II. California's Economy

The contributions of the Employment Development Department, Labor Market Information Division (LMID) were vital to this planning effort. The data presented in the State Plan regarding industry trends and related employment opportunities is the direct result of LMIDs work.

The California Workforce Investment Board would like to extend its sincere gratitude and acknowledge the contributions of Stephen Levy, Director and Senior Economist of the Center for Continuing Study of the California Economy. His expertise, guidance, and hands-on commitment were indispensable to the completion of this economic analysis.

The demands of California's employers and the needs of its residents together should shape the character of the state's workforce system. The size and diversity of California's economic base positions the state to successfully compete globally and thrive locally. But California also faces serious challenges. These include the lingering effects of the Great Recession, the globalization of markets, changes in technology, the steady increase in skill requirements across many middle-skill occupations, economic volatility and uncertainty, and a growing income divide.

This review of the California economy focuses on trends that are most relevant to the Governor's workforce vision—to help adults and youth meet the needs of the state's growing and changing economy and helping businesses find the workers they need to remain competitive and grow in California.

The release of revised job estimates on March 22, 2013 underscores the opportunities and challenges facing the state's economy and workforce system. Job growth for the 12 months ending in January 2013 was up 254,900 jobs (+1.8 percent) over the year earlier estimates with job growth for the state and most major metropolitan areas exceeding the national average of 1.5 percent. And the March 2013 California economic forecast of the UCLA Anderson School anticipates that the state will outpace the nation in job growth over the next three years.

This improving economic news means that there will be more opportunities for the state's 1.8 million unemployed and additional underemployed workers to find better jobs, but it also underscores the challenges in making sure that workers have the skills needed by a tightening and growing labor market.

The opportunities and challenges facing the state's economy, residents, businesses and the workforce system also stem from the fact that baby boomers are beginning an unprecedented wave of retirements. This means that in addition to meeting the demands of the projected

growth in jobs of 2.7 million between 2010 and 2020, that we will need to find workers for the even larger number of 3.7 million projected job openings from replacing workers who leave the workforce or change occupations.

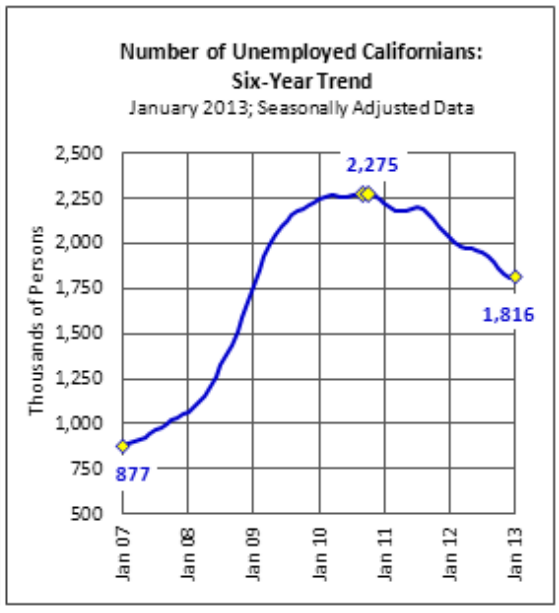
While one focus of the Governor's vision is to support new and emerging growth sectors, this State Plan places great emphasis also on helping workers and businesses meet the challenge of replacing experienced baby boomers that will be leaving all occupations starting now and continuing for the next 20 years.

Emerging from the Great Recession

The Great Recession that crippled much of the nation hit California particularly hard. Unemployment in California, although still elevated, has fallen steadily. In January 2013, California's jobless rate was 9.8 percent. This was California's third consecutive month of single digit unemployment, following 45 consecutive months of unemployment rates in the double digits (See Figures 1 and 2). In January 2013, only 56.8 percent of state residents age 16 or older were working. While a full percentage point above the record low in June and July 2011[1], this percentage of working age Californians who were employed remained well below the pre-recession peak of 62.6 percent in November-December 2006.

Figure 1

Figure 2



Source: California Employment Development Department

[1] Employment Development Department, Local Area Unemployment Statistics (LAUS) Program data, January 2013.

Despite high levels of joblessness, it is clear a recovery is underway in California. From the low point in the recession in September 2009 through January 2013, California total non-farm payrolls grew by more than 676,100 jobs. Private sector job gains were even stronger. California enjoyed its strongest pace of job growth in six years and experienced stronger job growth than the nation as a whole in January. From January 2012 through January 2013, the number of private sector jobs rose by 2.3 percent in California, compared to 1.9 percent in the nation overall. Seven of ten major California sectors experienced strong gains: leisure and hospitality (4.1 percent); professional and business services (3.3 percent); construction (3.0 percent); educational and health services (2.8 percent); trade, transportation and utilities (1.9 percent); financial activities (1.9 percent); and other services (0.9 percent). The manufacturing and information sectors both experienced small declines. Employment in public administration (state, local, and federal) contracted by 0.9 percent (See Figures 3 and 4).

Figure 3

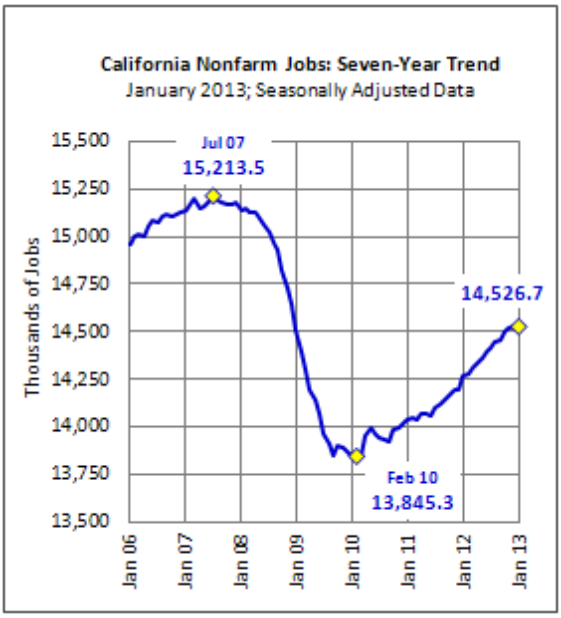
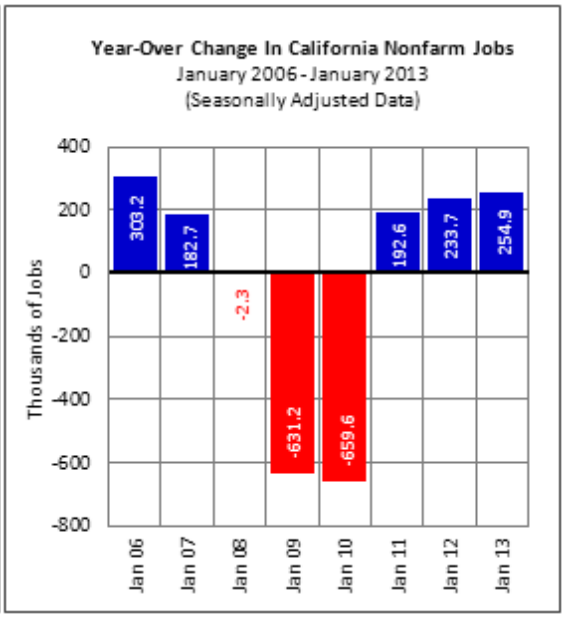


Figure 4



Source: California Employment Development Department

The growth in the past 12 months shows that the state's economic base is emerging strongly from the recession and points the direction toward future areas of job growth. Above-average job growth was recorded in professional services and sectors related to tourism and foreign trade as well as in education and health services. The construction sector posted above-average growth, and other housing market indicators point toward a recovery in the state's housing market, which will lead to demand for skilled construction trades workers.

Disparities in the recovery. In the recovery, men have made stronger gains in employment than women, but they also suffered significantly greater job losses during the Great Recession. Between July 2007 and July 2012, the employment rate for prime-working-age men dropped by 7.9 percentage points compared to a decline of 4.7 percentage points for women.[2] Latinos, Asians, and Whites made modest employment gains, but Black Californians so far have not shared in the recovery. As a result, a considerably smaller share (61.2 percent) of prime-working-age Blacks had jobs July 2012 than Asians (75.3 percent), Whites (73.1 percent), and Latinos (70.3 percent).[3]

The Great Recession disproportionately affected those with lower levels of educational attainment. In the most recent analysis from July 2012, 81.6 percent of college graduates ages 25 to 54 had jobs. In contrast, only 73.4 percent of prime-working-age adults with some college but no degree were working, and just 68.0 percent of prime-working-age adults with a high school diploma and 60.5 percent of those without a high school diploma were working.

Long-term unemployment and underemployment. Longer periods of unemployment for some workers and greater underemployment for others are among the impacts of this new kind of labor market. In 2012, the average period of unemployment in California reached 39.2 weeks[4] – the longest average since 1948, when this data was first collected[5] and as Figures 5 and 6 illustrate, more Californians are working part-time for economic reasons.

Figure 5

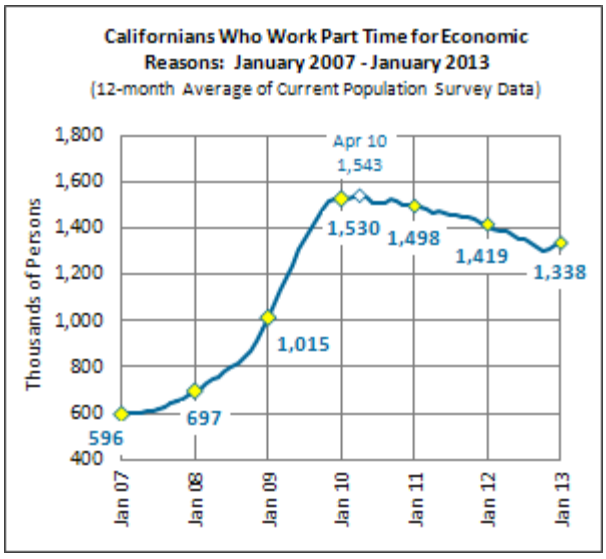
Figure 6

[2] California Budget Project. *Waiting for Recovery.* Policy Points, September 2012.

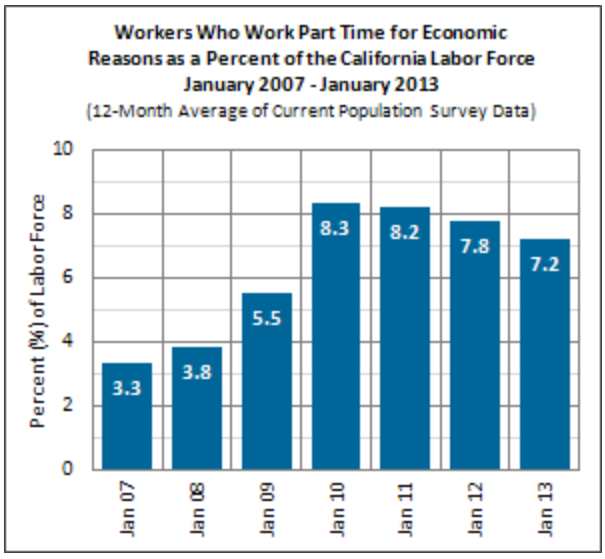
[3] California Budget Project. *Waiting for Recovery.* Policy Points, September 2012.

[4] California Employment Development Department

[5] Bohn, Sarah. California Economy: Planning for a Better Future (Public Policy Institute of California, 2012).



Source: California Employment Development Department



Source: California Employment Development Department

Of the 1.9 million (1,925,200) unemployed Californians in 2012, 49.2 percent (946,700) had been unemployed for 26 weeks and longer, and 20.1 percent (386,200) had been unemployed for 73 weeks and longer.

Though the duration of unemployment may be relatively short for many workers, the impact on income can be significant. According to California Employment Development Department's (EDD) Labor Market Information Division (LMID), each month in California, there are around one million involuntary job separations (2012 annual average number of monthly job losers was 1,098,300). Due to this labor market churn, California's workers are losing ground. When an individual loses a job, he or she often loses employer-based benefits; when the worker gets a new job, pay is often lower and health and pension/retirement benefits are often less generous or not available. According to a report by The Hamilton Project, "For workers with between ten to fifteen years in their previous jobs, average earnings losses amount to 15.0 percent. For workers that had more than 20 years of tenure, average earnings losses are more than 30.0 percent."[6]

New labor market. Even as California's economy regains steam, it is clear that the 21st Century labor market will be markedly different. Globalization has placed some California workers in direct competition with workers in developing nations. New technologies have eliminated some jobs but also have raised the skills of others. Increasingly, workers need postsecondary education and training to access well-paying jobs.

[6] The Hamilton Project. "Retraining Displaced Workers." October 2010. http://www.brookings.edu/~/media/research/files/papers/2010/10/renew%20communities%20greenstone%20looney/10_displaced_workers_lalonde.pdf.

The new labor market provides workers much less predictability and stability. Firms, and even whole industries, now come and go with greater frequency, changing the kinds of occupations and skills in demand in regional labor markets.[7]

Every year, roughly 30-40 percent of U.S. workers are hired into a new job or leave their old job, and the state has very few institutions or programs designed to deal with this level of job transition experience.[8] The fundamentals of the labor market have been transformed by volatility, due to the increased globalization and financialization of the economy, and greater economic uncertainty as the last three U.S. recessions have been "jobless recoveries." The last recession has made a high level of job turnover, or churn, a feature of the new labor market.

The workforce system should be flexible. The new labor market requires both employers and workers to be increasingly flexible. More workers are faced with transitioning to new jobs and even new industries, needing greater assistance than in the past in acquiring new skills and locating new employment. The WIA system has an important role to play and must design or reproduce practices that address increased flexibility. One such practice is the sector-based, multiple employer-sponsored apprenticeship model. This practice benefits employers who must be able to apply flexible hiring practices and sustain technological relevancy to remain globally competitive.

Looking forward. As California continues to recover from the Great Recession, the workforce system will need to address disparities in the recovery as well as the conditions of the new labor market. The strategic vision of the State Plan outlines how to better serve Californians who have barriers to employment and are most at-risk in the new labor market: low income, basic skills deficient program participants. The strategic vision seeks to build and maintain career pathways embedded in growing industry sectors with middle-skill occupations that provide a self-sufficiency wage. These growing industry sectors and middle-skill occupations are California's future economy.

California's Future Economy

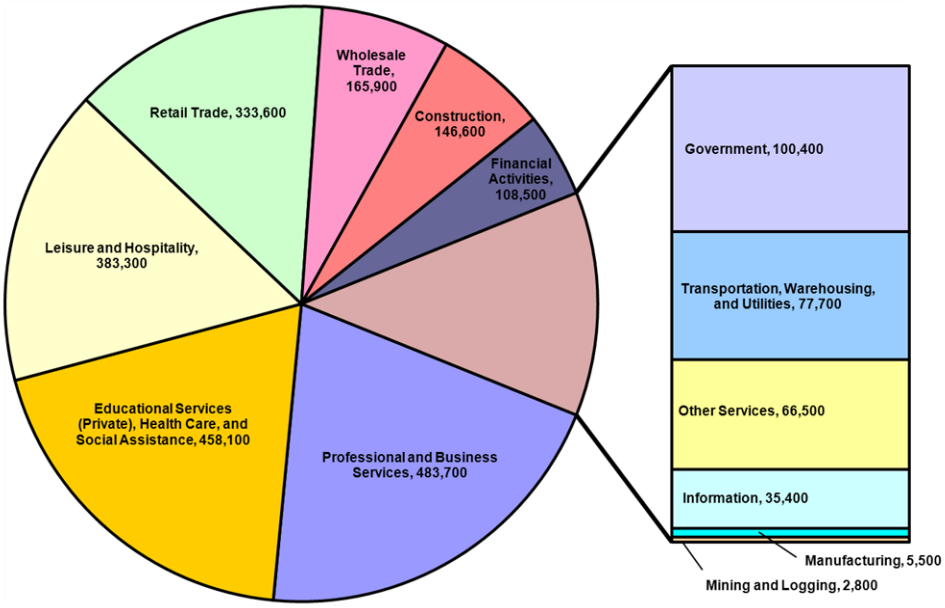
The EDD-LMID has developed projections of where the state economy is headed in this decade. These projections are consistent with the California economic forecast of the UCLA Anderson School and the Center for Continuing Study of the California Economy. Collectively these projections provide a good starting point for examining California's future workforce needs.

[7] Benner, Chris. "Opening the Black Box: Space, Time and the Geography of the Labor Process." September 2011. http://www.slideshare.net/ChrisBenner/opening-the-black-box-space-time-and-the-geography-of-the-labor-process.
[8] See Benner, September 2011.

California industry and occupational employment forecast, 2010-2020. Total industry employment in California, which includes self-employment, unpaid family workers, private household workers, farm employment, and non-farm wage and salary employment, is expected to reach 18,511,200 by 2020, an increase of 16.3 percent over the 10-year projections period. Figure 7 on the next page shows all non-farm industry sectors are projected to grow between 2010 and 2020.

Figure 7

Projected Job Growth by Industry Sector, 2010-2020

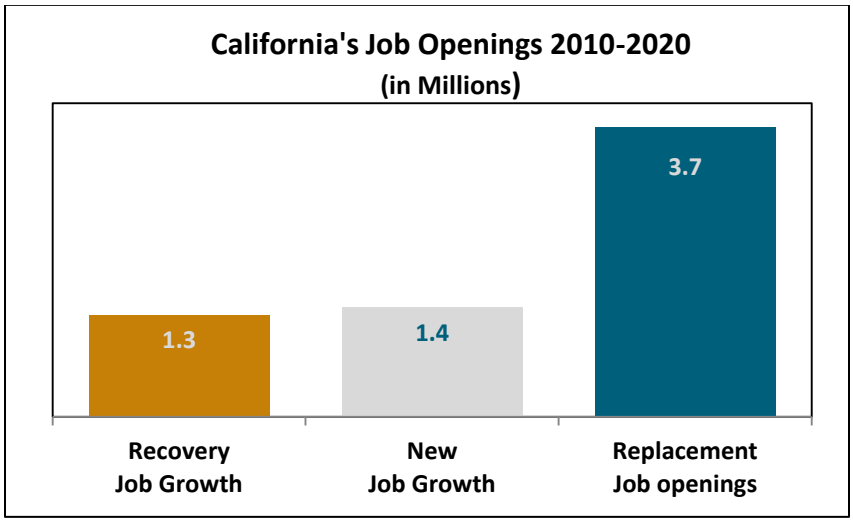


Source: California Employment Development Department

Over the 2010-2020 projections period, California is anticipated to generate:

- About 2.7 million new jobs from industry growth;
- More than 3.7 million jobs from replacement needs (including retirements), as shown in Figure 8; and
- A combined total of approximately 6.4 million job openings.

Figure 8



Source: California Employment Development Department

Sectors with competitive economic advantage. To address the challenges and opportunities previously mentioned, California must grow and strengthen industry sectors that are competitive in global markets. Distinguishing between economic base industries and population-serving industries is useful in analyzing competitive economic advantage and importance. Population-serving industries primarily serve local markets in the state and include industries such as retail trade, health care, food services, state and local government, construction, and finance. Population growth typically is the primary driver of job growth in these industries. In contrast, economic base industries typically serve external markets. As a result, firms in economic base industries have more flexibility in deciding where to locate their operations or production facilities. A state or region's ability to attract and retain these firms largely determines how fast a state will grow relative to other states in the nation. In turn, a dynamic economic base spurs income and employment growth in population-serving industries.

California's economic base is comprised of eight industries: professional, technical, scientific, and management services; diversified manufacturing; wholesale trade and transportation; tourism and entertainment; resource-based production activities; high technology manufacturing; basic information services; and government (federal only). Table 1 shows the employment levels of the eight economic base industries in 2012.

Table 1

Employment in California's Economic Base Industries, 2012
(Annual Average Data)

	Number of Jobs	Share of All Economic Base Industry Jobs (%)	Share of Total Employment (%)
Total Employment, All Industries	14,797,100	--	--
Population-Serving Industries	9,257,400		62.6%
Economic Base Industries	5,539,700	100.0%	37.4%
Economic Base Sectors:			
Professional, Technical, Scientific, and Management Services	1,684,100	30.4%	11.4%
Wholesale Trade and Transportation	1,064,500	19.2%	7.2%
Diversified Manufacturing	835,200	15.1%	5.6%
Tourism and Entertainment	601,000	10.8%	4.1%
Resource Based	463,400	8.4%	3.1%
High Tech Manufacturing	386,900	7.0%	2.6%
Basic Information Services	254,800	4.6%	1.7%
Federal Government	249,800	4.5%	1.7%

Source: California Employment Development Department

Employment in California's economic base industries totaled 5,539,700 jobs in 2012, making up 37.4 percent of the state's total employment. The professional, technical, scientific, and management services sector was the largest economic base sector with 1,684,100 jobs, followed by wholesale trade and transportation (1,064,500 jobs). These two sectors accounted for half (49.6 percent) of the jobs in California's economic base, and nearly one-fifth (18.6 percent) of overall employment. The diversified manufacturing sector and the tourism and entertainment sector (including motion pictures and sound recording) were the other sectors that individually comprised more than 10 percent of total jobs in California's economic base. Together, these sectors accounted for just over one-quarter (25.9 percent) of the jobs in the base. The remaining jobs in California's economic base were scattered in the resource-based, high technology (advanced) manufacturing, federal government, and basic information services sectors.

Emergent industry sectors.[9] California has traditionally been an incubator for emergent industries, particularly in the fields of high technology, information technology, science, and engineering. However, it is inherently difficult to identify and quantify employment in emergent industries. Not only are industry classifications delineated based on past experience, but there is typically a time lag before new establishments are counted and included in the establishment survey on which industry employment estimates are based. Table 2 shows the state's projections for 2010-2020 for California's 20 projected fastest growing industry subsectors by numeric and percentage growth. The table distinguishes between economic base and population-serving subsectors.

Eight of California's fastest growing industry subsectors in projected percentage growth were economic base subsectors, as were five of the fastest growing subsectors in terms of numbers of jobs. These economic base subsectors signal areas in which California holds a competitive advantage: professional, technical, scientific, and management services (computer systems design and related services; management, scientific, and technical consulting services; specialized design services; employment services); basic information services (software publishers); international trade (wholesale trade industries); and tourism and entertainment (accommodation; amusement parks and arcades; spillover effects on full-service restaurants). Many of the fastest growing population-serving industries were in health care, demand for which be driven by aging baby boomers.

[9] California Employment Development Department. *California Labor Market and Economic Analysis 2012.* May 2, 2012.

Table 2

California Industries With the Largest Projected Job Gains from 2010 to 2020

Industry	Projected Gain in Number	Sector	Industry	Projected Gain in Percent (%)	Sector
Full-Service Restaurants	148,200	P	Community Care Facilities for the Elderly	61.1	P
Limited-Service Eating Places	143,300	P	Management, Scientific, and Technical Consulting Services	57.4	B
Employment Services	117,500	B	Specialty (except Psychiatric and Substance Abuse) Hospitals	52.4	P
Management, Scientific, and Technical Consulting Services	92,600	B	Wholesale Electronic Markets and Agents and Brokers	51.6	B
Computer Systems Design and Related Services	74,300	B	Electronic Shopping and Mail-Order Houses	51.5	P
Grocery Stores	69,100	P	Individual and Family Services	49.9	P
Other Local Government	62,000	P	Home Health Care Services	44.7	P
Offices of Physicians	55,100	P	Other General Merchandise Stores	40.2	P
Individual and Family Services	53,700	P	Outpatient Care Centers	39.8	P
Wholesale Electronic Markets and Agents and Brokers	46,900	B	Activities Related to Credit Intermediation	37.3	P
Local Government Education	45,800	P	Computer Systems Design and Related Services	37.0	B
General Medical and Surgical Hospitals	45,200	P	Amusement Parks and Arcades	37.0	B
Other General Merchandise Stores	44,100	P	Specialized Design Services	36.1	B
Colleges, Universities, and Professional Schools (Private)	43,900	P	Employment Services	35.1	B
Accommodation	43,500	B	Colleges, Universities, and Professional Schools (Private)	34.2	P
Community Care Facilities for the Elderly	42,200	P	Home Furnishings Stores	34.0	P
Services to Buildings and Dwellings	40,300	P	Nondepository Credit Intermediation	33.3	P
Department Stores	39,600	P	Medical and Diagnostic Laboratories	33.2	P
Outpatient Care Centers	38,700	P	Software Publishers	32.9	B
Clothing Stores	38,100	P	Miscellaneous Nondurable Goods Merchant Wholesalers	32.0	B

Source: California Employment Development Department

Growing occupations. During the 2010-2020 projections period, the top 50 fastest-growing occupations are expected to grow at a rate of 25.4 percent or more, as compared to the overall 16.3 percent growth rate projected for all occupations in the state. These fastest growing occupations are expected to generate more than 700,000 new jobs by 2020, accounting for more than a quarter of all new jobs in California (see Appendix C - Attachment A). Many of these occupations will require some postsecondary education as well as industry-valued credentials and on-the-job training.

Replacement needs. As mentioned previously, California will need to fill 6.4 million job openings or 640,000 per year over the ten years from 2010 to 2020 according to state projections. More than half (3.7 million) are replacement job openings, many of which are the

result of baby boomer retirements. As Table 3 below shows, these jobs are across all major occupational groups.

Table 3

California Occupational Employment Projections 2010-2020 by Occupational Group					
Occupational Group Title	Average Annual Job Openings			2012 First Quarter Wages	
	New Jobs	Replacement Needs	Total Jobs	Median Hourly	Median Annual
Total, All Occupations	265,210	373,980	639,190	$18.76	$39,035
Management	11,950	23,120	35,070	$52.34	$108,870
Business and Financial Operations	16,260	16,730	32,990	$33.09	$68,837
Computer and Mathematical	10,790	8,190	18,980	$42.77	$88,960
Architecture and Engineering	4,180	7,050	11,230	$42.31	$88,008
Life, Physical, and Social Science	3,870	5,030	8,900	$33.88	$70,470
Community and Social Service	4,400	5,010	9,410	$22.81	$47,446
Legal	1,520	2,420	3,940	$49.31	$102,580
Education, Training, and Library	10,600	21,020	31,620	$25.91	$53,909
Arts, Design, Entertainment, Sports, and Media	5,550	10,810	16,360	$26.81	$55,770
Healthcare Practitioners and Technical	15,750	14,920	30,670	$37.47	$77,945
Healthcare Support	9,540	5,800	15,340	$13.98	$29,066
Protective Service	3,890	9,180	13,070	$22.63	$47,055
Food Preparation and Serving Related	32,360	44,900	77,260	$9.35	$19,451
Building and Grounds Cleaning/Maintenance	9,140	10,090	19,230	$11.70	$24,350
Personal Care and Service	20,280	14,440	34,720	$10.96	$22,808
Sales and Related	30,210	48,280	78,490	$13.54	$28,164
Office and Administrative Support	33,040	53,470	86,510	$17.27	$35,914
Farming, Fishing, and Forestry	540	9,440	9,980	$9.04	$18,816
Construction and Extraction	11,410	12,680	24,090	$24.28	$50,489
Installation, Maintenance, and Repair	7,580	11,240	18,820	$22.07	$45,887
Production	6,250	16,150	22,400	$14.12	$29,378
Transportation and Material Moving	16,110	24,030	40,140	$14.20	$29,524

Source: California Employment Development Department

For some occupations in computer and health care related fields, the number of new jobs meets or exceeds the number of replacement jobs. But the important takeaway for workforce policy is that for most occupations, the majority of job openings come from replacing workers who leave their jobs. This is especially true for jobs in administrative support, production, installation and repair, and transportation and materials moving.

Skills gap analysis. Despite the number of low-skill jobs represented in the industry and occupation projection tables above, roughly half (49.0 percent) of the jobs in California's labor market prior to the Great Recession were middle-skill jobs – that is, jobs that require some postsecondary education but not a college degree. There is some evidence that middle-skill jobs suffered disproportionately during the downturn; nonetheless, they will remain a significant share of the labor force and provide opportunities for family-supporting employment for large numbers of California workers. These middle-skill occupations include high-demand occupations, such as registered nurses, general and operations managers, construction managers, licensed practical and licensed vocational nurses, firefighters, and computer support specialists. Other high-wage, high-demand middle-skill occupations include dental hygienists, radiology technicians, respiratory therapists, aircraft mechanics, civil engineering technicians, claims adjusters, and paralegals. In California's infrastructure sector, about 42.0 percent of jobs from 2006-2016 were expected to be at the middle-skill level with an average wage nearly 15.0 percent higher than the state's median wage.[10]

If current trends persist, by 2025 California will face a shortage of college-educated labor; only 35.0 percent of working-age adults are projected to have at least a bachelor's degree, while 41.0 percent of jobs will require that level of education or higher.[11] Skills shortages may be particularly acute in the important science, technology, engineering, and math (STEM) fields. One study projects that over 44.0 percent of all STEM jobs will be in occupations with expected shortages.[12] While there may be a looming shortage of college educated STEM workers, many of the replacement needs discussed above are for middle-skill occupations where the typical skill needs require some postsecondary education with industry-valued credentials and contextual learning.

Employer demand for middle-skill workers. An analysis of online job ads show employers advertising for many of the high-demand, middle-skills occupations mentioned above. Online job postings are an indicator of current demand for employees in specific occupations. When assessing training investments, there is value in considering current demand as well as short- and long-term forecasts. Online job postings were extracted from The Conference Board Help Wanted OnLine™ (HWOL) data series, which compiles, analyzes, and categorizes job listings from many online job boards. The number of job listings posted in this dynamic data system

[10] The Workforce Alliance. *California's Forgotten Middle-Skill Jobs.* 2009. http://www.nationalskillscoalition.org/assets/reports-/skills2compete_forgottenjobs_ca_2009-10.pdf.
[11] Public Policy Institute of California. *Planning for a Better Future: California Workforce.* 2012. http://www.ppic.org/content/pubs/report/R_212HJ2R.pdf.
[12] Offstein, Jeffrey and Nancy Shulock, *Technical Difficulties: Meeting California's Workforce Needs in Science, Technology, Engineering, and Math (STEM) Fields.* Sacramento State Institute for Higher Education Leadership & Policy, 2009. http://www.csus.edu/ihelp/PDFs/R_STEM_06-09.pdf.

change on a daily basis; however, a large share of the job ads are consistently related to high-demand, middle-skills occupations found within the projected growth industries. These data serve as one indicator of employer demand, with the understanding that many job openings are not advertised or are circulated off-line to a limited audience.

Certain broad skills are commonly required. Despite the range of occupations and training levels listed in Appendix C – Attachment 2, certain broad skills are commonly required. Many Californians who have not completed high school or received a general education diploma (GED) may lack some of the basic skills. Adult education programs as well as basic skills training through California's community colleges help build employable skills so individuals will have the foundation to continue with sector-based community college or career-technical education (CTE) training programs to earn industry-valued credentials and enter career pathways.

As defined by the Occupational Information Network (O*NET), the top shared in-demand skills that are commonly required in these job listings are listed below:

- ***Reading comprehension***
- ***Critical thinking***
- ***Speaking***
- ***Active listening***
- ***Monitoring***

Skilled trades unemployment and skills gaps. Even though California's economy has made considerable progress since the Great Recession, there is still a relatively large pool of unemployed workers in the skilled trades. The 2010 American Community Survey (ACS) was used to identify occupations in industries experiencing high unemployment rates. The occupations experiencing the highest level of unemployed individuals were then analyzed for skill requirements. Based on this analysis, there are a disproportionate number of skilled trades workers who were affected, and continue to be affected, by the Great Recession. Occupations include carpenters; construction laborers; electricians; sales route drivers; hand packers; material movers (hand); assemblers; and inspectors, testers, and sorters.

Many of these dislocated workers have the foundational skills required for the high-demand, middle-skill occupations identified above and listed in Appendix C – Attachment 2. Many could benefit from WIA-funded sector-based training and education, such as the "Earn and Learn"

model of context-based training[13] (typically referred to as the apprenticeship model), that helps workers align transferable skills to business needs in growing industry sectors.

Strategic industry sectors with middle-skill occupational demand. California's future economy will be built on investment in training and education to prepare a globally competitive, highly-skilled workforce. In an effort to serve WIA target populations facing barriers to employment, address near-term and long-term employer skills needs, and work through demographic, technological, and legislative change, the State Board will focus on workforce and economic development in three statewide industry sectors: health care and social assistance, advanced manufacturing, and clean energy.

Many occupations concentrated within these three industry sectors are expected to grow and will have replacement needs as workers retire; these occupations will require workers to have some postsecondary education, industry-valued credentials, and on-the-job contextual training.

The statewide industry sectors of focus may be emergent or already established at the regional level. To identify and prioritize industry sectors and middle-skill occupations that are growing or have replacement needs, Local Boards should utilize actionable labor market data; partner with employers and other regional partners to identify near-future and long-term skills needs and develop skills gap analyses to address those training needs; and ensure WIA program participants enter career pathways that lead to employment with a self-sufficiency wage.

The following strategic statewide industry sectors will vary by geographic region because of the mix of local businesses; the nature and talents of the local workforce; the training needs of WIA target populations; and level of interaction between workforce and economic development networks, sector partnerships, and the state.

Health care and social assistance. Health care is the ultimate "population-serving" industry, reflecting the demands of a growing and aging population. Trained professionals with varying levels of education provide the services within this industry. A recent report from the State Board's Health Workforce Development Council (HWDC) stated, "There is an urgent and important need for California to expand its health workforce capacity to achieve the goals of health care reform (Affordable Care Act) and meet the health needs of its growing, increasingly

[13] Corporate Voices for Working Families. *A Talent Development Solution: Exploring Business Drivers and Returns In Learn and Earn Partnerships.* September 2012. http://corporatevoices.org/system/files/LearnEarn_Report2_web.pdf.

diverse and aging population."[14] There are not enough highly-skilled workers to meet the near-term future and, subsequently, long-term demand.

Middle-skill occupations in the health care and social assistance industry sector will provide high wages and career pathway mobility for WIA program participants. Some occupations with expected demand that may experience long-term shortages are: clinical laboratory scientists, dental hygienists, licensed vocational nurses, primary care physicians, physician assistants, imaging technologists, public health and social workers, and radiologic technicians. [15] A sample of middle-skill occupations experiencing growth and expected replacement needs are listed in Table 4.

Table 4

Middle-Skill Occupations in Health Care and Social Assistance							
Occupational Title	**Average Annual Employment**		**Net Change**		**Total Job Openings**	**Median Annual Earnings**	**Entry-level Education & Training**
	2010	**2020**	**Number**	**Percent**			
Dental Hygienists	19,900	23,300	3,400	17.1	7,500	$96,317	Associate's degree
Licensed Practical and Licensed Vocational Nurses	64,500	79,000	14,500	22.5	31,700	$51,760	Postsecondary non-degree award
Medical and Clinical Laboratory Technicians	16,900	19,400	2,500	14.8	5,800	$40,799	Associate's degree
Radiologic Technologists and Technicians	17,200	21,300	4,100	23.8	6,800	$69,409	Associate's degree
Respiratory Therapists	14,200	17,900	3,700	26.1	6,300	$70,318	Associate's degree

Source: California Employment Development Department

Advanced manufacturing. Manufacturing as a sector has been on the decline for decades, but high-technology manufacturing, as noted above, is expected to emerge as an industry that will provide high-wage jobs in California. However, high-technology manufacturing is only one sub-industry of what is termed "advanced manufacturing" because it is most emblematic of the type of innovation, flexibility, and specialization found in manufacturing processes and distribution logistics.

[14] Office of Statewide Health Planning and Development/California Workforce Investment Board Health Workforce Development Council. *Career Pathway Sub-Committee Final Report September 2011.* December 7, 2011. http://www.StateBoard.ca.gov/res/docs/special_committees/hwdc/other_events/Careerpercent20Pathwaypercent20SubCmtepercent20ReportFinal120711.pdf.

[15] EDD *California Labor Market and Economic Analysis 2012.* May 2, 2012.

The Brookings Institute reported that regional supply chains structured around specialized industry clusters within densely populated metropolitan areas, with a highly skilled workforce, create conditions for high-technology manufacturing job growth.[16] The report recommends local and state governments implement policies that are fashioned around greater investment in the workforce system to produce highly skilled workers. By investing in the type of policies the report recommends, California can position itself for greater growth in the high-technology subsector.

California is already positioned to address innovation in the advanced manufacturing industry sector. Emergent networks and partnerships are helping to drive advanced manufacturing. The Bay Area Manufacturing Renaissance Council (BAMRC) is leveraging resources and working closely with area businesses to help prepare the foundation for sustained growth in high and moderate technology manufacturing.[17]

Advanced manufacturing wages in California are some of the highest in the nation. The average annual wages of six of California's metropolitan statistical areas (MSAs) are in the top tier nationally.[18] The six MSAs are: Bay Area (Oakland/San Francisco), San Jose, Los Angeles, Oxnard, San Diego, and Sacramento.

Higher wages are a result of increased demand for highly skilled workers. A recent LMID report[19] analyzes online job postings and details regional composition and employer demand for highly skilled workers within the manufacturing sector. Approximately one in four of the job listings posted in California during the sample period were occupations common to manufacturing. Engineering and production occupations are faring the best for full-time job openings. While production jobs continue to be concentrated in the southern regions of the state, there is strong demand for engineering jobs in the Bay Area. Job listings for industrial production managers and first-line supervisors of production workers are currently requiring more experience and higher levels of postsecondary education than what is typically required at the national level.

Middle-skill occupations in the advanced manufacturing industry sector will provide high wages and career pathway mobility for WIA program participants, as discussed in the State Plan's

[16] The Brookings Institute. *Locating American Manufacturing: Trends in the Geography of Production.* May 2012. http://www.brookings.edu/research/reports/2012/05/09-locating-american-manufacturing-wial.

[17] BAMRC works to: (1) develop both secondary and post-secondary educational pathways in the East Bay region to meet the demand for a skilled manufacturing workforce; and, (2) develop the knowledge and capacity to improve manufacturing in other California regions and nationally. http://bamrc.wordpress.com/about.

[18] The Brookings Institute. *Locating American Manufacturing: Trends in the Geography of Production.* May 2012.

[19] California Employment Development Department's Labor Market Information Division. *California Manufacturing Jobs in Demand.* July 2012. http://www.calmis.ca.gov/specialreports/CaliforniaManufacturingReport.pdf.

introductory chapter. Some of the middle-skill occupations experiencing growth and have expected replacement needs are listed in Table 5.

Table 5

Middle-Skill Occupations in Advanced Manufacturing							
Occupational Title	**Average Annual Employment**		**Net Change**		**Total Job Openings**	**Median Annual Earnings**	**Entry-level Education & Training**
	2010	**2020**	**Number**	**Percent**			
Electrical and Electronics Engineering Technicians	20,400	22,100	1,700	8.3	5,700	$61,504	Associate's degree
Machinists	30,500	34,500	4,000	13.1	9,500	$40,242	Long-term on-the-job training
Welders, Cutters, Solderers, and Brazers	21,700	24,100	2,400	11.1	8,200	$37,621	Moderate-term on-the-job training with less than 1 year related experience
Production, Planning, and Expediting Clerks	38,600	42,300	3,700	9.6	13,900	$48,503	Moderate-term on-the-job training
Wholesale and Manufacturing Sales Representatives	129,400	158,200	28,800	22.3	59,200	$57,267	Moderate-term on-the-job training

Source: California Employment Development Department

Clean energy. California's ambitious carbon reduction goals and energy policies are expected to result in new and substantially changed occupations in energy efficiency, renewable energy, and clean transportation (alternative fuel vehicles and transit). According to the UC Berkeley Labor Center, two-thirds of the expected jobs that are directly related to energy efficiency work are in the traditional construction trades, and one-sixth are in professional jobs such as architects and engineers, with a much smaller number in new specialized "green jobs." [20] To support the growth of innovative and competitive energy, transportation, and building and construction industries, California must "green" existing training programs for traditional occupations by incorporating new skills and knowledge into curricula.

"Green" skills are increasingly needed to gain employment in many middle-skill occupations. WIA program participants will need training opportunities to acquire these skills to enter career

[20] Bureau of Labor Statistics has developed this definition of green jobs for use in data collection in two planned surveys.
Green jobs are either:
1) Jobs in businesses that produce goods or provide services that benefit the environment or conserve natural resources.
2) Jobs in which workers' duties involve making their establishment's production processes more environmentally friendly or use fewer natural resources.

pathways toward a high-wage, middle-skill occupation. Some middle-skill occupations within this industry sector that provide high wages, are expected to grow and have expected replacement needs are listed in Table 6.

Table 6

Middle-Skill Occupations in Clean Energy							
Occupational Title	**Average Annual Employment**		**Net Change**		**Total Job Openings**	**Median Annual Earnings**	**Entry-level Education & Training**
	2010	**2020**	**Number**	**Percent**			
Automotive Service Technicians and Mechanics	67,000	80,400	13,400	20.0	30,700	$40,392	Long-term on-the-job training
Carpenters	94,600	110,400	15,800	16.7	35,900	$54,685	Apprenticeship
Construction and Building Inspectors	9,700	11,500	1,800	18.6	4,700	$72,234	Moderate-term on-the-job training with more than 5 years of related experience
Electricians	47,200	54,600	7,400	15.7	20,100	$60,216	Apprenticeship
Heating and Air Conditioning Mechanics and Installers	20,700	26,300	5,600	27.1	9,200	$51,356	Postsecondary non-degree award with long-term on-the-job training

Source: California Employment Development Department

Regional economies and workforce diversity. It is not mandatory for Local Boards to focus solely on the statewide industry sectors identified by the State Board. The State Board recognizes the diversity of WIA program participants and local economies within California's economic regions and will help guide, leverage resources, and support the work of regional workforce and economic development networks and industry sector partnerships established at the local level.

California's Workforce

Largest workforce in the nation. As the most populous state in the nation, California has the nation's largest labor force and working-age population. In 2011, the working-age population (civilian, non-institutional, persons age 16 years and over) was 28.6 million, of which 18.4 million were in the labor force – 16.2 million employed and 2.2 million unemployed.

Ethnically and racially diverse. California also enjoys one of the nation's most diverse labor forces. Over one-third (35.9 percent) of our labor force is Hispanic and 13.0 percent is Asian; 5.8 percent of the labor force is African-American.

In 2010, more than one-quarter of Californians aged five years and older lived in a household where Spanish was the predominant language spoken at home, compared to 12.5 percent of households nationally. Almost half of these reported that they spoke English less than "very well" (See Table 7 below).

Table 7

English Proficiency by Language Spoken at Home		
Language Spoken	**Percent of Population (%)**	**Speak English less than "very well" (%)**
English	57.0	--
Spanish	28.5	47.6
Indo-European languages	4.3	32.6
Asian and Pacific Island languages	9.4	49.3

Source: U.S. Census Bureau, American Community Survey (ACS) 2010

That same year, 17.8 percent of California residents had been born in another state and 27.2 percent had been born abroad.[21]

Table 8

Demographics of California Labor Force Working-age Population, 2011 (Age 16 and Over, Annual Average)				
Demographic	**Population aged 16 and over**	**Population Share (%)**	**Labor Force**	**Labor Force Share (%)**
Ethnicity				
Non-Hispanic	18,733,000	65.5	11,636,000	64.1
Hispanic	9,871,000	34.5	6,511,000	35.9
Total	28,604,000	100	18,147,000	100
Race				
White	22,014,000	77.0	14,038,000	77.4
Asian	3,717,000	13.0	2,369,000	13.0
Black	1,811,000	6.3	1,061,000	5.8
All Others	1,063,000	3.7	636,000	3.5
Total	28,604,000	100	18,147,000	100
Age				
16-19	2,138,000	7.5	564,000	3.1

[21] U.S. Census Bureau, American Community Survey (ACS) 2010

20-24	2,791,000	9.8	1,909,000	10.5
25-34	5,284,000	18.5	4,205,000	23.2
35-44	4,919,000	17.2	3,956,000	21.8
45-54	5,109,000	17.9	4,093,000	22.6
55-64	4,053,000	14.2	2,663,000	14.7
65 and older	4,311,000	15.1	755,000	4.2
Total	28,604,000	100	18,147,000	100

Source: U.S. Bureau of Labor Statistics (BLS), Current Population Survey (CPS)

Younger than average labor force but fewer young people in the labor market. On average, California's workers are slightly younger than that of the nation. 58.6 percent of California's labor force was less than 45 years old in 2011, compared to 56.8 percent of the nation's labor force. At the same time, the labor force participation rates of young Californian's have declined. Since 2000, labor force participation by those ages 16-19 declined by 19.3 percentage points and participation by those ages 20-24 declined by 7.8 percentage points, while the overall participation rates declined by only 3.7 percent (See Table 8 above).

A baby boomer population reaching retirement age. Despite its relative youthfulness, almost one-fifth (18.9 percent) of California's labor force is 55 years of age or older. In contrast to young workers, the labor force participation rates of older workers increased since 2000, by 5.2 percentage points for those ages 55-64 and 5.0 percentage points for those 65 and older.[22]

Rapidly growing labor force. Rapid growth of the labor force is a major reason California's unemployment rate exceeds that of the nation, even in good times. California's population increase varies dramatically by region. For example, the working-age population is projected to grow more than 25 percent between 2010 and 2025 in much of inland California compared to 13.0 percent in the state as a whole.[23]

The role of in-migration. Between 2001 and 2010, more people left California for other states than moved into California, and the number of people moving to California from other countries remained relatively stable. During this same period, the natural net increase in population (births over deaths) was about 300,000 a year. The largest losses to domestic migration were in the coastal, highly urban counties where high housing costs are pushing workers to live elsewhere.

California's regional variation. Given its size and diversity, California is not one economy but many.[24] For example, in 2010, the health care and social assistance sector ranged from 15.5

[22] California Employment Development Department. *Labor Market and Economic Analysis 2012.*

[23] Bohn, Sarah. *California Economy: Planning for a Better Future* (Public Policy Institute of California, 2012).

[24] Please note: The grouping of industry sectors and year of the data used in this section on regions differs from the statewide data and therefore should not be compared.

percent of all employment in Butte County to 7.0 percent in Monterey County. Manufacturing as a share of employment throughout the state by county ranged from 14.1 percent to 1.5 percent; construction ranged from 10.3 percent to 2.7; professional and technical services ranged from 15.8 to 2.5.[25]

Comparing three of California's MSAs highlights the differences even more clearly. In the San Francisco-Oakland-Fremont MSA, in 2010 the top five industries in terms of total employment were professional and technical services (12.9 percent), health care and social assistance (9.6 percent), retail trade (8.7 percent), accomodation and food services (7.3 percent), and local government (7.1 percent). In the Los Angeles-Long Beach-Santa Ana MSA, most workers were employed in health care and social assistance (9.5 percent), retail trade (9.2 percent), professional and technical services (8.5 percent), manufacturing (7.8 percent) and local government (7.8 percent). Predictably, in the more rural Fresno MSA, forestry, fishing and related activities (7.0 percent) were much more central than in the urban areas.

These significant differences in the economic structure of the regions translate into real variation in regional economic health. 2006-2010 ACS county-level data show household income inequality in California varies by region. The state's largest metropolitan areas, like most other heavily populated areas in the nation, have higher levels of income inequality than rural areas.[26]

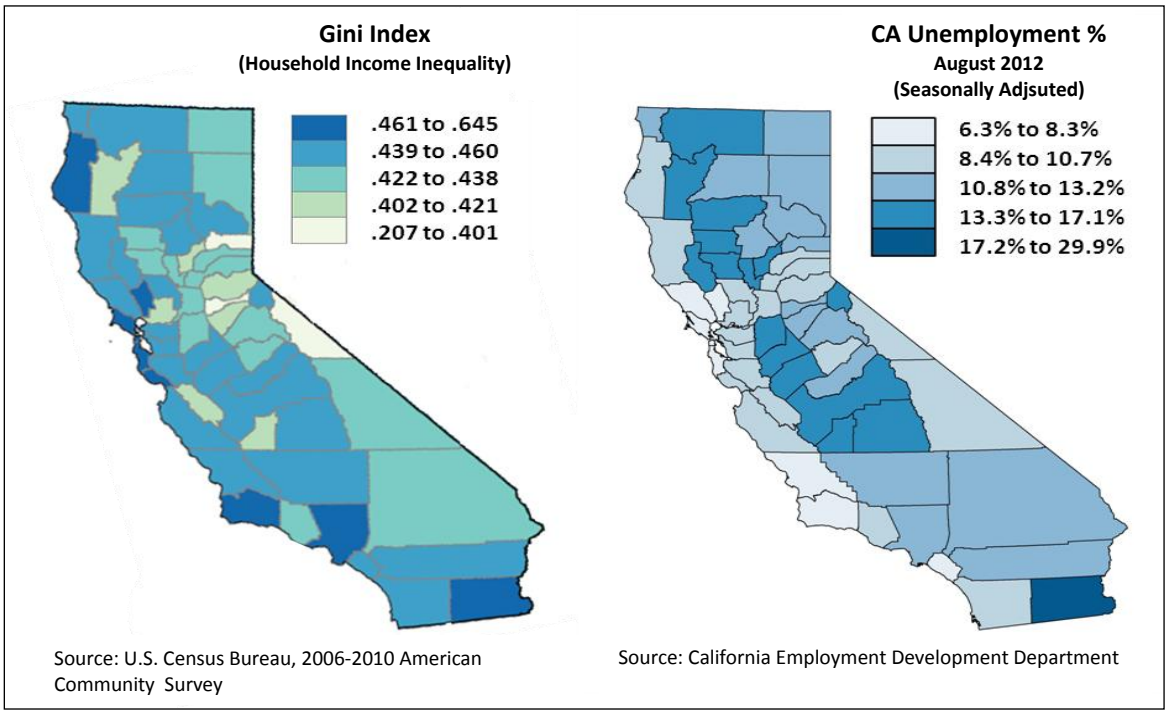
Measures that simply show income inequality however, may be misleading. Some areas with moderate levels of income equality have disproportionately high levels of unemployment (See Figure 9). For example, the August 2012 unemployment rate in Fresno was 14.0 percent and 14.5 percent in Modesto, two metropolitan areas that are located in counties with moderate levels of income inequality, compared to 7.0 percent unemployment in the greater Bay Area, an area with a higher level of income inequality.[27] Income inequality is pervasive throughout the state, acutely affecting each region differently, and in some areas, the effects are devastating.

[25] In some cases, the lowest end of the range may be lower than presented here since data was suppressed or not show to avoid disclosure of confidential information. California Regional Economic Analysis Project, *Industry Structure and Performance: Employment Across Counties and Regions of a Selected Industry. D*ownloaded October 8, 2012.

[26] Bee, Adam. *Household Income Inequality Within U.S. Counties: 2006–2010*. ACS Survey Briefs February 2012. http://www.census.gov/prod/2012pubs/acsbr10-18.pdf.

[27] U.S. Bureau of Labor Statistics, *Economy at a Glance, July 2012,* (www.bls.gov/eag/eag.ca.htm).

Figure 9
California County-by-County Household Income Inequality[28] and Unemployment Rates



Source: U.S. Census Bureau, 2006-2010 American Community Survey

Source: California Employment Development Department

Disparities in income. Like much of the nation, California is experiencing a widening gap in the incomes of its residents. California has the seventh-widest gap between the rich and poor among all the states. Wage gaps have widened less in the U.S. overall, largely because low-wage workers fared better nationally than in California. Between 1979 and 2010, the inflation-adjusted hourly earnings of low-wage U.S. workers rose by 2.3 percent, while earnings of low-waged California workers declined by 9.0 percent. Reasons for the growing wage gap include a declining demand for lower-skilled workers, implementation of new technologies, and increased international trade.[29]

To bolster the middle class and provide career opportunities for disadvantaged Californians, as well as promote sustainable economic growth for businesses, California needs to tackle the growing problem of income inequality. There continues to be a wealth of research that examines the linkages between income inequality and poor economic growth. Some authors have even suggested that income inequality was a root cause of the last recession.[30] If income inequality persists, Californians may see opportunities for high-wage jobs diminished by

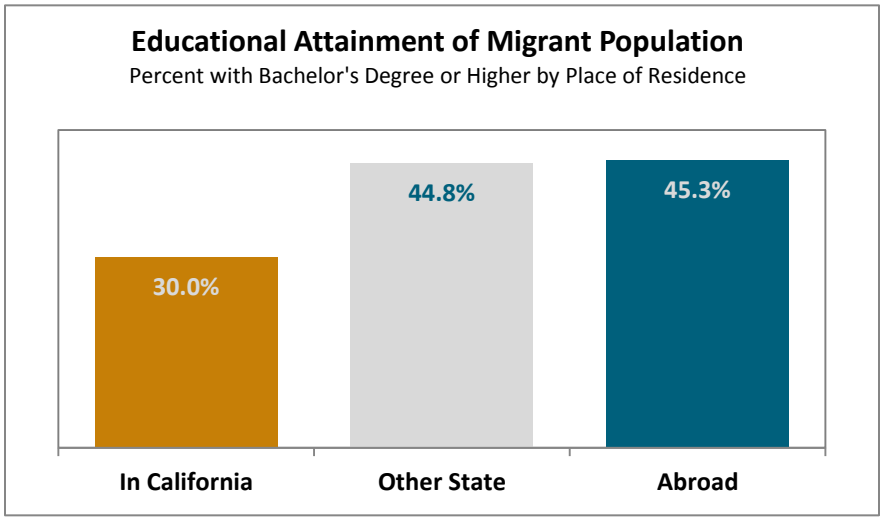
[28] Gini index: summary measure of income inequality. The Gini index varies between zero and one. A value of one indicates perfect inequality where only one household has any income. A value of zero indicates perfect equality, where all households have equal income.
[29] California Budget Project. *A Generation of Widening Inequality*. November 2011.
[30] Rajan, Raghuram. "How Inequality Fueled the Crisis." Project Syndicate. July 9, 2010. http://www.project-syndicate.org/commentary/how-inequality-fueled-the-crisis.

sluggish economic growth. Among economists there is a consensus: investments in education and training have the ability to lower income inequality by creating a globally competitive workforce that helps generate long-term economic growth.[31]

Disparities in educational attainment. The share of California workers with a bachelor's degree or higher is slightly above the national average (32.8 percent compared to 32.0 percent) but significantly lower than the leading states; and, at the same time, a much higher share of the state's labor force had not received a high school diploma or GED in 2011 than in the nation as a whole (14.8 percent compared to 10.3 percent). In addition, younger workers have lower educational levels than baby boomers, largely because they come from communities and population groups traditionally underserved by postsecondary education.

Despite popular perception, new migrants to the state are better educated than those who already call California home. This is particularly true of those who migrate here from abroad. In 2010, on average 45.3 percent of incoming foreign immigrants to California had a bachelor's degree or higher compared to 30 percent of Californians (See Figure 10).

Figure 10



Source: U.S. Census Bureau, American Community Survey 2010

The value of a postsecondary education has increased considerably over the past three decades. Workers with more education enjoyed high incomes and lower rates of unemployment. Between 1979 and 2010, the inflation-adjusted hourly wage of the typical California worker with at least a four-year degree increased by 19.9 percent. In contrast, the

[31] Berg, Andrew G. and Jonathan D. Ostry. Inequality and Unsustainable Growth: Two Sides of the Same Coin? International Monetary Fund. April 8, 2011. http://www.imf.org/external/pubs/ft/sdn/2011/sdn1108.pdf.

hourly earnings of the typical worker with only a high school diploma declined by 11.4 percent, and the wages of a worker without a high school diploma dropped by 26.5 percent.[32] Similarly, in 2011, the unemployment rate for workers without a high school diploma was 15.5 percent compared to 12.5 percent for those who had graduated high school and 5.8 percent for those with a bachelor's degree or higher.

The real danger of a decline in the number of workers with college educations also is a concern for the competitiveness of California business, which will increasingly rely on young people from the underserved Latino and African-American communities to power their enterprises. Disconnected youth from all ethnic and racial categories disproportionately lack basic skills required for employment. However, it is more detrimental for some groups. For instance, "one in ten Latino and one in six African-American males between 16 and 25 years of age were 'disconnected' (incarcerated, out of work or out of school)."[33] Making sure disconnected youth are successfully served with WIA program resources lowers the level of remediation and helps put disconnected youth on an early career pathway.

All young Californians, not just disconnected youth, face many barriers to postsecondary education, such as dwindling public resources and rising student debt. Despite this, California's youth are choosing to stay in school longer.[34] It is difficult to determine whether the causes for this trend are correlated to a lack of jobs or to a greater need for employable skills. Regardless, the benefit of at least one-year of postsecondary education increases employment outcomes and provides lifelong opportunities for self-sufficiency wage jobs.[35] In a global economy that requires occupations that emphasize STEM skills, California's youth must seek opportunities for continuous education and training throughout their lifetime to stay competitive.

Large numbers of Californians without the basic skills needed to enter quality education and training. Despite the clear advantages of postsecondary education, some Californians lack the basic English and math skills to enter high-quality education and training programs. Nearly one-third of California's ninth graders drop out before they graduate high school; more than 4.6 million Californians age 25 or older (19.8 percent) lack a high school diploma; and nearly one

[32] California Budget Project. *A Generation of Widening Inequality*. November 2011. http://www.cbp.org/pdfs/2011/111101_A_Generation_of_Widening_Inequality.pdf.

[33] California State Assembly Select Committee on Boys and Men of Color. *Final Staff Report and Draft Action Plan.* August 2012. http://www.policylink.org/atf/cf/%7b97c6d565-bb43-406d-a6d5-eca3bbf35af0%7d/FINAL%20STAFF%20REPORT%20&%20DRAFT%20ACTION%20PLAN.PDF.

[34] California Employment Development Department, Labor Market Information Division. "Economic Update: Could it Be?" Prepared for the LMID Advisory Group Meeting April 26, 2012. http://www.calmis.ca.gov/file/Advisory-Group/Handouts/Jan-12/EconomicUpdate.pdf; see Bohn2012.

[35] Washington State Board for Community and Technical Colleges. "Building Pathways to Success for Low-Skill Adult Students: Lessons for Community College Policy and Practice from a Longitudinal Student Tracking Study (The "Tipping Point" Research)." April 2005. http://www.sbctc.ctc.edu/docs/data/research_reports/resh_06-2_tipping_point.pdf.

out of every four California adults age 16 or older cannot read an English-language newspaper. California ranks 48th out of 50 states in the share of adults ages 18 to 64 without a high school diploma or GED. Estimates place the share of students entering the California Community College system who lack college-level math or literacy skills at more than 80.0 percent.[36]

Shared prosperity. Putting all WIA-eligible Californians, particularly those who are low income and basic skills deficient, as well as disconnected youth, on a career pathway toward skill development through education and training will not only enable better economic opportunities for program participants, but provide a highly skilled and educated workforce to drive California's economic development in years to come.

Summary and Implications

As this brief overview suggests, California has outsized advantages. The state's workforce is large, diverse, and relatively young. Size and diversity are also critical strengths of California's economy and help fuel the state's well-deserved reputation for innovation. But the challenges we face are also significant. Our population is eager to work but many lack the skills employers need, particularly in key economic sectors. This includes both young people just entering the workforce as well as workers whose skills have been made obsolete by technological or other changes in the economy of a region. The growing economic volatility also means that workers need support transitioning to new occupations and new sectors in response to economic transformation.

California's workforce development system must be re-tooled to conform to the demands of this new environment. Workforce and economic institutions and programs must align their efforts into regional networks that are both responsive to the economic imperatives of leading industries and effective in addressing the barriers of the still very large number of our residents who do not have the skills these industries need to succeed. These regional networks also must be as innovative as our industries, implementing and bringing to scale some of the exciting practices already underway in California. These include:

- *Supporting the growth of key industries*. The BAMRC is an important model. This network of Bay Area stakeholders is leveraging resources and working closely with area businesses to help prepare the foundation for sustained growth in high and moderate technology manufacturing.

[36] California Budget Project. *Gateway to a Better Future: Creating a Basic Skills System for California.* May 2011. http://www.cbp.org/pdfs/2011/110506_Basic_Skills_Gateway.pdf.

- *Addressing critical skill shortages.* The State Board's HWDC provides an approach to identifying and addressing skill shortages in key occupations that will be replicated in its other industry specific councils. A core component of the HWDC's work was the development of career pathways for ten priority health professions. Career pathway development is critical to addressing impending workforce supply challenges. The HWDC includes key public and private stakeholders representing multiple health professions, health employers, government agencies, K-12, higher education and advocates. The HWDC is a model for the State Board's other sector-based committees: the Green Collar Jobs Council and the Advanced Manufacturing Committee.

- *Preventing layoffs by enhancing workers' skills.* Partnerships among CSU, local school districts, and Local Boards aimed at layoff aversion for California teachers are redirecting some educators toward STEM teaching where there is growing demand. Additionally, investments in incumbent worker training through the Employment Training Panel and Local Boards are helping firms adapt to new technologies and changing market demands.

- *Facilitating the transition to new careers.* Sector partnerships like Pacific Gas and Electric's "Power Pathway" initiative allows Local Boards and community colleges to target training investments to address skills gaps in demand occupations and retrain dislocated workers and returning veterans for new careers.

- *Building career pathways for everyone.* In many regions of the state, high schools, community colleges, adult schools, and Local Boards are coming together with business, labor, and community organizations to develop interconnected sector-focused education and training programs, ideally from high school into postsecondary institutions that allow individuals to move up the education and career ladder over time.

- *Implementing contextual learning and "Earn and Learn" models.* High schools and community colleges are making student learning more relevant to regional industries and improving student success by teaching basic English, math, and other skills in the real-life context of an industry or occupation. Credentialed "Earn and Learn" models, such as apprenticeships, take this one step farther, allowing workers to learn much of their new skills on the job. California is a leader in apprenticeship programs. In 2010, 60,060 apprentices were registered in over 580 programs. Of the participants, 67.3 percent of California's apprentices are minorities and 6.6 percent are women. [37]

[37] State of California Department of Industrial Relations Division of Apprenticeship Standards. *2010 Legislative Report: Apprenticeship Puts Things Into Perspective*. 2011. http://www.dir.ca.gov/DAS/reports/2010LegReport.pdf.

- *Developing bridges into education and training.* Through "bridge programs" into community college career pathways, pre-apprenticeship, and other similar programs, unions, colleges, Local Boards, and community-based organizations are providing opportunity for Californians – particularly those from under-represented communities – who lack the basic English and math skills to access high quality education and training.