



Los Angeles County Economic Development Corporation



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As the premier business leadership organization, the LAEDC's mission is to attract, retain and grow businesses and jobs in the regions of LA County, as well as to identify trends and affect positive change for the local economy. Since 1995, the LAEDC Business Development team helped in the creation of more than 68,000 jobs from 368 projects. The annual economic impact of those jobs translates into \$2.3 billion in salaries and more than \$117.3 million in tax revenue generated to support local governments and schools.

The **LAEDC Economic Information and Research** Department is a key source for current and forecasted data on Southern California's economy. Regular publications include *Business Resource Guide of Southern California*, *Economic Forecast & Industry Outlook*, *International Trade Trends & Impacts*, *L.A. Stats*, *Roadmaps to Industry Clusters*, and *regional economic reports*. All reports and industry profiles are provided free to the general public via our website or printed copies can be purchased individually.

The **LAEDC Economic Consulting** Department offers custom research with expertise in transportation, the environment, infrastructure, the financial services industry, international economics including country analysis, regional economic trends and regional industry analysis.

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*Economic Vitality,
Trade & Jobs*

Los Angeles Air Force Base Economic Impact Assessment

The Los Angeles Air Force Base (LAAFB) houses and supports the headquarters of the Air Force's Space and Missile Systems Center, which is responsible for the research, development and acquisition of military space systems. The base is a major economic engine in Los Angeles County and the state of California, but unlike much larger and better known installations such as Camp Pendleton and Edwards Air Force Base, LAAFB has a relatively low profile and a comparatively small physical footprint. Nonetheless, LAAFB is quietly responsible for the direct and indirect employment of nearly 50,000 people in Los Angeles County, as well as an additional 62,000 people in the rest of California. Here we briefly summarize the job, wage, and tax implications of the operations of LAAFB. We begin with the impact on Los Angeles County.

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LAAFB has a demonstrable positive economic impact on Los Angeles County. The base directly employs about 5,000 people, including military and government and contract civilian personnel. Spending by the base (for supplies, construction materials and so forth) and by its personnel (on consumer items ranging from housing to entertainment) creates additional indirect employment equivalent to roughly 5,000 full-time equivalent positions. These 10,000+ direct and indirect jobs are reported in Table 1 as the "operations" component of the LAAFB. Workers in these jobs together earn more than half a billion each year. All told, this operations component of LAAFB activity results in economic output (i.e. revenues for businesses in Los Angeles County) of just over \$1 billion annually.



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Table 1 Los Angeles Air Force Base Ongoing Economic Impact in Los Angeles County (Full-time equivalent jobs and billions of dollars)			
	Jobs*	Wages*	Output*
LAAFB	40,800	\$2.080	\$6.810
Operations	10,300	\$0.530	\$1.040
Aerospace Industry Contracts	30,500	\$1.550	\$5.770
The Aerospace Corporation	8,500	\$0.370	\$1.200
Total	49,300	\$2.450	\$8.010

*Direct and indirect employment, wages & output (business revenue) impacts.

Sources: LAAFB, Aerospace Corporation, LAEDC

LAAFB is primarily responsible for the procurement of military satellites and launch vehicles, overseeing and funding these projects from concept to operation. At any given time, LAAFB manages a total of approximately \$60 billion in contracts of varying duration, and each year LAAFB adds about \$8.5 billion in new contracts. Looking just at the new contracts added each year allows us to take a “snapshot” of the work being conducted, and approximates the annual employment impact. The direct and indirect employment sustained in Los Angeles County by LAAFB aerospace industry contracts is reported in Table 1.

The 30,500 workers include people employed directly by the contractors – primarily research scientists and employees at aerospace firms – and people in jobs sustained by the purchases of the contractors and their employees. The jobs created in the aerospace industry are highly desirable, both for the workers who hold them and the regional economy as a whole. The industry’s workers are particularly well-paid, reflecting a well-educated workforce. The direct and indirect workers together earn more than \$1.5 billion annually. All told, these aerospace industry contracts contribute \$5.8 billion annually to economic output (i.e. revenues for businesses) in Los Angeles County.

Note that LAAFB has contracts with companies throughout California and across the United States. Tracking the geographic location of spending by prime contractors is complicated by the geographically dispersed operations of these companies. An aerospace firm may have its headquarters in one state, research facilities in another and manufacturing facilities in third. Moreover, the prime contractors make extensive use of subcontractors who are not necessarily located in the same state. The employment impact reported in Table 1 is based on the LAEDC estimate of just the Los Angeles County portion of the new contracts added each year.

The final component of the LAAFB impact on Los Angeles County comes from the operations of The Aerospace Corporation. This federally-funded El Segundo-based firm works closely with the LAAFB: approximately 60 percent of its revenues are earned through LAAFB contracts. [Note: To avoid double counting, The Aerospace Corporation's share of the contracts awarded by LAAFB was excluded from the contracts section described earlier.] The Aerospace Corporation has about 3,500 employees. Spending by the company and its employees sustains a further 5,000 indirect jobs. Together the direct and indirect workers earn \$371 million annually. The Aerospace Corporation contributes \$1.2 billion annually to economic output (i.e. revenues for businesses including itself) in Los Angeles County.

In sum, LAAFB operations and contracts plus The Aerospace Corporation sustain annual employment in Los Angeles County equivalent to 49,300 full-time jobs. Since many of the indirect jobs are in the service sector – where part-time employment is common – the actual number of people holding jobs sustained in whole or in part by the spending of LAAFB is undoubtedly substantially higher. Collectively, these workers earn \$2.45 billion annually. The total annual economic output associated with LAAFB (i.e. revenues for businesses in Los Angeles County) is about \$8 billion.

California

LAAFB has a large positive impact on Los Angeles County, but its impact on the state of California is even greater. Two factors account for the substantially larger statewide impact. First, Los Angeles County accounts for about half of the LAAFB aerospace contracts in California. Spending in Santa Clara, San Diego, Orange and other California counties sustains additional direct (aerospace) and indirect jobs. Second, the economic impact of LAAFB spending in Los Angeles County (or any county, for that matter) is not confined solely to the county where the spending takes place. If, for example, LAAFB hires a Los Angeles-based construction firm to build a research facility, the construction company might order cement from a firm based in San Bernardino or Riverside. The Los Angeles County impact reported in Table 1 above only captures employment created at the construction firm in this example, not at the cement company. Thus, the statewide economic impact of spending related to LAAFB is substantially higher than in Los Angeles County alone because the total spending involved is higher *and* the economic activity that spills over county borders is captured.

In California, LAAFB sustains the equivalent of 102,200 full-time jobs with wages in excess of \$5 billion annually. The statewide economic impact (which naturally includes the Los Angeles County impact reported earlier) is presented in Table 2.

Table 2 Los Angeles Air Force Base Economic Impact in California (Full-time equivalent jobs and billions of dollars)			
	Jobs*	Wages*	Output*
LAAFB	102,200	\$5.060	\$14.940
Operations	12,200	\$0.620	\$1.150
Aerospace Industry Contracts	89,900	\$5.460	\$13.780
The Aerospace Corporation	9,500	\$0.400	\$1.320
Total**	111,700	\$5.460	\$16.260

* Direct and indirect employment, wages & output (business revenue) impacts.

** May not sum due to rounding.

Sources: LAAFB, Aerospace Corporation, LAEDC

LAAFB and The Aerospace Corporation are both located in Los Angeles County. For both, the number of direct workers is identical in Los Angeles County-specific and the statewide economic impact analysis. Because the statewide analysis captures indirect employment impacts outside of Los Angeles County, however, the total employment related to LAAFB operations is 1,900 workers higher than in L.A. County alone, bringing the statewide total to the equivalent of 12,200 full-time jobs. Similarly, The Aerospace Corporation generates employment equivalent to a further 1,000 jobs outside of Los Angeles County, bringing the statewide total employment sustained by its operations to 9,500.

The largest single component of the employment impact of LAAFB stems from the contracts it awards to the aerospace industry. Looking at the employment impact of the roughly \$8.5 billion in new contracts awarded each year, the California share of this spending sustains almost 90,000 jobs statewide, almost 3 times the employment generated in Los Angeles County alone. The non-California share of the contracts, such as for work conducted in Colorado by the Lockheed Martin Corporation, is not included in this total. [Note again that the share of the contracts awarded to The Aerospace Corporation has already been counted separately and is excluded here to avoid double counting.]

LAAFB operations and The Aerospace Corporation each contribute more than \$1 billion annually to economic output (business revenues) in California. In addition, aerospace industry contracts managed by the LAAFB contribute almost \$14 billion to economic output statewide. Thus, the total LAAFB contribution to economic output

(business revenues) in California exceeds \$16 billion, including the \$1.3 billion contribution from The Aerospace Corporation.

Tax Implications

LAAFB sustains employment equivalent to nearly 50,000 full-time jobs in Los Angeles County and a further 62,000 jobs in the rest of California. This economic activity generates tax revenue for state, county, and city governments worth more than \$340 million annually. Estimates of the annual taxes generated by economic activity related to LAAFB are presented in Table 3. The first column reports the taxes generated for each level of government by economic activity in Los Angeles County; the second column reports the taxes generated statewide (and therefore includes the amount in the first column). Thus, the state earns at least \$140 million in taxes each year from economic activity related to LAAFB in Los Angeles County and a further \$172 million in taxes from LAAFB-related economic activity in the rest of the state. The total state revenue is \$312 million. The state taxes include income taxes and the state share of sales taxes paid by workers in direct and indirect jobs sustained by economic activity related to LAAFB.

Table 3 Los Angeles Air Force Base Annual Tax Revenue Implications (millions)		
	Location of Economic Activity	
	LA County	All of California
State Tax Revenue	\$140.3	\$312.1
County Tax Revenue	\$7.9	\$17.1
City Tax Revenue	\$5.5	\$10.9

Source: LAEDC

Los Angeles County collects at least \$7.9 million in tax revenue annually from economic activity sustained by LAAFB. Other counties in California share a further \$9 million in taxes, for a total of \$17 million received by all California counties. The major component of the county tax revenue comes from the county share of sales taxes, which includes both the county portion of the sales tax and the county transportation component. The L.A. County taxes also include the county share of property taxes paid by the Aerospace Corporation.

Cities in Los Angeles County collect at least \$5.5 million in tax revenue annually from activity related to the LAAFB, with municipalities elsewhere in the state collecting a further \$5.4 million. As with the county revenue, the bulk of the city revenue is derived from the local share of sales taxes on economic activity sustained by LAAFB. The totals also include the business and property taxes paid by The Aerospace Corporation to the City of El Segundo.

Note that Table 3 actually *underestimates* the tax revenue generated each year by economic activity related to LAAFB. We have included the local business and property taxes paid by The Aerospace Corporation, for example. A lack of source data, however, prevents us from including similar taxes paid by other firms in the aerospace industry working on contracts for LAAFB. Also missing are state taxes on corporate profits, and local utility taxes. These omissions suggest that the actual taxes generated each year by economic activity related to LAAFB are substantially higher than the estimates presented here.

Outlook

Defense industry spending in Southern California fell sharply during the early 1990s, but has picked up over the past three years. Aerospace spending, in particular, is expected to increase in the coming years as the defense department and other federal government entities allocate more funding to satellites and other space systems. This spending is good news for firms in Los Angeles County and the rest of California. Each additional billion dollars in new LAAFB-administered aerospace contracts (over and above the \$8.5 billion already received in new contracts annually), will add about 3,600 direct and indirect jobs in Los Angeles County. A further 7,000 direct and indirect jobs will be added in the rest of the state, for a statewide total of 10,600 jobs. (Note that these job forecasts assume the current geographic distribution of LAAFB contracts remains the same in the future.)

Methodology and Data Sources

LAAFB is an unusual military facility. To fully capture its economic impact, we used a “bill-of-goods” approach, calculating separately the economic impact of each major component of base-related spending. The LAEDC estimated jobs and taxes using an in-house model based on the Regional Input-Output Modeling System (RIMS II), which was developed by the U.S. Department of Commerce, Bureau of Economic Analysis. We used data provided by LAAFB, The Aerospace Corporation, the California Employment Development Department (*Occupational Employment (2000) and Wage Data (2001) for the Los Angeles-Long Beach MSA*), and the U.S. Census Bureau, notably *County Business Patterns* and the *Economic Census*.