

State of the Economy: Kern County, California

Introduction

For this year's *Kern County Economic Summit*, I have prepared a two-part report: (1) Tracking Kern County's Economy and (2) Monitoring Economic Development Strategy. My research results in Part 1 indicate that Kern County's economy has improved in 2006 and its outlook looks bright in 2007. In Part 2, I conclude that Kern County has made progress in the implementation of its economic development strategy in 2005.

Kern's economy is approaching \$16 billion. Its total personal income is expected to grow 3.0 percent in 2007. The economy will create sufficient jobs for its growing workforce. With the transformation from a resource-based economy to an industrial and service-oriented economy, the county's unemployment rate is expected to fall from 7.6 percent in 2006 to 7.4 percent in 2007. Still, the housing market will remain soft. In spite of low mortgage interest rates, sales of residential units and issuance of new building permits will continue to fall. In the meantime, the median housing price for all residential units sold in the county, which appreciated 18 percent in 2006, is expected to rise at a modest rate of 2.5 percent in 2007. With continued softening of the housing demand, our expectation for this price increase is due to cost-push factors such as rising land values and increased construction costs.

Economic Performance Indicators							
Indicator	2001	2002	2003	2004	2005	2006	2007f
Economy:							
Personal Income (billion \$)	14.2	14.4	14.7	15.0	15.3	15.7	16.2
Personal Income Growth (%)	2.3	1.4	2.1	2.0	2.1	2.6	3.0
Personal Income per Capita (\$)	20,520	20,650	20,700	20,500	20,300	20,560	20,520
Personal Income per Worker (\$)	47,450	46,750	46,600	46,900	47,400	47,800	48,400
Personal Income per Household (\$)	36,000	36,100	36,200	36,600	37,400	37,500	38,600
Labor Market:							
Population	673,600	688,900	708,400	732,400	753,100	779,800	803,200
Labor Force	299,300	308,000	315,400	319,800	322,600	328,600	334,200
Employment	273,600	277,800	282,800	288,500	296,500	303,500	309,500
Unemployment	25,700	30,200	32,600	31,300	26,100	24,900	24,500
Unemployment Rate (%)	8.6	9.8	10.3	9.8	8.1	7.6	7.4
Nonfarm Employment	202,300	205,100	207,100	210,700	216,400	227,700	232,100
Farm Employment	41,700	40,300	41,900	40,000	41,300	41,700	40,700
Informal Employment	29,600	32,400	33,800	37,800	38,800	34,200	36,800
Private-sector Employment	148,600	149,900	152,600	156,700	161,700	170,500	173,800
Public-sector Employment	53,700	55,200	54,500	54,000	54,700	57,200	58,300
Housing Market:							
Median Price (\$)	93,400	108,600	132,500	167,100	233,500	275,700	282,600
New Building Permits	3,280	3,751	5,595	6,641	7,630	6,087	5,000
Affordability Indicator (%)	38.5	33.3	27.0	21.7	16.1	13.5	13.7
Note: 2007f is the forecast for this year. Here, housing affordability is measured as the ratio of mean household income to median housing price.							

The Economic Development Strategy (hereafter, the Strategy) for Kern County has identified several leading industry clusters. Industry clusters are agglomerations of export-oriented industries, specialized local suppliers, and input providers like human resources and infrastructure. The leading industry clusters are:

- Value-Added Agriculture
- Energy and Chemicals
- Transportation, Logistics, and Warehousing Services
- Business and Professional Services
- Tourism, Recreation, and Entertainment
- Health Care Services and Medical Technologies
- Aerospace and Defense

The implementation of the Strategy required the establishment of a monitoring system to track performance of the county's economy. This first annual report for monitoring the implementation of the Strategy covers the period of 2004-2005. The year 2004 is when the Strategy was put into effect and the year 2005 is the first year of its performance evaluation.

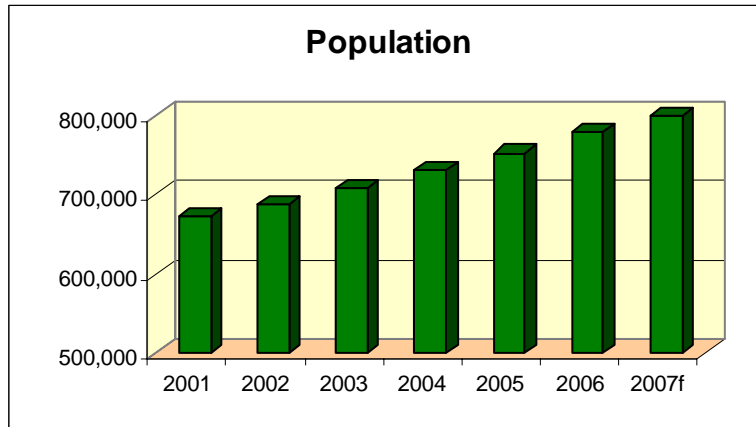
In 2005, the *established* industries (value-added agriculture; energy and chemicals; and aerospace and defense) remained competitive with positive employment growth and high employment concentration. The *emerging* industry clusters (transportation, logistics, and warehousing services; business and professional services; tourism, recreation, and entertainment; and health care services and medical technologies) became more competitive with rapid employment growth, but low employment concentration.

Economic Development Conditions					
Industry Cluster	Employment	Growth	Concentration	Competitiveness	Leading Segment
Value-Added Agriculture	Large (>50,000)	Positive Rapid	High Rising	Established Regaining Competitiveness	Crop Production Food Manufacturing Support Activities
Energy & Chemicals	Medium (>13,000)	Positive Rapid	High Falling	Established Gaining Competitiveness	Support Activities & Construction Oil & Gas Extraction Oil & Chemicals Manufacturing
Transportation, Logistics & Warehousing	Medium (>11,000)	Positive Rapid	Low Rising	Emerging Gaining Competitiveness	Transportation
Business & Professional Services	Large (>24,000)	Positive Rapid	Low Falling	Emerging Gaining Competitiveness	Administrative Support & Waste Management & Remediation Professional, Scientific & Technical Services
Tourism, Recreation & Entertainment	Large (>20,000)	Positive Rapid	Low Rising	Emerging Gaining Competitiveness	Accommodation & Food Services
Health Care Services & Medical Technologies	Medium (>18,000)	Positive Rapid	Low Falling	Emerging Gaining Competitiveness	Ambulatory Health Care Services
Aerospace & Defense	Large (>21,000)	Positive Slow	High Falling	Established Maintaining Competitiveness	Civilian Workers & Contractors

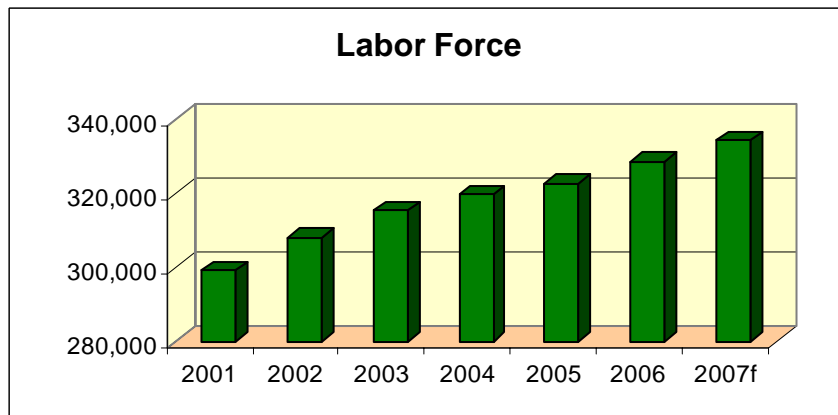
For this report, I have used data from various sources including: the U.S. Census Bureau; the Bureau of Economic Analysis; the Bureau of Labor Statistics; the California Association of Realtors; the California Employment Development Department; Data Quick; Economagic; Economic Development Strategy for Kern County; and Rand California. I have used various statistical software packages to analyze and project data. Needless to say, I am responsible for any error that you may find in this report.

Tracking the Economy

Population - Kern County's population is expected to exceed 800,000 in 2007. At a projected growth rate of 3.0 percent, the county will add 23,400 new residents. If the trend continues, the county's population will reach 1.0 million by 2020.



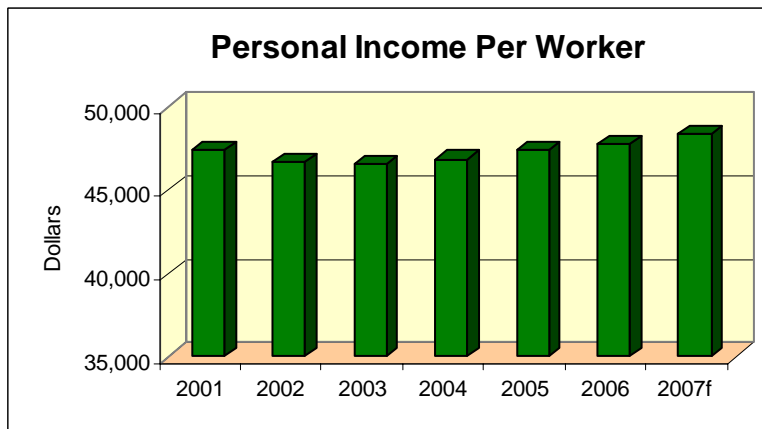
Labor Force – Kern County's workforce makes up 43 percent of its population. The remaining 57 percent are those who do not participate in civilian labor market activities (e.g., children, retired, members of armed forces, and prisoners). The county's labor force is expected to grow 1.8 percent, adding 5,600 members. As a result, the local workforce will rise from 328,600 in 2006 to 334,200 in 2007.



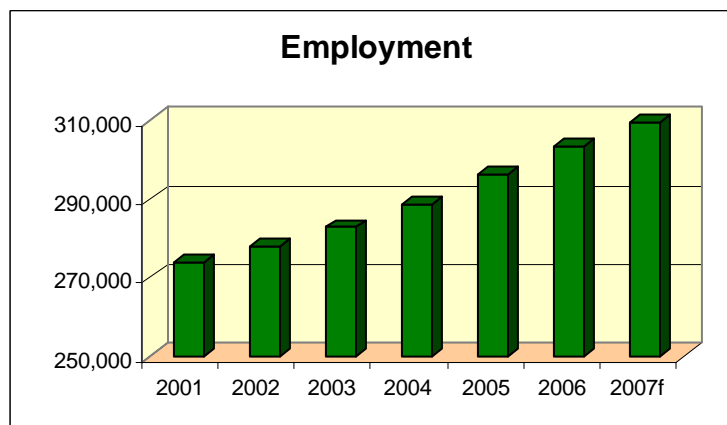
Personal Income – At the county level, the size of the economy is measured by total personal income. In 2007, we expect Kern's economy to grow 3.0 percent to rise to \$16.2 billion in 2007 from \$15.7 billion in 2006. This expansion would create \$500 million of personal income in the county.



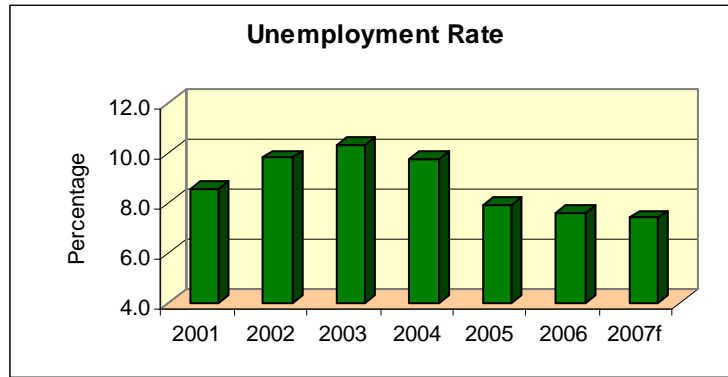
Personal Income per Worker - Personal income per worker is a measure of labor productivity. On average, we expect workers to earn \$600 more as personal income per worker increases from \$47,800 in 2006 to \$48,400 in 2007.



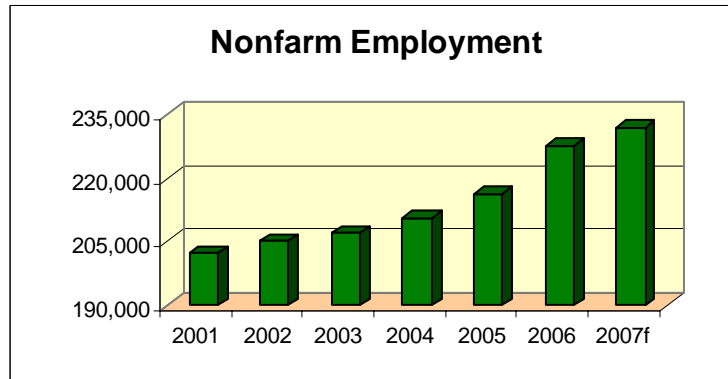
Employment – Kern County is expected to create 6,000 jobs to accommodate its growing labor force. We forecast for total employment to rise from 303,500 in 2006 to 309,500 in 2007. Of these new jobs, nonfarm industries will account for 4,400 and self-employed workers and small-businesses for 2,600. However, farm employment is expected to decline by 1,000.



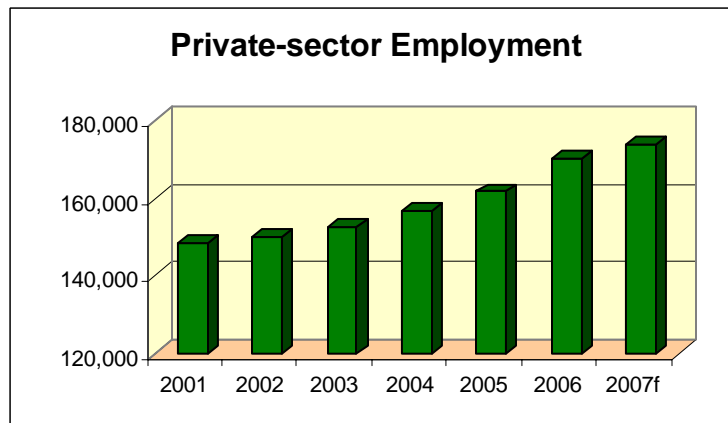
Unemployment – With job growth exceeding labor force growth, the number of unemployed workers is projected to decline from 24,900 in 2006 to 24,500 in 2007. As a result, we expect the rate of unemployment to drop from 7.6 to 7.4 percent.



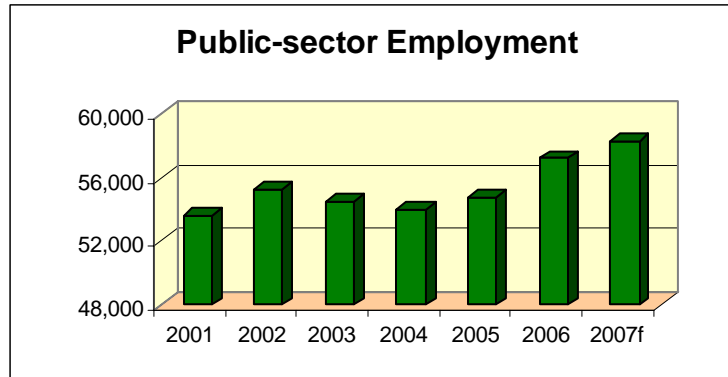
Nonfarm Employment – Nonfarm industries are expected to add 4,400 jobs as their employment rises from 227,700 in 2006 to 232,100 in 2007.



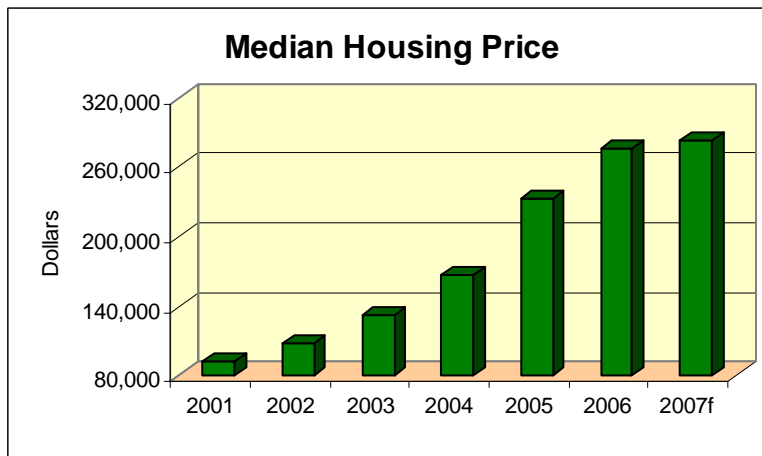
Private-sector Employment – The number of jobs in private-sector enterprises is projected to rise from 170,500 in 2006 to 173,800 in 2007. The private-sector employment accounts for 3,300 or 75 percent of new nonfarm jobs. The leading job-creating industries are: retail and wholesale trade; leisure and hospitality; health-care and social services; manufacturing, construction, and finance; insurance; and real estate.



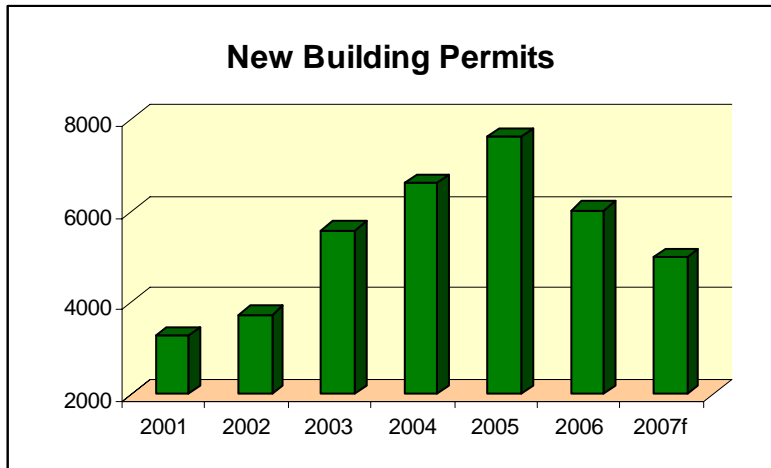
Public-sector Employment – Jobs in government agencies are projected to rise from 57,200 in 2006 to 58,300 in 2007. The public-sector employment accounts for the remaining 1,100 or 25 percent of new nonfarm jobs. While local governments account for 85 percent of new public-sector jobs, public education is responsible for 80 percent of new local government employment.



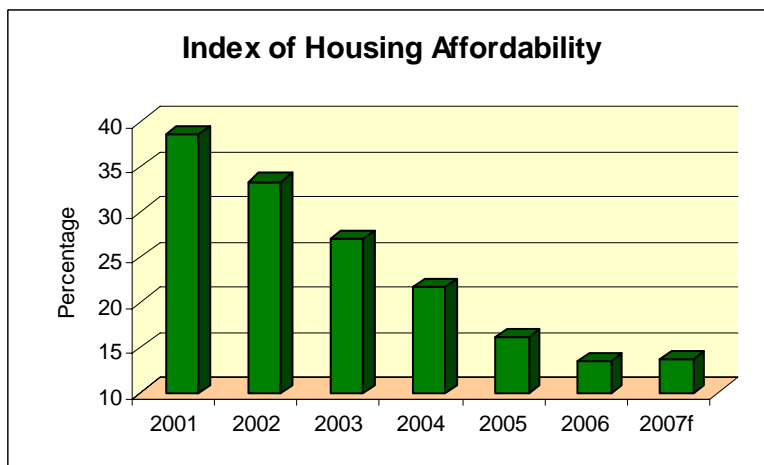
Housing Price – In 2006, the median price for all residential units sold in Kern County appreciated 18.1 percent from \$233,500 to \$275,700. However, we expect the recent slow-down in the local market to reduce the price appreciation rate to a modest 2.5 percent. If so, the county’s median housing price would rise to \$282,600 in 2007. With continued softening of the housing demand, our expectation for this price increase is due to cost-push factors such as rising land values and increased construction costs.



New Building Permits – The annual number of permits issued for the construction of new privately-owned dwelling units decreased sharply from 7,630 in 2005 to 6,037 in 2006. If this falling trend continues, we expect 5,000 new building permits to be issued in 2007.



Housing Affordability – The housing affordability indicator - defined as the median household income divided by the median housing price - is expected to improve from 13.5 percent in 2006 to 13.7 percent in 2007.



Monitoring Economic Development Strategy

This monitoring report investigates the competitiveness of Kern County's leading industry clusters. The main concepts used for the evaluation of cluster competitiveness are growth and concentration of employment.

Growth: Employment refers to members of the civilian workforce who are holding jobs for pay. Growth is measured as the percentage change of employment from the previous year.

Concentration: Location Quotient (LQ) measures employment concentration. LQ is the ratio comparing an area's distribution of employment by industry with a reference area's distribution. The reference area is usually the United States. $LQ > 1$ indicates an industry with a greater share of the local area employment than the reference area. It suggests that the local economy has a competitive advantage in that industry over its nationwide counterpart.

Performance of each of the seven leading clusters is summarized as follows:

Value-added agriculture, an established and mature industry cluster, recovered from its one-year recession. While losing 1,858 jobs in 2004, the cluster added 4,862 paid positions in 2005. In addition, the cluster gained concentration as its location quotient rose from 8.1 to 8.4. Hence, Kern’s value-added agriculture is eight times more specialized in the production of farm products than the nationwide cluster. Most areas of value-added agriculture are highly concentrated. In particular, Kern County produces a wide variety of farm products such as fruits, tree nuts, and vegetables to supply local, regional, national, and international markets. The county can improve its competitiveness by placing a greater emphasis on the expansion of the food manufacturing industry for exportation of processed products.

Energy and chemicals, an established and mature cluster, became more competitive than its nationwide counterpart. The cluster’s employment grew at a rapid rate of 8.4 percent in 2004 and 5.3 percent in 2005. However, its employment concentration fell slightly from 4.4 to 4.0. With rapid growth and high concentration, Kern’s competitiveness in energy and chemicals strengthened considerably. Although the pace of job creation in oil

Employment Conditions in Value-Added Agriculture 2004 and 2005					
NAICS Code	Description	Employment	Wage	Growth	Concentration
		45,295	\$670	-3.9%	8.1
	Value-Added Agriculture	50,087	\$690	10.7%	8.4
111-113 115	Primary Production	16,850 17,330	\$443 \$448	-8.6% 2.8%	6.2 6.3
311 312	Agricultural Support Activities	23,780 28,051	\$696 \$719	-0.9% 18.0%	14.5 15.6
33311 32491	Agricultural Products Manufacturing	4,665 4,776	\$764 \$791	-1.5% 2.4%	1.0 1.0

and gas extraction was slow, the support activities and construction segment, operating with a larger labor force, accounted for nearly two-thirds of all new jobs in the cluster. Kern County needs to focus on gaining greater competitive advantage in the production of oil and chemical manufacturing in order to boost its exportation to other areas of California. The economic foundation of the cluster is strong with a well-developed infrastructure and transportation and marketing systems. However, Kern County demonstrates weakness in science and technology education leading to the employment of locally trained engineers, technicians, and skilled industrial labor.

Employment Conditions in Energy and Chemicals 2004 and 2005						
NAICS Code	Description	Employment	Wage	Growth	Concentration	
Various 200 & 300 Levels	Energy & Chemicals	12,648	\$1,383	8.4%	4.4	
		13,318	\$1,427	5.3%	4.0	
	Oil & Gas Extraction		2,948	\$2,176	3.0%	13.3
			2,823	\$2,241	-4.2%	11.7
	Support Activities & Construction		7,131	\$1,087	12.8%	6.8
		8,126	\$1,130	14.3%	6.4	
Oil & Chemical Manufacturing		2,569	\$887	10.2%	1.7	
		2,369	\$909	-7.9%	1.5	

Transportation, logistics, and warehousing services, an emerging cluster, gained competitive advantage relative to the nationwide industry. In 2004 and 2005, the cluster recorded rapid growth and rising concentration. Of the four cluster segments, transportation, logistics, and support activities had strong growth and rising concentration. Warehousing and storage recovered from employment decline in 2004 by creating jobs in 2005. Kern County relies less heavily on outside suppliers for the operation of the industry cluster. It requires continued investment in construction, repair, and maintenance of ground transportation systems, however, to accommodate this growing industry cluster. In addition, renewed emphasis on vocational education is required for the training of locally qualified support staff such as drivers and mechanics.

Employment Conditions in Transportation, Logistics & Warehousing 2004 and 2005					
NAICS Code	Description	Employment	Wage	Growth	Concentration
	Logistics, Transportation, & Warehousing	11,228	\$763	3.0%	1.17
		11,779	\$792	4.9%	1.18
Various 400 level	Transportation	3,779	\$899	3.3%	0.78
		3,939	\$939	4.2%	0.79
Various 400 level	Logistics	2,852	\$853	3.7%	1.10
		3,003	\$882	5.3%	1.11
493	Warehousing & Storage	1,823	\$606	-1.0%	1.80
		1,991	\$624	9.2%	1.78
492, 5324, 81131	Support Activities	2,774	\$692	4.7%	1.51
		2,846	\$719	2.6%	1.55

Business and professional services provided employment to more than 24,000 workers. In this cluster, employment grew at a slow pace of 1.5 percent in 2004, but at an exceptionally fast rate of 11.2 percent in 2005. However, the cluster's concentration fell from 0.79 to 0.77. All cluster segments contributed to job creation in 2005. In particular, administrative support and waste management and remediation services, the largest segment of the cluster, created nearly 2,200 jobs. To enhance competitiveness, Kern County must invest more heavily in workforce education and preparation in the areas of business, science, and technology. Hence, elementary and secondary schools need to secure additional funds for science and technology education; community colleges must expand technical and vocational training certification; and universities need to make a greater commitment to business and engineering education.

Employment Conditions in Business and Professional Services 2004 and 2005					
NAICS Code	Description	Employment	Wage	Growth	Concentration
	Business & Professional Services	21,889 24,340	\$738 \$766	1.5% 11.2%	0.79 0.77
54	Professional, Scientific & Technical Services	8,526 8,600	\$888 \$933	3.9% 0.9%	0.69 0.64
55	Management Companies & Enterprises	2,390 2,541	\$1,140 \$1,180	-9.1% 6.3%	0.77 0.76
56	Administrative Support & Waste Management & Remediation	10,076 12,274	\$507 \$522	2.6% 21.8%	0.71 0.79
6114-6116	Educational Support Activities	897 925	\$417 \$427	-1.2% 3.1%	1.01 0.90

Tourism, recreation, and entertainment employed more than 20,000 workers. The cluster's employment grew at rapid rates of 5.4 percent in 2004 and 5.2 percent in 2005. In the meantime, its concentration rose from 0.61 to 0.64. As the leading segment of the cluster, firms operating in accommodation and food services offered jobs to nearly 18,000 workers. This emerging segment recorded both rapid growth and rising concentration. This segment, however, has limited export potential as it satisfies the domestic demand of Kern's growing population and economy. The segment is well-supplied by crop production, animal production, food manufacturing, trucking, fresh fruit and vegetable merchant wholesalers, and warehousing and storage. A growing number of eating and drinking establishments serves other cluster segments - motion picture and sound recording industries and arts, entertainment, and recreation - that are more export-oriented. The county requires continued investment in professional and technical education, hotel accommodations, and parks and recreation facilities in order to attract tourists to Kern County as a location for extended vacations.

Employment Conditions in Tourism, Recreation, & Entertainment 2004 and 2005					
NACIS Code	Description	Employment	Wage	Growth	Concentration
	Tourism, Recreation & Entertainment	19,251 20,243	\$685 \$708	5.4% 5.2%	0.61 0.62
512	Motion Picture & Sound Recording Industries	360 231	\$760 \$785	13.6% -35.8%	0.38 0.32
71	Arts, Entertainment, & Recreation	1,878 2,097	\$855 \$883	4.3% 10.4%	0.56 0.59
72	Accommodation & Food Services	17,013 17,915	\$440 \$456	5.0% 5.0%	0.88 0.96

Health care services and medical technologies operated with a workforce of more than 18,000. In 2004 and 2005, this cluster recorded modest employment growth (1.5 and 2.0 percent) and low concentration (0.77 and 0.72). The ambulatory health care services segment had the largest workforce, fastest growth, and highest concentration in the cluster. While other cluster segments recorded zero or negative growth rates, ambulatory health care services created 478 jobs in 2004 and 359 paid positions in 2005. Although

Kern County has gained competitive advantage in this segment, it lacks strength in other segments including hospitals, nursing and residential health care facilities, and medical equipment and supplies manufacturing. Consequently, Kern County needs to invest resources in training, attracting, and retaining qualified nurses, physicians, and other health care workers. With a strong reliance on outside sources for procuring supplies for hospitals and other health care providers, the county would also need to expand the local supply chain of medical supplies.

Employment Conditions in Health Care Services & Medical Technologies 2004 and 2005					
NACIS Code	Description	Employment	Wage	Growth	Concentration
	Health Care Services & Medical Technologies	17,698 18,053	\$700 \$740	1.5% 2.0%	0.77 0.72
621	Ambulatory Health Care Services	9,245	\$775	5.2%	1.03
		9,604	\$814	3.7%	1.00
622	Hospitals	4,766	\$839	-0.1%	0.62
		4,770	\$873	0.1%	0.55
623	Nursing and Residential Care Facilities	3,259	\$394	-6.6%	0.64
		3,252	\$414	-0.2%	0.60
3391	Medical Equipment & Supplies Manufacturing	428	\$801	0.0%	0.78
		427	\$861	-0.2%	0.74

Aerospace and defense is an established and mature industry cluster in Kern County. Our expanded aerospace and defense cluster consists of four segments: (1) aircraft manufacturing and supplies firms; (2) Department of Defense personnel; (3) civilian workers and contractors; and (4) aviation design and testing enterprises. With an employment share of 64.4 percent, civilian workers and contractors constitute the largest segment of the cluster. The Department of Defense personnel account for 28.3 percent of total employment. Aircraft manufacturing and supplies firms are responsible for employment of 4.8 percent of the cluster's workforce, and aviation design and testing enterprises operate with an employment share of 2.5 percent. In 2004, the pace of employment growth accelerated to 7.8% to reach 21,865. However, in 2005 the cluster's employment increased only slightly to arrive at 21,875. The location quotient for the aerospace and defense cluster declined gradually from 2.56 in 2004 and 2.40 in 2005.

These data indicate that the aerospace and defense cluster has been able to sustain employment and that Kern County is at least twice as specialized in the provision of aerospace and defense products and services than the same industry cluster nationwide. Kern County is expected to retain its specialization in aerospace and defense activities with a sizable military workforce in Naval Air Weapons Station China Lake and Edwards Air Force Base, and a large number of private-sector workers and contractors who support these activities. The cluster's weakness is at the supplier level as it has a strong dependence on resources from outside the County. This important industry cluster needs to attract more R&D investment funds from state and federal sources and the private sector and gain greater recognition and appreciation from the public. It also has to address stringent state environmental policies that limit growth.

**Employment Conditions in Aerospace and Defense
2004 and 2005**

NAICS Code	Description	Employment	Growth	Concentration
		21,865	7.1%	2.56
	Aerospace & Defense	21,875	0.1%	2.40
	Department of Defense Personnel	6,300 6,200	-1.6% -1.6%	5.80 5.50
	Civilian Works and Contractors	13,711 14,085	12.7% 2.7%	1.08 1.09
3364	Aircraft Manufacturing & Supplies Firms	1,474	8.7%	0.80
332813 33299		1,040	-29.4%	0.58
	Aviation Design & Testing Enterprises	380 550	5.6% 44.7%	— —