H RTP model is notable because it accommodates for job quality, skill building, and worker power in occupations that are commonly regarded as low-skill. Another highly successful H RTP that leaves no worker behind is Building Skills Partnership (BSP), which operates in multiple locations in California. Originating with the Justice for Janitors labor movement of the 1990s, BSP trains and empowers property service workers—janitors; security officers; maintenance and custodial workers; and stadium, arena and airport workers. Its programs include “green janitor” education to reduce the carbon footprint of buildings, infectious disease certification, ESL for the workplace, and digital literacy. BSP operates these programs through a partnership between the SEIU United Service Workers West union, janitorial service companies, building owners, and community organizations (Building Skills Partnership 2023).

Both WOJRC and BSP show what can be achieved when people come together around their collective interests in fulfilling, dignified work as a cornerstone of community well-being. Both of their successes can be attributed to having arisen out of diverse coalitions or movements and having at least some aspects of their operations formalized through legally enforceable agreements and labor-management partnerships that give workers and employers equal seats at the table.

PUBLIC FUNDING

Policymakers can play their part in working toward a vision of worker well-being as community well-being by anchoring logistics development and environmental impact mitigation to labor standards.

To address emissions from the TDL sector, environmental justice organizations have fought for specific policies and programs that temper the ways in which warehousing and trucking alter local ecosystems and quality of life. Air quality improvements, especially the use of zero-emissions vehicles and equipment, receive the most attention because they have the most immediate impact. There are many other recommended steps, however. These include building or retrofitting existing

facilities for energy efficiency, such as by installing rooftop solar panels; planting trees; creating site designs that have minimal impact on groundwater recharge; and not building in areas that are endangered species habitats.

In the coming years, IE workers will be needed to do this work and help meet California’s goals to achieve carbon neutrality (Governor’s Executive Order B-55-18), draw energy from 100% zero-carbon sources (Senate Bill 100, 2018), and convert all medium- and heavy-duty vehicle operations to 100% zero emissions (Governor’s Executive Order N-79-20)—all by 2045. The federal and state funding that will make these goals possible makes provisions for encouraging contractors to plan projects in accordance with community needs.

Federal Funding

Current federal funding that addresses climate adaptation and mitigation in the TDL sector falls mostly under the Infrastructure Investment and Jobs Act (IIJA, also known as the Bipartisan Infrastructure Law; 2021) and Inflation Reduction Act (IRA, 2022). As one example of how workers, contractors, and workers’ communities can all benefit, any project proposals that the Department of Energy considers under the IIJA and IRA, must include community benefits plans. Such plans can be developed with little to no consultation with workers and nearby residents. But a solid community benefits agreement that includes community groups as signatories is likely to make a proposal stronger (Department of Energy, n.d.).

State Funding

On top of federal provisions, California Senate Bill 150 (2023) adds workforce standards to IIJA and IRA projects granted to California state agencies and subcontracted to private contractors. The standards to be imposed are still under deliberation as of this writing, but preliminary hearings indicate that they will draw substantially on the U.S. Employment Plan designed by Jobs to Move America (2020; California Government Operations Agency et al. 2024).

California state funding for zero-emissions transportation and charging infrastructure comes with its own workforce mandates and programs. For any charging infrastructure project funded in whole or in part by the state’s Air Resources Board, Energy Commission, or Public Utilities Commission, Assembly Bill 841 (2020)

requires that “at least 25 percent of the total electricians working on the crew for the project, at any given time,” hold the Electric Vehicle Infrastructure Training Program (EVITP) certification. The EVITP course was co-designed by the International Brotherhood of Electrical Workers to meet high safety standards, and the union offers the course through its electrical training centers. Regardless, any certified electrician can become EVITP certified (Goodheart 2022).

Although union standards apply at least in part to many projects that involve installing EV chargers, there are no legislative provisions for the long-term job of EV charger maintenance. With passenger EVs, charger reliability has proved to be a serious problem. Common issues range from unresponsive screens, to problems connecting to the payment system, to failures in interoperability between a vehicle’s charging technology and the charger itself (St. John 2023).

Resolving EV charger issues does not require thousands of hours of specialized electrical training, so, unlike charger installation, the emerging occupation of EV charger technicians has so far been excluded from unionization and the high labor standards that union contracts are able to secure. In addition, charger technician jobs so far tend to be on-call rather than on-site (Muller 2022), so as these jobs grow, they may not benefit local workers. As public electric truck charging stations begin to roll out, this is a workforce issue that public funding agencies must consider. The memorandum of agreement signed by the state Energy Commission and Workforce Development Board in January 2024 is a promising step.

Regional Incentives

The South Coast Air Quality Management District (SCAQMD)’s Indirect Source Rule, described on p. 5, has been implemented through a program called Warehouse Actions and Investments to Reduce Emissions (WAIRE). The Riverside–San Bernardino–Ontario metro area falls under SCAQMD’s jurisdiction.

The WAIRE program takes a carrot-or-stick approach. Warehouse operators can either pay an emissions mitigation fee, or they can earn “WAIRE points” by taking concrete steps to decrease their emissions. SCAQMD offers a “menu” of options for earning WAIRE points, or a warehouse operator can submit a custom WAIRE plan for consideration (South Coast Air Quality Management District 2024).

We recommend that SCAQMD consider custom WAIRE plans that follow the community benefits agreement model and visions. Custom WAIRE plans could be developed in collaboration with local community organizations, who are signatory to the plans. Plans could include partnerships with local organizations to provide worker training and preferential hiring to residents from Senate Bill 535 “disadvantaged communities” within a 20-mile radius of the warehouse. Such partnerships could include zero-emissions shuttles to ensure that workers have reliable transportation to get to work. Warehouse management could participate in environmental justice trainings. Warehouse operators could establish startup funds for local minority and disadvantaged entrepreneurs with limited access to large, low-interest loans to establish businesses centered on climate mitigation and adaptation.

BROADER POLICY RECOMMENDATIONS

In addition to the recommendations discussed earlier in this section, we see larger policy opportunities for improving worker and community welfare. Broader policy changes within the region could address warehouse development from the perspective of land use and local economic development. Statewide policy changes could improve and enhance labor standards within the industry.

Regional Policy

Restrict changes to zoning and land use. County and city policymakers must make it a priority to protect diverse land uses by placing restrictions on changes to how land is zoned. In 2022, zoning changes were approved for the South Ontario Logistics Center development on former protected agricultural lands because the protections were not written permanently into law (Kaneko 2022). Also in 2022, the Bloomington Business Park development pushed through a deal to displace a local elementary school so the developer would not have to address public health concerns that the warehouse raised for the school district (Linden 2022). Bloomington Business Park was also set to displace the residents of 100 homes (Noroozi and Story 2022). As Ricardo Cisneros, principal officer of the Inland Empire Labor Council, AFL-CIO, notes, debates that pit workers against residents and environmental justice organizations can be preempted simply by making it prohibitive to rezone non-industrial land.¹⁰

Diversify the Inland Empire's economy. The reason that warehouse developments continue to be pushed through in the name of jobs to begin with is because economic development strategists and boosters have fostered a regional dependency on warehouse construction and operations. In reality, no worker should have to celebrate a drastic alteration to their local environment for a job that does not provide the compensation or security needed to raise a family.

San Bernardino's downtown redevelopment project, made possible by the demolition of Carousel Mall, is an opportunity to establish employment and entrepreneurship opportunities that keep worker dollars in the community and that build intergenerational wealth for residents who have been disadvantaged by redlining and systemic racism. Cisneros says that the downtown redevelopment project could create 25 years' worth of construction work, on top of the long-term opportunities it presents. Other cities in the region could pursue such integrated plans that center the needs of current residents by embracing density and building upward, Cisneros suggests.¹¹

Climate adaptation, mitigation, and resilience projects focused on buildings and communities, which could include everything from home weatherization, to community composting, to utility-scale energy generation, should also be looked to as job creators now and for the foreseeable future.

State and National Policy

Drawing inspiration from the sectoral bargaining strategy of fast-food workers and the United Auto Workers' (UAW) approach to highlighting discrepancies in CEO compensation, these recommendations aim to promote fair labor practices and equitable income distribution.

In California's fast food sector, worker organizing led to a \$20 minimum wage (taking effect April 2024) across the sector and the creation of a Fast Food Council with equal representation of business and labor that will set working conditions in the industry (Kuang 2024). This sectoral bargaining strategy, adapted from the European labor model, shows one way to raise the bar for the lowest-wage occupations in the TDL sector.

Already, fast food franchise operators have implied that the planned wage increase will lead them to lay off workers (Kuang 2024), and mass media coverage has promoted this framing. Yet the UAW's 2023 campaign for auto industry workers gives the lie to this argument.

The UAW built worker support for a new contract with the "Big Three" automakers in 2023 by drawing attention to the fact that workers' labor was channeled into a 40% increase in CEO pay over the previous four years, while rank-and-file workers saw a pay increase of just 6% (Kaye and Hsu 2023).

In addition, a 2024 analysis of inflation from 2019 through 2023 found that corporate profits drove 53% of inflation during the second and third quarters of 2023. In comparison, corporate profits drove 11% of consumer price increases for the 40 years between 1980 and 2020. While the economy ostensibly recovers from the pandemic shutdown period, labor's share of income has actually declined while corporate profits have risen (Pancotti and Owens 2024). In other words, there is plenty of room to increase the pay of wage workers and close the pay gap between wage workers and CEOs, if business prioritizes the redistribution of corporate profits to communities through worker pay. Hourly workers must not be scapegoated for price increases that can be directly attributed to the greed of corporations and investors.

Building upon insights from Smith et al. (2014), we recommend that state and federal labor law enforcement agencies intensify their efforts to investigate and address labor law violations within the TDL industry. This would include enhanced funding for agencies to recruit and train staff capable of conducting thorough investigations.

Workers in the TDL sector in the IE will also benefit from other state and federal policies that generally strengthen and expand workers' rights. Policies that protect workers against retaliation for organizing and filing complaints about labor law violations should be fortified and implemented. The recent Department of Labor policy on employee misclassification, especially among drivers, is a step in the right direction. This policy change aligns with the need for more comprehensive worker protections, including new rights for temporary agency workers, such as those adopted in Illinois and New Jersey in 2023. A similar legislative push in California, following the model of these new standards, could significantly improve the working conditions for all temp workers, including those in the TDL sector.

It is important to acknowledge the economic implications of improved labor conditions. As Viscelli (2016) notes, better working conditions and fair wages can reduce the high turnover rates that currently cost companies billions annually. Therefore, these policy recommendations not only aim to create a more equitable and

just working environment for workers but also offer a pragmatic approach to reducing operational costs for employers in the long run.

FUTURE RESEARCH AVENUES

Identifying gaps in current research and proposing future study areas, such as the long-term effects of automation and electrification on regional economies, is fundamental. Methodologies for ongoing monitoring and comparative studies across regions and logistics sub-sectors should be developed.

Investigating the implications of automation and electrification, understanding occupational shifts and their effects on workers, and exploring the interplay of policy and industry responses are essential. This research will not only offer insights into the sector's transformation but also guide the development of strategies that ensure technological advancements are harmoniously integrated with workforce welfare and industry growth.

We hope that this research we have presented in this report can serve as a foundation for evidence-based policy decisions, particularly those impacting workers. Our goal is for this research to inform policies that not only respond to current trends but also proactively shape a more equitable and sustainable future for the logistics industry and its workers.

We recommend the following topics and approaches for future research about Inland Empire workers:

- Comprehensive surveys of regional warehouse workers and truck drivers to better understand their work and employment experiences, with sample sizes of at least 1,000
- Longitudinal studies tracking regional warehouse workers and truck drivers through retirement
- Experiences of women and transgender truck drivers
- Workforce development program participant outcomes, quantitative and qualitative
- Auxiliary TDL sector occupations, such as pallet suppliers, warehouse equipment technicians, and truck dealership salespersons
- Worker health and safety in the TDL sector, including how it relates to working under extreme weather in the IE

CONCLUSION

This report provides an in-depth analysis of the Transportation, Distribution, and Logistics (TDL) sector, a key component of the Inland Empire's economy. It explores the sector from multiple perspectives, considering the interplay between job growth, environmental impacts, and workers' experiences.

The significant expansion of the TDL sector in the Inland Empire, particularly in warehousing and transportation, has shaped the employment landscape, offering both challenges and opportunities. As the largest employing industry, it contributes substantially to the regional economy but also raises concerns about environmental degradation and job quality, especially for blue-collar roles.

A key insight from this report is the nuanced understanding of the TDL sector's impact on workers, achieved by combining quantitative data with personal narratives. This approach has provided a comprehensive view of working conditions, wage disparities, job security, and the effects of technological advancements like automation and electrification. The sector's growth, while providing employment opportunities, has also led to challenging working conditions.

To address these diverse impacts, the report recommends several policy interventions aimed at improving the TDL sector. These include strengthening labor standards, raising the minimum wage across the industry, enhancing labor law enforcement at state and federal levels, incorporating labor standards in climate policy, and adopting policies against employee misclassification, inspired by recent legislative examples like the temporary agency workers' bill of rights. These recommendations seek to balance economic growth with enhanced worker and community well-being.

This report also outlines future research directions, including comprehensive surveys of warehouse workers and truck drivers, longitudinal studies, and analyses of workforce development program outcomes. It emphasizes the importance of focusing on the evolving nature of the sector and ensuring that the voices of those most affected remain central to the discussion.

In conclusion, this report advocates for a balanced approach to address the multifaceted impacts of the TDL sector. It calls for informed policymaking and strategic planning that not only capitalizes on the sector's economic potential but also prioritizes the well-being of workers and the broader community. These insights aim to guide decision-makers, employers, workers, and community activists in developing a future for the Inland Empire that is both economically robust and socially equitable.

ENDNOTES

- 1 We selected these five warehouse occupations, following the approach of De Lara (2013) and Gutelius and Theodore (2019).
- 2 Latino workers self-identified as Latino, Hispanic, Central American, or Mexican.
- 3 We excluded survey participants that did not respond to this question and included self-employed workers. When we redid the analysis excluding self-employed workers (106 respondents), we found that the percentages remained the same.
- 4 CPS surveys have relatively small sample sizes at the county level which reduce the certainty of these findings.
- 5 Interview with Teamsters 1932 Training Center staff with Ellen Reese on September 5, 2023.
- 6 Information about this training was based on a personal interview with Shakoya Henderson by Elvira De La Torre on January 24, 2024.
- 7 Interview with Fredy Campos by Natalie Carranza and Athena Tan, November 17, 2023. Information on the Teamsters 1932 Training Center is based on an interview with Becky Lepins by Ellen Reese on September 5, 2023.
- 8 For similar recommendations regarding workforce development for truck drivers, see Section 5 in Viscelli (2018).
- 9 Information on WOJRC's programs and partnership with the Northern California Teamsters Apprentice Training and Education Trust Fund (NCTAT) is from a WOJRC site visit by Plug In IE staff on July 27, 2022, and a conversation between WOJRC, NCTAT, and Plug In IE staff on November 16, 2022.
- 10 Personal interview with Ricardo Cisneros by Athena Tan, January 25, 2024.
- 11 Personal interview with Ricardo Cisneros by Athena Tan, January 25, 2024.

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Plug In IE



APPENDICES

APPENDIX 1: SUPPLEMENTARY TABLES

TRANSPORTATION AND WAREHOUSING: A LARGE AND RAPIDLY GROWING INDUSTRY IN THE IE

Table 1 shows the top 5 employing industries in the Inland Empire, which employ 57 percent of the total number of jobs (or employed workers) in the region for the most recent year provided by the Quarterly Workforce Indicators (QWI). In Table 1 “Other So Cal” includes the following six Southern California counties that surround the IE: Imperial, Los Angeles, Orange, San Diego, Santa Barbara, and Ventura.

According to Quarterly Workforce data for 2021 (3rd quarter)-2022 (2nd quarter) and using 2-digit industry codes, the Transportation and Warehousing industry is the second largest employing industry in the Inland Empire, providing 13 percent of all jobs. It provides the largest percentage of jobs (16.2%) by industry in San Bernardino County and the fourth highest percentage of jobs in Riverside County (9.7%).

TABLE 1. PERCENTAGE OF TOTAL EMPLOYMENT IN THE TOP 5 EMPLOYING INDUSTRIES IN THE IE (2021 Q3-2022 Q2)

Industry	Jobs by Industry by Region				
	Inland Empire	Riverside	San Bernardino	Other SoCal	California
Total Employment	1,595,771	778,113	817,659	8,394,856	17,289,942
Health Care and Social Assistance	14.9	14.7	15.2	15.4	15.2
Transportation and Warehousing	13	9.7	16.2	3.6	4.6
Retail Trade	10.8	11	10.5	9.1	9.1
Accommodation and Food Services	9.9	11.5	8.3	9.1	8.8
Educational Services	8.4	9.1	7.7	8.2	8.2

Source: QWI (2-digit industry codes)

The actual extent of employment in transportation and warehousing occupations is even larger since many are employed as warehouse workers, truck drivers, and those who supervise and manage those occupations are employed in other industries, including Employment Services (which includes the Temporary Help industry), Retail Trade, and Wholesale Trade industries.

The Transportation and Warehousing industry is not only large, but has grown rapidly in the past five years (See Table 2). Overall employment in the Inland Empire has increased by 12.61 percent during the last five years, compared to 3.95 percent in California. Notably, the Transportation and Warehousing employment jumped from 11,2058 to 20,5863, marking an increase of 83.71 percent over the five-year period. As shown below, the percent increase in the Transportation and Warehousing industry was greater in San Bernardino (nearly 87 percent) than in Riverside (about 74 percent).

Other workers in the region besides those directly employed in this industry have been affected by the growth of this industry, including those building warehouses, repairing roads, providing supplies to warehouses and truckers, or selling food and refreshments to those employed in this industry.

TABLE 2. TRENDS IN EMPLOYMENT OVER THE PAST 5 YEARS

	Inland Empire			Riverside			San Bernardino		
	Employment (2016 Q3- 2017 Q2)	Employment (2021 Q3- 2022 Q2)	Percent Change	Employment (2016 Q3- 2017 Q2)	Employment (2021 Q3- 2022 Q2)	Percent Change	Employment (2016 Q3- 2017 Q2)	Employment (2021 Q3- 2022 Q2)	Percent Change
Health Care and Social Assistance	204,298	236,099	15.57%	95,207	113,198	18.90%	109,091	122,902	12.66%
Transportation and Warehousing	112,058	205,863	83.71%	41,771	74,518	78.40%	70,287	131,345	86.87%
Retail Trade	170,858	170,541	-0.19%	84,662	85,077	0.49%	86,197	85,464	-0.85%
Accommodation and Food Services	147,020	156,334	6.34%	83,493	88,943	6.53%	63,527	67,391	6.08%
Educational Services	132,964	132,901	-0.05%	69,188	70,299	1.61%	63,776	62,602	-1.84%

Source Note: QWI data from 2016 Q3–2017 Q2 until 2021 Q3–2022 Q2 (2-digit industry codes)

TABLE 3. CHARACTERISTICS OF 6 SELECTED TDL OCCUPATIONS (4-DIGIT CODES)

Occupation Code	160	9130	9620	9640	9005	9600
Occupation Name	Transportation, Storage, and Distribution managers	Driver/Sales Workers and Truck Drivers	Laborers and Freight, Stock, and Material Movers, Hand	Packers and Packers, Hand	Supervisors of Transportation and Material Moving Workers	Industrial Truck and Tractor Operators
Number employed	4688	78126	70394	31701	6807	22597
Average earnings	66424	45142	28887	24555	53830	32879
Percentage that work 35 hours per week or more	83	80	65	71	88	87
Percentage that work 50-52 weeks per year	81	75	60	57	87	76
Percentage with Medical insurance covered by employer	71	54	51	42	76	56
Percentage that are women	22	8	28	58	29	11
Percentage that are Black or Latino	60	73	76	89	69	86
Percentage that are foreign born	26	38	27	42	21	33
Time spent traveling to work	34	37	29	27	34	29
Percentage with a BA degree or above	24	5	4	5	11	3

Occupation Code	160	9130	9620	9640	9005	9600
Occupation Name	Transportation, Storage, and Distribution managers	Driver/Sales Workers and Truck Drivers	Laborers and Freight, Stock, and Material Movers, Hand	Packers and Packers, Hand	Supervisors of Transportation and Material Moving Workers	Industrial Truck and Tractor Operators
Percentage with some college	28	22	23	17	29	16
Percentage with high school degree	44	54	57	54	54	61
Percentage with less than high school	4	19	16	24	5	20
Minimum age	21	16	16	16	19	18
Maximum age	81	94	85	87	77	88
Average age	42	43	34	35	40	38
Median age	40	45	31	33	37	36

Notes: data are sourced from the American Community Survey (ACS) provided by IPUMS (2021 5-year file)

Earnings are Lower in the IE Compared to the State and Neighboring Southern California Counties

Table 4 below shows the average monthly earnings in the Transportation and Warehousing industry and for all industries overall by region in the most recent year of data provided by QWI. Within this sector and all industries, average monthly earnings are lower in the Inland Empire than in other Southern California counties and California, although the difference is smaller within the Transportation and Warehousing industry which is relatively lower paying compared to all industries combined.

TABLE 4: AVERAGE MONTHLY EARNINGS BY INDUSTRY

Industry	Inland Empire	Riverside	San Bernardino	Other SoCal	California
Overall	4,872	4,789	4,950	6,268	7,141
Transportation and Warehousing	4,372	4,353	4,383	5,729	5,983

Source: QWI, 3rd Qtr, 2021-2nd Qtr, 2022 (2-digit industry codes)

TABLE 5. TDL REPORT FOR 25 NAICS CODES (2022)

NAICS Code	Number Employed	Percentage Black or Latino	Percentage Women	Average Monthly Earnings (Beginning of Quarter)
4231 Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	8234	57	28	5681
4232 Furniture and Home Furnishing Merchant Wholesalers	3152	56	38	8304
4233 Lumber and Other Construction Materials Merchant Wholesalers	4254	63	24	6139
4234 Professional and Commercial Equipment and Supplies Merchant Wholesalers	5818	47	39	5563
4235 Metal and Mineral (except Petroleum) Merchant Wholesalers	1939	61	25	6831
4236 Household Appliances and Electrical and Electronic Goods Merchant Wholesalers	3615	42	35	5578
4237 Hardware, and Plumbing and Heating Equipment and Supplies Merchant Wholesalers	4972	60	26	6613
4238 Machinery, Equipment, and Supplies Merchant Wholesalers	6525	52	26	5555
4241 Paper and Paper Product Merchant Wholesalers	1639	50	34	6193
4242 Drugs and Druggists' Sundries Merchant Wholesalers	2166	40	56	5528
4243 Apparel, Piece Goods, and Notions Merchant Wholesalers	1867	56	52	4790
4244 Grocery and Related Product Merchant Wholesalers	12021	68	30	5877
4245 Farm Product Raw Material Merchant Wholesalers	390	56	31	6249
4246 Chemical and Allied Products Merchant Wholesalers	1211	52	34	6600
4247 Petroleum and Petroleum Products Merchant Wholesalers	612	55	24	5642
4248 Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers	757	64	16	4451
4249 Miscellaneous Nondurable Goods Merchant Wholesalers	3868	51	36	4425
4821 Rail Transportation
4841 General Freight Trucking	26162	71	19	6030
4842 Specialized Freight Trucking	8597	68	17	5223
4885 Freight Transportation Arrangement	4402	66	35	4587
4911 Postal Service	162	10	36	5883
4921 Couriers and Express Delivery Services	22278	70	26	6715
4931 Warehousing and Storage	135115	69	46	6206
8113 Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	2517	45	16	5368

Notes: The data in Table 6 are from QWI. The values are the average over the four quarters in 2022 weighted by the number of employed.

TABLE 6: TOP 20 INDUSTRIES BY EMPLOYMENT IN RIVERSIDE COUNTY

Rank	NAICS	Industry	Employment	Earnings
1	7225	Restaurants and Other Eating Places	70317	2212
2	4931	Warehousing and Storage	57291	3753
3	6111	Elementary and Secondary Schools	56198	5760
4	6241	Individual and Family Services	34117	1713
5	6221	General Medical and Surgical Hospitals	23350	7388
6	5613	Employment Services	20023	2813
7	2381	Foundation, Structure, and Building Exterior Contractors	19747	3632
8	7211	Traveler Accommodation	19461	4093
9	2382	Building Equipment Contractors	18914	5329
10	4451	Grocery and Convenience Retailers	16297	2978
11	5617	Services to Buildings and Dwellings	15066	3472
12	2383	Building Finishing Contractors	13505	3723
13	4552	Warehouse Clubs, Supercenters, and Other General Merchandise Retailers	12590	3210
14	6211	Offices of Physicians	11556	7044
15	7139	Other Amusement and Recreation Industries	10501	2659
16	9221	Justice, Public Order, and Safety Activities	9944	7947
17	5616	Investigation and Security Services	9085	3460
18	9211	Executive, Legislative, and Other General Government Support	8517	6896
19	9231	Administration of Human Resource Programs	8405	7149
20	6113	Colleges, Universities, and Professional Schools	8176	5596

Notes: This table shows the top 20 industries by employment in Riverside County in 2022 using 4-digit industry codes. The data are from QWI from the US Census Bureau. Among the 20 largest employing industries, warehousing and storage ranked first, while transportation industries are not among the top 20.

TABLE 7: TOP 20 INDUSTRIES BY EMPLOYMENT IN SAN BERNARDINO COUNTY

Rank	NAICS	Industry	Employment	Earnings
1	4931	Warehousing and Storage	78570	3613
2	7225	Restaurants and Other Eating Places	63623	2123
3	6111	Elementary and Secondary Schools	50011	5356
4	5613	Employment Services	41427	2600
5	6241	Individual and Family Services	31405	1854
6	6221	General Medical and Surgical Hospitals	29296	6498
7	4841	General Freight Trucking	19763	4914
8	4921	Couriers and Express Delivery Services	18128	3856
9	4451	Grocery and Convenience Retailers	14918	2979
10	9221	Justice, Public Order, and Safety Activities	14050	7984
11	6211	Offices of Physicians	13094	7720
12	2382	Building Equipment Contractors	12510	6325
13	4552	Warehouse Clubs, Supercenters, and Other General Merchandise Retailers	12011	3071
14	6214	Outpatient Care Centers	11244	7026
15	9211	Executive, Legislative, and Other General Government Support	10462	8559
16	2381	Foundation, Structure, and Building Exterior Contractors	9668	4401
17	5617	Services to Buildings and Dwellings	8067	3741
18	8111	Automotive Repair and Maintenance	7894	3904
19	4411	Automobile Dealers	7420	7915
20	4244	Grocery and Related Product Merchant Wholesalers	7196	5656

Notes: This table shows the top 20 industries by employment in San Bernardino County in 2022. The data are from QWI from the US Census Bureau. The top industries by employment in San Bernardino County are warehousing and storage, restaurants, elementary and secondary schools, employment services, and individual and family services. Among those industries, warehousing & storage ranked 1st (and average monthly pay in this industry is lower compared to Riverside County). General freight trucking ranked 7th and courier and express delivery services ranked 8th.

JOB QUALITY IN WAREHOUSE OCCUPATIONS: INEQUALITIES ACROSS INDUSTRIES

Workers employed in transportation and warehouse occupations confront unequal employment conditions across industries. For example, while warehouse workers are typically employed in the traditional ‘warehousing and storage’ industry, some are employed within other industries, such as Employment Services (which includes the temporary help industry) and the electronic shopping industry.

Table 8 below shows how various aspects of job quality among warehouse workers differ across these three industries in the most recent 5-year ACS data. In the Inland Empire, most employees of “freight, stock, and material handlers” work in “warehousing and storage” industry, followed by “electronic shopping” and “employment services.” “Warehousing and storage” have the largest share of workers employed full-time (35 hours or more per week) and full-year (50-52 weeks per year, and thus they have the highest median income. On the other hand, temporary agency workers in the “employment services” have the lowest median wages, partly related to the smaller share of workers that are full-time and full-year. Workers in “electronic shopping” are more likely to have health benefits (or employer-provided health insurance), while workers in the “employment service” are the least likely to have health benefits.

TABLE 8: JOB QUALITY IN THE OCCUPATIONS OF “FREIGHT, STOCK, AND MATERIAL HANDLERS” IN THE IE

Industry	Median Wage	% Employed full-time	% Employed full-year	% with Health Benefits
Electronic shopping	\$21,579	75.96%	70.61%	72.86%
Employment services	\$15,700	70.65%	52.28%	34.63%
Warehousing and storage	\$24,074	89.38%	78.18%	51.45%

Source: ACS 2021 5-year file

For five common blue-collar and non-supervisory warehousing occupations, including “laborer and freight, stock, and material movers, hand,” “packers and packagers, hand,” most workers are employed in the traditional “warehousing and storage” industry, followed by the newer “electronic shopping” industry, with the least number employed in the “employment services” industry in the Inland Empire. On the other hand, while “warehousing and storage” have the largest percentage of full-time and full-year workers, the percentage of full-year workers is lower in “employment services” than in “electronic shopping,” and the percentage of full-time workers is higher in “Employment services” than in “Electronic shopping.” Across all industries, median wages are relatively low.

TABLE 9: JOB QUALITY IN FIVE COMMON BLUE-COLLAR AND NON-SUPERVISORY WAREHOUSING OCCUPATIONS IN THE IE

Industry	Median Wage	% Employed full-time	% Employed full-year	% with Health Benefits
Electronic shopping	21579	71.99%	70.31%	70.24%
Employment services	19076	78.79%	58.53%	33.53%
Warehousing and storage	25434	91.15%	80.18%	53.66%

Source: ACS 2021 5-year file, Inland Empire

SELF-EMPLOYMENT IN TRANSPORTATION AND WAREHOUSING

A large and increasing number of workers in the Transportation and Warehousing industry are self-employed workers, some of whom are misclassified employees. While there can be some benefits to self-employment, self-employed workers typically do not enjoy the same labor rights as other employed workers and many struggle to earn a good living after paying for their materials and supplies, including maintaining their own trucks and paying for gas.

Figure 1 below shows the rise in the absolute number of self-employed workers in the Transportation and Warehousing industry between 2005 and 2022. Overall, the number of people engaging in self-employed activities in the transportation and warehousing sector was around 15,463 in the Inland Empire, 45,946 in Southern California, and 78,966 in California in 2005. During 2005-2022, people engaged in self-employment in transportation and warehousing have increased by 41.9 percent, 82.9 percent, and 82.6 percent in the Inland Empire, Southern California, and California respectively.

FIGURE 1. NUMBER OF SELF-EMPLOYED WORKERS IN TRANSPORTATION AND WAREHOUSING, 2005-2022

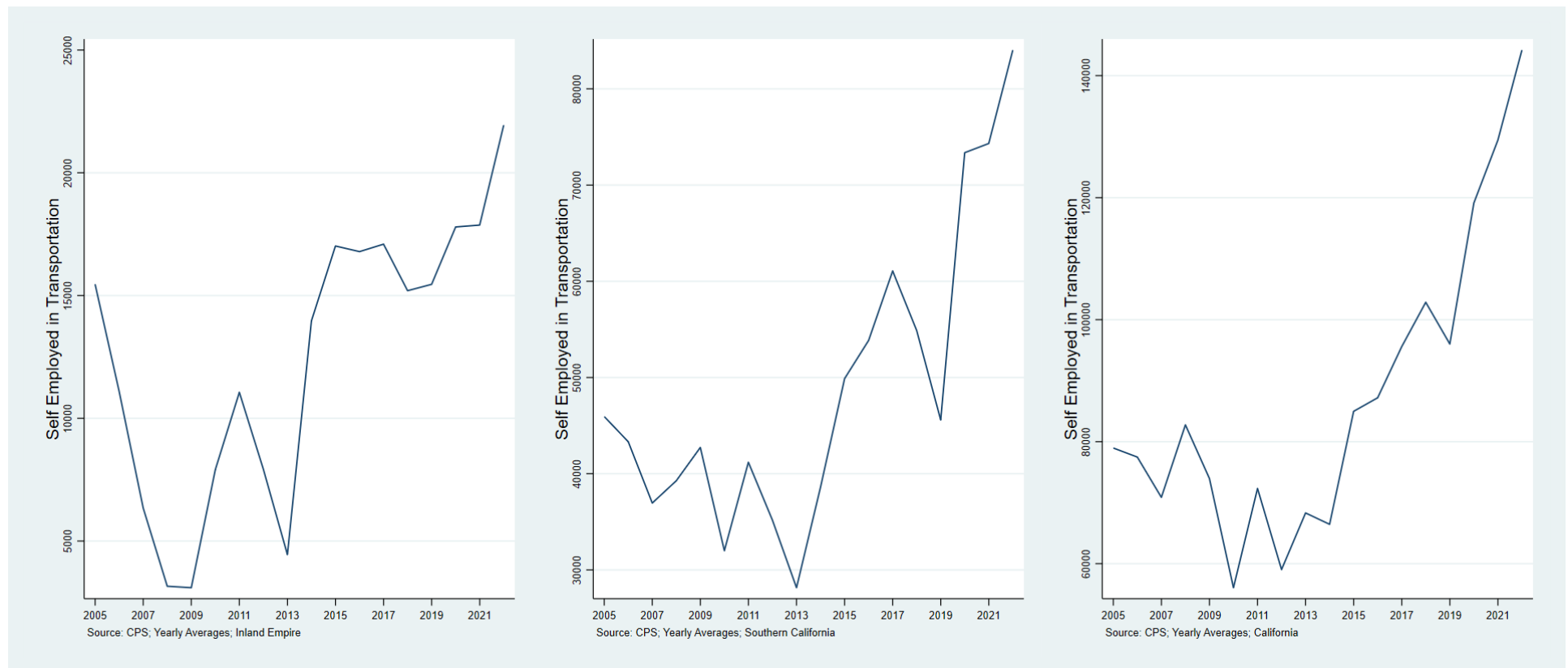


Figure 2 plots the number of self-employed workers in Transportation and Warehousing by incorporation status. There are two categories of workers – incorporated and not-incorporated. Incorporated self-employed are individuals that run their business or practice as a separate legal entity. Not-incorporated self-employed are individuals that run their own business which does not have a legal entity of its own.

Non-incorporated self-employed individuals are higher than incorporated self-employed since 2005. In 2005 in California, out of the total self-employed, 79 percent were engaged in non-incorporated activities. A large increase is observed in the non-incorporated self-employed after 2014, which increased from 47,327 to 71,040 between 2014-2015 in California. Since then, this percentage has generally increased with minor dips in 2019. A similar increase is seen in the incorporated self-employed after 2018. The number of people conducting registered self-employment activities increased in California by 11,510 between 2018-2019. With the high increase of incorporated self-employed in 2018 the share of self-employed in non-incorporated activities is moving downwards and currently stands at 67 percent.

FIGURE 2. NUMBER OF SELF-EMPLOYED WORKERS IN TRANSPORTATION & WAREHOUSING BY INCORPORATION STATUS, 2005-2022

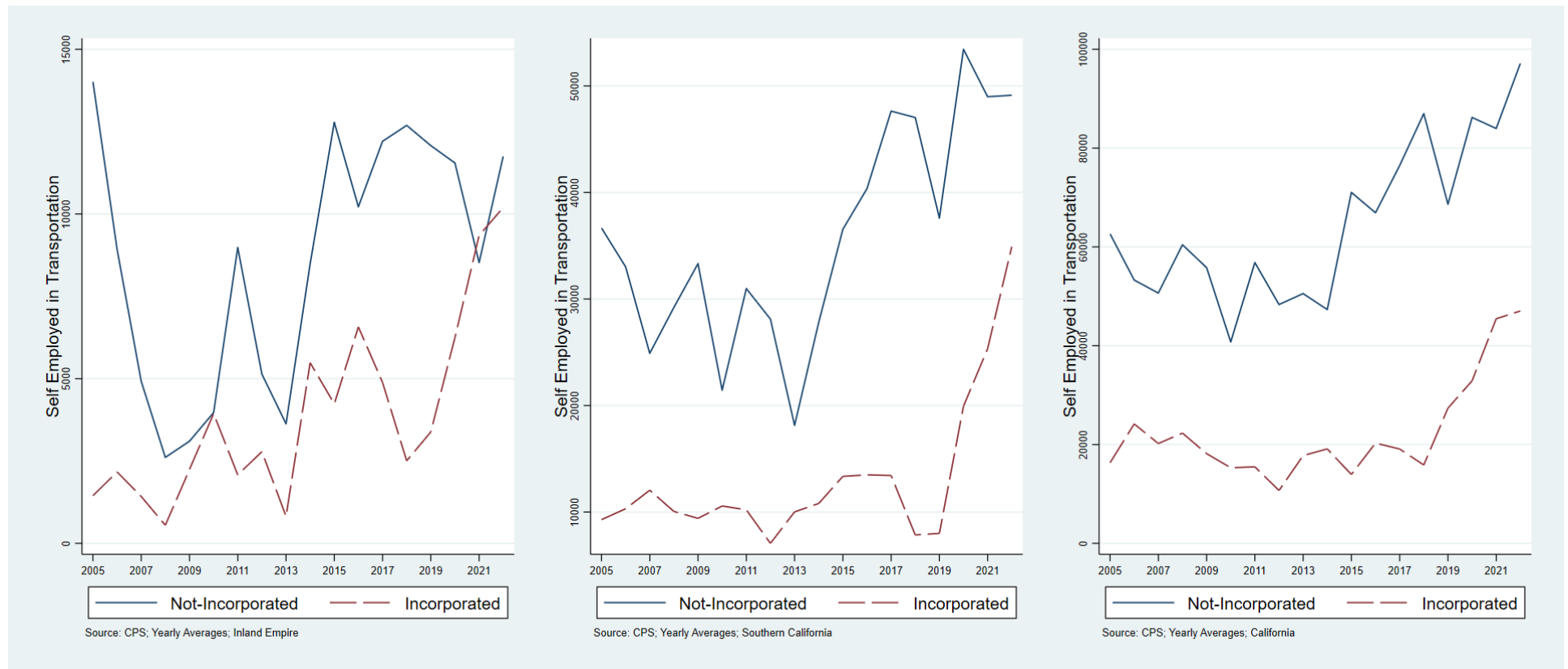
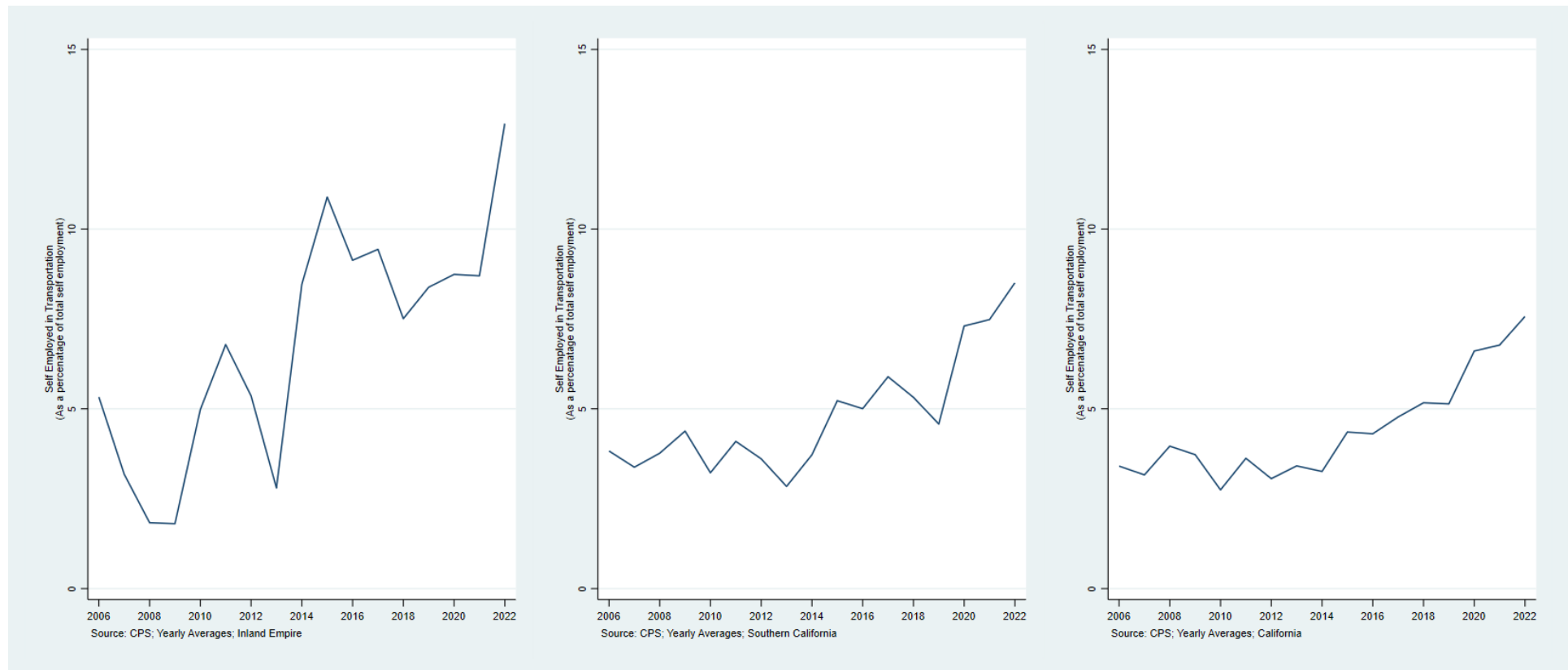


FIGURE 3. SELF-EMPLOYED IN TRANSPORTATION & WAREHOUSING AS A PERCENTAGE OF ALL SELF-EMPLOYED WORKERS, 2005

Notes: (from left to right) Panel A shows Inland Empire, Panel B shows Southern California (4 metropolitan regions are included: El Centro; Los Angeles-Long Beach-Anaheim; Los Angeles-Long Beach-Santa Ana; Oxnard-Thousand Oaks-Ventura; Riverside-San Bernardino-Ontario), Panel C shows California.

Figure 3 plots the number of self-employed workers in transportation and warehousing as a percentage of all self-employed workers to give us a glimpse of the role that sector plays in the growth of self-employment. Among all self-employed workers in California, the percentage employed in the transportation and warehousing sector has been on the rise since 2014. The same trends are seen for Southern California. Between 2006 and 2014, the share of self-employed in transportation and warehousing as a percentage of all self-employed workers remained below 5 percent in both California as a whole, and the Southern California region. Since 2014, this percentage has risen to around 8-9 percent. The trends for the Inland Empire are somewhat similar but the sample size is limited, reducing the certainty of these findings. However, the overall trend has been on the rise for the region as well.

The pandemic had no effect on the increase in self-employment in transportation and warehousing. This points towards the strong growth of the sector. Both Figure 3 and Figure 4 show that the share of self-employed in transportation is on the rise recently among the total of self-employed workers and

total employed workers in transportation for California, the Southern California region, and the Inland Empire. In sum, the absolute rise in self-employment in transportation has been faster not only compared to self-employment generally, but the sectoral growth in employment as well.

Figure 4 and Figure 5 below show the composition of the transportation and warehousing sector by class of workers. In California, the current ratio of self-employed workers to salaried workers in the sector is around 0.15. However, Figure 5 shows that self-employment in transportation and warehousing as a percentage of total employment in transportation and warehousing has been on the rise in California over the last decade. Southern California follows the same pattern as the state average.

FIGURE 4. RATIO OF SELF-EMPLOYED TO SALARIED IN TRANSPORTATION AND WAREHOUSING

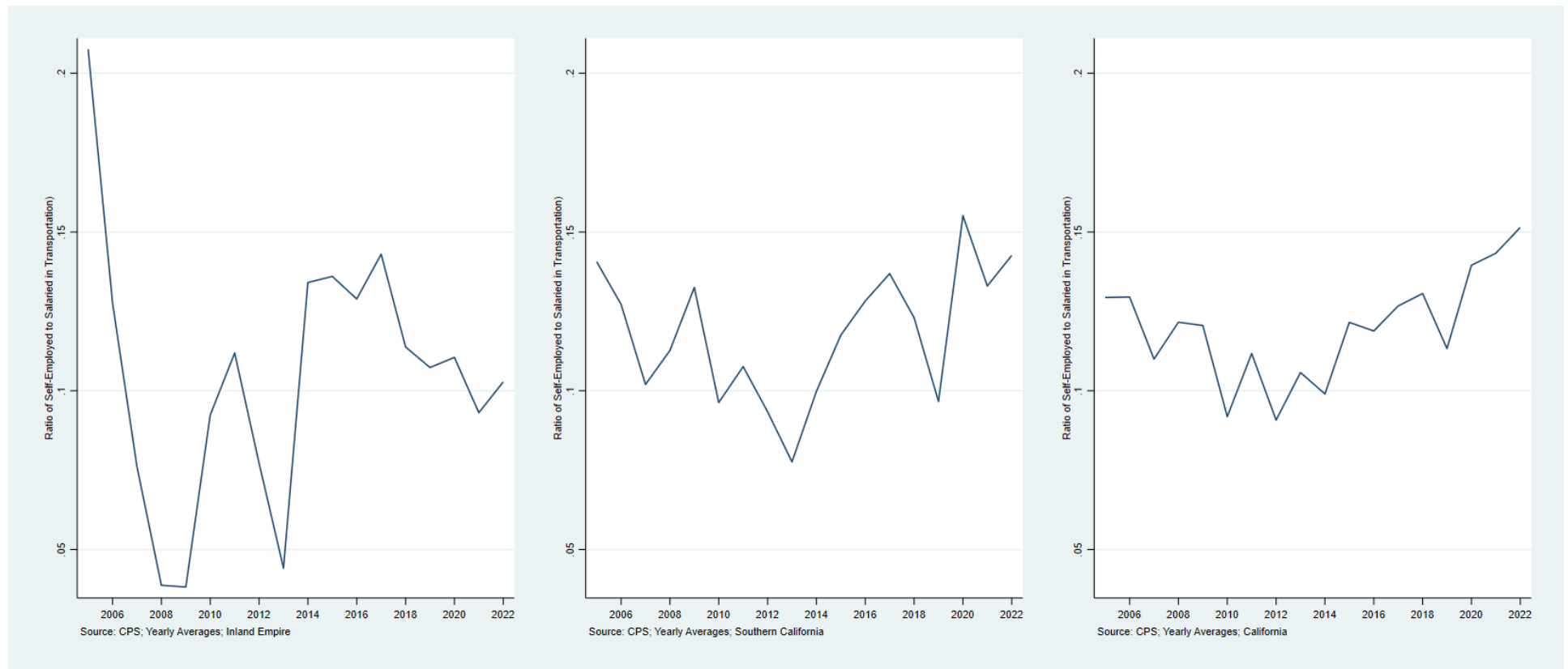
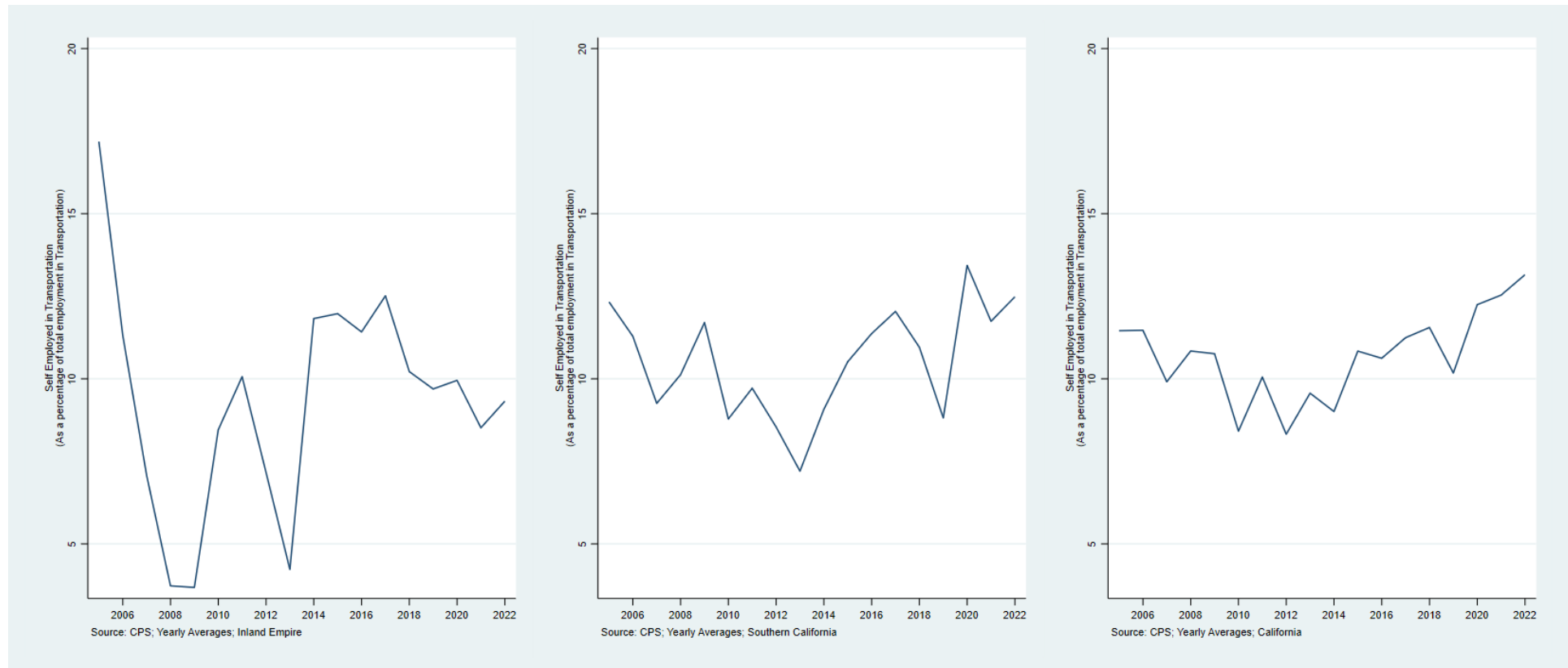


FIGURE 5. SELF-EMPLOYED IN TRANSPORTATION AND WAREHOUSING



In both California and Southern California, the percentage of self-employed workers to total employed workers in transportation and warehousing bottomed out at around 7-8 percent in 2012 and then rose to close to 13 percent in 2022. The data for the Inland Empire is a bit noisier, potentially due to the small sample size, but the share of self-employed as a percentage of total employed workers in transportation and warehousing for the county has hovered around 10 percent over the last decade. In other words, for every 10 employed workers in this sector, there is another worker who is self-employed within it. These self-employed workers include truck drivers who are owner-operators as well as other types of self-employed workers, such as gig workers that are classified as independent contractors.

In times of recessions – in 2008 and 2020 – the plots for California and Southern California show an uptick in the percentage of all employed workers in the transportation and warehousing industry who are self-employed. In other words, the number of self-employed workers in this industry rose more quickly than other forms of employment in transportation and warehousing during those recession years. This could be due to employers relying more heavily on self-employed workers as a way to cut labor costs as well as workers entering self-employment in response to shrinking employment opportunities within this sector.

TABLE 10. U.S. UNION DENSITY AND COVERAGE RATES IN SELECTED TDL OCCUPATIONS, 2023

Occupation	% Union Members	% Union Covered
Drivers/sales Workers & Truck Drivers	9.6%	10.50%
Industrial Tractor Operators/Forklift Drivers	11.50%	12.60%
Laborers, and Freight, Stock & Material Movers	12.20%	13.3%
Packers and Packagers, Hand	5.90%	6.5%
Shipping, Receiving, & Inventory Clerks	7.40%	8.60%
Stockers and Order Fillers	5.90%	6.5%
Supervisors of Trans. & Material Moving Workers	10.10%	11.20%
Transportation, Storage, & Distribution Managers	5.60%	6.70%

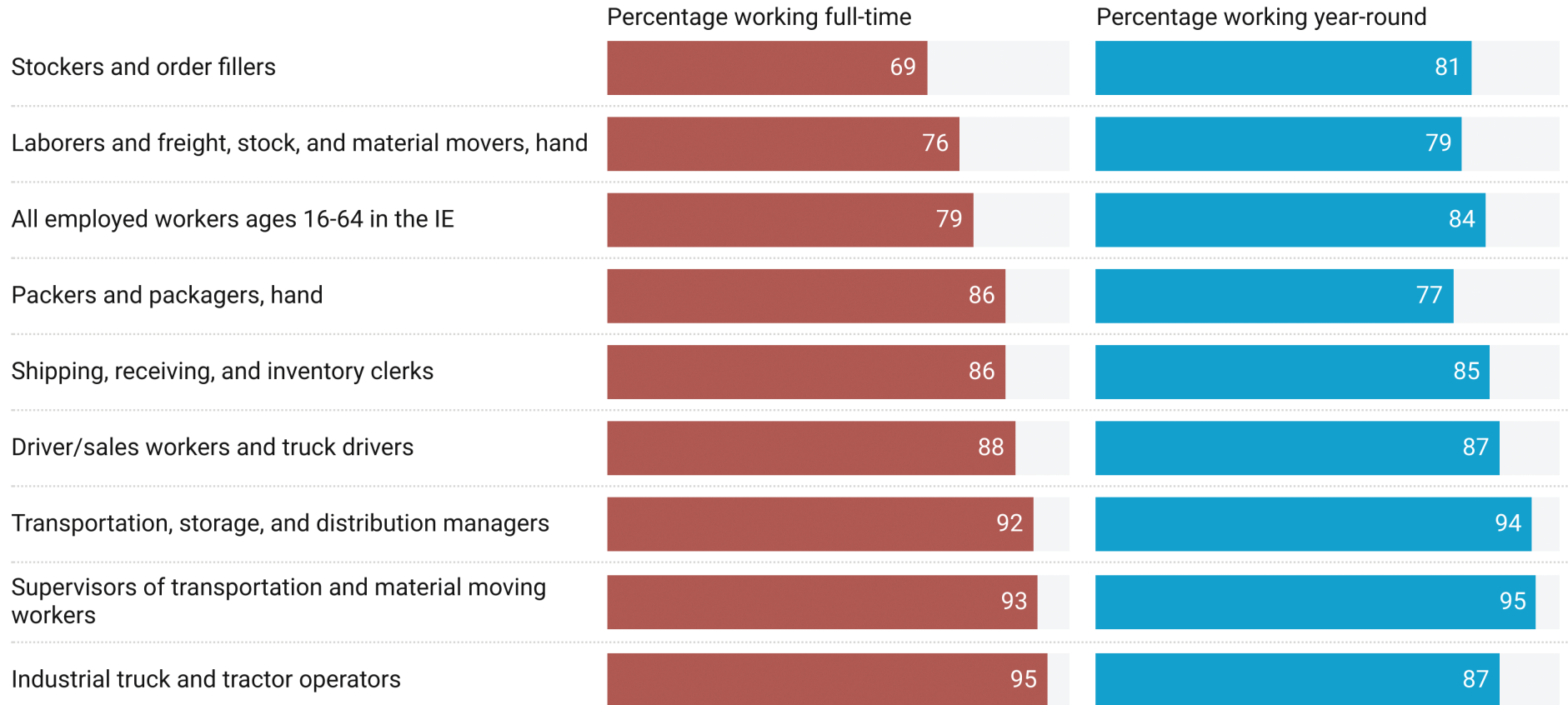
Notes: Percentages shown are for the percent of employed workers in the U.S.

Source: Hirsch, MacPherson and Even (2023), available at <https://unionstats.com>

FIGURE 6. FULL-TIME AND YEAR-ROUND WORK FOR SELECTED TDL OCCUPATIONS

Full-time and full-year work for select TDL occupations

Figures for each occupation are the percentage of employed workers in the occupation in the IE that work full-time (35 hours or more per week) and the percentage of employed workers in the occupation in the IE that work full-year (50-52 weeks per year). Data are restricted to employed workers ages 16-64.



Source: American Community Survey 5-Year Data, 2021 (from IPUMS) • Created with Datawrapper

APPENDIX 2: OCCUPATIONS USED IN QUANTITATIVE ANALYSIS

The occupational codes used in this report vary by the data set. We selected the most detailed occupational codes for each occupation available from that source that were available at the county level.

AMERICAN COMMUNITY SURVEY (AVAILABLE THROUGH IPUMS)

Using ACS data, we selected the eight occupational categories, which were the most detailed occupational categories available through IPUMS at the county level for blue-collar warehouse workers, heavy-duty and light duty truck drivers, and their supervisors and managers. Our descriptions below are from the U.S. Bureau of Labor Statistics' Division of Occupational Wage and Employment Statistics (May 2022). For warehouse workers, we selected five of the most common blue-collar and non-supervisory warehouse occupations, following De Lara (2013).

53-7062 Laborers and Freight, Stock, and Material Movers, Hand

According to the Bureau of Labor Statistics, workers employed in this occupation “manually move freight, stock, luggage, or other materials, or perform other general labor. Includes all manual laborers not elsewhere classified.” This occupational code excludes “Construction Laborers” (47-2061) and “Helpers, Construction Trades” (47-3011 through 47-3019). Excludes “Material Moving Workers” (53-7011 through 53-7199) who use power equipment.”

See: <https://www.bls.gov/oes/current/oes537062.htm>

53-7065 Stockers and Order Fillers

Workers employed in this occupation “receive, store, and issue merchandise, materials, equipment, and other items from stockroom, warehouse, or storage yard to fill shelves, racks, tables, or customers’ orders. May operate power equipment to fill orders. May mark prices on merchandise and set up sales displays.” This occupation excludes “Shipping, Receiving, and Inventory Clerks” (43-5071), “Laborers and Freight, Stock, and Material Movers, Hand” (53-7062), and “Packers and Packagers, Hand” (53-7064).

See: <https://www.bls.gov/oes/current/oes537065.htm>

53-7051 Industrial Truck and Tractor Operators

Workers employed in this occupation “operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location.” Excluded from this occupation are “Logging Equipment Operators” (45-4022).

See: <https://www.bls.gov/oes/current/oes537051.htm>

53-7064 Packers and Packagers, Hand

Workers employed in this occupation, “Pack or package by hand a wide variety of products and materials.”

See: <https://www.bls.gov/oes/current/oes537064.htm>

43-5071 Shipping, Receiving, and Inventory Clerks

Workers in this occupation, “verify and maintain records on incoming and outgoing shipments involving inventory. Duties include verifying and recording incoming merchandise or material and arranging for the transportation of products.” These workers, “may prepare items for shipment.” The occupation excludes “Weighers, Measurers, Checkers, and Samplers, Recordkeeping” (43-5111), “Mail Clerks and Mail Machine Operators, except Postal Service” (43-9051), and “Stockers and Order Fillers” (53-7065).

See: <https://www.bls.gov/oes/current/oes435071.htm#ind>

53-3030 Driver/Sales Workers and Truck Drivers

According to the BLS, workers employed in this occupation include the following three types of workers:

- 53-3031 Driver/Sales Workers
- 53-3032 Heavy and Tractor-Trailer Truck Drivers
- 53-3033 Light Truck Drivers

53-3031 Driver/Sales Workers

Workers in this occupation, “drive truck or other vehicle over established routes or within an established territory and sell or deliver goods, such as food products, including restaurant take-out items, or pick up or deliver items such as commercial laundry.” These workers can also “take orders, collect payment, or stock merchandise at point of delivery.” This occupation does not include “Coin, Vending, and Amusement Machine Servicers and Repairers” (49-9091) and “Light Truck Drivers” (53-3033).

See: <https://www.bls.gov/ooh/transportation-and-material-moving/delivery-truck-drivers-and-driver-sales-workers.htm>

53-3032 Heavy and Tractor-Trailer Truck Drivers

Workers in this occupation “drive a tractor-trailer combination or a truck with a capacity of at least 26,001 pounds Gross Vehicle Weight (GVW).” Some of these workers are “required to unload truck[s].” Workers in this job are required to have a commercial drivers’ license. This occupation “includes tow truck drivers,” and “excludes “Refuse and Recyclable Material Collectors” (53-7081).

See: <https://www.bls.gov/oes/current/oes533032.htm>

53-3033 Light Truck Drivers

Workers in this occupation, “drive a light vehicle, such as a truck or van, with a capacity of less than 26,001 pounds Gross Vehicle Weight (GVW), primarily to pick up merchandise or packages from a distribution center and deliver.” This occupation “may load and unload vehicle.” This occupation does not include “Couriers and Messengers” (43-5021) and “Driver/Sales Workers” (53-3031).

See: <https://www.bls.gov/oes/current/oes533033.htm>

11-3071 Transportation, Storage, and Distribution Managers

Workers in this occupation “plan, direct, or coordinate transportation, storage, or distribution activities in accordance with organizational policies and applicable government laws or regulations.” This occupation “includes logistics managers.”

See: <https://www.bls.gov/oes/current/oes113071.htm>

53-1047 First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors

This occupation includes the following 2018 SOC occupations: “53-1042 First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand; 53-1043 First-Line Supervisors of Material-Moving Machine and Vehicle Operators; 53-1044 First-Line Supervisors of Passenger Attendants; and 53-1049 First-Line Supervisors of Transportation Workers, All Other.”

See: <https://www.bls.gov/oes/current/oes531047.htm>

BURNING GLASS DATA ANALYSIS (NOVEMBER 2020 THROUGH OCTOBER 2021).

Heavy and Tractor-Trailer Truck Drivers

53-3032.00

According to O-Net Online, heavy and tractor-trailer truck drivers, “Drive a tractor-trailer combination or a truck with a capacity of at least 26,001 pounds Gross Vehicle Weight (GVW),” “may be required to unload truck,” and “requires commercial drivers’ license.” This occupation includes tow truck drivers as well as workers employed in job titles such as the following: “CDL Driver (Commercial Driver’s License Driver), Driver, Line Haul Driver, Log Truck Driver, Over the Road Driver (OTR Driver), Production Truck Driver, Road Driver, Semi Truck Driver, Tractor Trailer Driver, Truck Driver.”

See: <https://www.onetonline.org/link/summary/53-3032.00>

Light Truck Drivers

53-3033.00

According to O-Net Online, light truck drivers, “drive a light vehicle, such as a truck or van, with a capacity of less than 26,001 pounds Gross Vehicle Weight (GVW), primarily to pick up merchandise or packages from a distribution center and deliver.” They might be required to “load and unload vehicle[s].” This occupational code includes workers employed in job titles such as the following: “Bulk Delivery Driver, Delivery Driver, Driver, Light Truck Driver, Package Car Driver, Package Delivery Driver, Route Driver, Service Provider, Truck Driver, Warehouse Driver.”

See: <https://www.onetonline.org/link/summary/53-3033.00#:~:text=Read%20maps%20and%20follow%20written,statements%2C%20in%20accordance%20with%20regulations.>

Laborers and Freight, Stock, and Material Movers, Hand

53-7062.00

According to O’Net Online, laborers and freight, stock, and material movers, hand “manually move freight, stock, luggage, or other materials, or perform other general labor,” and it “includes all manual laborers not elsewhere classified.” This occupational code includes workers employed in job titles such as the following: Dock Worker, Laborer, Line Tender, Loader, Material Handler, Merchandise Pick Up Associate, Receiver, Receiving Associate, Shipping and Receiving Materials Handler, Warehouse Worker.”

See: <https://www.onetonline.org/link/details/53-7062.00>