

NEW SKILLS AT WORK

JPMORGAN CHASE & CO.

STRENGTHENING LOS ANGELES

BUILDING A MIDDLE-SKILL WORKFORCE TO SUSTAIN
ECONOMIC GROWTH AND EXPAND OPPORTUNITY



LOS ANGELES

WELCOME

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We are pleased to share this skills gap report for Los Angeles County. This is one in a series of reports that will examine labor market conditions in metropolitan regions across the United States and in France, Germany, Spain and the United Kingdom, and provide data-driven solutions to address the mismatch between employer needs and the skills of current job seekers. These reports are a key component of *New Skills at Work*, JPMorgan Chase's five-year, \$250 million global workforce readiness and demand-driven training initiative. Communities across the United States are working to rebuild their economies and the good news is that indicators, such as the unemployment rate, tell us we are moving in the right direction. At the same time, we face persistent challenges ensuring that everyone has access to opportunity as economies continue to strengthen and grow.

For JPMorgan Chase, we see an opportunity to reduce the gap between the skilled workforce employers need to be competitive and the training opportunities available to job seekers. This is especially critical for middle-skill jobs – those that require a high school diploma and some postsecondary education and training, but not necessarily a four-year college degree. Aligning workforce training with the skills industries value will benefit job seekers and employers, and contribute to more broadly shared economic prosperity.

One obstacle that policymakers, civic leaders and employers face in solving this problem is the lack of actionable data. Everyone involved – from mayors to educators to employers – needs to understand what skills and competencies jobs require so that community colleges, training providers and high school career and technical education programs can align curriculum and credentials to actual industry needs. Good data can help everyone better target their efforts on key sectors and occupations where jobs – particularly those that pay good wages and offer opportunities for advancement – are going unfilled.

By focusing on the jobs that have opportunities for advancement along a clear career pathway, we can help give workers opportunities for advancement and businesses the steady pipeline of skilled talent that they need. We also need to learn from best practices that are already demonstrating success across communities and industries in the United States and overseas.

This report has been designed with these requirements in mind. We hope the data presented here will support the work under way in Los Angeles's healthcare and global trade and logistics industries, and encourage additional efforts to build a pipeline of skilled workers for career-building jobs.



JAMIE DIMON
Chairman and Chief Executive Officer
JPMorgan Chase & Co.
Chair, Global Workforce Advisory Council



MELODY BARNES
Former Assistant to the President
Director, White House Domestic Policy Council
Co-chair, Global Workforce Advisory Council

ACKNOWLEDGEMENTS

JPMorgan Chase & Co. is investing \$250 million over five years in a global initiative to help markets build a demand-driven workforce development system, and to prepare youth and adults for careers in high-demand, middle-skill occupations. To advance this work, we are supporting data analysis in domestic and international markets: Chicago, Columbus, Dallas-Fort Worth, Detroit, Houston, Los Angeles, Miami, New York City, San Francisco, France, Germany, Spain and the United Kingdom.



JOBS FOR THE FUTURE

JPMorgan Chase deeply appreciates the work of partners in producing this report. **Jobs for the Future** (www.jff.org), which is a national partner in the *New Skills at Work* initiative, is serving as the lead intermediary for the U.S. reports. Founded in 1983, Jobs for the Future works to ensure that all underprepared young people and workers have the skills and credentials needed to succeed in our economy, by creating solutions that catalyze change in our education and workforce delivery systems. We are especially thankful for the work of the writers of this report: Thomas J. Hilliard, Hilliard Policy Research Consulting, and Rachel Pleasants McDonnell, as well as data collection and analysis provided by Myriam Milfort Sullivan. The report has been strengthened by insightful feedback from Lucretia Murphy, Maria Flynn, Steven Baker and Marty Alvarado, and by editing from Sara Lamback.

Two national organizations provided the data and analysis for the U.S. reports: **Economic Modeling Specialists International**, a CareerBuilder company, turns labor market data into useful information that helps organizations understand the connection between economies, people and work (www.economicmodeling.com). **Burning Glass Technologies** develops leading technologies for matching people with jobs through pioneering solutions and leverages a deep understanding of people and their careers in order to deliver superior workforce and marketplace insight (www.burning-glass.com).

Each report also relies on the insights and feedback of local stakeholders. We would like to express our appreciation to the education, workforce and economic development stakeholders in Los Angeles County who informed report findings and reviewed drafts: Dan S. Watanabe, Deputy Sector Navigator, Information Communication Technologies & Digital Media, Los Angeles Region California Community Colleges Chancellor's Office; Muhammad Akhtar, Ph.D., Deputy Chief, Labor Market

Information Division, California Employment Development Department; Mari Riddle, President and CEO, Centro Latino for Literacy; Stacy Milner, Founder, Executive Temps; Adriene "Alex" Davis, Ed.D, Dean, Economic Development and Workforce Education, Los Angeles City College and LA HI-TECH Regional Consortium; Richard Verches, Executive Director and Kevin Anderson, Deputy Director, Los Angeles County Workforce Investment Board; Dana Friez, Workforce Development Training Manager, Long Beach Community College District; Mary Leslie, President, Los Angeles Business Council; David Rattray, Executive Vice President, Education & Workforce Development, and Alma Salazar, Vice President, Education & Workforce Development, Los Angeles Chamber of Commerce; David Flaks, Chief Operating Officer, Los Angeles Economic Development Corporation; Ellen Pais, President and CEO, Los Angeles Education Partnership; Nolan Rollins, President and CEO, Los Angeles Urban League; Nancy Ozeas, Senior Advisor, Kevin Klowden, Managing Director and Perry Wong, Managing Director of Research, Milken Institute; Vivienne Lee, Regional Director – Southern California, REDF; Shari T. Herzfeld, RN, MN, Deputy Sector Navigator, Los Angeles and Health Workforce Initiative Regional Director, Rio Hondo College; Patricia Ramos, Dean of Workforce and Economic Development, Santa Monica College; Elise Buik, President and CEO, Christine Margiotta, Vice President, Community Impact and Evelyn Garcia, Program Officer, Financial Sustainability, United Way of Greater Los Angeles; Thomas O'Brien, Ph.D., Executive Director, California State University, Long Beach College of Continuing and Professional Education, Center for International Trade and Transportation; and Faye Washington, President and CEO, YWCA Greater Los Angeles. We would also like to thank Melody Barnes, former Assistant to the President and Director of the White House Domestic Policy Council and Co-chair of the Global Workforce Advisory Council, for her insights, time and support throughout this process.

EXECUTIVE SUMMARY

LOS ANGELES HAS DIVERSE ECONOMIC ASSETS

Los Angeles County has a highly diverse economy, providing a wide array of middle-skill jobs.

Los Angeles County is the world's
19th largest
economy¹

Over the next decade,
employment in Los Angeles is
projected to grow by
12%
slightly higher than the nationally
projected rate of 11%

The largest and fastest growing
economic sector is healthcare, with
596,000 jobs
and projected employment
growth of 14% by 2019

As the country's
**top import/
export hub**
Los Angeles County boasts
a thriving global trade and
logistics sector²

(Source: EMSI unless otherwise noted)

MIDDLE-SKILL JOBS MATTER TO LOS ANGELES

21% of the 4.8 million jobs
in Los Angeles County -
approximately
1 million
jobs - are high-wage,
high-growth middle-skill
occupations

These occupations pay
a median hourly wage of
\$29.75

The middle-skill jobs
targeted in this report
are projected to grow by
6%
from 2014 to 2019

The middle-skill occupations identified for this study require more than a high school diploma and less than a Bachelor's degree. They offer median hourly wages that are significantly higher than the county's median hourly wage of \$22.46.

(Source: EMSI unless otherwise noted)

1 County of Los Angeles website. (2015). "Business Highlights." Retrieved from: <https://www.lacounty.gov/business>.
2 Los Angeles Chamber of Commerce. (2014). "2014 World Trade Week Info Guide."

LOS ANGELES COUNTY BY NUMBERS³

4,751
square miles
(three times
the size of
Rhode Island)

88
cities

Over
100
unincorporated
areas

More than
10 million
residents
(making it more
populous than 43
out of 50 states)

135
languages
spoken

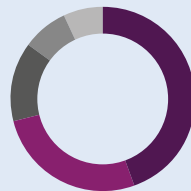
3.5 million
foreign-born
residents

7
workforce
investment
boards

78
school districts

14
community
college districts

DIVERSITY IN LOS ANGELES COUNTY⁴



- White, Hispanic: 45%
- White, Non-Hispanic: 27%
- Asian, Non-Hispanic: 14%
- Black, Non-Hispanic: 8%
- All other races: 7%

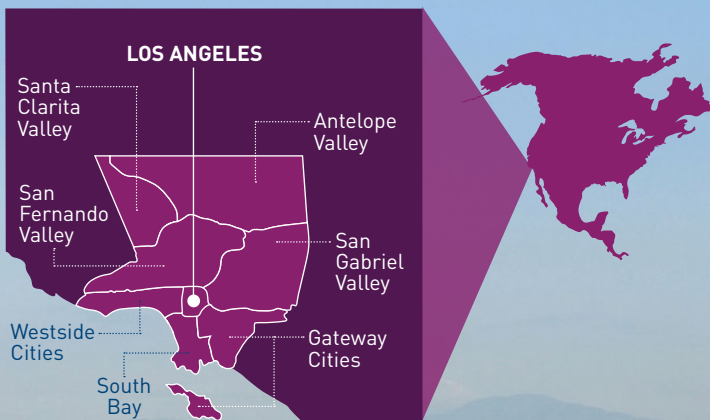
MANY RESIDENTS ARE NOT GAINING FROM ECONOMIC GROWTH

Unfortunately, too many Angelenos lack the skills needed to qualify for the jobs that would put them on track for meaningful careers in high-growth industries.

- Unemployment in Los Angeles climbed well above the national average during the recession, and remains high: 7.6% in March 2015, compared to 5.5% nationally.⁵
- African-Americans in Los Angeles face the highest unemployment rate (11.4%).
- More than four in 10 unemployed adults in Los Angeles have been out of work for more than six months.
- While the official poverty rate for Los Angeles County is 19%, the California Poverty Measure, which adjusts for housing costs, shows 26% of Los Angeles residents living in poverty - making it the poorest county in California.⁶
- One out of four adult residents lacks a high school credential, more than half of whom left school before ninth grade.
- 43% of the Hispanic population lacks a high school credential, compared with 6% of white residents, 13% of African-Americans, and 13% of Asian and Pacific Islanders.
- Policymakers have slashed funding for adult literacy since 2009, making it impossible for providers to meet demand for services. As of 2013, providers in Los Angeles County were meeting only 13% of the projected need for adult literacy services.⁷

(Source: California Employment Development Department and EMSI, unless otherwise noted)

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3 Los Angeles Almanac website. (2015). Published by Given Place Media. Retrieved from: <http://www.laalmanac.com>. U.S. English Foundation, Inc. website. (2015). "Many Languages, One America: Most Linguistically Diverse Counties." Retrieved from: <http://www.usefoundation.org/view/55>. WorkSource California website. (2015). "Workforce Investment Boards." Retrieved from: http://worksourcecalifornia.com/information/wib_home.htm.

4 Numbers may not add up to 100% due to rounding.

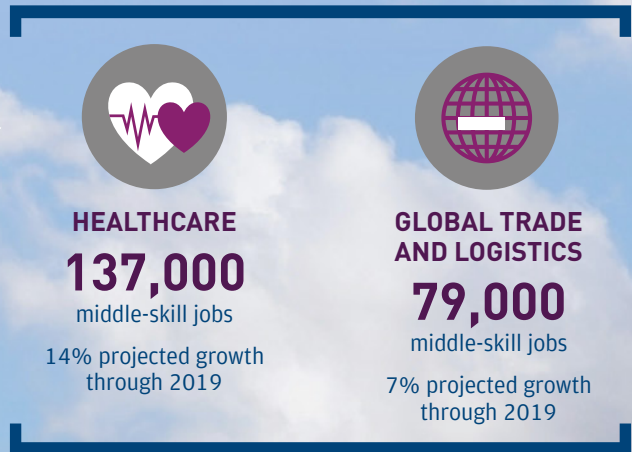
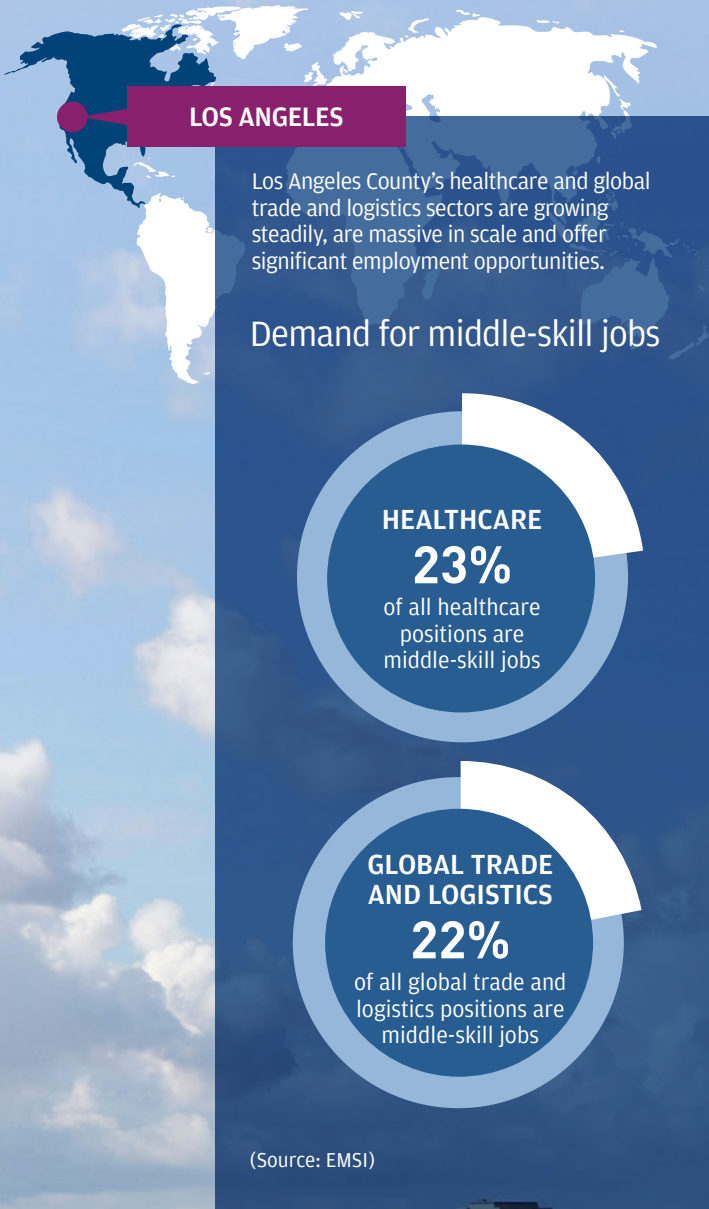
5 State Of California, Employment Development Department, Labor Market Information Division. (2015). "Industry Employment and Labor Force." Retrieved from: [http://www.calmis.ca.gov/file/lfmonth/la\\$pds.pdf](http://www.calmis.ca.gov/file/lfmonth/la$pds.pdf).

6 U.S. Census Bureau. *American Community Survey*. 2011-2013 estimates. Stanford Center on Poverty and Inequality, 2015 analysis for JFF. The California Poverty Measure is a variation of the federal Supplemental Poverty Measure that adjusts the standard poverty measure for geographically adjusted housing costs, a wider range of consumer expenditures, non-cash and post-tax transfers, and deduction of non-discretionary expenses from income. <http://web.stanford.edu/group/scspi/cpm>.

7 Los Angeles Regional Adult Education Consortium, (2015). Los Angeles Regional Comprehensive Plan. Retrieved from: <http://laraec.net/wp-content/uploads/2015/02/LARAEC-Regional-Comprehensive-Plan-3-1-2015-Final.pdf>.

EXECUTIVE SUMMARY CONT.

STRONG MIDDLE-SKILL JOB OPPORTUNITIES IN HEALTHCARE AND GLOBAL TRADE AND LOGISTICS SECTORS



(Source: EMSI)



Growth through 2019:



(Source: EMSI and Burning Glass)

8 Hourly wage calculated by dividing median annual earnings [\$52,161, from EMSI] by 2,080 hours worked annually. Many workers in global trade and logistics are paid by the mile or trip rather than by the hour.
9 Living wage for a family of three (with two adults and one child) living in Los Angeles County, as defined by the MIT Living Wage Calculator. For more information, see: <http://livingwage.mit.edu/>.



ADDITIONAL MIDDLE-SKILL OPPORTUNITIES IN INFORMATION AND COMMUNICATIONS TECHNOLOGY

12,000

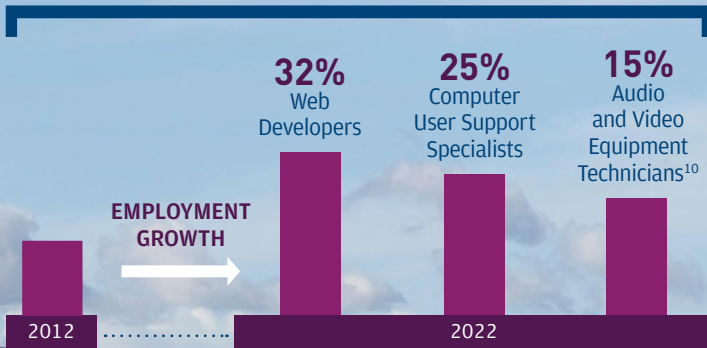
middle-skill job postings in 2013-2014

\$31.80

median hourly wage



PROJECTED HIGH-GROWTH OCCUPATIONS 2012-2022



(Source: Burning Glass unless otherwise noted)

REGIONAL COLLABORATION INCREASES, BUT GREATER ALIGNMENT IS STILL NEEDED TO ADDRESS THE REGION'S SKILLS CHALLENGES

Education and training providers, workforce investment boards (WIBs), economic development organizations and other local stakeholders have built programs to address the skills and opportunity gaps facing the county, but multiple systemic challenges make it difficult to scale these efforts to the level required to truly improve economic prosperity and meet labor market demand across Los Angeles County.

- The state governance and delivery structures for education and workforce development have led to overlapping jurisdictions and service areas. For example, Los Angeles County has both a county WIB and six additional WIBs serving multiple cities within the county. The county also has one nine-county community college district and nine additional community colleges.
- These geographical boundaries have not been updated to reflect an increasingly regional economy.
- The governance structures for community colleges have historically led colleges to develop programming independently of one another, based on the needs of each college's jurisdiction rather than in collaboration or with a regional focus.
- Until recently, there were few incentives for regional collaboration among colleges, WIBs and other partners; limited funding more often led to competition for grants and other resources.
- Now, multiple federal, state and regional initiatives are spurring a greater focus on regional collaboration, but without a well-aligned regional career pathway structure these multiple collaborations can lead to duplication of efforts.
- These factors create an urgent need for a regional strategy and dedicated leadership to align efforts and outcomes to meet regional goals.

OPPORTUNITIES TO EARN MORE OVER TIME THROUGH EDUCATION AND TRAINING



HEALTHCARE



GLOBAL TRADE AND LOGISTICS

	Occupation	Median Hourly Wage 2014
High-Skill	Advanced Practice RN/ Nurse Practitioner Master's degree Certifications: Nurse Practitioner, Registered Nurse, Basic Life Support, Advanced Cardiac Life Support	\$52.25
	Health Informatics/ Registered Health Information Administrator Bachelor's degree (from a CAHIIM-accredited program) Certification: AHIMA's Registered Health Information Administrator (RHIA)	\$32.65
Middle-Skill	Registered Nurse Associate's degree Certification: Registered Nursing State License	\$44.04
	Health Information Technician Postsecondary non-degree award Certifications: Registered Health Information Technician (RHIT), Certified Coding Specialist (CCS)	\$18.32
Entry-Level	Licensed Vocational Nurse Postsecondary non-degree award Certifications: Licensed Vocational Nurse State License, First Aid, CPR	\$24.63
	Coding Specialist Postsecondary non-degree award Certification: Certified Coding Associate Certification	\$12.19

	Occupation	Median Hourly Wage 2014
High-Skill	Transportation Manager High school diploma or equivalent 5 years or more experience	\$39.18
	Logistics/Supply Chain Manager Bachelor's degree or higher Industry-Valued Certifications: Certified Professional in Supply Management, Certified Production and Inventory Management, Certified Supply Chain Professional	\$51.00
Middle-Skill	Transportation Supervisor High school diploma or equivalent	\$27.58
	Logistician/Supply Chain Specialist Bachelor's degree Industry-Valued Certification: Certified Professional Logistician	\$39.48
Entry-Level	Shipping/Receiving Clerk High school diploma or equivalent Short-term on-the-job training	\$13.27
	Scheduler/Operations Coordinator High school diploma or equivalent Moderate-term on-the-job training Industry-Valued Certification: APICS Certification	\$22.58

(Source: EMSI and Burning Glass)

(Source: EMSI and Burning Glass)

EXECUTIVE SUMMARY CONT.

OUR RECOMMENDATIONS

Stakeholders across Los Angeles County have started to make progress toward greater regional collaboration and alignment. This momentum must expand in order to prepare Angelenos for the thousands of middle-skill jobs that industries need to fill.

Recommendation

1. Commit to a Regional Approach to Career Pathway Development

System leaders and policymakers can:

- Use sectors, target populations, or economic development regions rather than historical boundaries to bring stakeholders together.
- Tie regional workforce development activities to economic development goals.
- Clearly delineate roles and responsibilities across regional stakeholders.
- Develop a clearinghouse to identify best practices from current collaborations and inform future planning.
- Commit to shared outcomes and metrics across education and workforce systems.

Recommendation

2. Develop Pathways that Integrate Adult Literacy with Industry-Aligned Skills Training

System leaders and policymakers can:

- Increase providers' capacity to meet the needs of the county's least-prepared residents.

Education and training providers can:

- Use a sector strategies approach to deliver contextualized education and training.
- Ensure that students have adequate support, including career navigation services.

Recommendation

3. Make Work Readiness a Regional Priority

System leaders and policymakers can:

- Create a common framework for work readiness that can be used across systems to guide program development and employer collaboration.

Education and training providers can:

- Build students' and job seekers' entrepreneurship, work readiness and career navigation skills.

Employers can:

- Inform education and training partners of the work readiness skills required to obtain employment at each stage on a career pathway.

Recommendation

4. Assess Current and Expected Regional Demand for Middle-Skill Workers – and Adjust Education and Training Accordingly

System leaders and policymakers can:

- Use economic and labor market research to identify potential skill gaps.
- Ensure system-wide access to and capacity to use indepth, high-quality data.
- Eliminate policy barriers to shifting community college training programs based on industry demand.

Education and training providers can:

- Use up-to-date labor market data in developing and improving career pathways.
- Work together to ensure a balance of programmatic offerings and reduce duplication of services.
- Work with trusted intermediaries to facilitate job placements for graduates.

Employers can:

- Verify labor market information, including specific skill requirements, and provide accurate projections of short- and long-term hiring needs.

Recommendation

5. Expand Work-Based Learning Across the Pipeline

System leaders and policymakers can:

- Incentivize employer-driven training opportunities, such as apprenticeships and on-the-job training.
- Create policies for awarding college credits for work-based learning, including assessment of prior learning and competency-based models.

Employers can:

- Develop a range of work-based learning opportunities that provide valuable work experience and work readiness training in a supported setting.

Through the *New Skills at Work* initiative, JPMorgan Chase will contribute resources and expertise to accelerate this work to help transform lives and strengthen the Los Angeles economy.

INTRODUCTION

When most Americans think of Los Angeles, they think of the region's powerful movie and television industry sector. Yet **Los Angeles County** **1** actually has a highly diverse \$600+ billion regional economy, with several industries, including aerospace and defense, global trade and logistics, biopharmaceuticals, automotive and fashion, all fueling economic growth.¹¹

As they grow, some of these industries struggle to fill key middle-skill positions and diversify their workforce, a dilemma that should create opportunities for Los Angeles residents, especially the region's unemployed and underemployed individuals and people of color. Unfortunately, too many lack the education and skills employers need, leaving them on the sidelines of southern California's changing economy. This paradox – residents looking for work, but employers struggling to find qualified workers – hampers regional economic prosperity, productivity and growth, and depresses the earning potential of thousands of Angelenos. Addressing the **supply/demand mismatch** **3** is further complicated by the fact that the county's workforce and education systems do not have a history of working collaboratively. To maintain economic growth and competitiveness, Los Angeles needs to strengthen its middle-skill talent pipeline and enable more residents to access good jobs in high-growth industry sectors.¹² In addition, regional stakeholders need to work together to ensure that economic development efforts prioritize middle-skill job growth. A strong and growing middle-skill job market will help ensure long-term economic viability for residents and the region as a whole.

This report analyzes real-time data drawn from online job postings, traditional labor market information from government sources and input from local stakeholders to provide an overview of supply and demand for middle-skill jobs in Los Angeles County. It details two industries – **healthcare** and **global trade and logistics**¹³ – that have the greatest potential to provide Los Angeles workers with living wages and career mobility. It also explores occupations in media and entertainment, and information and communications technology (ICT) that offer opportunities across industry sectors. Finally, the report offers concrete recommendations for developing a demand-driven **career pathways system** **2**, replicating best practices and creating a strong regional economy that works for everyone.

1 Defining the Region

For the purposes of this report, "Los Angeles" refers to Los Angeles County.

2 What are Career Pathways?

The term **career pathways** in this report describes education and training programs for adults that offer a well-articulated sequence of courses and work experiences that align with employer skill demands and lead to the completion of industry-valued "stackable" credentials. Stackable credentials offer multiple entry and exit points as students progress toward an Associate's degree or the highest industry credential required for a specific occupation. This enables people to find jobs with increasing responsibility by accessing training as needed to move ahead. Career pathways have proven effective for launching individuals with low skills into good jobs because they can be designed to serve a range of populations and skill levels.

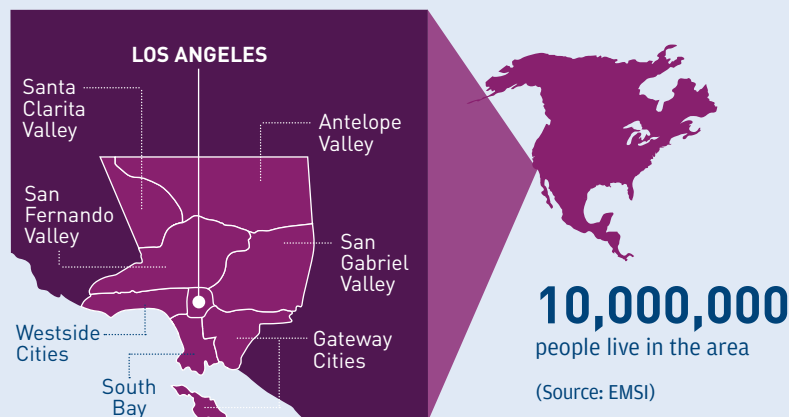
A **career pathways system** aligns employers, workforce development agencies, education providers and funders to identify shared goals and drive changes in programs, institutions and policies to address employer demand through multiple career pathways in targeted industry sectors.

11 EMSI.

12 The Milken Institute has similarly urged attention to expanding workforce development efforts to maintain competitiveness. See Klowden, Kevin. (2014). *Los Angeles has work to do on jobs*. Retrieved from: <http://www.milkeninstitute.org/blog/view/495>.

13 Also referred to as transportation, distribution, and logistics; global trade and logistics is the preferred terminology in the region.

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3 Contributing to the Middle-Skill Mismatch in Los Angeles County

Supply Side

Decreased capacity of training programs – funding cuts prevent adult education providers and community colleges from serving everyone who needs education and training.

Skills deficiencies – too many workers lack the basic education, work readiness, credentials and experience needed to get good jobs.

Untapped potential – thousands of working age adults, especially people of color, are employed in low-wage, low-skill jobs or have dropped out of the labor force entirely – despite employers' desire for diverse talent.

Insufficient production of new talent – education and training providers are not producing enough qualified graduates to fill open jobs.

Demand Side

Difficulty coordinating with talent supply – multiple WIBs, colleges and training providers conduct employer outreach independently, making it difficult for employers to know where to go to find the right talent.

Hiring practices that reduce access to middle-skill jobs – employers do not clearly communicate the skills, credentials and competencies they need for middle-skill jobs, and there is growing evidence that employers are engaging in needless credential inflation.

Limited work-based learning opportunities – few employers make use of internships and apprenticeships, and workers are rarely able to earn college credits for on-the-job learning.

Lack of career pathways within industries – large gaps between skills and education required for entry-level and those required for middle-level positions make it difficult for employees to advance.

System Barriers

Competition for scarce funding – autonomously functioning education and workforce institutions tend to compete on grants and employer outreach rather than collaborating for greater impact.

Few incentives for collaboration – education and workforce partners often do not see a benefit to collaborating on pathway development.

Overlapping and conflicting jurisdictions and service areas – historical boundaries do not align with current economic realities, making it difficult to balance the needs of sub-regions with the needs of the region as a whole.

Lack of clearly defined regional leaders – without agreement on who should lead regional pathway efforts it can be difficult to advance comprehensive solutions.

Different accountability systems – workforce development, economic development and education have their own performance standards, making it more difficult for partners to agree on common metrics for success.



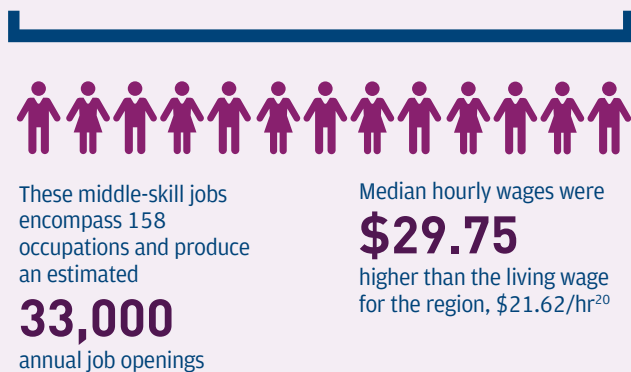
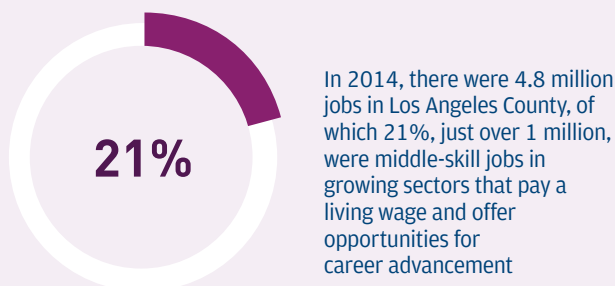
THE OPPORTUNITIES

MIDDLE-SKILL JOBS OFFER FAMILY-SUSTAINING WAGES AND LONG-TERM CAREER OPPORTUNITIES

Los Angeles has a broad range of industries fueling economic growth.

- With over 4,750 square miles and more than 10 million people,¹⁴ Los Angeles County is the 19th largest economy in the world, and the top import/export hub in the United States.¹⁵
- Los Angeles boasts both strong service-based and production-based industries, creating a wide range of middle-skill opportunities.¹⁶
- Key economic drivers include healthcare; global trade and logistics; media and entertainment; finance and insurance; aerospace manufacturing; and biological and medical product manufacturing.¹⁷
- Over the next decade employment in Los Angeles is projected to grow by 12%, a bit faster than the nationally projected rate (11%).¹⁸
- This report explores two sectors that boast strong demand for middle-skill workers and high-growth potential: healthcare and global trade and logistics. It also discusses opportunities in **ICT 4** and **media and entertainment 5**.
- Healthcare is the largest and fastest growing economic sector, comprising 596,000 jobs, and is projected to grow by 14% by 2019. Global trade and logistics is next, with over 358,000 jobs and projected growth of 7%.¹⁹

GROWING OPPORTUNITIES IN MIDDLE-SKILL JOBS



(Source: EMSI unless otherwise noted)

4 Los Angeles's Dynamic Information and Communications Technology Sector

Los Angeles's ICT sector is relatively small but growing fast. Bolstered by the recent migration of major tech companies, the creation of new tech startups, an influx of venture capital and the emergence of a number of high-profile entrepreneurs, "Silicon Beach" has come on to the scene as a center of global technological innovation.²¹

The growth of ICT has the potential to create good middle-skill job opportunities across many industries, including healthcare, and media and entertainment. The median wage for middle-skill ICT jobs is \$31.80/hour – higher than the Los Angeles living wage of \$21.62.²²

But too many middle-skill workers struggle to break into ICT, in part because employers increasingly request a Bachelor's degree for many middle-skill positions – even when it may not be necessary. Of online postings for help desk positions, 70% request a Bachelor's degree – even though they seek the same skills as postings accepting an Associate's degree. This trend has the effect of reducing the diversity of the ICT talent pipeline and limiting access for otherwise qualified job seekers. But credential inflation in ICT is not inevitable. Working together, employers and providers can meet the demand for skilled workers, while also protecting the ICT sector for middle-skill workers.

14 Los Angeles Almanac website. (2015). Published by Given Place Media. Retrieved from: <http://www.laalmnac.com>.

15 County of Los Angeles website. (2015). "Business Highlights." Retrieved from: <https://www.lacounty.gov/business>.

16 EMSI.

17 *Ibid.*

18 EMSI.

19 *Ibid.*

20 *Ibid.* and MIT Living Wage Calculator. (2015). Retrieved from: <http://livingwage.mit.edu/>. Living wage for a family of three (with two adults and one child), living in Los Angeles County.

21 Nakashima, Ryan and Liedtke, Michael. (2014). "'Silicon Beach' Brings Tech Boom to Los Angeles." *Inc.* Retrieved from: <http://www.inc.com/associated-press/silicon-beach-brings-tech-boom-to-los-angeles.html>.

22 Burning Glass and MIT Living Wage Calculator. Retrieved from: <http://livingwage.mit.edu>. Living wage for a family of three (with two adults and one child), living in Los Angeles County.

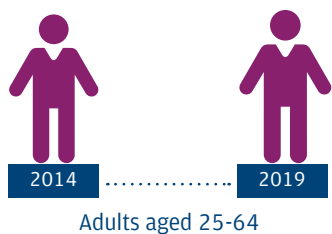
5 Opportunities in Media and Entertainment for Middle-Skill Workers

The media and entertainment industry has long been a cornerstone of the Los Angeles economy. While there is concern about “runaway production” to states with more attractive tax credits,²³ employment in the industry is expected to grow by 4% annually between 2013 and 2023, more than double the economy-wide rate. The growth of digital media has resulted in considerable overlap between this industry and the ICT sector: 20% of all ICT workers are now in the motion picture and sound recording industries.²⁴ This has created new job opportunities in digital media, including editing and graphic design. Other key middle-skill occupations include administrative positions, production support, post-production and marketing.

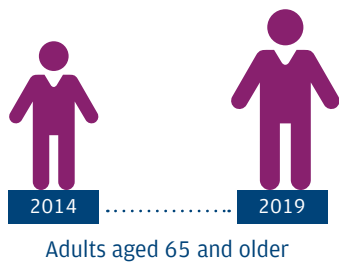
A large share of media and entertainment positions are accessible to middle-skill workers. In 2014, 37% of the 245,000 people working in media and entertainment were in middle-skill jobs.²⁵ Employers also contracted with more than 85,000 freelance workers and independent contractors in 2011.²⁶ The sector can be difficult to break into – often getting a job depends on having the right connections – but for those able to obtain an entry-level position, or join one of the many unions, there are opportunities to advance based on experience as well as demonstration of skills.²⁷ Similar to the healthcare industry, media and entertainment employers are beginning to recognize the need for greater diversity within the sector.²⁸

AGING POPULATION SIGNALS IMPENDING RETIREMENTS

Between 2014 and 2019...



the working-age population (adults aged 25-64) is projected to grow by **2.8%**

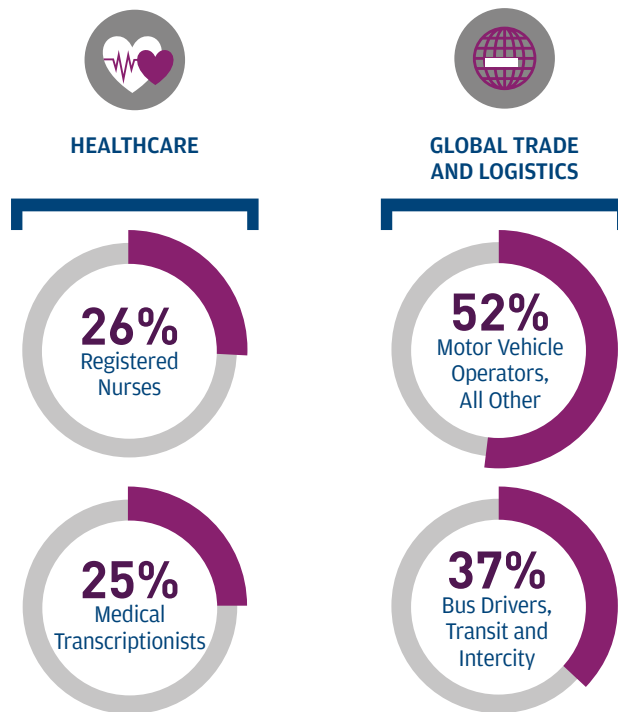


while the population of adults 65 and older is projected to grow by **19.2%**

(Source: California Department of Finance)

AGING POPULATION IN TARGET OCCUPATIONS

Share of workers who are 55 or older



(Source: EMSI)

23 Klowden, Kevin, Hamilton, Priscilla, and Keough, Kristen. (2014). *A Hollywood Exit: What California Must do to Remain Competitive in Entertainment – and Keep Jobs*. Retrieved from: <http://www.milkeninstitute.org/publications/view/620>.

24 Santa Monica College. (2014). *Supply and Demand for ICT Occupations*. Retrieved from: http://www.smc.edu/AcademicAffairs/Workforce/Documents/ICT_report_Final02.pdf http://www.smc.edu/AcademicAffairs/Workforce/Documents/ICT_report_Final02.pdf.

25 EMSI.

26 Los Angeles Economic Development Corporation. (2012). *The Entertainment Industry and the Los Angeles County Economy*.

27 McDonnell, Rachel. (2015). Interviews with Dan Watanabe, Sector Navigator, and Stacy Milner, Executive Temps.

28 McDonnell, Rachel. (2015). Interviews with Stacy Milner, Executive Temps, and Milken Institute.



OPPORTUNITIES IN HEALTHCARE

PROMISING MIDDLE-SKILL OPPORTUNITIES IN PATIENT CARE, TECHNICAL AND ADMINISTRATIVE POSITIONS



596,000

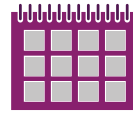
healthcare jobs

(Source: EMSI and Burning Glass)



23%

are middle-skill



29,500

middle-skill postings
from July 2013-July 2014



\$37.51

median hourly wage

- Nursing is the largest middle-skill healthcare profession. While employers increasingly seek registered nurses (RNs) with Bachelor's degrees, 61% of all RN postings in Los Angeles County in 2013-14 requested only an Associate's degree, on par with the national average (60%).²⁹
- The Affordable Care Act is one factor affecting growth in the healthcare sector;³⁰ by one estimate, Los Angeles would account for half of the reduction in California's uninsured population.³¹ An increase in the insured population could lead to increased demand for healthcare services, thus driving additional job growth.
- The location of healthcare jobs is changing. Hospitals are hiring fewer licensed vocational nurses, while ambulatory care facilities are hiring more.³² Education and training providers should consider these changes as they develop curricula and seek placements for students.
- The healthcare sector has strong demand for **administrators 6**, accounting for about 12% of administrative job postings across all industries - second only to the finance and insurance sector.³³
- Healthcare employers project strong growth across middle-skill positions, with the largest number of projected openings in the **medical assistant occupation 7**.³⁴
- Healthcare employers increasingly seek to diversify their workforce to more effectively reflect the diversity of their patients.³⁵

6 ICT Meets Healthcare

Increasingly, administrative roles in healthcare – and even some clinical roles – require ICT skills. Health IT offers many well-paid occupations with room for career advancement, such as health information technician or medical coder. The occupational cluster's promise is due largely to new requirements in the Affordable Care Act. However, training providers have not yet ramped up programming to meet growing demand for health IT professionals, so employers struggle to find qualified applicants.³⁶

7 Quantity vs. Quality of Supply

Both community colleges and private and for-profit training programs seek to meet demand for medical assistants. In 2013, with all educational institutions included, there were 10,937 completions for medical assisting, compared to 1,161 annual openings.³⁷ However, 39% of employers still express difficulty finding qualified medical assistants, suggesting variable quality among training providers in terms of alignment to employer needs and ability to connect graduates to employers. Employers report that too many candidates lack problem-solving skills, job-specific skills and professionalism. Despite an oversupply of completers, 76% of employers surveyed expressed a desire for community colleges to train students as medical assistants.³⁸

29 Burning Glass.

30 The Centers of Excellence of California Community Colleges. [2012]. *Doing What Matters for Jobs and the Economy: Sector Profile for Healthcare*. Retrieved from: http://www.coecc.net/documents/dwm_health_sector_CA_12.pdf.

31 Long, Peter and Gruber, Jonathan. [2011]. "Projecting the Impact of the Affordable Care Act on California." *Health Affairs*. Retrieved from: <http://content.healthaffairs.org/content/30/1/63.full>.

32 McDonnell, Rachel and Sullivan, Myriam. [2015]. Interview with Shari Herzfeld, RN, MN, Deputy Sector Navigator, Los Angeles.

33 Burning Glass.

34 Reille, Audrey and Moore, Kristen. [2014]. *Employer Survey Results: Healthcare Occupations Los Angeles and Orange County*. Center of Excellence. Retrieved from: http://www.coecc.net/Environmental_Scans/health_scan_la-ora_14.pdf.

35 McDonnell, Rachel and Sullivan, Myriam. [2015]. Interview with David Rattray and Alma Salazar, Los Angeles Chamber of Commerce.

36 McDonnell, Rachel and Sullivan, Myriam. [2015]. Interview with Shari Herzfeld, RN, MN, Deputy Sector Navigator, Los Angeles.

37 Reille, Audrey and Moore, Kristen. [2014]. *Employer Survey Results: Healthcare Occupations Los Angeles and Orange County*. Center of Excellence. Retrieved from: http://www.coecc.net/Environmental_Scans/health_scan_la-ora_14.pdf.

38 *Ibid.*

CAREER PATHWAYS



HEALTHCARE PATHWAY

	Occupation	Median Hourly Wage 2014	Minimum Education	Certifications
High-Skill	Advanced Practice RN/ Nurse Practitioner	\$52.25	Master's degree	Nurse Practitioner, Registered Nurse, Basic Life Support, Advanced Cardiac Life Support
	Medical Laboratory Technologist	\$37.77	Bachelor's degree	American Society For Clinical Pathology (ASCP); Certified Medical Laboratory Technician
	Health Informatics/Registered Health Information Administrator	\$32.65	Bachelor's degree (from a CAHIIM-accredited program)	AHIMA's Registered Health Information Administrator (RHIA)
	Pharmacist	\$61.75	Doctoral or professional degree	Pharmacist
Middle-Skill	Registered Nurse	\$44.04	Associate's degree	Registered Nursing State License
	Medical Laboratory Technician	\$18.68	Associate's degree	Certified Medical Laboratory Technician, Phlebotomy, American Society For Clinical Pathology (ASCP)
	Health Information Technician	\$18.32	Postsecondary non-degree award	Registered Health Information Technician (RHIT), Certified Coding Specialist (CCS)
	Pharmacy Technician	\$17.34	High school diploma or equivalent (formal training coupled with experience desirable but not required)	Requirements vary based on facility type/location. Two main certifying agencies: Pharmacy Technician Certification Board (PTCB) and Institute for the Certification of Pharmacy Technicians
Entry-Level	Licensed Vocational Nurse	\$24.63	Postsecondary non-degree award	LVN State License, First Aid, CPR
	Medical Laboratory Assistant	\$13.05	Associate's degree	Certified Medical Laboratory Technician, Phlebotomy, American Society For Clinical Pathology (ASCP)
	Coding Specialist	\$12.19	Postsecondary non-degree award	Certified Coding Associate (CCA)
	Pharmacy Aide	\$10.74	High school diploma or equivalent	N/A

[Source: EMSI, Burning Glass, Burning Glass Labor/Insight, and area community college program descriptions]



OPPORTUNITIES IN GLOBAL TRADE AND LOGISTICS

LOS ANGELES IS WELL POSITIONED AS A LEADER FOR AIRPORT, SEAPORT AND GOODS MOVEMENT, WHICH MAKES GLOBAL TRADE AND LOGISTICS A SIGNIFICANT OPPORTUNITY FOR ANGELENOS.³⁹

- Los Angeles County is a major transportation and distribution hub. The Ports of Los Angeles and Long Beach are the first and second busiest container ports in the United States, and Los Angeles International Airport is one of the nation's top five busiest airports measured by both passengers and cargo.⁴⁰
- The global trade and logistics sector in Los Angeles County is very large, with roughly 358,000 jobs, of which 22% are middle-skill jobs. Salaries in the targeted occupations are high, with median annual wages for middle-skill workers of \$52,161. The sector is expected to grow by 7% from 2014 to 2019.⁴¹
- Global trade and logistics is also promising due to the projected demand to replace retiring workers. About 20% of the workforce is over the age of 55.⁴²
- Trade and logistics occupations are grouped around a range of primary functional skills, including wholesale trade, logistics and supply chain, procurement, transportation and warehouse and distribution. Occupations within the transportation functional group have the highest percentage of middle-skill jobs (82%), followed by logistics and **supply chain 8** (61%).⁴³
- There were over 17,000 middle-skill transportation jobs posted in 2014. Driving occupations, such as tractor-trailer truck drivers, account for 38% (6,500) of all transportation postings.⁴⁴ This includes drayage drivers, who transport goods from the port to the local warehouse.⁴⁵
- Other high-demand occupations include sales and customer service representatives.⁴⁶ A survey of global trade and logistics employers projected high demand for customer service representatives.⁴⁷
- The same survey showed that 59% of employers believe there is a lack of qualified workers entering the industry. Of the occupations studied in the report, the occupations employers have the greatest challenge filling are international sales representatives and international marketing coordinators.⁴⁸
- Women are underrepresented in the sector: only one-third of the labor force is female.⁴⁹
- Unions play a major role in the global trade and logistics industry in Los Angeles. Because prospective workers usually must join the union to access well-paid union jobs, this can be an additional barrier to entry. However, community benefit/community workforce agreements, which have been used on a range of projects in Los Angeles County, can promote greater access to union jobs by requiring a higher percentage of apprenticeships, specifying local hiring, or targeted hiring of low-income or underrepresented populations.⁵⁰

8 Creating Pathways into Supply Chain Management

Long Beach Community College provides Commercial Driver's License (CDL) training for students seeking employment as short-haul truck drivers within the local port drayage industry. The college's discussions with local employers indicate a desire to create advancement pathways from transportation jobs into supply chain management. LBCC is leveraging a Department of Labor TAACCCT grant program to respond to this need. The Leveraging, Integrating, Networking, Coordinating Supplies (LINCS) Supply Chain Management grant was awarded to nine community colleges and three universities, in partnership with the Council for Supply Chain Management Professionals, to create eight certifications in entry- to mid-level supply chain management. LBCC will be bundling the newly developed Transportation Operations Certification with its existing CDL program to provide students with a wider range of job opportunities.⁵¹

39 Global trade and logistics is the preferred nomenclature in the region. This sector is also referred to as transportation, distribution and logistics (TDL).

40 The Port of Los Angeles. (2015). "Los Angeles, Long Beach Applaud FMC Approval of Cooperative Working Agreement Between Two Ports." Retrieved from: http://www.portoflosangeles.org/newsroom/2015_releases/news_022715_fmc.asp. And City of Los Angeles International Airport website. (2015). "About LA International Airport." Retrieved from: http://www.lawa.org/welcome_lax.aspx?id=40.

41 EMSI analysis by Myriam Milfort Sullivan.

42 EMSI.

43 Burning Glass analysis by Myriam Milfort Sullivan.

44 *Ibid.*

45 McDonnell, Rachel. (2015). Interview with Dana Friez, Long Beach Community College.

46 Burning Glass analysis by Myriam Milfort Sullivan.

47 Reille, Audrey, Madrigal, Juan, and Moore, Kristen. (2014). *Employer Survey Results: Global Trade and Logistics Los Angeles and Orange County*. Center of Excellence.

48 *Ibid.*

49 *Ibid.*

50 See, for example, The Partnership for Working Families website: <http://www.forworkingfamilies.org/page/policy-tools-community-benefits-agreements-and-policies-effect>.

51 McDonnell, Rachel. (2015). Interview with Dana Friez, Long Beach Community College.



TOP 10 GLOBAL TRADE AND LOGISTICS SUBSECTORS

Description	2014 Total Jobs	% Middle-Skilled	
Wholesale Trade Agents and Brokers	21,034	20%	
Freight Transportation Arrangement	16,627	27%	
Scheduled Passenger Air Transportation	16,551	18%	
Women's, Children's and Infants' Clothing and Accessories Merchant Wholesalers	15,639	22%	
Other Miscellaneous Nondurable Goods Merchant Wholesalers	14,252	15%	
General Freight Trucking, Local	13,737	10%	
General Warehousing and Storage	12,805	16%	
Port and Harbor Operations	10,492	36%	
General Freight Trucking, Long-Distance, Truckload	10,306	10%	
Other Grocery and Related Products Merchant Wholesalers	9,430	13%	

COMMONLY REQUESTED SKILLS IN GTL⁵²

- Communications and Public Speaking
- Customer Service
- Leadership
- Teamwork
- Strategic and Critical Thinking
- Media and Technology
- Budgeting



52 McDonnell, Rachel and Sullivan, Myriam. (2015). Interview with Tom O'Brien, Executive Director California State University, Long Beach College of Continuing and Professional Education, Center for International Trade and Transportation.

CAREER PATHWAYS



GLOBAL TRADE AND LOGISTICS PATHWAY

	Occupation	Median Hourly Wage 2014	Skill Group	Industry-Valued Certifications Skills and Competencies
High-Skill	Storage and Distribution Managers High school diploma or equivalent 5 years or more experience	\$39.18	Warehouse Distribution	Industry-Valued Certifications: APICS Inventory Management Certificate, Project Management Certificate Common Skills: Business planning, account management, business development and administration, logistics management
	Transportation Manager High school diploma or equivalent 5 years or more experience	\$39.18	Transportation	Industry-Valued Certifications: N/A Common Skills: Contract management, logistics, optimization and process improvement, business development
	Logistics/Supply Chain Manager Bachelor's degree or higher	\$51.00	Logistics and Supply Chain	Industry-Valued Certifications: Certified Professional in Supply Management, Certified Production and Inventory Management, Certified Supply Chain Professional Common Skills: Logistics and supply chain management, business and employee management, budgeting, quality assurance and control
Middle-Skill	Warehouse/Distribution Supervisors High school diploma or equivalent Less than 5 years' experience	\$21.86	Warehouse Distribution	Industry-Valued Certification: Forklift Operator Certification Common Skills: Inventory maintenance, warehouse management systems, product distribution, manufacturing resource planning, material flow, forklift operation
	Transportation Supervisor High school diploma or equivalent	\$27.58	Transportation	Industry-Valued Certifications: N/A Common Skills: Transportation management skills, scheduling, administration skills (payroll processing, transportation management systems)
	Logistician/Supply Chain Specialist Bachelor's degree	\$39.48	Logistics and Supply Chain	Industry-Valued Certification: Certified Professional Logistician Common Skills: Logistics and supply chain knowledge, general business skills, productivity software
Entry-Level	Order Processor High school diploma or equivalent Short-term on-the-job training	\$15.19	Warehouse Distribution	Industry-Valued Certifications: N/A Common Skills: Data entry, order entry, accounting, sales, inventory management
	Shipping/Receiving Clerk High school diploma or equivalent Short-term on-the-job training	\$13.27	Transportation	Industry-Valued Certifications: N/A Common Skills: Sorting and packaging, hand truck maintenance, forklift operation, hand truck operation
	Scheduler/Operations Coordinator High school diploma or equivalent Moderate-term on-the-job training	\$22.58	Logistics and Supply Chain	Industry-Valued Certification: APICS Certification Common Skills: Production and processing, administration and management, accounting software, communication

(Source: EMSI and Burning Glass)

EXPANDING MIDDLE-SKILL TALENT SUPPLY TO MEET EMPLOYER DEMAND

Too many Los Angeles residents face barriers to attaining middle-skill careers, including low educational attainment, high poverty, low English proficiency, criminal records and inadequate transportation. At the same time, workforce and education providers face systemic challenges that obstruct their ability to respond to the needs of Los Angeles residents.

RESIDENTS CHALLENGED BY RECESSION AND SLOW ECONOMIC RECOVERY

- The 2008 recession hit Los Angeles County hard, with effects that have yet to fully fade. In 2007, unemployment in Los Angeles County was at 5.1%, compared to 4.6% nationally.⁵³ It soared to 13.3% by 2010, well above the national rate of 10%.⁵⁴
- The labor market is projected to grow by 12% over the next decade⁵⁵, but the county did not fully recover the jobs lost in the recession until 2015.⁵⁶
- Unemployment has fallen from its 2010 peak to 7.6% in March 2015, but remains higher than the national rate (5.5%).⁵⁷
- Unemployment varies by race: African-Americans face an 11.4% unemployment rate, while Asians have a 4.9% unemployment rate.⁵⁸
- According to the California Employment and Development Department, 123,600 (41% of all unemployed individuals) would be considered **“long-term unemployed”**  as they have been unemployed for 27 weeks or more.⁵⁹
- Los Angeles County has the highest poverty rate in California. According to Stanford’s California Poverty Measure, 2.6 million, or 26% of Los Angeles County residents live in poverty.⁶⁰ Hispanic residents have the highest poverty rate (35%), followed by African-Americans (22%) and Asians (20%).⁶¹

- While middle-skill jobs are growing, two-thirds of projected openings are entry level jobs that require a high school diploma or less and no work experience.⁶² Regional stakeholders should explore strategies not only to prepare workers for existing middle-skill opportunities but also to expand the pool of available middle-skill jobs.

Commitment to the Long-Term Unemployed

The nation’s long-term unemployed face specific challenges. Research suggests that the longer the unemployment the more challenging it is to return to the workforce: skills deteriorate and it becomes more challenging to build new skills that are in high demand in the labor market. But the more virulent challenge is the impact on perception: employers come to see the long-term unemployed as risky hires; and the impact of weeks and months of failed job seeking causes the confidence of the long-term unemployed to plummet.

In 2014, President Obama issued a call to action to the nation’s employers to focus on long-term unemployment and remedy this “stubborn legacy of the recession.” JPMorgan Chase accepted this challenge. Through its national *New Skills at Work* initiative, JPMorgan Chase is putting its White House commitment into action by supporting the efforts of local stakeholders to better understand the needs of the long-term unemployed and helping communities and businesses implement best practices that help these job seekers to get back to work.

53 Bureau of Labor Statistics. (2015). “Labor Force Statistics from the Current Population Survey.” Retrieved from: http://data.bls.gov/timeseries/LNU04000000?years_option=all_years&periods_option=specific_periods&periods=Annual+Data.

54 EMSI.

55 EMSI.

56 Los Angeles Economic Development Corporation. (2015). *Los Angeles: People, Industry and Jobs 2014–2019*. Retrieved from: http://laedc.org/wp-content/uploads/2015/04/People-Industry-and-Jobs_20150415.pdf.

57 State Of California, Employment Development Department, Labor Market Information Division. (2015). “Industry Employment and Labor Force.” Retrieved from: [http://www.calmis.ca.gov/file/lfmonth/la\\$pd.pdf](http://www.calmis.ca.gov/file/lfmonth/la$pd.pdf).

58 EMSI and State Of California, Employment Development Department, Labor Market Information Division. (2015). “California Unemployment Rate Analysis by Race.” Data drawn from the U.S. Bureau of Labor Statistics, Current Population Survey data for March 2015.

59 *Ibid.*

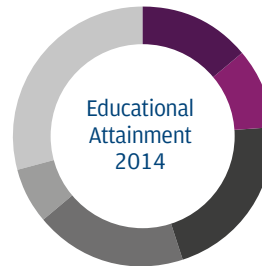
60 Stanford Center on Poverty and Inequality, 2015 analysis for JFF. The California Poverty Measure is a variation of the federal Supplemental Poverty Measure that adjusts the standard poverty measure for geographically adjusted housing costs, a wider range of consumer expenditures, non-cash and post-tax transfers, and deduction of non-discretionary expenses from income. Retrieved from: <http://web.stanford.edu/group/scspi/cpm>.

61 *Ibid.*

62 Los Angeles Economic Development Corporation. (2015). *Los Angeles: People, Industry and Jobs 2014–2019*. Retrieved from: http://laedc.org/wp-content/uploads/2015/04/People-Industry-and-Jobs_20150415.pdf.

MANY RESIDENTS ARE POORLY PREPARED TO TAKE ADVANTAGE OF MIDDLE-SKILL CAREER OPPORTUNITIES **10**

- Los Angeles County lags in educational attainment. One in four adult residents (24%) lacks a high school credential, much higher than the national rate of 15%. More than half of those non-completers dropped out before ninth grade.⁶³
- One in five residents has a high school credential but no postsecondary training, and another one in five has some college experience but no degree. Only 7% of Angelenos have earned an Associate's degree.⁶⁴
- About 44% of the county's Hispanic residents – more than one million people – lack a high school diploma or GED, compared with just 6% of white and 13% of African-American and Asian residents.⁶⁵ Of county residents without a high school diploma, 56% live in poverty.⁶⁶
- More than half of all Los Angeles residents speak a language other than English at home, and one in six speaks **English 11** less than very well.⁶⁷
- Employer surveys report **lack of work readiness 12** to be a key workforce challenge, particularly soft skills such as communication skills and time management.⁶⁸



- Less than ninth grade: 14%
- Ninth grade to 12th grade: 10%
- High school diploma: 21%
- Some college, no degree: 19%
- Associate's degree: 7%
- Bachelor's degree and higher: 29%

(Source: EMSI)

10 Multiple Barriers to Career Success

For many Los Angeles residents, a range of barriers can make even accessing the starting point of a career pathway seem impossible.

Homelessness: The Los Angeles Homelessness Services Authority estimates that over the course of a year, at least 190,000 residents will experience homelessness. One in four homeless adults are chronically homeless. Of the homeless population, 38% is African-American.

Criminal records: A criminal record and/or a history of incarceration reduces the number of career options available. Proposition 47, a recent measure to reduce some low-level property and drug offenses to misdemeanors, has potential to reduce the number of incarcerated individuals, but those newly released from prison under the new law will need training and reentry services.

Veterans: An estimated 331,000 veterans live in Los Angeles County, with approximately 12,000 veterans returning every year. These veterans face higher-than-average rates of poverty and unemployment, and the county has the largest number of homeless veterans in the country – close to 10,000. 28% of post-9/11 veterans are unemployed and looking for work; 22% earn less than \$24,000 annually.⁶⁹

11 Building Native Language Literacy for Immigrant Populations

Centro Latino for Literacy (Centro Latino) teaches English-language learners, with zero to very low native language literacy skills, to read and write in Spanish first as a foundation for English and better economic opportunity. Many immigrants, primarily coming from rural areas, do not have formal schooling and are locked in low-wage, low-skill jobs. Centro Latino's online, self-paced pre-ESL course, *Leamos* (Let's Read), builds basic literacy skills, while introducing students to computers. Through partnerships with other adult education providers, students who successfully complete *Leamos* courses can move on to ESL offerings. More importantly, by increasing their literacy and English language skills, these adults can have greater economic mobility.⁷⁰

12 Building Stronger Employment Pathways

The Los Angeles City WIB received a Round Two Workforce Innovation Fund grant, LA:RISE (Los Angeles Regional Initiative for Social Enterprise) and is working with REDF, a California-based nonprofit, to develop stronger employment pathways for those with multiple barriers to employment, including those with a history of homelessness, incarceration, and disconnected youth. A core component of the model is partnerships with social enterprises, businesses committed to hiring workers with barriers and also providing on-the-job training and connecting to social service partners, and the City of Los Angeles WorkSource system. Connecting social enterprises, supportive "bridge" employers, social service partners, WorkSource centers, and mainstream employers will enable workers to build the work readiness and technical skills needed to move into sustainable career paths.⁷¹

63 EMSI.

64 *Ibid.*

65 *Ibid.*

66 The Stanford Center on Poverty and Inequality. The California Poverty Measure. Calculations performed for JFF.

67 Los Angeles Economic Development Corporation. [2013]. *Industry and Labor Market Intelligence for Los Angeles County, April 2013*.

68 Centers of Excellence. [2014]. *Employer Survey Results: Healthcare Occupations, Los Angeles and Orange County*. January 2014. Retrieved from: http://www.coecc.net/Environmental_Scans/health_scan_la-ora_14.pdf.

69 United Way of Greater Los Angeles. [2012]. *Helping our Heroes: Creating Pathways to Veteran Employment*. Retrieved from: http://www.unitedwayla.org/wp-content/uploads/2012/11/UW0039_Veteran_Report_FINAL11.pdf.

70 McDonnell, Rachel and Sullivan, Myriam. [2015]. Interview with Mari Riddle, Centro Latino for Literacy.

71 McDonnell, Rachel. [2015]. Interview with Vivienne Lee, REDF.

SYSTEMIC CHALLENGES WEAKEN CAPACITY TO PREPARE RESIDENTS FOR MIDDLE-SKILL OPPORTUNITIES

- Effective collaboration is difficult in any large county, and even more so in Los Angeles County, a 4,751-square mile region encompassing numerous **diverse communities** **13**.
- Overlapping jurisdictions for the seven WIBs, nine-college community college district and nine single-college campuses make the formation of new partnerships more complex and incentivize fierce competition for funding and clients.
- However, recent federal and state grants have increasingly required collaboration among community colleges and WIBs, as well as other regional partners, greatly accelerating the development of **collaborative structures** **14**.
- Training programs often lack flexibility and data to adjust to labor market changes. Employer advisory councils do not always furnish education and training providers with ongoing, in-depth feedback on programs and curricula; use of labor market information to shape program offerings varies as well.
- Adult literacy providers have experienced major funding cuts in recent years, reducing overall system capacity, despite huge and growing demand. In 2009, the State Legislature enacted legislation allowing school districts to repurpose adult education funding for other district needs; many districts opted to shift more funding to K-12 services. By 2013, adult education enrollment had dropped by 36%, from 2.3 million to 1.4 million.⁷² As of 2013, providers in Los Angeles County were meeting only 10% of projected local need.⁷³

13 Los Angeles Workforce Systems Collaborative

Over the past eight years, the Los Angeles Workforce Systems Collaborative has made great strides in promoting coordination across a diverse group of county stakeholders. The Collaborative brings together education, government, workforce development, labor and employers around strengthening both workforce and economic development. The Collaborative strives to create greater alignment across stakeholders in terms of goals and priorities, and meet the needs of low-income and underserved communities, while also serving the business community. As part of this goal, the Collaborative supports a sector intermediary approach to coordinating education and workforce development across high-growth industries.

14 State Efforts to Drive Collaboration

The California Community Colleges System's **Doing What Matters** initiative is a statewide effort to increase colleges' focus on jobs and the economy and promote greater regional alignment of education and training programs. The System's office identified 10 sector priorities, as well as regional sector navigators, to link education and employers. In Los Angeles County, the **Los Angeles/Orange County Regional Consortia** (LAOCRC) works to align programs and curricula to the needs of business and industry.

The Career Technical Education Pathways Program (SB1070) establishes regional partnerships across K-12 and community colleges to create sustainable policies and infrastructure for CTE pathways. There are two consortia in Los Angeles: one consisting of the nine colleges within the Los Angeles Community College District and another comprised of the nine "ring colleges" that are not part of the district.

The **Career Pathways Trust** funds consortia of school districts, community-based organizations, postsecondary institutions and employers to develop pathways connecting high school students to education and training in high-demand occupations. One consortium is **LA HI-TECH**, which brings together multiple educational partners and over 50 area employers to build stronger pathways in ICT, including digital media. The partners are mapping curricula to job descriptions, building out opportunities for work-based learning, integrating entrepreneurship and work readiness into training programs, and creating cross-system articulation agreements.

AB86, enacted in the 2013–14 state budget, brings together regional consortia of K-12, community college districts, and other adult education providers to improve transitions from adult to postsecondary education. In Los Angeles, multiple consortia are developing strategies by which providers can collaborate to meet education and workforce development needs of residents and employers.⁷⁴ The **Los Angeles Regional Adult Education Consortium** (LARAEC) was created as part of AB86; in its three-year plan, LARAEC aims to align service provision across providers and create stronger bridges and pathways to allow underprepared learners to seamlessly advance into industry-aligned training programs. The plan emphasizes strengthening supportive services and creating a common data and accountability system.

⁷² California Department of Education and California Community Colleges Chancellor's Office. (2015). *Adult Education Regional Planning*. Retrieved from: <http://bit.ly/1DBT0ya>.

⁷³ *Ibid.*

⁷⁴ *Ibid.*

RECOMMENDATIONS

RECOMMENDATIONS: DEVELOPING CAREER PATHWAYS TO CONNECT LOS ANGELES RESIDENTS TO MIDDLE-SKILL OPPORTUNITIES

Los Angeles is a large, diverse and decentralized county, with many workforce challenges. It is also home to numerous innovative education and workforce providers. If they can come together with employers and philanthropic partners to develop a plan for strengthening the region's talent pipeline, Los Angeles could reduce its opportunity and skills gaps.

Recommendation

1. Commit to Taking a Regional Approach to Career Pathway Development

In order to take action on the recommendations provided here, leaders across education, workforce development, economic development, labor and the business community must **commit to working regionally** ¹⁵.

System leaders and policymakers can:

- Use sectors, target populations, or sub-regions – such as economic development regions – rather than historical boundaries to determine who needs to be at the table. For example, industry sector panels can bring together relevant training providers and employers to better align supply and demand for middle-skill jobs.
- Align regional workforce development strategies with economic development goals.
- Clearly delineate roles and responsibilities across regional stakeholders and provide guidance on change management strategies.
- Recognize that some challenges do need to be addressed locally and delineate which issues require a regional strategy instead of a more narrow focus.
- Collaborate with unions to expand pathways into middle-skill jobs. This is especially critical in unionized industries such as media and entertainment, healthcare and global trade and logistics.
- Align workforce development and adult education programs with strategies to address the needs of opportunity youth, such as the efforts of the **YouthSource centers** ¹⁶, as well as pathway initiatives focused on high school-to-college transitions, such as the Career Pathways Trust.
- Develop a clearinghouse to identify best practices from existing collaborations and inform future regional planning.
- Commit to shared outcomes and metrics across education and workforce systems.

15 The Workforce Innovation and Opportunity Act as a Driver for Change

The Workforce Innovation and Opportunity Act (WIOA) provides an opportunity for stakeholders to scale collaboration and regional systems change. Enacted in July 2014, WIOA promotes cross-system alignment and strategic planning, including connecting with partners in adult and postsecondary education. The law emphasizes working with employers and industry partnerships to develop a coordinated delivery system for career pathways. The regional planning process provides an ideal opportunity to develop more collaborative approaches to addressing the region's workforce development needs.

16 Re-engaging Opportunity Youth

In Los Angeles city, one in five youth between the ages of 16 and 24 is out of school and out of work. To address this issue, the Los Angeles city WIB partnered with the Los Angeles Unified School District to create 13 YouthSource centers focused on re-engaging disconnected youth and chronically truant students.⁷⁵ Co-located counselors conduct outreach and recruitment of out-of-school youth, connect youth with appropriate educational programs and resources, address barriers to high school completion and provide ongoing counseling. YouthSource centers also provide career counseling, work readiness and career training, and counseling services.

The Coalition for Responsible Community Development's (CRCD) South LA YouthBuild serves low-income youth (17–24) in south Los Angeles with employment barriers. Since 2009, CRCD has led the program in partnership with the Los Angeles Trade Technical College. YouthBuild provides academic support toward completing a high school diploma, postsecondary education/occupational training, leadership development, community service, intensive case management and support services. While focused on construction in past years, YouthBuild has expanded its program to include additional high-growth sectors.

⁷⁵ Barajas-Ledesma, Selena. (2014). Presentation entitled "Building Partnerships to Re-Engage Disconnected Youth through Re-Engagement Centers." Re-Engaging Disconnected Youth Summit II. Maricopa County Education Service Agency. Retrieved from: <http://education.maricopa.gov/site/Default.aspx?PageID=592>.

Recommendation

2. Develop Pathways that Integrate Adult Literacy with Industry-Aligned Skills Training

Regional stakeholders must work together to develop service delivery models that adequately meet the needs of the county's least-prepared residents. The Los Angeles Workforce Systems Collaborative has offered recommendations that would position stakeholders to address this challenge.⁷⁶

System leaders and policymakers can:

- Leverage the region's multiple AB86 consortia to expand system-wide collaboration with K-12 systems, community colleges, and other education and training partners.
- Build the region's capacity to serve more adult students, conducting regular audits to assess availability and geographical convenience of services and advocating for increased or leveraged funding for adult education services.
- Incentivize the adoption and expansion of existing best practices, such as contextualized literacy and vocational ESL.

Education and training providers can:

- Use a sector strategies approach to deliver contextualized job readiness, basic skills and technical training, using employer input to inform program and curriculum design.
- Develop and strengthen partnerships between adult education providers, postsecondary education, community-based organizations and the workforce system to ensure that students have **adequate support 17**, including career navigation support.
- Use data on student outcomes to inform program development.

17 The Los Angeles Brotherhood Crusade

The Los Angeles Brotherhood Crusade's Career Path Vocational, Technology Training and Job Placement Program provides comprehensive vocational and technology training, job placement, basic skills training, life and social skills training, and supportive services to low- to moderate-income individuals in south Los Angeles. The program connects clients to multiple resources and service providers needed to successfully matriculate through the program. The program also provides youth with educational and career-based mentoring, re-engages them in school, develops their vocational and social skills, improves their academic skills, engages them in work experience volunteerism and internships, and helps youth secure employment.

Recommendation

3. Assess Current and Expected Regional Demand for Middle-Skill Workers – and Adjust Education and Training Accordingly

System leaders and policymakers can:

- Use economic research and employer input to assess current and future middle-skill workforce needs and gaps in the current education and training supply, including both public and proprietary providers, recognizing that gaps in supply are about both quality and quantity.
- Pursue greater alignment of programs and credentials offered across all education and training providers.
- Ensure that all workforce partners have access to in-depth, high-quality data and the technical assistance to use it effectively. Leverage state data resources such as LaunchBoard, which provides data on the effectiveness of career and technical education programs, and Salary Surfer, which provides data on the earnings of recent community college graduates.⁷⁷
- Eliminate policy barriers to shifting community college training programs based on industry demand.

Education and training providers can:

- Use up-to-date labor market data in developing and improving career pathway programs, and be responsive to changes and emerging trends.
- Ensure a balance of programmatic offerings across all training providers and reduce the duplication of services.
- Work with trusted **intermediaries 18** to facilitate job placements for graduates.

Employers can:

- Collaborate with WIBs and community colleges to verify labor market information and provide more accurate projections of short- and long-term hiring needs.
- Give training providers feedback on the quality of graduates and needed program improvements.

18 Workforce Intermediaries

The YWCA of Greater Los Angeles has established a Digital Learning Academy (DLA) that addresses the "digital divide" by providing disadvantaged youth with technical and hands-on training, career pathways training and support, and job placements in the digital fields. Through the DLA and its collaboration with Xerox Corporation's Schools to Careers program, participants receive job coaching, business entrepreneurship training, and courses in digital printing, 3D printing and coding. Participants in the coding classes will develop a "Gap App" to track employer data and industry trends, so DLA can refine how it trains and places participants. After placement, follow-up support is provided to ensure long-term employment.

⁷⁶ Darche, Svetlana and Downs, Paul. (2012). *Addressing the Needs of Adult Learners in Los Angeles: A Preliminary Action Plan*.

⁷⁷ For more information on LaunchBoard and Salary Surfer see: <http://doingwhatmatters.cccco.edu/launchboard.aspx> and <http://salarysurfer.cccco.edu/SalarySurfer.aspx>.

Recommendation

4. Make Work Readiness Training a Regional Priority

System leaders and policymakers can:

- Using employer input, create a common framework for work readiness, including sector-specific competencies, that can be used across the workforce and education systems.
- Promote the integration of work readiness training into all career and technical programs.

Education and training providers can:

- Build students' entrepreneurship skills, including communications, self-advocacy and leadership. This is a common employer-requested skill, especially in ICT, and media and entertainment.
- Build students' and job seekers' career navigation skills so that they can understand the opportunities in fields like media and entertainment and healthcare that offer a variety of careers but can be confusing to navigate. Use labor market information and employer input to enhance career guidance.

Recommendation

5. Expand Work-Based Learning Across the Pipeline

System leaders and policymakers can:

- Incentivize the use of employer-driven training opportunities, such as apprenticeships and on-the-job training, and advocate for practices such as tuition reimbursement and paid release time that enable workers to participate in training activities.
- Create policies that enable learners to earn college credit for work-based learning, including assessment of prior learning and use of competency-based models.
- Leverage and expand existing models such as Linked Learning that integrate academics, career-based learning and work experience.⁷⁸

Employers can:

- Develop work-based learning opportunities, such as apprenticeships, internships and transitional jobs, that enable students to gain valuable work experience and practice work readiness skills in a supported setting.
- Develop partnerships with adult literacy providers to establish on-site adult education and English as a Second Language instruction programs.

CONCLUSION

Los Angeles is famous for being a city of contrasts. The regional economy is also built on contrasts, with thriving industries in technology, transportation, healthcare and manufacturing, as well as the high-profile media and entertainment sector. But a significant number of Los Angeles residents remain unable to obtain middle-skill jobs with local employers. They can and should turn to Los Angeles's education and training providers, but those providers and their funding streams are highly fragmented. As a result, disadvantaged Angelenos must cobble together their own career pathways, and far too many fall between the cracks. A key task for Los Angeles's stakeholders is to align the county's powerful education and training assets with employer needs and with one another, so that they can more effectively connect all Los Angeles residents to good jobs and careers.

Through the *New Skills at Work* initiative, JPMorgan Chase proposes to help advance these stakeholders' efforts by offering guidance on how to develop a system of regional career pathways to launch young people and low-skill adults into good jobs with advancement potential. Starting with the middle-skill occupations in healthcare and global trade and logistics, JPMorgan Chase has helped to provide targeted recommendations to implement this strategy in Los Angeles County, fortify the region's middle-skill sector for the future and help more Angelenos access good jobs that enable them to support themselves and their families.

⁷⁸ Linked Learning Alliance. (2015). "Linked Learning in California." Retrieved from: <http://linkedlearning.org/about/linked-learning-in-california/>.

APPENDIX A – Methodology

All data in this report are provided for Los Angeles County.

Methodology to Identify “Middle-Skill” Occupations

Four criteria were used to identify middle-skill occupations, as follows:

1. Selected occupations must pass a minimum requirement for the percentage of their workforce that possesses a high school diploma and less than a four-year degree.
2. 25% or more of the workforce for each target occupation must surpass the living wage for families with two adults and one child.
3. Each occupation must surpass a minimum growth rate over the past three years.
4. Occupations with limited annual openings are filtered out. The term “middle-skill” typically refers to the level of education required by a job. This study expands the common definition by adding three additional criteria (wage, growth rate and number of annual openings). This expanded approach will make sure selected occupations not only are middle-skill but also provide a living wage and are growing.

To provide a picture of the economy (e.g., a description of employment, unemployment, productivity, workforce and education), the report uses EMSI’s data aggregated from more than 90 federal, state and private sources. EMSI applies proprietary methods to remove suppressions and include data for proprietors to yield a comprehensive representation of the regional workforce.

The report also includes analytical information from Burning Glass Technologies, which provides real-time labor market information (RT LMI) from online job postings. Burning Glass’ patented parsing and data extraction capabilities can extract,

derive and infer more than 70 data elements from any online job posting, providing in-depth insights into employers’ demand for skills and credentials.

Limitations

When assessing a phenomenon as complex as a local economy, gaps in our analysis and understanding remain. While traditional labor market information (LMI) offers the best data available to capture historical industry and occupational trends, it is infrequently updated and does not adequately account for future macro- or micro-economic shifts in supply or demand. Some of the federal and state data sources EMSI uses contain non-disclosed or “suppressed” data points, created by the government organizations that publish the data products in order for them to comply with laws and regulations that are in place to help protect the privacy of the businesses that report to them. In some cases, EMSI utilizes proprietary algorithms to replace suppressions with mathematically educated estimates.

RT LMI complements the traditional LMI with more recent information on employer skills, education and credential demand. However, a common limitation of job postings data is that it can only access information that is indeed posted online. To control for duplicate job listings Burning Glass employs an advanced parsing engine that considers the actual job functions and skills described by the employer rather than just the text. Burning Glass focuses on the content of the posting, not simply the words or basic fields.

Some of the limitations from both traditional and RT LMI will be ameliorated through qualitative interviews with employers, educators, policymakers and workforce intermediaries whose on-the-ground experience can fill in gaps about both future employer skill demand and participant supply. Overall, data can be a useful starting point, but the intricacies of talent shortages and job openings will need to be verified locally.

APPENDIX B – Selected Occupations Referred to in the Text

SELECTED MIDDLE-SKILL OCCUPATIONS, LOS ANGELES COUNTY

Description	Employment (2014)	Average Annual Openings (2014–2019)	Real-Time Job Postings (2014)	Posting Duration (Days)	Median Hourly Earnings	Typical Entry-Level Education	% of Job Holders with a High School Diploma or Less (ACS*)	% of Job Holders with Some College or an Associate’s Degree (ACS)	% of Job Holders with a Bachelor’s Degree or Higher (ACS)
Purchasing Managers	2,263	54	457	39.75	\$51.78	Bachelor’s degree	14%	31%	55%
Transportation, Storage, and Distribution Managers	4,276	122	1,134		\$39.21	High school diploma or equivalent	35%	38%	27%
Medical and Health Services Managers	8,194	388	8,325	39.73	\$50.74	Bachelor’s degree	12%	30%	58%

SELECTED MIDDLE-SKILL OCCUPATIONS, LOS ANGELES COUNTY CONT.

Description	Employment (2014)	Average Annual Openings (2014-2019)	Real-Time Job Postings (2014)	Posting Duration (Days)	Median Hourly Earnings	Typical Entry-Level Education	% of Job Holders with a High School Diploma or Less (ACS*)	% of Job Holders with Some College or an Associate's Degree (ACS)	% of Job Holders with a Bachelor's Degree or Higher (ACS)
General and Operations Managers	72,507	2,136	5,570		\$50.51	Bachelor's degree	19%	34%	47%
Agents and Business Managers of Artists, Performers, and Athletes	4,086	270	86		\$39.59	Bachelor's degree	18%	36%	46%
Wholesale and Retail Buyers, Except Farm Products	6,169	208	250		\$25.06	High school diploma or equivalent	30%	38%	32%
Logisticians	3,221	103	1,563	35.15	\$39.48	Bachelor's degree	20%	44%	36%
Information Security Analysts	1,900	80	1,215	50.12	\$46.02	Bachelor's degree	11%	33%	56%
Software Developers, Systems Software	13,484	293	2,400	40.54	\$54.61	Bachelor's degree	3%	15%	82%
Database Administrators	2,483	78	3,085	36.45	\$42.77	Bachelor's degree	7%	27%	66%
Computer User Support Specialists	17,166	506	4,251	34.7	\$24.35	Some college, no degree	13%	48%	39%
Computer Network Support Specialists	4,103	83	225	40	\$32.95	Associate's degree	13%	48%	39%
Fine Artists, Including Painters, Sculptors, and Illustrators	3,145	100	540		\$21.79	High school diploma or equivalent	15%	32%	53%
Multimedia Artists and Animators	9,501	313	554		\$32.71	Bachelor's degree	15%	32%	53%
Fashion Designers	3,813	117	344	21.75	\$31.74	Bachelor's degree	15%	34%	51%
Graphic Designers	15,087	455	2,329		\$23.17	Bachelor's degree	15%	34%	51%
Interior Designers	4,752	159	381		\$23.07	Bachelor's degree	15%	34%	51%
Set and Exhibit Designers	1,463	56	43	6	\$26.22	Bachelor's degree	15%	34%	51%
Designers, All Other	1,175	39	42	32	\$19.39	Bachelor's degree	15%	34%	51%
Coaches and Scouts	6,757	369	1,096		\$20.02	Bachelor's degree	28%	37%	34%
Entertainers and Performers, Sports and Related Workers, All Other	3,567	77	19		\$19.10	High school diploma or equivalent	33%	35%	32%
Radio and Television Announcers	1,873	59	127		\$19.13	Bachelor's degree	26%	40%	34%
Public Address System and Other Announcers	1,564	50	120		\$18.08	High school diploma or equivalent	26%	40%	34%
Interpreters and Translators	3,241	140	425	40.83	\$26.71	Bachelor's degree	14%	41%	44%
Media and Communication Workers, All Other	9,309	206			\$23.39	High school diploma or equivalent			
Audio and Video Equipment Technicians	6,503	225	193	25.29	\$23.95	Postsecondary non-degree award	N/A	N/A	N/A
Broadcast Technicians	2,986	91	147	45.16	\$20.70	Associate's degree	N/A	N/A	N/A
Sound Engineering Technicians	3,376	66	135		\$33.80	Postsecondary non-degree award	N/A	N/A	N/A
Photographers	7,594	232	540	28.27	\$18.36	High school diploma or equivalent	19%	42%	39%
Camera Operators, Television, Video, and Motion Picture	4,181	104	240		\$23.02	Bachelor's degree	16%	37%	47%
Film and Video Editors	8,734	188	24		\$38.51	Bachelor's degree	16%	37%	47%
Media and Communication Equipment Workers, All Other	4,463	93			\$32.51	High school diploma or equivalent			
Radiation Therapists	283	14	38	25.13	\$43.09	Associate's degree	2%	53%	45%
Registered Nurses	73,828	2,890	16,588	37.98	\$44.04	Associate's degree	1%	44%	55%
Medical and Clinical Laboratory Technicians	5,493	274	874	55.96	\$18.68	Associate's degree	13%	36%	51%
Dental Hygienists	5,725	269	115	9	\$50.69	Associate's degree	5%	61%	34%
Cardiovascular Technologists and Technicians	1,177	50	401	24.54	\$30.54	Associate's degree	10%	67%	23%
Diagnostic Medical Sonographers	1,245	72	139	46.41	\$39.22	Associate's degree	10%	67%	23%
Psychiatric Technicians	1,849	23	51	59.67	\$25.17	Postsecondary non-degree award	27%	55%	18%
Surgical Technologists	2,897	101	379	32.55	\$26.17	Postsecondary non-degree award	27%	55%	18%
Licensed Practical and Licensed Vocational Nurses	21,736	1,169	1,701	33.28	\$24.63	Postsecondary non-degree award	21%	74%	5%

SELECTED MIDDLE-SKILL OCCUPATIONS, LOS ANGELES COUNTY CONT.

Description	Employment (2014)	Average Annual Openings (2014-2019)	Real-Time Job Postings (2014)	Posting Duration (Days)	Median Hourly Earnings	Typical Entry-Level Education	% of Job Holders with a High School Diploma or Less (ACS*)	% of Job Holders with Some College or an Associate's Degree (ACS)	% of Job Holders with a Bachelor's Degree or Higher (ACS)
Medical Records and Health Information Technicians	4,941	245	2,183	34.32	\$18.32	Postsecondary non-degree award	32%	51%	16%
Health Technologists and Technicians, All Other	4,527	129	1,385	36.09	\$19.15	High school diploma or equivalent	24%	50%	27%
Occupational Health and Safety Specialists	2,035	72	373		\$32.48	Bachelor's degree	N/A	N/A	N/A
Occupational Health and Safety Technicians	199	10	78		\$22.30	High school diploma or equivalent	N/A	N/A	N/A
Healthcare Practitioners and Technical Workers, All Other	1,773	76	37		\$27.38	Bachelor's degree	N/A	N/A	N/A
Occupational Therapy Assistants	366	28	194	32.73	\$32.73	Associate's degree	N/A	N/A	N/A
Physical Therapist Assistants	1,145	74	360	34.71	\$29.60	Associate's degree	14%	59%	27%
Medical Transcriptionists	1,719	47	40	26.83	\$21.09	Postsecondary non-degree award	20%	63%	17%
First-Line Supervisors of Personal Service Workers	6,128	256	306	34	\$16.91	High school diploma or equivalent	36%	39%	25%
Fitness Trainers and Aerobics Instructors	7,233	229	1,163	28.31	\$22.05	High school diploma or equivalent	N/A	N/A	N/A
Sales Representatives, Services, All Other	34,249	1,389	743		\$25.30	High school diploma or equivalent	21%	37%	43%
Sales and Related Workers, All Other	5,325	178	719		\$16.46	High school diploma or equivalent	32%	33%	35%
First-Line Supervisors of Office and Administrative Support Workers	51,038	1,808	3,710	25.69	\$26.62	High school diploma or equivalent	27%	43%	30%
Bill and Account Collectors	15,200	646	911	24.81	\$17.62	High school diploma or equivalent	36%	49%	15%
Bookkeeping, Accounting, and Auditing Clerks	57,157	1,126	5,389	26.57	\$18.91	High school diploma or equivalent	34%	50%	16%
Payroll and Timekeeping Clerks	6,111	209	978	20.99	\$21.11	High school diploma or equivalent	30%	51%	18%
Procurement Clerks	2,393	101	361	34.98	\$19.41	High school diploma or equivalent	27%	48%	25%
Receptionists and Information Clerks	29,070	1,229	2,788		\$13.73	High school diploma or equivalent	39%	48%	13%
Aircraft Cargo Handling Supervisors	356	11	10		\$23.12	High school diploma or equivalent	N/A	N/A	N/A
First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	6,668	256	129		\$21.86	High school diploma or equivalent	N/A	N/A	N/A
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	6,884	272	240		\$27.58	High school diploma or equivalent	N/A	N/A	N/A
Bus Drivers, Transit and Intercity	9,785	300	170		\$19.45	High school diploma or equivalent	56%	37%	7%
Motor Vehicle Operators, All Other	2,443	102	8		\$23.75	High school diploma or equivalent	58%	32%	9%
Locomotive Engineers	438	13			\$27.86	High school diploma or equivalent			
Railroad Brake, Signal, and Switch Operators	395	15	7		\$23.16	High school diploma or equivalent	45%	44%	11%
Railroad Conductors and Yardmasters	597	19	41	26.5	\$24.94	High school diploma or equivalent	44%	44%	12%
Ship Engineers	470	37	9		\$40.78	Bachelor's degree	58%	28%	13%
Transportation Inspectors	688	35	70	22.88	\$34.81	High school diploma or equivalent	48%	37%	15%
Crane and Tower Operators	1,629	76	21		\$25.70	High school diploma or equivalent	76%	23%	1%
Pump Operators, Except Wellhead Pumpers	253	11	15		\$17.92	Less than high school	63%	33%	4%
Tank Car, Truck, and Ship Loaders	387	22	9		\$20.64	Less than high school	68%	28%	4%
Material Moving Workers, All Other	2,313	89	66		\$28.86	Less than high school	68%	28%	4%

* ACS in table headings stands for American Community Survey.

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