Golden Sierra Area
Labor Market Analysis

December 27, 2011

Prepared for:

Golden Sierra Workforce Investment Board
1919 Grass Valley Highway, Suite 100
Auburn, CA 95603
530/823-4635
www.goldensierrawib.com

Prepared by:

CENTER for STRATEGIC ECONOMIC RESEARCH
400 Capitol Mall, Suite 2500
Sacramento, CA 95814
916/491-0444
www.strategiceconomicresearch.org

Key Findings

Industry Trends

- Nearly two-thirds of all jobs in the Golden Sierra area in 2010 were supported by five major industry sectors including Government; Retail; Health Care & Social Assistance; Accommodation & Food Services; and Professional, Scientific, & Technical Services. Three of these five large sectors lost jobs between 2005 and 2010. Rates of loss in the Golden Sierra area were generally more severe than the regional and statewide averages.

- The Golden Sierra area economy is forecast to turn around over the next five years with positive job growth at a rate more robust than the region and state. Only two of the area's major sectors are expected to see job losses between 2010 and 2015. For the most part, the Golden Sierra area is forecast to outpace the Sacramento Region across the board. However, forecasts show the area underperforming the state in most major sectors.

- The largest job gains in the Golden Sierra area over the 2005 to 2010 period were generated in the General Medical & Surgical Hospitals; Outpatient Care Centers; and Local Government sub-sectors. Many of the occupations most likely affected by growth in the sub-sectors showing the greatest gains are related to office and administrative support with another notable grouping of healthcare practitioners and support occupations. Most estimated gains in occupations with reported training levels fall in the on-the-job training and Associate degree categories.

- The most pronounced job losses were posted in Construction-related sub-sectors such as Foundation, Structure, & Building Exterior Contractors; Building Finishing Contractors; Building Equipment Contractors; and Other Specialty Trade Contractors, corresponding to the ongoing regional real estate downturn. Correspondingly, the majority of the occupations impacted by losses in these sub-sectors are construction-related.

- Several of the occupations suffering from the most pronounced losses in the 2005 to 2010 time period have closely related occupations with similar work or competency requirements that have seen notable demand resulting from employment growth in the sub-sectors with the greatest gains. In addition, some of the predominant loss occupations and their related occupations are experiencing important changes as a result of the greening of the economy where skill requirements are shifting, additional demand is generated, and new occupation types are emerging.

- In 2010, nearly 32,000 residents of the Golden Sierra area were considered unemployed. This equates to an unemployment rate of close to 12 percent, which is over 7 percentage points higher than in 2005. The Golden Sierra area's unemployment rate has consistently tracked lower than the Sacramento Region, which in 2010 sat at approximately 13 percent. The percentage point increase from

2005 was also slightly lower in the Golden Sierra area with the Sacramento Region jumping almost 8 percentage points.

Workforce Snapshot

- On average, between 2005 and 2009, nearly half of the employed residents within the Golden Sierra area were employed in the Wholesale Trade; Healthcare & Social Assistance; Utilities; Professional, Scientific, & Technical Services; and Educational Services sectors. More than half of employed residents in the Golden Sierra area hold occupations within the following five major occupational categories: Sales & Related; Office & Administrative Support; Management; Construction & Extraction; and Business & Financial Operations.

- Over 43 percent of Golden Sierra residents (age 25 and above) have attained an Associate degree or higher educational level. This is a notably higher proportion than the regional and statewide averages of 38 percent and 37 percent, respectively. Only 24 percent of the jobs in the Golden Sierra area in 2009 were held by workers with a Bachelor's degree or higher educational attainment level whereas nearly 33 percent of the resident workforce has attained this level of education.

- Around 48 percent of the Golden Sierra resident workforce leaves the area for work while the remaining 52 percent stays. Out of the total number that leaves the area, only 74 percent are replaced by workers commuting into the Golden Sierra area. Around 46 percent of the Golden Sierra area worker outflow relates to jobs that fall in the High Wage category, which typically requires higher educational attainment levels. Another 30 percent of the outflow is associated with Moderate Wage jobs.

Viable Clusters

- Analysis of economic performance across several indicators specific to the Golden Sierra area economy revealed strengths across groupings of core activities within six clusters including Agriculture & Food, Business Services, Finance & Insurance, High Technology, Medical, and Recreation & Tourism. Overall, the clusters present a mix of additional benefits, range in size from around 6,500 payroll jobs to 26,000 jobs, and are all forecast to see employment growth over the next five years at rates between about 3 percent and 22 percent. In addition to the six identified viable clusters, the Clean Energy Technology cluster should also garner attention due to the presence of strong regional economic development initiatives that have targeted growth and development of this cluster since 2005.

- Training levels vary significantly among the viable clusters with the High Technology cluster demonstrating the greatest demand for occupations requiring higher education while the Recreation & Tourism cluster represents the lower end of the training level spectrum utilizing mainly on-the-job training occupations. The greening of the economy could also affect several of the predominant occupations in the Agriculture & Food, Business Services, Finance & Insurance, and High

Technology clusters either through increased demand, new skill requirements, or job opportunities emerging in new fields.

- A few of the most demanded occupations in the viable clusters are related to those occupations affected by declines in the sub-sectors posting the largest losses in the 2005 to 2010 period. This overlap represents opportunities for transitioning workers heavily impacted by the recession into viable cluster activities if resources are ultimately targeted toward facilitating enhanced growth and development in the identified core competencies.

Table of Contents

Introduction

Over the past five years, the Sacramento Region's economy has seen tremendous job losses across many of its largest industry sectors and significant restructuring in others. As part of the broader Region, the Golden Sierra area has experienced considerable economic changes which have generated employment declines across the board with employment gains in only a few specific activities. These changes have led to notable challenges and opportunities for workforce development efforts as residents have become unemployed and employment opportunities moving forward will likely be in different industries and require different competencies than in the past. Recognizing the need to better understand these challenges and opportunities, the Golden Sierra Workforce Investment Board in collaboration with the Placer County Office of Economic Development engaged the Center for Strategic Economic Research (CSER) to conduct a labor market analysis of the Golden Sierra area. This report summarizes the findings from the labor market analysis, which focused on three geographies including the Golden Sierra area (Alpine, El Dorado, and Placer Counties), six-county Sacramento Region (El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba Counties), and state. The three main sections of the report correspond to the primary objectives of the labor market analysis project. The first section analyzes historical and forecasted industry employment trends and identifies the specific occupations affected by job gains and losses. This section also examines potential churning in certain occupations, anticipated changes associated with the greening of the economy, and other general labor market patterns. The second section focuses on occupational employment trends, workforce characteristics, and labor market wage, education, and commute dynamics. (The first two sections of the report were released as separate preliminary reports in July and September 2011.) The third section provides an assessment of clusters which presents characteristics that make them viable for enhanced economic development. Workforce demands corresponding to the identified viable clusters are also examined in the third section. In addition to the three main sections, an Appendix is provided which highlights the research methodology utilized for the technical analysis. Overall, the results from this study can be used to help inform efforts to target workforce development resources to effectively transition displaced workers into new employment opportunities and plan for growth resulting from economic development opportunities.

1. Industry Trends

This section examines industry employment changes in the Golden Sierra area, Sacramento Region, and state over the past five years. The specific occupations affected by industry employment changes in the Golden Sierra area and Sacramento Region are also identified along with related training levels and potential occupational shifts. In addition, the labor market analysis piece of this section assesses worker separations and hiring patterns as well as resident employment status over the past five years. The report Appendix describes the research methodology used to assess industry trends and translate industry employment to occupational demand. Additional information on worker competencies in the form of knowledge and skills importance rankings for prominent sub-sectors as well as the top loss and gain occupations in the past five years was provided as part of this project in supplemental spreadsheets—this information can be used to further assess required and transferrable skills in the occupations and across industries most affected by the recession.

Industry and Occupation Trends

Nearly two-thirds of all jobs in the Golden Sierra area in 2010 were supported by five major industry sectors including Government; Retail; Health Care & Social Assistance; Accommodation & Food Services; and Professional, Scientific, & Technical Services. As shown in Figure 1 (on the next page), three of these five large sectors lost jobs between 2005 and 2010. Retail and Professional & Business Services joined Construction among the top three loss sectors in this time period. Combined, the three predominant loss sectors shed over 12,000 jobs in the five-year period, which is over two and a half times larger than the total increase generated across the five sectors showing job gains in the same period. All in all, the Golden Sierra area saw a net loss of close to 16,000 jobs from 2005 to 2010, which reflects some of the major effects of the ongoing recession.

Rates of loss in the Golden Sierra area were generally more severe than the regional and statewide averages. Between 2005 and 2010, the Golden Sierra area saw a total employment decline of close to 9 percent compared to decreases of approximately 7 and 5 percent in the Sacramento Region and California, respectively. Seven sectors in the Golden Sierra area saw rates of loss much more pronounced than the two benchmarks in the five-year period while another seven sectors posted healthier growth rates. The Golden Sierra area's Professional, Scientific, & Technical Services and Arts, Entertainment, & Recreation sectors both experienced employment declines over the 2005-2010 period while the region and state posted gains.

FIGURE 1
HISTORICAL MAJOR SECTOR EMPLOYMENT TRENDS

	2010	2000-2010				2005-2010			
	GS	GS		SR	CA	GS		SR	CA
Major Sector	*Emp*	*Absolute*	*Rate*	*Rate*	*Rate*	*Absolute*	*Rate*	*Rate*	*Rate*
Goods Producing									
Ag, Forest, Fish, & Hunt	3,430	224	7.0%	-22.9%	-19.0%	22	0.6%	1.2%	-1.6%
Mining	36	-27	-42.9%	-37.8%	9.4%	-47	-56.6%	-25.7%	17.9%
Utilities	681	34	5.3%	22.7%	2.7%	13	1.9%	4.9%	3.5%
Construction	7,057	-2,162	-23.5%	-30.0%	-24.5%	-7,625	-51.9%	-51.4%	-39.8%
Manufacturing	8,193	-4,646	-36.2%	-31.2%	-33.1%	-1,756	-17.7%	-23.3%	-17.4%
Service Providing									
Wholesale Trade	3,708	331	9.8%	-9.2%	-0.1%	-155	-4.0%	-15.9%	-4.5%
Retail	23,833	2,918	14.0%	-2.6%	-3.3%	-2,194	-8.4%	-11.1%	-8.9%
Transport & Warehousing	2,235	-706	-24.0%	-5.5%	-11.9%	-287	-11.4%	-3.5%	-5.6%
Information	3,181	121	4.0%	-7.7%	-25.6%	-159	-4.8%	-13.5%	-9.4%
Finance & Insurance	8,801	4,047	85.1%	-5.1%	-5.0%	-1,506	-14.6%	-21.8%	-19.6%
RE, Rental, & Lease	3,219	-160	-4.7%	-11.6%	-5.6%	-890	-21.7%	-26.1%	-12.6%
Prof, Sci, & Tech Svcs	9,276	1,172	14.5%	17.2%	9.6%	-2,494	-21.2%	0.2%	5.2%
Mgmt of Cos & Ent	931	-1,974	-68.0%	-35.7%	-35.3%	-101	-9.8%	7.0%	-14.2%
Admin & Waste Mgmt Svcs	7,657	334	4.6%	-17.1%	-13.7%	-1,125	-12.8%	-16.1%	-11.1%
Educational Svcs	2,227	750	50.8%	47.1%	33.8%	-109	-4.7%	-0.5%	12.9%
Health Care & Social Assist	20,158	7,529	59.6%	38.4%	25.6%	3,233	19.1%	13.4%	12.0%
Arts, Ent, & Rec	4,772	1,081	29.3%	19.6%	11.4%	-348	-6.8%	3.2%	0.9%
Accomm & Food Svcs	19,485	1,964	11.2%	12.8%	11.9%	-1,487	-7.1%	-3.2%	1.3%
Other Svcs	4,415	-859	-16.3%	4.5%	-0.6%	-71	-1.6%	-1.9%	-4.0%
Other Activities									
Government	26,895	3,231	13.7%	7.6%	3.8%	1,328	5.2%	1.7%	-0.3%
Private HHs	2,743	1,632	146.9%	129.8%	113.5%	152	5.9%	8.1%	22.8%
Total	*162,933*	*14,834*	*10.0%*	*1.9%*	*-3.2%*	*-15,606*	*-8.7%*	*-7.0%*	*-4.9%*

Center for Strategic Economic Research, November 2011
Data Sources: CSER analysis of Moody's Analytics, CA Employment Development Department, and U.S. Bureau of Labor Statistics information
Note: GS = Golden Sierra area; SR = Sacramento Region; and CA = California

The Golden Sierra area economy is forecast to turn around over the next five years with positive job growth at a rate more robust than the region and state. Only two of the area's major sectors are expected to see job losses between 2010 and 2015, as shown in Figure 2. The greatest gains are forecast within the Golden Sierra area's Health Care & Social Assistance; Accommodation & Food Services; and Construction sectors with an anticipated increase of close to 10,000 jobs over the five year period ending 2015. Overall, the Golden Sierra area is forecast to see job gains of over 18,000 in the 2010-2015 period as broad economic recovery takes hold.

For the most part, the Golden Sierra area is forecast to outpace the Sacramento Region across the board. However, forecasts show the area underperforming the state in 10 major sectors including two of the area's largest sectors, Professional, Scientific, & Technical Services and Accommodation & Food Services. Stronger growth in the remaining major sectors push forecasts for the Golden Sierra area above the region and state with overall growth anticipated at roughly 11 percent compared to 7 percent and 10 percent in the two respective benchmarks.

FIGURE 2
MAJOR SECTOR EMPLOYMENT FORECASTS

	2010	*2010-2020 Forecast*				*2010-2015 Forecast*			
	GS	*GS*		*SR*	*CA*	*GS*		*SR*	*CA*
Major Sector	*Emp*	*Absolute*	*Rate*	*Rate*	*Rate*	*Absolute*	*Rate*	*Rate*	*Rate*
Goods Producing									
Ag, Forest, Fish, & Hunt	3,430	-95	-2.8%	-3.8%	-2.7%	-89	-2.6%	-3.1%	-0.6%
Mining	36	-6	-16.7%	-2.8%	0.6%	-1	-2.8%	4.6%	7.9%
Utilities	681	43	6.3%	-1.6%	-1.2%	29	4.3%	0.3%	1.0%
Construction	7,057	4,693	66.5%	57.3%	24.1%	2,757	39.1%	36.2%	18.3%
Manufacturing	8,193	534	6.5%	0.8%	0.2%	658	8.0%	5.4%	4.2%
Service Providing									
Wholesale Trade	3,708	363	9.8%	3.5%	7.0%	201	5.4%	2.6%	7.2%
Retail	23,833	1,020	4.3%	-1.9%	4.6%	1,362	5.7%	2.5%	5.5%
Transport & Warehousing	2,235	336	15.0%	13.6%	6.0%	130	5.8%	5.1%	7.1%
Information	3,181	624	19.6%	11.1%	17.0%	450	14.1%	10.3%	13.1%
Finance & Insurance	8,801	1,384	15.7%	9.0%	15.9%	343	3.9%	1.2%	10.5%
RE, Rental, & Lease	3,219	484	15.0%	8.7%	12.2%	182	5.7%	3.2%	9.2%
Prof, Sci, & Tech Svcs	9,276	1,859	20.0%	14.3%	21.3%	872	9.4%	7.1%	16.0%
Mgmt of Cos & Ent	931	141	15.1%	5.9%	7.4%	67	7.2%	3.1%	6.7%
Admin & Waste Mgmt Svcs	7,657	3,116	40.7%	34.1%	38.8%	1,590	20.8%	18.6%	25.2%
Educational Svcs	2,227	575	25.8%	18.9%	18.1%	336	15.1%	12.2%	14.0%
Health Care & Social Assist	20,158	7,254	36.0%	27.9%	23.8%	3,997	19.8%	16.4%	15.1%
Arts, Ent, & Rec	4,772	355	7.4%	3.1%	18.8%	94	2.0%	-0.2%	13.0%
Accomm & Food Svcs	19,485	5,046	25.9%	20.5%	26.7%	3,215	16.5%	13.8%	17.8%
Other Svcs	4,415	758	17.2%	10.1%	10.3%	389	8.8%	5.6%	8.1%
Other Activities									
Government	26,895	2,816	10.5%	4.6%	4.9%	1,185	4.4%	1.8%	3.2%
Private HHs	2,743	683	24.9%	16.7%	16.6%	246	9.0%	5.0%	6.4%
Total	*162,933*	*31,983*	*19.6%*	*12.0%*	*13.6%*	*18,013*	*11.1%*	*7.2%*	*10.0%*

Center for Strategic Economic Research, November 2011
Data Sources: CSER analysis of Moody's Analytics, CA Employment Development Department, and U.S. Bureau of Labor Statistics information
Note: GS = Golden Sierra area; SR = Sacramento Region; and CA = California

Figure 3 (on the following page) provides a more detailed look at economic activities in the Golden Sierra area and Sacramento Region, breaking down the major sectors shown in Figure 1 into sub-sectors with the top 10 sub-sectors adding the most jobs between 2005 and 2010 listed. The largest job gains in the Golden Sierra area were generated in the General Medical & Surgical Hospitals; Outpatient Care Centers; and Local Government sub-sectors, all adding more than 1,000 jobs in the five-year period. Four of the Golden Sierra area sub-sectors also were among the top 10 in the Sacramento Region including Federal Government; General Medical & Surgical Hospitals; Outpatient Care Center; and Other General Merchandise Stores. (It is interesting to note that the Local Government sub-sector was among the top gains list in the Golden Sierra area, but fell among the top loss list for the Sacramento Region, shown in Figure 5).

The specialization column in Figure 3 summarizes a measure comparing the share of all area employment contained in the specific sub-sector to the same share at the statewide level. Those that are specialized have a greater share of employment than the state, indicating that it is an important sub-sector to the area's economy. The final column in Figure 3 indicates whether the area's sub-sector grew faster than the statewide average between 2005 and 2010. In most cases, the Golden Sierra area's top 10 gain sub-sectors are specialized and outpaced the state's job growth, lending to their strong performance relative to the rest of the sub-sectors in the area economy. Only the Federal Government and Offices of Physicians sub-sectors are underspecialized with the latter posting slower growth than the state. Many of the top gains sub-sectors in the Sacramento Region are underspecialized, but most posted growth rates that were more robust than the statewide average.

FIGURE 3
TOP 10 SUB-SECTOR EMPLOYMENT GAINS

Sector	*2010 Emp*	*2005-2010 Absolute*	*Spec*	*Above CA Rate*
Golden Sierra				
Electronic Shopping & Mail-Order Houses	424	293	y	y
Offices of Physicians	2,320	303	n	n
Federal Government	1,811	316	n	y
Vocational Rehabilitation Services	934	358	y	y
Computer & Peripheral Equipment Manufacturing	2,536	431	y	y
Other General Merchandise Stores	1,406	503	y	y
Agencies, Brokerages, & Other Insurance Related Activities	1,823	605	y	y
Local Government	23,768	1,068	y	y
Outpatient Care Centers	2,181	1,186	y	y
General Medical & Surgical Hospitals	5,413	1,402	y	y
Sacramento Region				
Individual & Family Services	6,151	1,245	n	n
Office Administrative Services	3,859	1,248	n	y
Wired Telecommunications Carriers	2,442	1,333	n	y
Personal & Household Goods Repair and Maintenance	1,829	1,427	y	y
Federal Government	16,150	1,798	n	y
General Medical & Surgical Hospitals	23,200	2,078	n	y
Other General Merchandise Stores	6,914	2,438	y	y
Scientific Research & Development Services	6,367	4,176	n	y
Outpatient Care Centers	12,155	5,297	y	y
State Government	112,048	8,049	y	y

Center for Strategic Economic Research, November 2011
Data Sources: CSER analysis of Moody's Analytics, CA Employment Development Department, and U.S. Bureau of Labor Statistics information
Notes: Specialization compares the regional/local share of total employment to the statewide share; a "yes" in this column indicates a larger regional/local share. A "yes" in the final column indicates that the regional/local employment growth rate was greater than the statewide average.

Assuming that sub-sectors follow typical occupational staffing patterns and that gains are distributed according to these patterns, Figure 4 demonstrates the top 20 occupations most likely affected by growth in the 10 sub-sectors showing the greatest gains between 2005 and 2010 (listed in Figure 3). Many of the occupations are related to office and administrative support with another notable grouping of healthcare practitioners and support occupations. Most estimated gains in occupations with reported training levels fall in the on-the-job training and Associate degree categories in both the Golden Sierra area and Sacramento Region.

FIGURE 4
TOP 20 OCCUPATIONS ASSOCIATED WITH TOP 10
SUB-SECTOR EMPLOYMENT GAINS
2005 to 2010

Area / Occupation	*Estimated Gain*	*Training Level*
Golden Sierra		
Registered Nurses	655	AA/AS
Medical Assistants	200	MTOJT
Office & Administrative Support Occupations	181	-
Retail Salespersons	177	STOJT
Medical Secretaries	159	PSVE
Customer Service Representatives	159	MTOJT
Stock Clerks & Order Fillers	147	STOJT
Insurance Claims & Policy Processing Clerks	142	MTOJT
Office Clerks, General	136	STOJT
Insurance Sales Agents	120	AA/AS
Nursing Aides, Orderlies, & Attendants	117	STOJT
Protective Service Occupations	115	-
First-Line Supervisors/Managers of Office & Administrative Support Workers	104	Work Exp
Health Technologists & Technicians, All Other	93	PSVE
Executive Secretaries & Administrative Assistants	90	MTOJT
Laborers and Freight, Stock, & Material Movers, Hand	88	STOJT
Licensed Practical and Licensed Vocational Nurses	88	PSVE
Computer Software Engineers, Systems Software	76	BA/BS
Business Operations Specialists, All Other	75	BA/BS
Receptionists & Information Clerks	74	STOJT
Sacramento Region		
Registered Nurses	1,595	AA/AS
Office & Administrative Support Occupations	1,196	-
Protective Service Occupations	1,024	-
Business & Financial Operations Occupations	920	-
Retail Salespersons	848	STOJT
Business Operations Specialists, All Other	727	BA/BS
Office Clerks, General	672	STOJT
Stock Clerks & Order Fillers	591	STOJT
Correctional Officers and Jailers	515	MTOJT
Customer Service Representatives	510	MTOJT
Medical Assistants	497	MTOJT
First-Line Supervisors/Managers of Office & Administrative Support Workers	493	Work Exp
Executive Secretaries & Administrative Assistants	430	MTOJT
Medical Scientists, Except Epidemiologists	410	PhD
Health Technologists & Technicians, All Other	378	PSVE
General & Operations Managers	378	BA/BS + Exp
Medical Secretaries	375	PSVE
Laborers & Freight, Stock, & Material Movers, Hand	357	STOJT
Architecture & Engineering Occupations	348	-
Upholsterers	341	LTOJT

Center for Strategic Economic Research, November 2011
Data Sources: CSER analysis of Moody's Analytics, CA Employment Development Department, and U.S. Bureau of Labor Statistics information

Figure 5 lists the 10 sub-sectors posting the greatest losses in the Golden Sierra area and Sacramento Region between 2005 and 2010. Similar to Figure 3, indicators of specialization and performance relative to the state are also provided in Figure 5. The most pronounced job losses were posted in Construction-related sub-sectors such as Foundation, Structure, & Building Exterior Contractors; Building Finishing Contractors; Building Equipment Contractors; and Other Specialty Trade Contractors, corresponding to the ongoing regional real estate downturn. In addition to these four sub-sectors, two others were on both the Golden Sierra area and Sacramento Region lists, Insurance Carriers and Automotive Dealers.

It is concerning to note that nearly all of the sub-sectors experiencing the greatest losses in both the Golden Sierra area and Sacramento Region are specialized—historically important to the economy—and posted rates of loss more severe than the statewide average. Among the list, only a handful of sub-sectors are underspecialized including Computer System Design & Related Services and Nondepository Credit Intermediation in the Golden Sierra area and Employment Services and Services to Buildings & Dwellings in the Sacramento Region.

FIGURE 5
TOP 10 SUB-SECTOR EMPLOYMENT LOSSES

Sector	*2010 Emp*	*2005-2010 Absolute*	*Spec*	*Under CA Rate*
Golden Sierra				
Foundation, Structure, & Building Exterior Contractors	1,808	-2,847	y	y
Building Finishing Contractors	1,174	-2,477	y	y
Building Equipment Contractors	2,876	-1,406	y	y
Automobile Dealers	2,056	-1,034	y	y
Other Specialty Trade Contractors	1,199	-895	y	y
Insurance Carriers	2,435	-861	y	y
Computer Systems Design & Related Services	1,485	-849	n	y
Limited-Service Eating Places	7,164	-730	y	y
Architectural, Engineering, & Related Services	1,672	-691	y	y
Nondepository Credit Intermediation	378	-648	n	y
Sacramento Region				
Building Finishing Contractors	5,936	-9,981	y	y
Foundation, Structure, & Building Exterior Contractors	5,740	-8,597	y	y
Employment Services	14,744	-6,564	n	y
Building Equipment Contractors	10,739	-6,272	y	y
Local Government	111,502	-5,612	y	y
Insurance Carriers	11,446	-4,007	y	y
Automobile Dealers	6,600	-3,667	y	y
Building Material & Supplies Dealers	6,824	-2,599	y	y
Other Specialty Trade Contractors	3,478	-2,542	y	y
Services to Buildings & Dwellings	10,650	-2,437	n	y

Center for Strategic Economic Research, November 2011
Data Sources: CSER analysis of Moody's Analytics, CA Employment Development Department, and U.S. Bureau of Labor Statistics information
Notes: Specialization compares the regional/local share of total employment to the statewide share; a "yes" in this column indicates a larger regional/local share. A "yes" in the final column indicates that the regional/local employment growth rate was greater than the statewide average.

Figure 6 (on the next page) shows the 20 occupations that were likely impacted the most as a result of declines in the 10 sub-sectors posting the largest job losses over the 2005-2010 period (listed in Figure 5). The majority of the occupations are construction-related occupations, reflecting the dominance of Construction sub-sectors on the loss list. A few occupations are also grouped in the office and administrative support category—the fact that these types of occupations are also among those potentially affected by sub-sectors with job gains demonstrates the churn occurring in this occupational category. A similar churn also appears to be occurring in retail sales occupations. Most of the losses across the top 20 occupations fall within the on-the-job training categories in both the Golden Sierra area and Sacramento Region.

FIGURE 6
TOP 20 OCCUPATIONS ASSOCIATED WITH TOP 10
SUB-SECTOR EMPLOYMENT LOSSES
2005-2010

Area / Occupation	*Estimated Loss*	*Training Level*
Golden Sierra		
Construction Laborers	-849	MTOJT
Carpenters	-745	LTOJT
Painters, Construction & Maintenance	-470	MTOJT
Drywall & Ceiling Tile Installers	-462	MTOJT
Roofers	-420	MTOJT
Electricians	-383	LTOJT
First-Line Supervisors/Managers of Construction Trades & Extraction Workers	-366	Work Exp
Cement Masons & Concrete Finishers	-357	LTOJT
Combined Food Preparation & Serving Workers, Including Fast Food	-303	STOJT
Plumbers, Pipefitters, & Steamfitters	-285	LTOJT
General & Operations Managers	-266	BA/BS + Exp
Retail Salespersons	-227	STOJT
Bookkeeping, Accounting, & Auditing Clerks	-226	MTOJT
Automotive Service Technicians & Mechanics	-209	PSVE
Plasterers & Stucco Masons	-208	LTOJT
Office Clerks, General	-203	STOJT
Cost Estimators	-182	BA/BS
Customer Service Representatives	-172	MTOJT
Cooks, Fast Food	-166	STOJT
Tile & Marble Setters	-161	LTOJT
Sacramento Region		
Construction Laborers	-2,869	MTOJT
Carpenters	-2,685	LTOJT
Retail Salespersons	-2,129	STOJT
Painters, Construction & Maintenance	-1,890	MTOJT
Drywall & Ceiling Tile Installers	-1,864	MTOJT
Electricians	-1,726	LTOJT
Office Clerks, General	-1,322	STOJT
First-Line Supervisors/Managers of Construction Trades & Extraction Workers	-1,311	Work Exp
Plumbers, Pipefitters, & Steamfitters	-1,270	LTOJT
Roofers	-1,268	MTOJT
Laborers and Freight, Stock, & Material Movers, Hand	-1,248	STOJT
Janitors & Cleaners, Except Maids & Housekeeping Cleaners	-1,244	STOJT
Cement Masons & Concrete Finishers	-1,075	LTOJT
Landscaping & Groundskeeping Workers	-932	STOJT
Bookkeeping, Accounting, & Auditing Clerks	-892	MTOJT
General & Operations Managers	-846	BA/BS + Exp
Plasterers & Stucco Masons	-830	LTOJT
Automotive Service Technicians & Mechanics	-761	PSVE
Customer Service Representatives	-756	MTOJT
Tile & Marble Setters	-648	LTOJT

Center for Strategic Economic Research, November 2011
Data Sources: CSER analysis of Moody's Analytics CA Employment Development Department, and U.S. Bureau of Labor Statistics information

Several of the occupations suffering from the most pronounced losses in the 2005 to 2010 time period (listed in Figure 6) have closely related occupations with similar work or competency requirements that have seen notable demand resulting from employment growth in the sub-sectors with the greatest gains (shown in Figure 3). In addition, some of the predominant loss occupations and their related occupations are experiencing important changes as a result of the "greening of the economy." Figure 7 (on the following pages) lists those related occupations that demonstrated employment increases estimated at more than 50 between 2005 and 2010 in the 10 sub-sectors with the greatest gains in the Golden Sierra area and Sacramento Region. The figure also identifies those occupations that are seeing changes due to growth and development in the established and emerging green economy in the form of increased job demand, shifting skills, and emerging occupational structures. Sixteen of the 20 predominant loss occupations show opportunities within a wide variety of related occupations where increased demand has been generated through sub-sector growth in the Golden Sierra area and Sacramento Region. Among the original and related occupations, 20 are demonstrating increased demand through green economy activities, 11 appear to be requiring new skills to keep up with the green economy, and one is a newly emerging job created through green economy activities (Solar Energy Installation Managers). The related and green occupations demonstrate potential opportunities for transitions among the predominant loss occupations.

FIGURE 7
RELATED AND GREEN OCCUPATIONS ASSOCIATED WITH TOP 20 GOLDEN SIERRA AREA OCCUPATION EMPLOYMENT LOSSES

Original Loss Occupations / Related Occupations	*Green Economy*
Construction Laborers	*Skill*
Carpenters	*Demand*
Painters, Construction & Maintenance	-
Carpenters	Demand
Furniture Finishers	-
Drywall & Ceiling Tile Installers	-
Carpenters	Demand
Roofers	*Skill*
Carpenters	Demand
Electricians	*Demand*
Electrical & Electronic Engineering Technicians	Demand
Electrical & Electronics Repairers, Commercial & Industrial Equipment	Demand
Electrical & Electronic Equipment Assemblers	Demand
First-Line Supervisors/Managers of Construction Trades & Extraction Workers	-
Solar Energy Installation Managers	Emerging
Construction Managers	Skill
First-Line Supervisors/Managers of Farming, Fishing, & Forestry Workers	Demand
Construction & Building Inspectors	Skill
Geophysical Data Technicians	Skill
Cement Masons & Concrete Finishers	*Demand*
Landscaping & Groundskeeping Workers	-
Combined Food Preparation & Serving Workers, Including Fast Food	-
Counter & Rental Clerks	-
Plumbers, Pipefitters, & Steamfitters	*Skill*
Carpenters	Demand
Aircraft Structure, Surfaces, Rigging, & Systems Assemblers	Skill
Welders, Cutters, & Welder Fitters	Demand
Laborers & Freight, Stock, & Material Movers, H&	Demand
Boilermakers	Demand
General & Operations Managers	*Skill*

Center for Strategic Economic Research, November 2011
Data Sources: CSER analysis of Moody's Analytics, CA Employment Development Department, U.S. Bureau of Labor Statistics, and Occupational Information Network information
Note: Listed related occupations demonstrated estimated employment gains of 50 or more across the Golden Sierra area and/or Sacramento Region gains sub-sectors.

FIGURE 7—*CONTINUED*
RELATED AND GREEN OCCUPATIONS ASSOCIATED WITH TOP 20 GOLDEN SIERRA AREA OCCUPATION EMPLOYMENT LOSSES

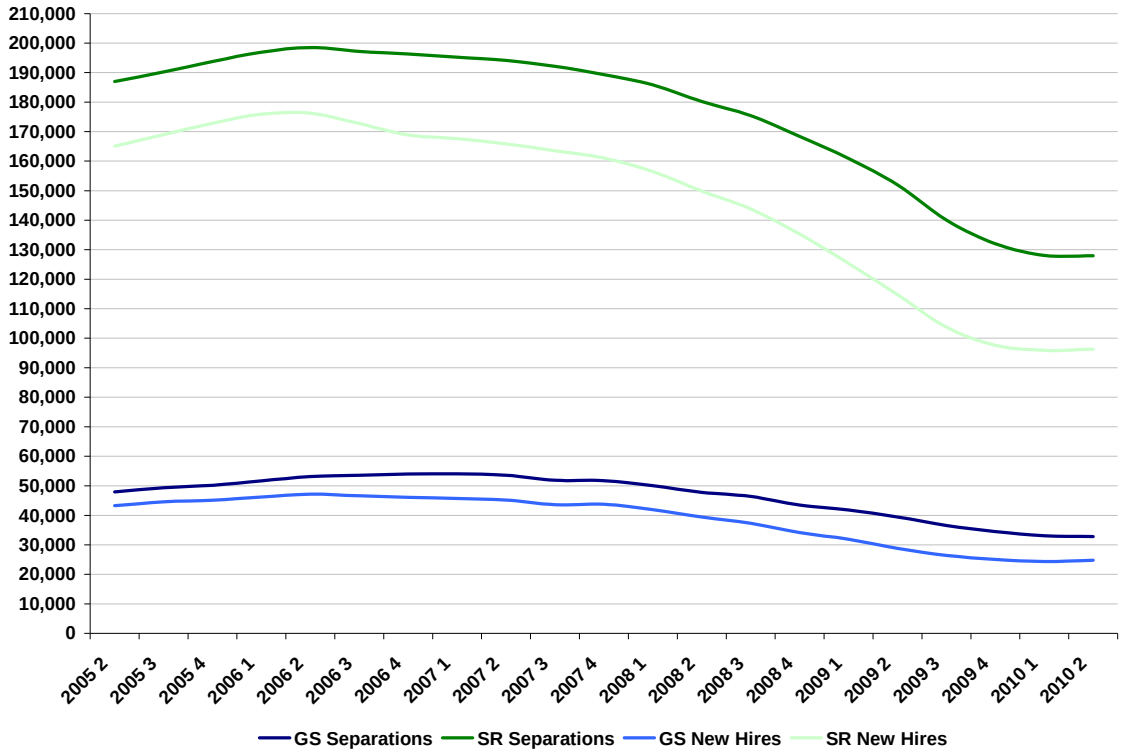
Original Loss Occupations / Related Occupations	*Green Economy*
Retail Salespersons	-
Sales Representatives, Wholesale & Manufacturing, Technical & Scientific Products	Skill
Customer Service Representatives	Demand
Counter & Rental Clerks	-
Bookkeeping, Accounting, & Auditing Clerks	-
Billing & Posting Clerks & Machine Operators	-
Secretaries, Except Legal, Medical, & Executive	-
Office Clerks, General	-
Automotive Service Technicians & Mechanics	*Skill*
Industrial Machinery Mechanics	Demand
Inspectors, Testers, Sorters, Samplers, & Weighers	Skill
Helpers--Installation, Maintenance, & Repair Workers	Demand
Engine & Other Machine Assemblers	Demand
Plasterers & Stucco Masons	-
Office Clerks, General	-
Insurance Claims & Policy Processing Clerks	-
Secretaries, Except Legal, Medical, & Executive	-
Receptionists & Information Clerks	-
Billing & Posting Clerks & Machine Operators	-
Cost Estimators	-
Claims Adjusters, Examiners, & Investigators	-
Customer Service Representatives	*Demand*
Counter & Rental Clerks	-
Retail Salespersons	-
Bill & Account Collectors	-
Interviewers, Except Eligibility & Loan	-
Insurance Claims & Policy Processing Clerks	-
Cooks, Fast Food	-
Maids & Housekeeping Cleaners	-
Tile & Marble Setters	-
Carpenters	Demand

Center for Strategic Economic Research, November 2011
Data Sources: CSER analysis of Moody's Analytics, CA Employment Development Department, U.S. Bureau of Labor Statistics, and Occupational Information Network information
Note: Listed related occupations demonstrated estimated employment gains of 50 or more across the Golden Sierra area and/or Sacramento Region gains sub-sectors.

Labor Market Trends

The Golden Sierra area and Sacramento Region have seen the number of job separations outpace new hires by a notable margin on a seasonally adjusted annual average basis between 2005 and 2010, as shown in Figure 8. This pattern reflects the net job losses occurring across the economy during the same time period. While separations started to dip and level off through the latter part of the period, the same behavior was seen in new hires, keeping the gap fairly consistent.

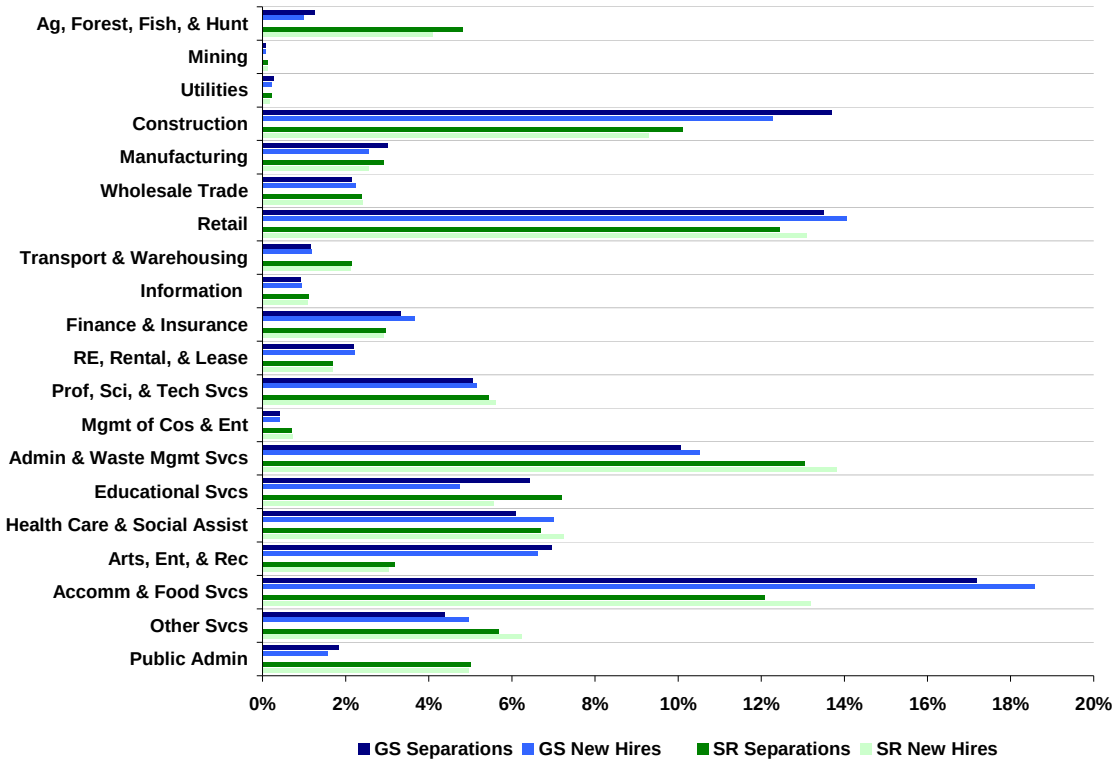
FIGURE 8
WORKER SEPARATIONS AND NEW HIRES
SEASONALLY ADJUSTED ANNUAL AVERAGE



Center for Strategic Economic Research, November 2011
Data Source: U.S. Census Bureau, Local Employment Dynamics
Note: GS = Golden Sierra area and SR = Sacramento Region

Figure 9 shows within which major sectors the separations and new hires have been occurring on average between 2005 and 2010 for the Golden Sierra area and Sacramento Region. In both geographies, around half of the separations during this time period were within the Construction; Retail Trade; Administrative, Support, Waste Management, & Remediation Services; and Accommodation & Food Services sectors. These same sectors also housed the bulk of new hires, demonstrating the churn in the labor market and among establishments in the four sectors.

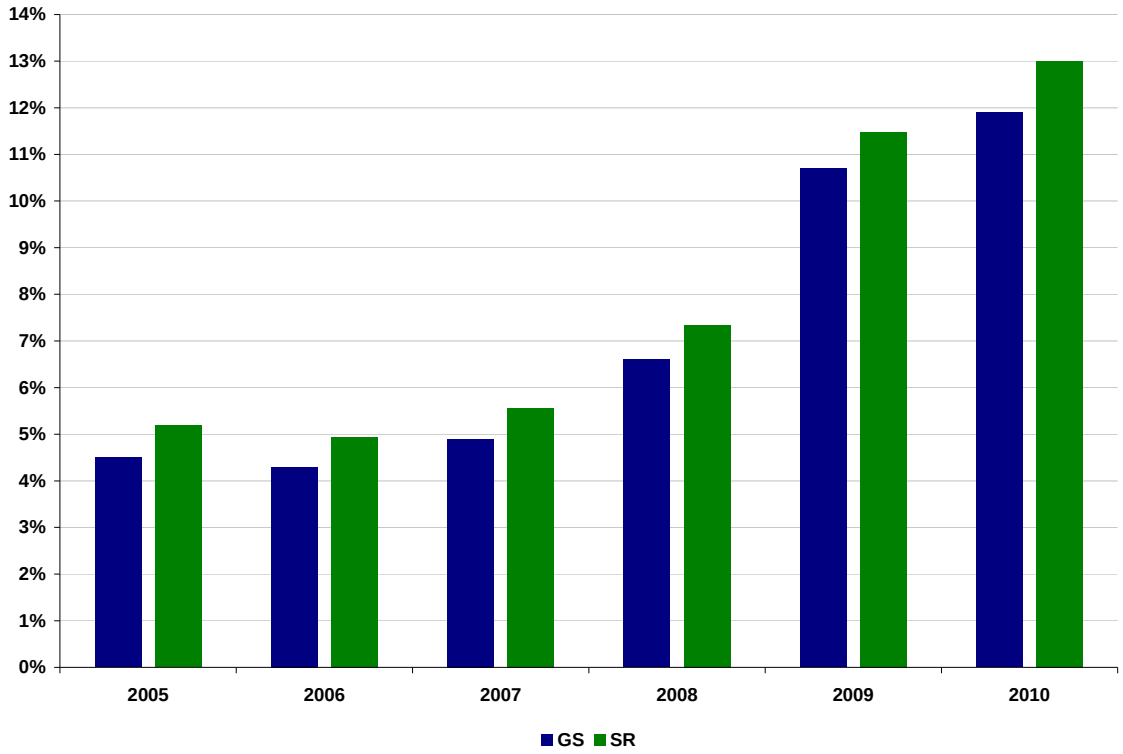
FIGURE 9
MAJOR SECTOR SHARE OF WORKER SEPARATIONS AND NEW HIRES
Q2-05 TO Q2-10 AVERAGE



Center for Strategic Economic Research, November 2011
Data Source: U.S. Census Bureau, Local Employment Dynamics
Note: GS = Golden Sierra area and SR = Sacramento Region

In 2010, nearly 32,000 residents of the Golden Sierra area were considered unemployed. This equates to an unemployment rate of close to 12 percent, as illustrated in Figure 10. The 2010 annual rate is over 7 percentage points higher than in 2005. The Golden Sierra area's unemployment rate has consistently tracked lower than the Sacramento Region, which in 2010 sat at approximately 13 percent (with about 145,000 unemployed residents). The percentage point increase from 2005 was also slightly lower in the Golden Sierra area with the Sacramento Region jumping almost 8 percentage points. It is important to note that the unemployment rates shown in Figure 10 correspond to the traditional measure (capturing basically those without a job and looking for work), but do not reflect labor force dynamics that ramp up during recession periods such as involuntary part-time employment, discouraged workers, and underemployment. Statewide measures capturing these labor force dynamics in 2010 suggest that the real unemployment rate is roughly 81 percent higher than the traditional measure. Labor force dynamics at a statewide level also reflect the highest 2010 unemployment rates among construction and agriculture workers.

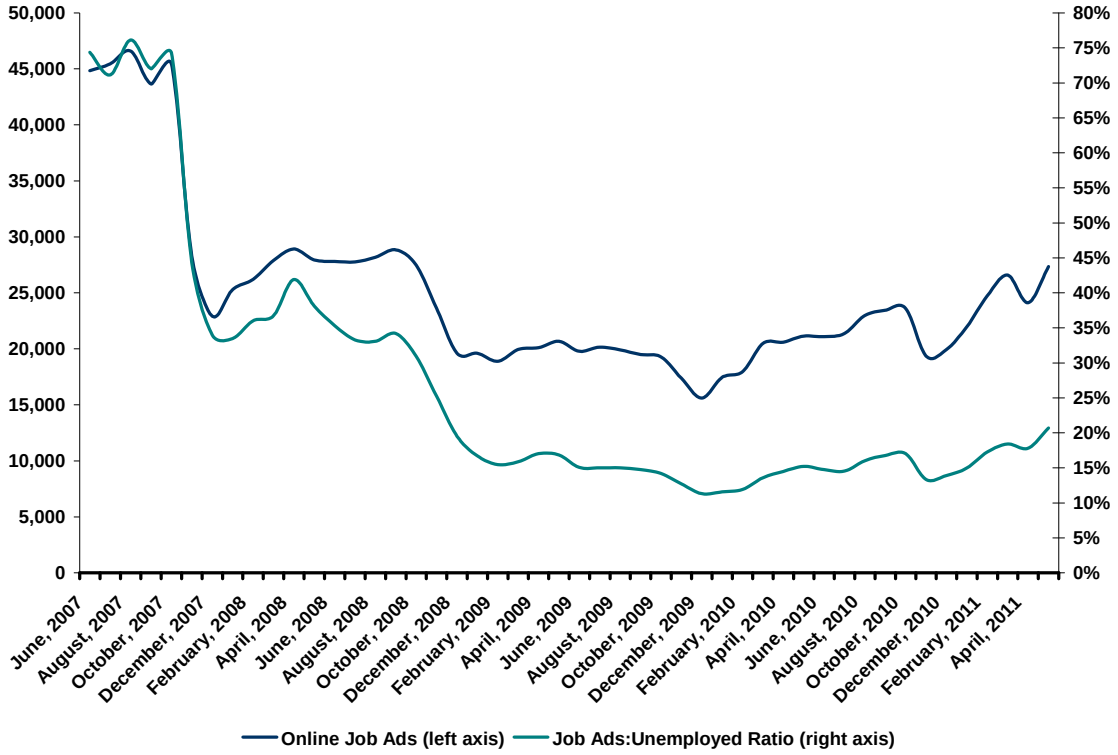
FIGURE 10
ANNUAL UNEMPLOYMENT RATES



Center for Strategic Economic Research, November 2011
Data Source: CA Employment Development Department
Note: GS = Golden Sierra area and SR = Sacramento Region

Since the Sacramento Region's economic peak in the summer of 2007, the number of online job advertisements has dropped sharply, as Figure 11 demonstrates. The number appears to be picking up again as of the spring of 2011 with the most recent low point occurring in December 2009. While around the peak, the number of job ads was roughly 76 percent of the size of the number of unemployed residents, through 2011 this measure has been hovering around 18 percent. This demonstrates the persistent issues in the labor market where even though jobs ads are increasing, they are likely only having a minimal impact on unemployment. Further illustrating this issue is the fact that two of the five most requested occupations (between 2010 and the most current snapshot) are those with general churn (Retail Salespersons and Customer Service Representatives), and the remaining three (Computer Systems Analysts, Registered Nurses, and First-Line Supervisors/Managers of Retail Sales Workers) are not necessarily aligned with the bulk of the unemployed labor force.

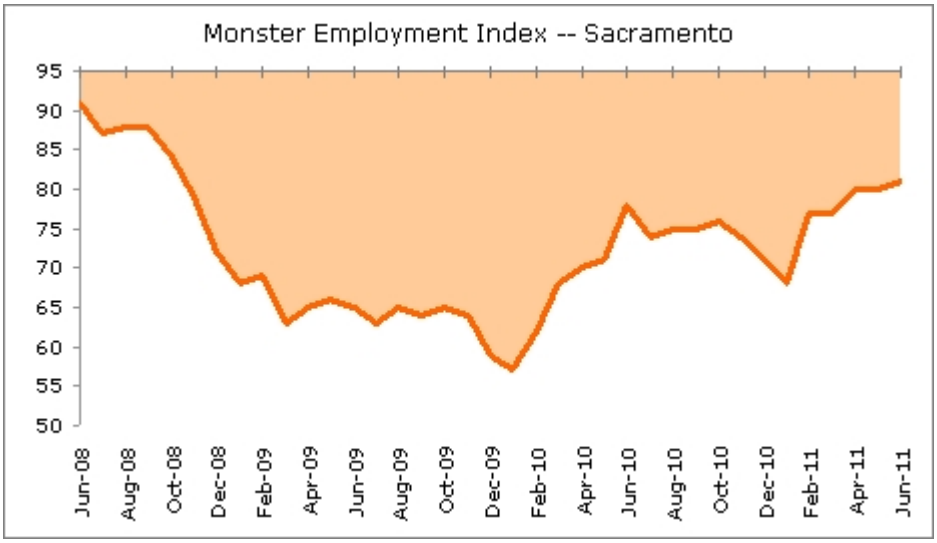
FIGURE 11
SACRAMENTO REGION ONLINE JOB ADVERTISEMENTS



Center for Strategic Economic Research, November 2011
Data Source: CA Employment Development Department, Help Wanted Online—The Conference Board and WANTED Technologies

Similar to the broader online job ads data, the Monster Worldwide Employment Index for the greater Sacramento area, shown in Figure 12, demonstrates that job demand has been picking up since the beginning of 2011 following a low in late 2009. However, the level is still well below peak hiring patterns (the 100 index value was set in 2005). It is interesting to note that the highest index values of job demand over the past year have been shown in the community and social service; legal; education, training, and library; protective service; and installation, maintenance, and repair fields (all well above 100).

FIGURE 12



Center for Strategic Economic Research, November 2011
Source: Monster Worldwide, Monster Local Employment Index

2. Workforce Snapshot

This section analyzes occupational employment and wage dynamics in the Sacramento Region over the past five years with comparisons to state employment trends. Workforce characteristics are also examined for the Golden Sierra area as well as the Region and state.

Regional Occupational Employment

In addition to industry sector breakdowns, employment supported by establishments can also be examined through occupational classifications; however, this type of data is only readily available at the regional level that generally reflects the labor market area. This type of analysis describes what the individual workers do rather than the general goods or services provided by businesses. As shown in Figure 13 (on the next page), the largest occupational categories in the Sacramento Region include Office & Administrative Support; Sales & Related; Food Preparation & Service-Related; Education, Training, & Library; and Business & Financial Operations. Combined, these five categories account for over 52 percent of all occupational employment in the Region as of 2010. Only two of the larger categories, Sales & Related and Food Preparation & Service-Related, are specialized in Sacramento, meaning that they contain a greater share of occupational employment than the statewide average. The two largest categories, Office & Administrative Support and Sales & Related, joined the Construction & Extraction category as the top three categories experiencing the largest employment declines between 2005 and 2010. On the other side of the spectrum, one of the larger categories, Education, Training, & Library, along with Healthcare Practitioners & Technical and Computer & Mathematical posted the greatest gains in the past five years. The Sacramento Region posted more rapid employment declines than the statewide average in seven occupational categories in the 2005 to 2010 period—the most pronounced differences were in the Construction & Extraction and Production categories. Most of the categories that added jobs in the Sacramento Region over this time period posted growth rates that exceeded the statewide average with Education, Training, & Library; Legal; and Farming, Fishing, & Forestry showing the largest gaps.

Regional annual average wages for the first quarter of 2011 were the highest in the Management; Legal; Healthcare Practitioners & Technical; Architecture & Engineering; and Computer & Mathematical categories. The Sacramento Region is specialized in only one of these categories, Healthcare Practitioners & Technical. Most of the specialized categories fall at the lower end of the wage range with the bottom seven categories all reflecting this designation. With the exception of Architecture & Engineering, the Sacramento Region posted employment gains in the top five wage categories between 2005 and 2010. Similarly, excluding Building & Grounds Cleaning & Maintenance, the Region added jobs in the five lowest wage categories in the past five years. These patterns demonstrate that most of the employment decreases occurred in the categories supporting wages in the middle of the list.

FIGURE 13
MAJOR OCCUPATIONAL CATEGORY EMPLOYMENT AND WAGES

Major Category	2010 Emp	2011 Mean Ann Wage	2005-2010 Emp Growth SR Absolute	SR Rate	CA Rate	Spec
Management	44,630	$109,015	790	1.8%	0.3%	n
Business & Financial Operations	56,500	$68,054	280	0.5%	12.6%	n
Computer & Mathematical	29,380	$80,064	4,100	16.2%	9.4%	n
Architecture & Engineering	18,110	$88,539	-1,670	-8.4%	-6.8%	n
Life, Physical, & Social Science	10,830	$69,599	790	7.9%	4.4%	n
Community & Social Services	14,750	$53,223	330	2.3%	12.3%	y
Legal	9,030	$100,190	1,160	14.7%	4.5%	n
Education, Training, & Library	67,450	$55,074	5,530	8.9%	1.1%	n
Arts, Design, Entertainment, Sports, & Media	9,680	$52,531	-1,350	-12.2%	-7.9%	n
Healthcare Practitioners & Technical	43,980	$89,812	7,860	21.8%	14.6%	y
Healthcare Support	21,810	$31,070	2,500	12.9%	18.7%	y
Protective Service	24,440	$51,962	1,650	7.2%	2.4%	n
Food Preparation & Serving-Related	71,880	$21,999	770	1.1%	3.7%	y
Building & Grounds Cleaning & Maintenance	24,730	$28,427	-2,380	-8.8%	-5.4%	y
Personal Care & Service	21,190	$26,757	1,910	9.9%	7.3%	y
Sales & Related	82,910	$35,793	-10,780	-11.5%	-8.5%	y
Office & Administrative Support	168,140	$38,302	-13,940	-7.7%	-9.8%	n
Farming, Fishing, & Forestry	5,170	$23,930	1,550	42.8%	3.7%	y
Construction & Extraction	34,610	$51,076	-29,290	-45.8%	-36.1%	y
Installation, Maintenance, & Repair	27,550	$47,335	-4,170	-13.1%	-11.2%	y
Production	25,720	$36,827	-10,200	-28.4%	-20.1%	n
Transportation & Material Moving	45,120	$34,159	-5,320	-10.5%	-11.1%	y
Total Occupational	857,640	$50,294	-52,260	-5.7%	-4.9%	-

Center for Strategic Economic Research, November 2011
Data Sources: CSER analysis of CA Employment Development Department and U.S. Bureau of Labor Statistics information
Notes: Total differences due to rounding and nondisclosure. SR = Sacramento Region and CA = California. Specialization compares the regional share of total employment to the statewide share; a "yes" in this column indicates a larger regional share.

Figure 14 (on the following page) lists the 10 largest specific occupations employed by establishments across all industries in the Sacramento Region in 2010, which fall under several of the major occupational categories shown in Figure 1. Office Clerks; Retail Salespersons; and Cashiers top the list with over 20,000 jobs each. The two largest occupations both experienced significant employment declines between 2005 and 2010. These two occupations were joined by four more in negative territory, demonstrating that more than half of the Region's most predominant occupations decreased in size in the past five years. Six of the 10 largest specific occupations fall toward the lower end of the range for first quarter 2011 average annual wages. Three of the four occupations supporting higher wages posted employment losses in the past five years with only Registered Nurses posting gains among this group.

The 10 specific occupations experiencing the greatest employment gains and losses in the 2005 to 2010 period are also shown in Figure 14. Several of the occupations with positive growth support relatively high average annual wage levels. A handful of the growing occupations fit into the highly-skilled Computer & Mathematical category. There is a mix of moderate and low wage occupations that fall into the list of most severe losses in the past five years. Many of the loss occupations fall under the Construction & Extraction and Office & Administrative Support categories. Two of the occupations that

fall toward the bottom of the list are among the Region's largest, Business Operations Specialists and Office Clerks.

FIGURE 14
DETAILED SACRAMENTO REGION
OCCUPATION EMPLOYMENT AND WAGES

Occupation	*2010 Emp*	*2011 Mean Ann Wage*	*2005-2010 Absolute Emp Growth*
Largest Total Employment			
Office Clerks, General	27,680	$32,802	-7,530
Retail Salespersons	26,530	$24,300	-2,090
Cashiers	21,570	$23,324	440
Combined Food Preparation and Serving Workers	16,230	$20,224	1,820
First-Line Supervisors/Managers of Office and Administrative Support Workers	15,130	$60,563	-660
Registered Nurses	14,610	$94,737	260
Customer Service Representatives	13,580	$36,970	520
Business Operations Specialists	13,480	$68,030	-5,080
General and Operations Managers	12,410	$118,568	-230
Waiters and Waitresses	11,820	$21,079	-1,340
Top Employment Gains			
Computer Systems Analysts	7,790	$76,886	7,790
Maintenance and Repair Workers	6,250	$41,270	6,250
Office and Administrative Support Workers	5,050	$26,756	5,050
Computer Software Engineers, Systems Software	4,540	$97,810	4,540
All Other Teachers, Primary, Secondary, and Adult	3,810	$47,786	3,810
Computer Support Specialists	3,720	$60,119	3,720
Computer Software Engineers, Applications	3,610	$91,865	3,610
Medical Secretaries	5,630	$38,217	3,480
Police and Sheriff's Patrol Officers	8,490	$61,200	3,070
Correctional Officers and Jailers	2,880	$69,229	2,880
Top Employment Losses			
Receptionists and Information Clerks	6,190	$28,486	-2,160
Teacher Assistants	9,180	$30,394	-2,190
Sales Representatives, Wholesale and Manufacturing	4,990	$64,590	-2,240
Landscaping and Groundskeeping Workers	6,090	$27,028	-2,550
Executive Secretaries and Administrative Assistants	9,280	$47,312	-2,580
Electricians	2,690	$52,144	-2,620
Construction Laborers	5,650	$40,179	-3,740
Business Operations Specialists	13,480	$68,030	-5,080
Carpenters	4,860	$56,017	-6,530
Office Clerks, General	27,680	$32,802	-7,530

Center for Strategic Economic Research, November 2011
Data Sources: CSER analysis of CA Employment Development Department and U.S. Bureau of Labor Statistics information

Workforce Characteristics

As shown in Figure 15, on average, between 2005 and 2009, nearly half of the employed residents within the Golden Sierra area were employed in the Wholesale Trade; Healthcare & Social Assistance; Utilities; Professional, Scientific, & Technical Services; and Educational Services sectors. This resident employment structure is similar to the regional and national averages with only two differences—in the Sacramento Region, Professional, Scientific, & Technical Services falls just under the top five replaced by Public Administration while, in California, Utilities drops to sixth as Construction breaks into the top five. The regional economy has experienced employment gains in three of the five sectors where Golden Sierra area residents primarily work including Utilities; Professional, Scientific, & Technical Services; and Healthcare & Social Assistance demonstrating increasing employment opportunities in these fields.

FIGURE 15
RESIDENT MAJOR SECTOR
EMPLOYMENT COMPOSITION
2005 TO 2009 AVERAGE

Major Sector	*GS*	*SR*	*CA*
Ag, Forest, Fish, & Hunt	0.8%	1.1%	1.9%
Mining	0.1%	0.1%	0.2%
Utilities	9.2%	8.2%	7.4%
Construction	7.0%	6.1%	10.5%
Manufacturing	3.0%	3.1%	3.5%
Wholesale Trade	12.6%	11.5%	11.0%
Retail	2.9%	3.7%	4.0%
Transport & Warehousing	1.2%	1.0%	0.7%
Information	2.3%	2.5%	3.0%
Finance & Insurance	6.2%	5.5%	4.6%
RE, Rental, & Lease	3.1%	2.6%	2.6%
Prof, Sci, & Tech Svcs	8.0%	6.8%	7.4%
Mgmt of Cos & Ent	0.1%	0.1%	0.1%
Admin & Waste Mgmt Svcs	3.7%	4.4%	4.6%
Educational Svcs	7.4%	8.6%	8.4%
Health Care & Social Assist	11.2%	11.9%	11.1%
Arts, Ent, & Rec	2.8%	2.3%	2.5%
Accomm & Food Svcs	6.7%	6.3%	6.6%
Other Svcs	4.8%	4.8%	5.2%
Public Administration	7.0%	9.3%	4.5%

Center for Strategic Economic Research, November 2010
Data Source: CSER analysis of U.S. Census Bureau information
Note: GS = Golden Sierra area; SR = Sacramento Region; and CA = California

Figure 16 demonstrates that more than half of employed residents in the Golden Sierra area hold occupations within the following five major occupational categories: Sales & Related; Office & Administrative Support; Management; Construction & Extraction; and Business & Financial Operations. The same five occupational categories are at the top of the list at the Sacramento Region level; however, statewide, the Production category is among the five largest while Business & Financial Operations ranks toward the middle of the list. Among the five largest resident occupational categories in the Golden Sierra area, only two have been growing at the regional level in the past five years including Management and Business & Financial Operations.

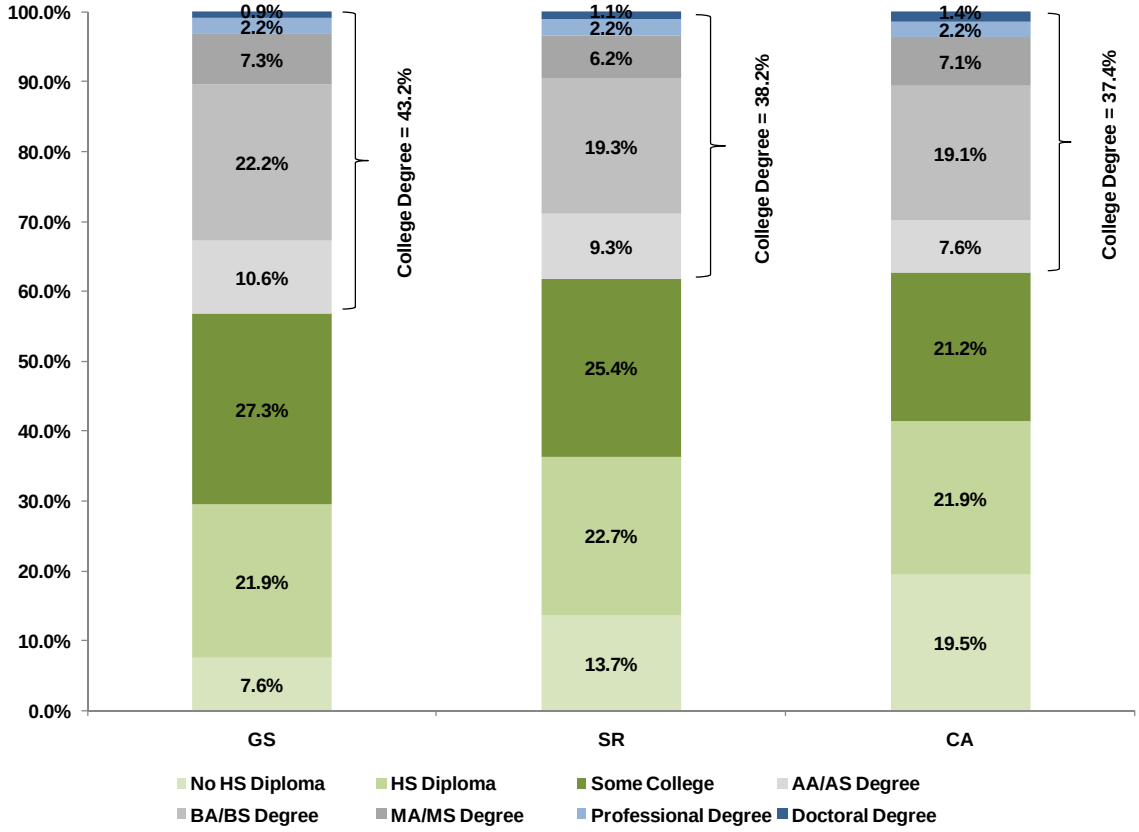
FIGURE 16
RESIDENT MAJOR OCCUPATIONAL CATEGORY EMPLOYMENT COMPOSITION
2005 TO 2009 AVERAGE

Occupational Category	*GS*	*SR*	*CA*
Management	12.7%	10.2%	10.0%
Business & Financial Operations	5.5%	5.7%	4.7%
Computer & Mathematical	3.2%	3.3%	2.7%
Architecture & Engineering	2.6%	2.2%	2.3%
Life, Physical, & Social Science	0.9%	1.2%	1.1%
Community & Social Services	1.5%	1.7%	1.5%
Legal	1.3%	1.4%	1.3%
Education, Training, & Library	5.1%	5.5%	5.5%
Arts, Design, Entertainment, Sports, & Media	1.7%	1.7%	2.6%
Healthcare Practitioners & Technical	5.0%	4.5%	4.3%
Healthcare Support	1.6%	1.9%	1.8%
Protective Service	2.8%	2.4%	2.1%
Food Preparation & Serving-Related	5.2%	5.1%	5.0%
Building & Grounds Cleaning & Maintenance	3.3%	3.7%	4.3%
Personal Care & Service	3.6%	4.0%	3.9%
Sales & Related	14.2%	11.7%	11.6%
Office & Administrative Support	13.5%	15.4%	13.9%
Farming, Fishing, & Forestry	0.2%	0.7%	1.4%
Construction & Extraction	6.1%	6.0%	5.8%
Installation, Maintenance, & Repair	3.0%	3.1%	3.1%
Production	3.4%	3.6%	5.6%
Transportation & Material Moving	3.7%	5.2%	5.6%

Center for Strategic Economic Research, November 2010
Data Source: CSER analysis of U.S. Census Bureau information
Note: GS = Golden Sierra area; SR = Sacramento Region; and
CA = California

Over 43 percent of Golden Sierra residents (age 25 and above) have attained an Associate degree or higher educational level, as illustrated in Figure 17. This is a notably higher proportion than the regional and statewide averages of 38 percent and 37 percent, respectively. The Golden Sierra area also contains a larger proportion of the population with some college experience relative to the Sacramento Region and state. Only 24 percent of the jobs in the Golden Sierra area in 2009 were held by workers with a Bachelor's degree or higher educational attainment level whereas nearly 33 percent of the resident workforce has attained this level of education.*

FIGURE 17
RESIDENT EDUCATIONAL ATTAINMENT COMPOSITION
2005 TO 2009 AVERAGE

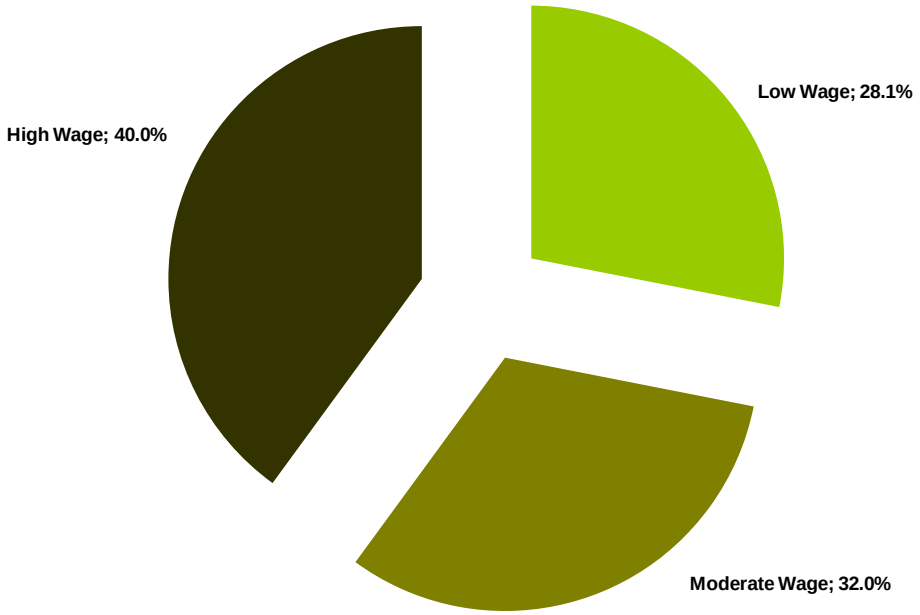


Center for Strategic Economic Research, November 2010
Data Source: CSER analysis of U.S. Census Bureau information
Note: GS = Golden Sierra area; SR = Sacramento Region; and CA = California

* Data Source: CSER analysis of U.S. Census Bureau information.

As shown in Figure 18, nearly three-quarters of the Golden Sierra resident workforce hold jobs that pay a High (more than $3,333 per month) or Moderate ($1,251 to $3,333 per month) Wage. Approximately 36 percent of jobs in the Golden Sierra area in 2009 were classified as High Wage while 40 percent of the resident workforce is employed in jobs at this wage level.[†]

FIGURE 18
GOLDEN SIERRA AREA RESIDENT WORKFORCE WAGE STRUCTURE
2004 TO 2009 AVERAGE

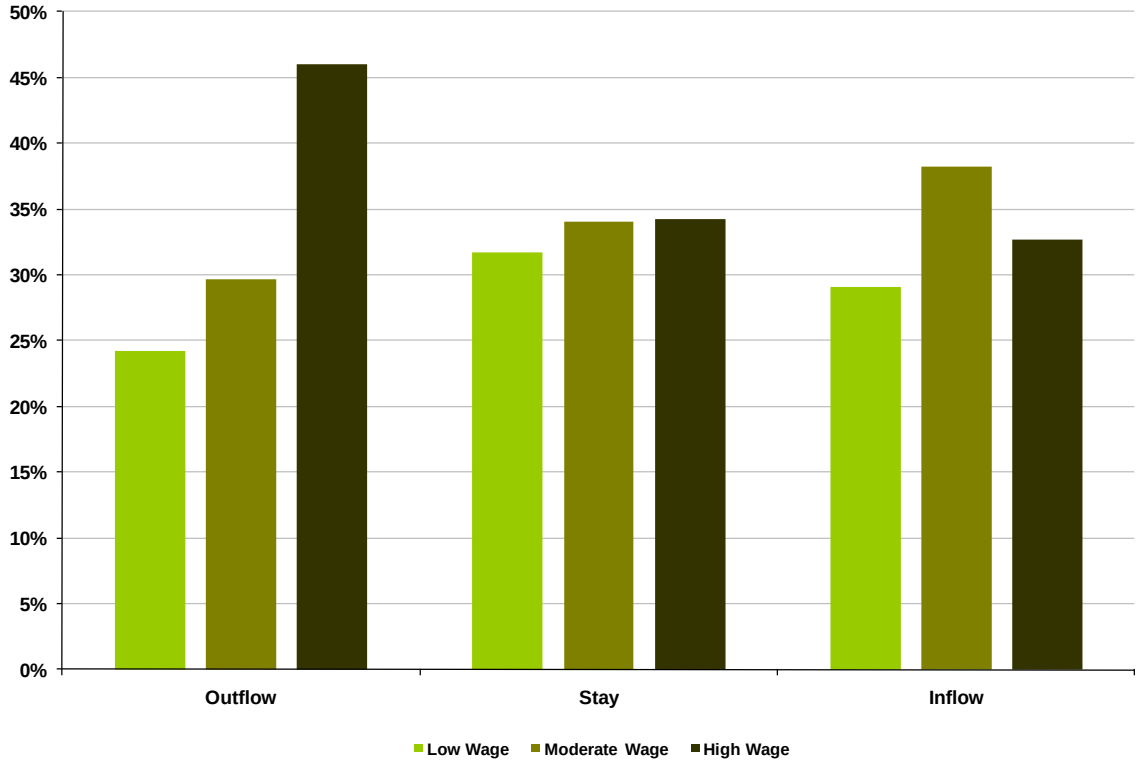


Center for Strategic Economic Research, November 2010
Data Source: CSER analysis of U.S. Census Bureau information

[†] Data Source: CSER analysis of U.S. Census Bureau information.

The variances between resident workforce and employment opportunities in the Golden Sierra area in terms of wages and educational attainment levels suggest that there will be additional out-commute dynamics on top of those that typically occur in a small market area within a large regional economy. Around 48 percent of the Golden Sierra resident workforce leaves the area for work while the remaining 52 percent stays. Out of the total number that leaves the area, only 74 percent are replaced by workers commuting into the Golden Sierra area. Nearly half of the workforce that commutes out of the Golden Sierra area works in Sacramento County.[‡] Figure 19 shows that around 46 percent of the Golden Sierra area worker outflow relates to jobs that fall in the High Wage category, which typically requires higher educational attainment levels. Another 30 percent of the outflow is associated with Moderate Wage jobs. The workforce that remains in the Golden Sierra area is essentially split across the wage categories, biased toward the upper ranges. Over 38 percent of the inflow is aligned with Moderate Wage jobs with High and Low Wage jobs accounting for a similar share of the remainder of the inflow.

FIGURE 19
GOLDEN SIERRA AREA COMMUTE PATTERNS
2004 TO 2009 AVERAGE



Center for Strategic Economic Research, November 2010
Data Source: CSER analysis of U.S. Census Bureau information

[‡] Data Source: CSER analysis of U.S. Census Bureau information.

3. Viable Clusters

This section explores the potential for enhanced growth and development in a set of viable clusters, which are assembled based on economic performance of specific business activities across related and supporting industry sectors. While fully-integrated clusters are not necessarily present in the Golden Sierra area, there are core activities within the local economy that can play a role in the larger regional economy and beyond. Summaries of Golden Sierra area cluster characteristics and estimated workforce demand are presented in this section. The report Appendix provides additional details on the research methodology utilized to select the viable clusters and the specific core competencies within them. Additional information on importance rankings of knowledge and skills for workers within the identified viable clusters was provided as part of this project in supplemental spreadsheets—this information can be used to further understand training requirements and job competencies associated with the occupations demanded by the viable clusters.

Viable Clusters Characteristics

Analysis of economic performance across several indicators specific to the Golden Sierra area economy revealed strengths across groupings of core activities within six clusters including Agriculture & Food, Business Services, Finance & Insurance, High Technology, Medical, and Recreation & Tourism. Figure 20 (on the following page) provides a summary of a few key cluster characteristics along with a set of screens which, in addition to relatively strong economic performance, illustrate the viability and economic development potential based on their ability to stimulate further benefits to the local economy. The economic base screen demonstrates the ability to generate net new wealth in the economy primarily through domestic and foreign exports and attraction of external spending (versus moving money around the economy through local demand). The high productivity screen indicates whether employees create economic value (output) at a level greater than the average across all detailed economic activities in the local economy. The employment multiplier screen reflects activities that generate a relatively large multiplier effect in the economy considering the combination of direct employment plus jobs created through demand on linked suppliers of goods and services and employee spending in the Golden Sierra area economy. Finally, the regional linkages screen accounts for sectors that use goods and services from the largest sectors in the Golden Sierra area and the Sacramento Region as inputs (forward linkages) or acts as suppliers of goods and services to the largest sectors in the Golden Sierra area and the Sacramento Region (backward linkages). Overall, the clusters present a mix of additional benefits, range in size from around 6,500 payroll jobs (High Technology) to 26,000 jobs (Recreation & Tourism), and are all forecast to see employment growth over the next five years at rates between about 3 percent (Agriculture & Food) and 22 percent (Business Services).

FIGURE 20
GOLDEN SIERRA AREA VIABLE CLUSTERS SUMMARY

Factor	*Agriculture & Food*	*Business Services*	*Finance & Insurance*	*High Technology*	*Medical*	*Recreation & Tourism*
2010 Employment	8,864	9,039	10,759	6,507	17,074	25,597
2010 % Related Regional Employment	21.5%	19.7%	22.2%	29.6%	22.4%	29.6%
2010-15 Employment Change Forecast	239	1,985	1,062	367	3,346	3,864
2010-15 Employment Growth Forecast	2.7%	22.0%	9.9%	5.6%	19.6%	15.1%
2010 Output ($ thousands)	$637,341	$969,222	$4,389,323	$2,061,713	$1,611,983	$1,044,771
2009 Nonemployer Entities	742	16,566	10,177	185	4,732	1,831
Cluster Screens						
Share of Core Cluster Competencies						
Economic Base	60.0%	33.3%	8.3%	90.9%	21.4%	57.1%
High Productivity	40.0%	44.4%	91.7%	100.0%	35.7%	21.4%
Strong Employment Multiplier	40.0%	11.1%	25.0%	72.7%	7.1%	14.3%
Regional Linkages	20.0%	22.2%	58.3%	45.5%	28.6%	14.3%

Center for Strategic Economic Research, November 2011
Data Source: CSER analysis of Moody's Analytics, CA Employment Development Department, and U.S. Bureau of Labor Statistics information

The Agriculture & Food cluster contains five core competencies with broad agriculture activities being the most prominent. This cluster supported close to 8,900 jobs and $637 million of output in the Golden Sierra area economy in 2010. In addition to payroll establishments in the local economy, there were around 740 nonemployer entities (businesses without paid employees) in 2009. While this cluster contains a greater share of Sacramento Region employment than the Golden Sierra area economy overall (22 percent compared to 18 percent), it is forecast to post employment growth at a rate slower than the entire Golden Sierra area economy over the 2010 to 2015 period (3 percent versus 12 percent). In terms of cluster screens, Agriculture & Food presents a healthy mix of additional benefits with economic base activities present in 60 percent of the core competencies.

Business Services includes nine core competencies with a variety of professional, scientific, and technical services supporting a notable share of the cluster employment. In 2010, this cluster supported roughly 9,000 jobs and $969 million of output in the Golden Sierra area economy with nearly 16,600 nonemployer entities as of 2009. The Business Services cluster is specialized and is expected to grow more quickly than the Golden Sierra area average. However, none of the cluster screens are triggered for a majority of the included core competencies.

The Finance & Insurance cluster, which includes 12 core competencies (with a large presence of banking and insurance activities), is also specialized with 22 percent of all related Sacramento Region employment falling within the Golden Sierra area. This cluster, however, is anticipated to post slower employment growth than the area average. It is among the three largest identified clusters with nearly 10,800 payroll jobs and $4.4 billion of output in 2010. In addition, there were close to 10,200 nonemployer entities in the Golden Sierra area in 2009. Finance & Insurance presents additional economic benefits in the form of high productivity and regional linkages with less robust presence on the other two screens.

High Technology is the smallest cluster in terms of total employment (around 6,500 in 2010), but is one of the largest in output (approximately $2.1 billion) due to high productivity in all 11 core competencies. Computer and peripheral equipment manufacturing is the most prominent of the competencies in this cluster. Similar to Agriculture & Food and Finance & Insurance, the cluster is specialized according to its share of regional employment, but is expected to grow more slowly than the entire economy. The cluster presents the most robust benefits of the group based on strong performance across three of the four screens.

The Medical cluster accounts for 14 core competencies, dominated by hospitals, with 2010 payroll employment of around 17,100 and output topping $1.6 billion. There were more than 4,700 nonemployer entities that fell within this cluster in the Golden Sierra area in 2009. Like Business Services, this sector captures a larger share of regional employment than the area average and is expected to see more robust growth than the overall area economy. Also similar to the Business Services cluster none of the screens show a majority of the core competencies.

Recreation & Tourism is one of the largest clusters with 14 core competencies, close to 25,600 payroll jobs, and over $1.0 billion of output. There were also a notable number of nonemployer entities in this cluster (over1,800) in 2009. The cluster captures a relatively large share of regional employment and is forecast to post employment growth stronger than the area average in the next five years. Around 57 percent of the core competencies meet the economic base screen.

Further illustrating growth potential in a few of the viable clusters, jurisdictions within the Golden Sierra area have commissioned economic development studies that identify similar economic activities. For example, in updating their economic development strategy, the City of Roseville's Office of Economic Development was presented with analysis highlighting potential for core competencies within five clusters including High Technology and Healthcare & Biotechnology. In addition, El Dorado County's investigation of economic development potential revealed opportunities in eight clusters with overlap in the Medical, Finance & Insurance, Business Services, and Recreation & Tourism activities. If these jurisdictions adopt economic development programs targeting these activities, future growth potential could be enhanced beyond what is reflected in the "business as usual" employment forecasts presented in Figure 20.

In addition to the six identified viable clusters, the Clean Energy Technology cluster should also garner attention due to the presence of strong regional economic development initiatives that have targeted growth and development of this cluster since 2005 (e.g. Green Capital Alliance, CleanStart, and Greenwise). A recent study on this cluster in the Sacramento Region identified approximately 200 establishments supporting over 3,000 jobs and $846 million of annual sales.[§] The data from this study show that the Golden Sierra area contains about 25 percent of the Region's Clean Energy Technology establishments (including two of the largest and most visible, SMA America and Solar

[§] Sacramento Region Clean Energy Technology Cluster Characteristics and Competitive Analysis, January 2011. Available at: http://www.strategiceconomicresearch.org/AboutUs/cetcluster.pdf.

Power, Inc.) with close to 16 percent of the estimated cluster jobs and 19 percent of annual sales. It is important to note that this cluster cannot be tracked like the others due to the emerging nature of many of the key components that are not appropriately segmented in standard industrial classification systems.

Viable Clusters Workforce Demand

Figure 21 (on the following pages) lists the 10 occupations estimated to capture the greatest share of all jobs within each of the viable sectors. The top 10 occupations make up a notable share of cluster workforce demand, accounting for between about 42 percent and 70 percent of all jobs across the core competencies that are embedded within the clusters. Training levels vary significantly among the viable clusters with the High Technology cluster demonstrating the greatest demand for occupations requiring higher education while the Recreation & Tourism cluster represents the lower end of the training level spectrum utilizing mainly on-the-job training occupations. The greening of the economy could also affect several of the predominant occupations in the Agriculture & Food, Business Services, Finance & Insurance, and High Technology clusters either through increased demand, new skill requirements, or job opportunities emerging in new fields. A few of the most demanded occupations in the viable clusters (those marked with an asterisk in Figure 21) are related to those occupations affected by declines in the sub-sectors posting the largest losses in the 2005 to 2010 period (shown in Figure 6). This overlap represents opportunities for transitioning workers heavily impacted by the recession into viable cluster activities if resources are ultimately targeted toward facilitating enhanced growth and development in the identified core competencies.

FIGURE 21
TOP 10 OCCUPATIONS ASSOCIATED WITH VIABLE CLUSTERS

Cluster / Occupation	*Estimated Share of Cluster Jobs*	*Training Level*	*Green Economy*
Agriculture & Food			
Cashiers	22.0%	STOJT	-
Farm, Ranch, & Other Agricultural Managers	12.9%	BA/BS + Exp	-
Stock Clerks & Order Fillers	6.9%	STOJT	-
Packers & Packagers, Hand	6.8%	STOJT	-
Agricultural Equipment Operators	4.8%	MTOJT	-
Farmw orkers, Farm & Ranch Animals	4.7%	STOJT	-
Combined Food Preparation & Serving Workers, Including Fast Food	3.4%	STOJT	-
First-Line Supervisors/Managers of Farming, Fishing, & Forestry Workers	3.1%	Work Exp	Demand
First-Line Supervisors/Managers of Retail Sales Workers	2.5%	Work Exp	-
Butchers & Meat Cutters	2.4%	LTOJT	-
Business Services			
Janitors & Cleaners, Except Maids & Housekeeping Cleaners	12.0%	STOJT	-
L&scaping & Groundskeeping Workers	9.5%	STOJT	-
Management Analysts	3.9%	BA/BS + Exp	-
Customer Service Representatives*	3.8%	MTOJT	Demand
General & Operations Managers*	3.6%	BA/BS + Exp	Skill
Office Clerks, General*	3.4%	STOJT	-
Executive Secretaries & Executive Administrative Assistants	3.2%	MTOJT	-
Business Operations Specialists, All Other	2.8%	BA/BS	Emerging
Bookkeeping, Accounting, & Auditing Clerks*	2.3%	MTOJT	-
Veterinary Technologists & Technicians	2.2%	AA/AS	-
Finance & Insurance			
Tellers	8.9%	STOJT	-
Insurance Claims & Policy Processing Clerks	6.8%	MTOJT	-
Customer Service Representatives*	5.8%	MTOJT	Demand
Insurance Sales Agents	4.9%	AA/AS	-
Claims Adjusters, Examiners, & Investigators	4.6%	LTOJT	-
First-Line Supervisors of Office & Administrative Support Workers	4.1%	Work Exp	-
Executive Secretaries & Executive Administrative Assistants	3.5%	MTOJT	-
Counter & Rental Clerks	3.4%	STOJT	-
Loan Officers	3.3%	BA/BS	-
Maintenance & Repair Workers, General	3.2%	LTOJT	Skill

Center for Strategic Economic Research, November 2011
Data Source: CSER analysis of Moody's Analytics, CA Employment Development Department, U.S. Bureau of Labor Statistics, and Occupational Information Network information
*Note: Occupations also fall within list of top 20 occupations associated with the top 10 sub-sector employment losses between 2005 and 2010

FIGURE 21—*CONTINUED*
TOP 10 OCCUPATIONS ASSOCIATED
WITH VIABLE CLUSTERS

Cluster / Occupation	*Estimated Share of Cluster Jobs*	*Training Level*	*Green Economy*
High Technology			
Computer Software Engineers, Systems Software	8.3%	BA/BS	Demand
Computer Software Engineers, Applications	6.4%	BA/BS	-
Retail Salespersons*	5.8%	STOJT	-
Telecommunications Equipment Installers & Repairers, Except Line Installers	4.5%	LTOJT	-
Computer Hardware Engineers	4.0%	BA/BS	-
Business Operations Specialists, All Other	3.3%	BA/BS	-
Customer Service Representatives*	2.7%	MTOJT	Demand
Marketing Managers	2.6%	BA/BS + Exp	Skill
Electrical & Electronic Equipment Assemblers	2.4%	STOJT	-
Telecommunications Line Installers & Repairers	2.4%	LTOJT	-
Medical			
Registered Nurses	14.1%	AA/AS	-
Medical Secretaries	7.2%	PSVE	-
Medical Assistants	5.7%	MTOJT	-
Dental Assistants	4.9%	MTOJT	-
Nursing Aides, Orderlies, & Attendants	3.1%	STOJT	-
Licensed Practical & Licensed Vocational Nurses	2.6%	PSVE	-
Home Health Aides	2.1%	STOJT	-
Dental Hygienists	2.0%	AA/AS	-
Pharmacy Technicians	2.0%	MTOJT	-
First-Line Supervisors/Managers of Office & Administrative Support Workers	1.9%	Work Exp	-
Recreation & Tourism			
Waiters & Waitresses	14.8%	STOJT	-
Combined Food Preparation & Serving Workers, Including Fast Food*	11.9%	STOJT	-
Cooks, Fast Food	6.5%	STOJT	-
Cooks, Restaurant*	6.0%	LTOJT	-
First-Line Supervisors of Food Preparation & Serving Workers	4.2%	Work Exp	-
Fitness Trainers & Aerobics Instructors	4.1%	PSVE	-
Food Preparation Workers	4.0%	STOJT	-
Amusement & Recreation Attendants	3.8%	STOJT	-
Maids & Housekeeping Cleaners	3.7%	STOJT	-
Dishwashers	3.7%	STOJT	-

Center for Strategic Economic Research, November 2011
Data Source: CSER analysis of Moody's Analytics, CA Employment Development Department, U.S. Bureau of Labor Statistics, and Occupational Information Network information
*Note: Occupations also fall within list of top 20 occupations associated with the top 10 sub-sector employment losses between 2005 and 2010

Examining estimated workforce demand across all six clusters reveals the greatest aggregate demand falls within the following 20 occupations (listed alphabetically with generally-required training levels in parentheses). These occupations account for roughly 42 percent of all jobs within the viable clusters. A large share of the predominant occupations fall within the food preparation and serving related (7) and office and administrative support (5) occupational categories. The majority of the top 20 occupations (13) generally require on-the-job training while only three support a higher education training level including Registered Nurses; Farm, Ranch, & Other Agricultural Managers; and General and Operations Managers. This occupational demand is somewhat more heavily weighted toward the low end of the skill spectrum than the economy overall, but it is important to note that the clusters present opportunities for jobs in a wide range of occupations and skill levels which fall within categories that align with the Golden Sierra resident employment composition (shown in Figure 16).

- Bookkeeping, Accounting, & Auditing Clerks (MTOJT)
- Cashiers (STOJT)
- Combined Food Preparation & Serving Workers, Including Fast Food (STOJT)
- Cooks, Fast Food (STOJT)
- Cooks, Restaurant (LTOJT)
- Customer Service Representatives (MTOJT)
- Dishwashers (STOJT)
- Farm, Ranch, & Other Agricultural Managers (BA/BS + Exp)
- First-Line Supervisors of Office and Administrative Support Workers (Work Exp)
- First-Line Supervisors/Managers of Food Preparation & Serving Workers (Work Exp)
- Fitness Trainers & Aerobics Instructors (PSVE)
- Food Preparation Workers (STOJT)
- General & Operations Managers (BA/BS + Exp)
- Janitors & Cleaners, Except Maids & Housekeeping Cleaners (STOJT)
- Maids & Housekeeping Cleaners (STOJT)
- Medical Secretaries (PSVE)
- Office Clerks, General (STOJT)
- Registered Nurses (AA/AS)
- Retail Salespersons (STOJT)
- Waiters & Waitresses (STOJT)

The following four occupations are present in the top 10 occupations list for two or more of the viable clusters, illustrating the potential cross-cluster opportunities for these types of workers. It is interesting to note that two of these occupations, Combined Food Preparation & Serving Workers and Customer Service Representatives, are among the list of those most affected by job losses in the Golden Sierra area in the past five years.

- Business Operations Specialists, All Other
- Combined Food Preparation & Serving Workers, Including Fast Food
- Customer Service Representatives
- Executive Secretaries & Executive Administrative Assistants

In terms of the Clean Energy Technology cluster, workforce analysis focused on one core segment, solar (in particular installation, wholesale, and manufacturing), highlighted the following eight occupations as representative of predominant job demand in the Sacramento Region.[**] Half of the occupations are specific to the cluster segment while the other four reflect broader jobs that are present in a number of different industry sectors including some of the core competencies captured within the identified viable clusters.

- Solar Photovoltaic Installers or Technicians
- Sales Representatives or Estimators

[**] Environmental Scan Solar Industry Greater Sacramento Area, July 2011. Available at: http://greencapitalalliance.org/wp-content/uploads/2011/07/SolarSacramentoRegion_COE2011.pdf

- Solar Designers & Engineers
- Solar Installation Managers or Project Foremen
- Production & Operating Workers
- First-Line Supervisors or Managers of Production & Operating Workers
- Accountants & Accounting Clerks or Finance Staff
- Sales & Marketing Occupations

Appendix—Research Methodology

The data, analysis, and figures presented throughout this interim report were developed using the cited sources. CSER created internal estimates and detailed analysis for several of the quantitative components in this study. A description of the methodology employed in producing these components is provided in this section.

Historical and forecast employment and output analysis relied primarily on annual data sets acquired from Moody's Economy.com for California, the Sacramento Region, and the Golden Sierra area at a four-digit North American Industrial Classification System (NAICS) code hierarchy (referred to as sub-sectors). The historical data in the sets are created using official government-provided estimates of employment by industry. Moody's Analytics forecasts are developed using a proprietary econometric model and are highly-regarded by researchers throughout the country, including CSER. CSER checked historical industry information from the Moody's Analytics database for large variances against other publicly-available datasets (including the California Employment Development Department Employment by Industry Data and the United States Bureau of Labor Statistics Quarterly Census of Employment & Wages and Current Employment Statistics) and adjustments were made as appropriate.

The set of potential viable clusters was created primarily based on an economic performance index. The index utilized 14 factors for all four-digit NAICS sectors in the Golden Sierra area economy (over 380):

1. Historical employment growth rate, 2005-2010
2. Employment growth rate forecast, 2010-2015
3. Historical output (market value of goods and services) growth rate, 2005-2010
4. Output growth rate forecast, 2010-2015
5. Employment composition (percent of area total), 2010
6. Shift in employment composition, 2005-2010
7. Output composition, 2010
8. Shift in output composition, 2005-2010
9. Employment specialization (percent of total in Golden Sierra are compared to percent of total in the Sacramento Region), 2010
10. Shift in employment specialization, 2005-2010
11. Output specialization, 2010
12. Shift in output specialization, 2005-2010
13. Productivity (output per employee), 2010
14. Productivity growth rate, 2005-2010

Every sector received an index score on each of the 14 factors based on performance relative to all other sectors. For each sector, the 14 index scores were averaged, reindexed, and then ranked. Sectors within approximately the top half of economic performance (roughly 140) were identified and were grouped into six potential cluster activities based on CSER professional experience. As part of this evaluation, CSER also considered feedback provided by the Placer County Economic Development Board and

Golden Sierra Workforce Investment Board as well as trends in Golden Sierra area nonemployer statistics gathered at the four-digit NAICS level through the U.S. Census Bureau for the 2004 to 2009 period. Four other factors were also analyzed within each cluster to demonstrate further opportunities and benefits as well as help screen for viable activities:

1. **Economic Base**—illustrates if the core cluster activity can be considered base according to the following base analysis. The split of base and local-serving activities was created using a simple two-step process. First, CSER determined whether those identified sectors were typically considered base within the Sacramento Region according to the California Regional Economies Project 2004 Greater Sacramento Region Economic Base Report and other previously-published CSER studies. Second, the base activities were matched to four-digit NAICS employment data for the Golden Sierra area.
2. **High Productivity**—identifies those sectors which support a 2010 output per employee level greater than the Golden Sierra area average.
3. **Strong Employment Multiplier**—demonstrates the ripple effect created by direct, indirect (linked suppliers of goods and services), and induced (employee spending) employment within specific sectors. This factor utilized the employment multiplier information from IMPLAN (2009 Coefficient series). The top 40 employment multiplier sectors in the Golden Sierra area were identified and matched to the list of core cluster activities.
4. **Regional Linkages**—reflects sectors that use goods and services from the largest sectors in the Golden Sierra area and Sacramento Region as inputs (forward linkages) or acts as suppliers of goods and services to the largest sectors in the Golden Sierra area and Sacramento Region (backward linkages). This factor relied on regional use data for forward linkages and social accounts matrix industry by industry information for backward linkages, both from IMPLAN (2009 Coefficient series). The top two forward linkage and top two backward linkage sectors were identified based on value of goods and services for each of the five largest sectors in the Golden Sierra area and Sacramento Region based on employment. The core cluster activities were then matched to this list of 40 regional linkage sectors.

Figures A-1 through A-6 (on the following pages) summarize the potential viable clusters and core activities, the associated 2010 employment levels, and share of related Sacramento Region employment. It is important to note that the cluster potential reflects only those core activities presented, not necessarily a fully-integrated cluster.

FIGURE A-1
AGRICULTURE & FOOD CLUSTER
CORE COMPETENCIES AND EMPLOYMENT

NAICS	*Sector*	*GS 2010 Emp*	*2010 % Related SR Emp*
3331	Agriculture, Construction, and Mining Machinery Manufacturing	35	7.8%
-	Agriculture (Farms; Fishing, Hunting, etc.; Logging)	3,430	18.6%
4244	Grocery and Related Product Merchant Wholesalers	642	14.6%
4453	Beer, Wine, and Liquor Stores	137	17.0%
4451	Grocery Stores	4,620	26.8%
-	*Total Cluster*	*8,864*	*21.5%*

Center for Strategic Economic Research, November 2011
Data Source: CSER analysis of Moody's Analytics, CA Employment Development Department, and U.S. Bureau of Labor Statistics information
Note: GS = Golden Sierra area and SR = Sacramento Region

FIGURE A-2
BUSINESS SERVICES CLUSTER
CORE COMPETENCIES AND EMPLOYMENT

NAICS	*Sector*	*GS 2010 Emp*	*2010 % Related SR Emp*
4541	Electronic Shopping and Mail-Order Houses	424	46.1%
5419	Other Professional, Scientific, and Technical Services	1,160	31.2%
5629	Remediation and Other Waste Management Services	350	48.3%
5611	Office Administrative Services	933	24.2%
8139	Business, Professional, Labor, Political, and Similar Organizations	804	16.1%
5511	Management of Companies and Enterprises	931	9.5%
5416	Management, Scientific, and Technical Consulting Services	1,908	20.2%
5619	Other Support Services	229	12.6%
5617	Services to Buildings and Dwellings	2,300	21.6%
-	*Total Cluster*	*9,039*	*19.7%*

Center for Strategic Economic Research, November 2011
Data Source: CSER analysis of Moody's Analytics, CA Employment Development Department, and U.S. Bureau of Labor Statistics information
Note: GS = Golden Sierra area and SR = Sacramento Region

FIGURE A-3
FINANCE & INSURANCE CLUSTER
CORE COMPETENCIES AND EMPLOYMENT

NAICS	*Sector*	*GS 2010 Emp*	*2010 % Related SR Emp*
5313	Activities Related to Real Estate	1,206	24.0%
5311	Lessors of Real Estate	804	30.1%
5242	Agencies, Brokerages, and Other Insurance Related Activities	1,823	26.9%
5251	Insurance and Employee Benefit Funds	79	69.9%
5221	Depository Credit Intermediation	2,382	27.1%
5259	Other Investment Pools and Funds	28	1.9%
4251	Wholesale Electronic Markets and Agents and Brokers	345	13.8%
5211	Monetary Authorities-Central Bank	34	29.6%
5239	Other Financial Investment Activities	275	15.0%
5616	Investigation and Security Services	400	7.2%
5241	Insurance Carriers	2,435	21.3%
5223	Activities Related to Credit Intermediation	948	46.3%
-	*Total Cluster*	*10,759*	*22.2%*

Center for Strategic Economic Research, November 2011
Data Source: CSER analysis of Moody's Analytics, CA Employment Development Department, and U.S. Bureau of Labor Statistics information
Note: GS = Golden Sierra area and SR = Sacramento Region

FIGURE A-4
HIGH TECHNOLOGY CLUSTER
CORE COMPETENCIES AND EMPLOYMENT

NAICS	*Sector*	*GS 2010 Emp*	*2010 % Related SR Emp*
5171	Wired Telecommunications Carriers	621	25.4%
5112	Software Publishers	512	63.6%
5172	Wireless Telecommunications Carriers (except Satellite)	71	10.1%
5179	Other Telecommunications	608	9.9%
3341	Computer and Peripheral Equipment Manufacturing	2,536	65.7%
3344	Semiconductor and Other Electronic Component Manufacturing	803	55.6%
4431	Electronics and Appliance Stores	870	24.7%
4236	Electrical and Electronic Goods Merchant Wholesalers	352	27.9%
3346	Manufacturing and Reproducing Magnetic and Optical Media	35	44.3%
3364	Aerospace Product and Parts Manufacturing	76	4.5%
3343	Audio and Video Equipment Manufacturing	23	36.5%
-	*Total Cluster*	*6,507*	*29.6%*

Center for Strategic Economic Research, November 2011
Data Source: CSER analysis of Moody's Analytics, CA Employment Development Department, and U.S. Bureau of Labor Statistics information
Note: GS = Golden Sierra area and SR = Sacramento Region

FIGURE A-5
MEDICAL CLUSTER
CORE COMPETENCIES AND EMPLOYMENT

NAICS	Sector	GS 2010 Emp	2010 % Related SR Emp
6221	General Medical and Surgical Hospitals	5,413	23.3%
6214	Outpatient Care Centers	2,181	17.9%
6216	Home Health Care Services	692	22.7%
6212	Offices of Dentists	2,075	28.6%
6219	Other Ambulatory Health Care Services	260	18.9%
6211	Offices of Physicians	2,320	21.4%
6213	Offices of Other Health Practitioners	1,042	28.5%
3254	Pharmaceutical and Medicine Manufacturing	115	22.5%
4461	Health and Personal Care Stores	1,432	25.5%
6223	Specialty (except Psychiatric and Substance Abuse) Hospitals	145	22.0%
3345	Navigational, Measuring, Electromedical, and Control Instruments Manufacturing	323	19.9%
6215	Medical and Diagnostic Laboratories	141	11.9%
3391	Medical Equipment and Supplies Manufacturing	247	31.2%
6233	Community Care Facilities for the Elderly	688	16.1%
-	*Total Cluster*	*17,074*	*22.4%*

Center for Strategic Economic Research, November 2011
Data Source: CSER analysis of Moody's Analytics, CA Employment Development Department, and U.S. Bureau of Labor Statistics information
Note: GS = Golden Sierra area and SR = Sacramento Region

FIGURE A-6
RECREATION & TOURISM CLUSTER
CORE COMPETENCIES AND EMPLOYMENT

NAICS	Sector	GS 2010 Emp	2010 % Related SR Emp
5321	Automotive Equipment Rental and Leasing	303	23.0%
4884	Support Activities for Road Transportation	113	14.4%
4859	Other Transit and Ground Passenger Transportation	140	17.9%
4881	Support Activities for Air Transportation	91	11.2%
4821	Rail Transportation	598	40.5%
4832	Inland Water Transportation	7	16.3%
7139	Other Amusement and Recreation Industries	3,995	41.5%
7212	RV (Recreational Vehicle) Parks and Recreational Camps	132	43.3%
4511	Sporting Goods, Hobby, and Musical Instrument Stores	1,036	28.5%
7211	Traveler Accommodation	3,795	45.9%
4831	Deep Sea, Coastal, and Great Lakes Water Transportation	47	24.7%
7113	Promoters of Performing Arts, Sports, and Similar Events	72	12.1%
7221	Full-Service Restaurants	8,104	28.9%
7222	Limited-Service Eating Places	7,164	23.4%
-	*Total Cluster*	*25,597*	*29.6%*

Center for Strategic Economic Research, November 2011
Data Source: CSER analysis of Moody's Analytics, CA Employment Development Department, and U.S. Bureau of Labor Statistics information
Note: GS = Golden Sierra area and SR = Sacramento Region

The translation of sub-sector to occupational employment and related training levels was generated through the California Employment Development Department Industry-Occupation Matrix 2008-2018 (otherwise known as "staffing patterns"). The 2008 proportions of specific occupations to total industry employment were applied to the sub-sector employment gains and losses, assuming the occupational demand within sub-

sectors in the regional economy are similar to those at the statewide average and that the proportions have not shifted significantly between 2005 and 2010. The resulting occupational employment was aggregated across the sub-sectors. A similar approach was used to identify specific occupations in the cluster analysis; however, for some of the related core competencies, four-digit NAICS data was not available within the California staffing patterns; therefore national level proportions were applied from the U.S. Bureau of Labor Statistics May 2010 Industry-Specific Occupational Employment and Wage Estimates database.

The staffing patterns data also assigns one of 11 generally required training levels to each occupation. While there are many ways to enter an occupation, this system reflects the manner in which most workers become fully qualified or proficient in that occupation and the preferences of most employers. This analysis also assumes that occupations in the regional economy maintain the same typically-required training levels as the statewide average. The Bureau of Labor Statistics' definitions for each of the 11 training levels are presented below:

1. **First Professional Degree**—occupations that require at least two years of full-time academic study beyond a bachelor's degree (for example, law, medicine, dentistry, and clergy).
2. **Doctoral Degree (PhD)**—occupations that require at least three years of full-time academic study beyond a bachelor's degree culminating in a doctoral degree.
3. **Master's Degree (MA/MS)**—occupations that require the completion of a master's degree program which is usually one to two years beyond a bachelor's degree.
4. **Bachelor's Degree (BA/BS) or Higher and Some Work Experience**—occupations that generally require work experience in an occupation requiring a bachelor's or higher degree. Most occupations in this category are managerial occupations that require work experience in a related non-managerial occupation.
5. **Bachelor's Degree (BA/BS)**—occupations that require the completion of at least four but not more than five years of full-time academic study beyond high school resulting in a bachelor's degree.
6. **Associate Degree (AA/AS)**—occupations that require the completion of at least two years of full-time academic study beyond high school.
7. **Post-Secondary Vocational Education (PSVE)**—occupations that require completion of vocational school training.
8. **Work Experience**—occupations that require skills obtained through work experience in a related occupation.
9. **Long-Term On-the-Job-Training (LTOJT)**—occupations that require more than 12 months of on-the-job training or combined work experience and formal classroom instruction for workers to develop the skills needed for average job performance.
10. **Moderate-Term On-the-Job-Training (MTOJT)**—occupations in which workers can develop average job performance after 1 to 12 months of combined on-the-job experience and informal training.
11. **Short-Term On-the-Job-Training (STOJT)**—occupations in which workers can develop skills needed after a short demonstration or up to one month of on-the-job experience and instruction.

To assess further opportunities in the predominant loss and cluster-specific occupations, CSER utilized the Occupational Information Network (commonly known as O*Net) database to identify related and green occupations. Those related occupations where the top gains sub-sectors generated 50 or more jobs (across all affected occupations) were identified. In addition, O*Net's analysis of the greening of the economy identified three types of changes across specific occupations:

1. **Demand**—the impact of green economy activities and technologies creates an increase in the employment demand for an existing occupation; however, this impact does not entail significant changes in the work and worker requirements of the occupation.
2. **Skills**—the impact of green economy activities and technologies results in a significant change to the work and worker requirements of an existing occupation with the essential purposes of the occupation remaining the same, but tasks, skills, knowledge, and external elements, such as credentials, have been altered.
3. **Emerging**—the impact of green economy activities and technologies is sufficient to create the need for unique work and worker requirements, which results in the generation of a new occupation.

CSER also utilized the O*Net database to capture additional information on competencies necessary for successful job performance. There are two important aspects in the overall concept of job competencies—knowledge (the application of organized sets of principles and facts) and skill (developed capacities that facilitate learning or the more rapid acquisition of knowledge). The O*Net database provides importance rankings (on a zero to 100 scale) for a standard set of knowledge (33) and skills (35) categories across a number of specific occupations. Rankings in the database are based on national surveys of employees in the occupations regarding competencies that allow them to be successful workers. The knowledge and skills rankings for the top gain and loss occupations as well as the six clusters will be provided in supplemental spreadsheets.

CENTER for STRATEGIC ECONOMIC RESEARCH

WHERE ECONOMIC RESEARCH AND THE REAL WORLD CONVERGE

THE CENTER FOR STRATEGIC ECONOMIC RESEARCH (CSER) is an economic research and consulting group affiliated with the Sacramento Area Commerce and Trade Organization (SACTO). CSER provides a full range of objective economic and demographic research services to businesses, government entities, educational institutions, and non-profit organizations. The experienced staff at CSER possesses extensive knowledge of economic and demographic research, economic development practices, and urban planning. Private and public sector clients throughout the country look to CSER's unique research expertise to help them make informed decisions through the strategic application of objective economic analysis. Every project is successfully completed on time, within budget, and in accordance with the highest quality standards.

Our primary services include:

- Market and Feasibility Analyses
- Economic Development Strategies
- Economic and Tax Impact Studies
- Industry Studies
- Workforce Studies
- Economic and Demographic Profiles
- Policy Analysis and Program Evaluation Support
- Research Validation and Peer Review
- Site Selection Information and Research
- Stimulus Project Analyses and Monitoring

400 Capitol Mall, Suite 2500 | Sacramento, CA 95814-4436
916.491.0444 | www.StrategicEconomicResearch.org