
CHAPTER 3.3

LABOR AND WORKFORCE DEVELOPMENT

The transportation sector is a major component of California’s economy and freight is an integral and important part of the transportation sector. California, in general, has seen an increase in freight sector hiring as the economy continues its recovery. Like the industry itself, freight-related employment is dynamic and continually changing. The push for both the freight transportation industry and labor is toward improved efficiency, greater reliability, reduced costs, increased productivity, faster transaction speed, and improved worker and public safety. This drive toward continual improvement across the entire freight transportation industry makes it necessary for California to adapt, evolve, and innovate to remain competitive at the national and international levels so that the freight sector can better serve the people of California. This is not just a challenge for industry and labor, it is also a challenge for government agencies, as well as educational and vocational training institutions. As new technologies and operations practices are introduced to meet an array of competitive, economic, environmental, safety, and community needs, support for workforce development must be a substantial part of the investment strategy. As critical as it is to make capital investments, there is also a parallel need to invest in human capital. For many years, we have faced the looming threat of the retirement of the baby boomer generation (individuals born between 1946 and 1964); however, that threat is now being realized and has already begun to put pressure on the labor force. Coupled with an economy that is growing, the need has become even greater to ensure that we develop a qualified, skilled labor force.

The Federal Highway Administration (FHWA) has predicted a 92.5 percent growth in freight demand from 2002-2035. Because of this anticipated growth, demand for all commercial freight modes (truck, ship, air, and rail) will increase, with the expectation that trucking will continue to have the dominant share of the activity. It is likely that the forecast growth rate will change when the FHWA is able to incorporate new data covering the recent recession and the still-unfolding economic recovery. With the constant advent of new technologies and shifting international trade and logistics, all forecasts have inherent inaccuracies, particularly in outlying years. Still, it is helpful to understand for both workforce development and infrastructure planning that the general trend is for significant expansion of the freight sector over the next 20 years.

According to the United States Department of Transportation, “one out of every seven jobs in the US is transportation related.”⁶³ Freight, a sub-component of the transportation sector,

employs millions of workers nationwide. The range of job types, skill sets, and career paths within California's freight transportation industry is as diverse and complex as the industry itself. This sector provides a wide range of employment across the freight modes such as for-hire freight carriers, marine terminal workers, rail employees, airport employees (passenger and cargo), truck drivers, private transportation providers, freight forwarders, logistics providers, technicians that service and maintain vehicles, and others.

Many of the jobs in the freight transportation sector are well paid and require highly skilled, technically competent and/or well-educated employees, while many other jobs in the sector pay at or near minimum wage and require fewer skills and less training. The US Bureau of Labor Statistics (BLS) defines blue-collar and service occupations as those that include "precision production, crafts, and repair occupations; handlers; equipment cleaners, helpers, and laborers; and service occupations." According to June 4, 2014, Forbes magazine article, "many varied professions fall under the umbrella of "blue-collar" work, and many of them – particularly in the energy, construction, and transportation industries – pay in the high-five-to-six-figure range."⁶⁴

In general, many of the low-skill positions that require repetitive physical labor are being replaced with automated systems, while at the same time, high-paying and highly skilled new positions are being created to develop, operate, and maintain those same automated systems. Rosalyn Wilson, in her article, "Transportation Jobs are Targets for Automation, Logisticians Are Safe," noted "many jobs have already been eliminated by automation in manufacturing when the tasks require precision, dexterity, and reproducibility, or are purely administrative, or provide a service that does not really require human interaction."⁶⁵ Logisticians analyze and coordinate an organization's supply chain from raw materials to final product, through distribution, allocation and delivery. Industries are finding cost savings through optimization of their supply chain. Many sectors in the freight industry are dependent on the skills of logisticians. According to the BLS, the median wage in 2012 for logisticians was \$72,700 with employment projected to grow 22 percent from 2012 to 2022, "much faster than the average for all occupations."⁶⁶

Employee retention in the freight industry is fairly strong, particularly in the maritime and rail industries. Turnover is much higher in the trucking industry where there continues to be driver shortages and difficulty with hiring and keeping drivers. In a recent article in the Journal of Commerce (JOC), truck drivers were referred to as "the basic unit of transportation capacity and the glue that holds supply chains together."⁶⁷ Through merger and acquisition, trucking companies are looking to increase efficiency through growth.⁶⁸ Consolidation of trucking firms is putting pressure on owner-operators and small, independent trucking firms. Many in the trucking industry are finding that the costs of regulation and compliance, along with fuel, maintenance, and insurance, are making it difficult to remain in business.

Warehousing and distribution centers are important sources of employment throughout the state, particularly in Southern California’s Inland Empire region, where many new jobs have been created in response to the expansion in e-commerce and other factors. The San Joaquin Valley is also seeing growth in this industry. Land prices in the Valley are relatively low, and its close proximity to both Southern California and the San Francisco Bay Area enables employers to tap into a large blue-collar employee base.

According to the 2012 “Central Coast California Commercial Flows Study,” California produces almost half of the US-grown fruits, nuts, and vegetables and, at that time, generated 6.5 percent of US revenue for livestock and associated products. In 2010, the Valley alone had 187,000 agriculture jobs. Agriculture is critical to the economic health of many California regions, including the Central Coast. To reach domestic and global markets, it is imperative that these freight-dependent industries have access to qualified transportation employees and high-quality access to the State and national freight transportation systems.

With much of air freight being transported as belly cargo in passenger planes, flight crews of those planes and their supporting ground crews, while not specifically freight industry employees, nonetheless are part of the freight industry’s essential workforce. This chapter will not address labor and workforce development issues related to air cargo since many of those issues are also directly linked to air passenger service and an anticipated national shortage of qualified pilots, implementation of new flight control systems, and other factors that are beyond the scope of this plan.

WORKFORCE CHALLENGES AND OPPORTUNITIES

America’s workforce will experience significant changes as “baby boomers” continue to retire, and many retiring early. It is estimated that over 70 million people will retire in the US in the next decade, and this will have massive impacts on industries throughout the country. Two of the California Freight Mobility Plan goals - to “improve the safety, security and resilience of the freight transportation systems” and to “improve the contribution of the California freight transportation system to economic efficiency, productivity and competitiveness” are at the crux of this aging workforce shortage issue.

A June 19, 2013, US Government Accountability Office report on rail safety expressed concern about the Federal Rail Administration’s ability to do their rail safety oversight mission due to a “lack of succession planning to ensure sufficient staff numbers and expertise”⁶⁹ for its aging inspector workforce – a vital safety function. However, the railroad industry is also experiencing similar issues with its aging workforce. Part of its response is for both the Class I and short line railroads to actively recruit military veterans. Veterans transition favorably to rail positions because they respond well to a chain of command, have experience working in teams, are able

to either bring a unique skill set or modify their skill sets to meet rail industry needs, and importantly, have been well-trained for safety.

According to a 2014 Congressional Budget Office (CBO) report, “The Slow Recovery of the Labor Market,” the labor force is anticipated to grow at a slower rate relative to its average growth rate of the past few decades, and employment has risen sluggishly – much more slowly than it grew, on average, during the four previous recoveries that lasted more than one year.⁷⁰ Numerous factors are currently contributing to this sluggishness, including slower growth in the labor force due to an aging population, the lower labor force participation rate “which has been pushed down by an unusually large number of people deciding not to look for work because of a lack of job opportunities” and “unusually large difficulties in the process of matching workers and available jobs.”⁷¹ Many economists believe that baby boomer retirement may weigh down the economy and its long-term growth because fewer workers will be available to replace them, thus, increasing the production burden for those who remain in the labor force.

A November 14, 2013 article in Bloomberg Businessweek called out an issue that many in the freight industry are well aware of: “the coming truck driver drought.”⁷² In the US, the average age of a commercial truck driver is 55. Currently, it is estimated that there are 30,000 unfilled truck driving jobs,⁷³ and these numbers are continuing to climb. As the economy improves, the driver shortage is likely to be more acute and safety is likely to become a larger issue until new drivers develop the necessary experience and skills. Many trucking companies are actively recruiting military veterans. At the same time, many truck driving schools are also actively recruiting veterans to get training for their commercial driver’s license using the Servicemen’s Readjustment Act of 1944 (also known informally as the GI Bill) or other veteran’s educational benefits. In addition, on November 21, 2011, President Obama signed into law the “Vow to Hire Heroes Act,” which includes tax credits for businesses that hire veterans. Tax credits are based on the length a veteran has been unemployed and range from \$2,400 to \$5,600. For veteran’s disabled in a combat zone and out of work for six months, the tax credit is \$9,600.

In the aeronautics industry, the Federal Aviation Administration (FAA) increased the retirement age from the previous mandatory retirement at 55 years old to 65 years old for scheduled pilots. They also instituted a new rule that requires scheduled pilots to get a minimum amount of uninterrupted rest – at least 10 hours between shifts. This will impact the movement of belly cargo, but the rule does not apply to cargo pilots. Many cargo pilots are pushing to be included in this regulation; however, the FAA has not yet applied this to the cargo industry and is still considering the matter. It appears that across the industry (pilots, air traffic controllers, airport managers, etc.) there is a general consensus that the rate of retirement may hinder the development and operations of aviation activity. The FAA uses the Veterans Recruitment Appointment (VRA) program that acts as an expedited hiring authority to hire veterans. This

allows veterans to expedite the often-lengthy competitive hiring process typical of government jobs.

As companies address the issue of an aging workforce, some companies are using a two-pronged approach – retention and succession planning. One approach is to create new work opportunities for the workforce that is retiring by offering more flexibility with working hours and other strategies, such as job-sharing, flextime, telecommuting, and part-time work. In 2006, the American Association for Retired Persons, the Society for Human Resource Management, and the American Petroleum Institute, along with twenty major industry associations and membership organizations, created the Alliance for Experienced Workforce “to promote solution-based strategies for recruiting and retaining 50-plus workers and plan for the demographic challenges that face this country in the years ahead.” Along with the named approaches, the alliance also included training programs to update skills, particularly technology skills. However, all levels of employment are undergoing constant change and face great challenges and opportunities as new technologies are developed and are applied throughout the freight industry. More transitional training will be needed as new technology displaces workers within the freight modes, the supply chain and logistics industries.

FREIGHT RAILROADS

In 2013, US freight railroads employed more than 180,000 people, including 163,000 on Class I railroads and 18,000 on non-Class I railroads (short line and regional railroads). Nationwide, each freight rail job supports 4.5 jobs elsewhere in the economy.⁷⁴ Each \$1 billion in new rail investment supports more than 17,000 jobs.⁷⁵

The Class I and short line railroads in the state provide railroad careers that tend to be relatively stable. However, some short line railroads find it difficult to recruit employees due to the requirement for multiple skills while paying lower wages than Class I railroads. Railroad employees are also among the best-paid workers in American industry. In 2012, the average US freight railroad employee earned wages of \$76,500 and fringe benefits worth \$33,200 — for total compensation of \$109,700.⁷⁶ By contrast, the average wage per full-time employee in the US in 2012 was \$55,700 (73 percent of the comparable rail figure) and average total compensation was \$69,200 (62 percent of the rail figure).⁷⁷ In 2011, there were approximately 8,900 people employed by railroads in California, earning an average salary and benefits of \$110,470.⁷⁸

Approximately 86 percent of Class I rail employees and more than half of non-Class I rail employees are unionized under one of more than a dozen labor unions. Labor relations in the rail industry are subject to the Railway Labor Act (RLA). Under the RLA, labor contracts do not expire. Rather, they remain in effect until modified by the parties involved through a complex negotiation process that can take years to conclude.

In 2013, railroads planned to hire some 11,000 new workers nationally, including many veterans. The nation's freight railroads honor a commitment going back more than a century to hire the nation's military service members. The railroads continue to hire veterans at a robust pace, such that veterans comprise 20 to 25 percent of current employees.⁷⁹

TRUCKING

California's trucking industry is massive, reaching every community in the state and transporting almost everything that is shipped. Over 78 percent of California communities depend exclusively on trucks to move their goods.⁸⁰ At some point in the supply chain, the trucking industry transports almost all of the items produced in, imported into, or exported out of California. In 2010, trucks transported 88 percent of total manufactured tonnage in the state – over 3.8 million tons per day.⁸¹ This is possible due to the tremendous investment in the infrastructure that accommodates trucks (roadways, for example), trucking equipment, and the people who drive, maintain, and manage the enormous trucking fleet.

As of May 2013, there were approximately 32,800 trucking companies located in California, most of them small, locally owned businesses. These companies are served by a wide range of supporting businesses, large and small. In 2013, the industry provided 622,280 jobs, or 1 out of every 21 jobs in the state. Total trucking industry wages paid in California in 2013 exceeded \$30.7 billion, with an average annual trucking industry salary of \$49,351.⁸² The BLS reported in May 2013 that truck drivers, heavy-tractor-trailer, and light-delivery drivers held 207,750 jobs with a mean annual salary of \$38,920. Over half of all drivers have earned a high school diploma or less. In addition to truck drivers, another 20,000 people are employed in supervisory and administrative roles with an annual mean wage of \$58,000.⁸³

Truck driver employment falls into several major categories: common carrier, contract carrier for-hire, private fleet, owner operator, courier fleet or a specialty carrier (refrigerated, hazardous material, tankers, or commodity-specific). Drivers are either paid a salary, paid hourly, or paid by the mile. Drivers who specialize in heavy hauling, or hauling low boys (low-deck semi-trailers with a drop in deck height), household moving services, cattle, hazardous materials, or refrigerated units are often paid more. For trucking companies that are unionized, employees are typically represented by the International Brotherhood of Teamsters Union.

According to a January 2013 Journal of Commerce article, the annualized driver turnover rate for large carriers has been above 90 percent. That means a carrier with 200 drivers would hire 180 drivers over the course of the year, sometimes filling the same seat several times. The article further goes on to say that both the average US wage and average truck driver wage rose 1.4 percent in 2012, but, the average truck driver wage, at \$40,960, is 11.8 percent lower than the US average wage.⁸⁴

MARITIME

In general, jobs in the maritime industry are well paid. Average annual full-time wages for fully registered, unionized longshore workers is approximately \$142,000.⁸⁵ Maritime careers include shipping and transportation, navigation, engineers, offshore operations, technology, shipbuilding and repair, port and marine terminal operations, clerical, and others.

In the ocean shipping industry, two primary organizations represent labor and cargo carriers on the West Coast. Labor is represented by the International Longshore and Warehouse Union (ILWU). Domestic carriers, international carriers and stevedores that operate in California, Oregon, and Washington are represented by the Pacific Maritime Association (PMA). Members of the PMA hire workers represented by the ILWU. PMA members employ longshore, clerk, and foreman workers along with thousands of “casual” workers who typically work part-time.

The terms of employment are governed by labor contracts that are periodically negotiated between the two organizations, and the results applied to all US West Coast ports. Similar processes and organizations are found in the country’s other maritime regions. When agreements cannot be reached, as happened in 2002 on the West Coast, strikes or lockouts can occur, which may severely disrupt the entire freight movement system, sometimes having lasting impacts as shippers permanently redirect their products to ports in other regions or countries. Tens of thousands of truckers, railroad, warehouse, and other support workers may be temporarily out of work because strikes and lockouts stop the flow of goods other sectors handle. While the 2002 dispute was resolved, it was estimated to cost the US economy \$1 billion per day.⁸⁶

As of December 2012, PMA members employed nearly 14,000 registered union workers at 29 West Coast ports in California, Oregon, and Washington, and thousands more workers who typically worked part-time. Since the signing of the 2002 agreement that brought the widespread use of technology to the West Coast, the registered workforce has increased by 32 percent. At the time of the CFMP’s publication, PMA and the ILWU six-year labor contract (2008-2014) had expired and employees were working without a contract.

A major issue that promises to become more prevalent and complex over time is the implementation of cargo handling automation that enables the handling of more freight, more efficiently, and with fewer workers. Much of this technology is already in place in other countries, particularly Europe, where, in some locations, highly automated terminal operations that require very few people are already in operation. Some ports in California already have, or are planning to implement, various degrees of automation. It is a trend that is likely to accelerate.

The challenge for California’s freight industry is to continue to be more efficient to remain economically competitive, and to improve environmental sustainability while retaining high-paying jobs and educating and training the freight industry workforce so that the industry can successfully transition for continued success going forward.

EDUCATION

A rich mix of goods movement-related undergraduate, graduate, and certificate programs are offered at California’s state universities, community colleges, and private technical and vocational schools. Many of California’s public colleges offer post-secondary education in logistics management, supply chain management, international logistics, etc. The University of California (UC), the California State University (CSU) system, and the California Community College system provide a range of programs from certificates and bachelor’s degrees, to graduate and postgraduate programs.

The Maritime Administration nationally provides limited funding to six state maritime academies. One such academy, the California Maritime Academy (Academy), is part of the California State University System and is the only Maritime Academy on the West Coast. The Academy prepares students for careers in international business and logistics, marine engineering technology, global studies and maritime affairs, marine transportation, mechanical engineering, and facilities engineering technology. The nation’s maritime academies educate young men and women for service in the American merchant marine, in the US Armed Forces, and in the nation’s intermodal transportation system. Located in Vallejo, the Academy’s enrollment is currently at approximately 1,100, with a low student-to-faculty ratio.

The Maritime Administration assists by providing training vessels to all six state maritime academies for use in at-sea training and as shoreside laboratories. The ship is a “floating classroom/laboratory” where classroom concepts in marine transportation, engineering and technology are practiced and applied. The school also sponsors study-abroad trips for students studying international business, logistics, maritime security and maritime policy. One of the schools, Cal Maritime, a campus of the California State University, states its mission is to:

“Provide each student with a college education combining intellectual learning, applied technology, leadership development, and global awareness. Provide the highest quality licensed officers and other personnel for the merchant marine and national maritime industries. Provide continuing education opportunities for those in the transportation and related industries. Be an information and technology resource center for the transportation and related industries.”⁸⁷

CSU Long Beach is home to the Center for International Trade and Transportation (CITT). CITT has three major research centers – METRANS Transportation Center, a US Department of Transportation-designated University Transportation Center; the UC Davis-led National Center for Sustainable Transportation; and METROFREIGHT, a Volvo Research and Education Foundations Center of Excellence in Urban Freight, based at the University of Southern California. CITT offers credit and non-credit programs in integrated logistics, such as Global Logistics Specialist and the Marine Terminal Operations Professional designation, which is the only program of its kind in the country.

California’s Community Colleges offer a wide range of workforce training that supports the freight industry. Sacramento City College and San Diego City College (SDCC) offer Railroad Operations associate degrees and certificate programs. SDCC offers an apprenticeship program in Railroad and Light Rail Operations. The following table is a sampling of the diversity of freight-related programs offered by California’s Community Colleges.

TABLE 35. CALIFORNIA COMMUNITY COLLEGES – LOGISTICS/SUPPLY CHAIN MANAGEMENT PROGRAMS

Public Academic Institution	Associate Degree	Certificate Program
Cerritos College	Logistics Management	Logistics and Materials
Chaffey College	Logistics Management	Logistics Management
Coastline Community College	Supply Chain Management	Supply Chain Management
College of Alameda		Office Administration for the Logistics Industry
Fresno City College	Logistics and Distribution Management	Logistics and Distribution Management
Norco College	Logistics Management	Logistics Management
Riverside City College	Logistics Management	Logistics Management
Sacramento City College	Railroad Operations*	Railroad Operations*
San Joaquin Delta College	Transportation	Logistics and Transportation Supervisor Traffic Shipping and Receiving Technician
Santa Monica College	Logistics/Supply Chain Management	Logistics/Supply Chain Management Business Logistics
Skyline College		Import and Export Warehousing and Logistics Warehousing Entry Level International Logistics Custom Broker Air Freight Forwarding Ocean Freight Forwarding
Southwestern College	International Logistics and Transportation	International Logistics and Transportation

* Internships offered

Source: California Community Colleges Chancellor’s Office

In addition to these certificate programs, apprenticeship programs and web-based training are offered by organizations, such as the International Union of Operating Engineers and the Teamsters Apprenticeship Fund for Southern California.

CONCLUSION

As the United States slowly recovers from the recent recession, it is entering a period during which a large portion of its baby boomer population is retired or nearing retirement age. Facing a potential future gap between increased demand for freight services and the potential reduction in the availability of a qualified workforce, California must strike a balance between automation of freight operations and the use of manual labor that will retain jobs for the State's population. While a variety of training and certification programs are currently being offered, the freight sector has a great need for proactive workforce development, succession training, and workforce retention programs. The creation of a comprehensive workforce development strategy across all would be beneficial in this regard.