

AEROSPACE & DEFENSE

WTCLA

WHY L.A.

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Los Angeles County is the top location in the U.S. for aerospace and defense industry. With L.A. County's unparalleled ecosystem, innovative culture, and skilled workforce, the aerospace and defense industry has been a cornerstone of the regional economy. For decades, Los Angeles has assisted companies with unmatched export capacity and an expansive supplier base. The future of American aerospace and defense is in Los Angeles County.



AEROSPACE & DEFENSE INDUSTRY IN THE U.S. AND L.A. COUNTY

The United States is home to the world's largest aerospace market. It has a skilled workforce, extensive distribution system, and provides pro-industry policies that enable A&D to thrive.

The U.S. aerospace industry:

- Witnessed the largest surplus of any U.S. manufacturing industry with a positive trade balance of \$82.5 billion in 2015
- Contributes more than \$144.1 billion in export sales to the U.S. economy
- Contributes over \$115 in wages to the entire industry
- Employs over 1.5M workers, accounting for less than .5% of the total U.S. workforce

By contrast, the aerospace industry in Los Angeles County:

- Directly and indirectly employs over 70,000 workers, accounting for .79% of the total LAC workforce

California, Washington, and Texas employ the highest share of A&D workforce in the nation, with California taking the lead with **over 180,000 direct A&D jobs**. Within California, Los Angeles County is regarded as the premier destination for A&D firms due to its favorable climate, access to foreign markets, and its skilled workforce. From 2003 to 2015, L.A. County attracted more than \$16.7B in greenfield investment – this accounts for 57% of all FDI brought into the six-county Southern California region during that period. Furthermore, L.A. County is home to the bulk of foreign-owned enterprises (FOEs) in the Southern California region. L.A. County is home to **48% of all FOEs in Southern California**, thus outpacing second-ranked Orange County in terms of FOEs by over 20%.

AEROSPACE & DEFENSE INDUSTRY IN THE U.S. AND L.A. COUNTY

LA County sees **300** days of sunshine each year.

Los Angeles International Airport (LAX)

Is the nation's busiest origin and destination airport.

The value of two-way trade passing through the Los Angeles Customs District totaled **\$394B** in 2015, outpacing second place New York by over \$20B.

The Ports of Los Angeles and Long Beach rank **#1 & #2** by cargo volume in North America.

Asia and Latin America are two of the largest markets for aerospace products, and are conveniently situated to Los Angeles.

Los Angeles County is home to **1.3M** college graduates with over 5,500 engineering degrees awarded annually

L.A. County's unparalleled ecosystem, innovative culture, and skilled workforce enable the A&D industry not only to outperform its competition, but to thrive. L.A. County is a leading producer of aerospace equipment – home to the Webb Telescope and Northrop Grumman Global Hawk unmanned vehicle – and it is home to over 300 companies in the aerospace vehicles and defense industry cluster, which is the most in the nation. Combined with federal employees, L.A. employs over 70,000 people in the aerospace vehicles and defense industry cluster. The average annual wage in the aerospace manufacturing industry ranges from \$96.8K to \$128.4K.

Key Industry Subsectors in LA County:

Space Commercialization

Launch equipment & satellites

Aircraft manufacturing

Aircraft, engines, parts, search detection & navigation instruments

Unmanned aerial systems

Cybersecurity

LINKAGES



KEY FIRMS IN REGION

All big names in Aerospace have offices in Los Angeles County. These companies provide the region with the advancement of technology, intellectual property, and scientific discovery.

- Aerojet Rocketdyne, Canoga Park
- Boeing, Long Beach
- Jet Propulsion Laboratory - NASA, Pasadena
- Lockheed Martin, El Segundo
- Northrup Grumman, Redondo Beach
- Raytheon, El Segundo
- SpaceX, Hawthorne
- Virgin Galactic, Long Beach

Additionally, a vast network exists of suppliers of small, unmanned aerial systems (UAVs) used in defense, commercial and scientific applications. These firms represent the type of innovation for which L.A. County's aviation sector has become renowned.

- AeroVironment, Monrovia
- Robinson's Helicopters, Torrance

Key Suppliers in the Region

L.A. County hosts a vast supplier network for aerospace products and parts manufacturing with over **65,000 employees**. This network enables A&D firms to continue producing advanced aerospace technology, equipment, and conduct R&D.

RESEARCH CENTERS, INCUBATORS, AND ACCELERATORS

NASA Armstrong Flight Research Center

USC Viterbi Internal Center Incubator

Laboratories of the California Institute of

NASA's Jet Propulsion Laboratory (JPL)

(VICI) Centers

Technology

Space and Missile Systems Center (SMC)

USC Viterbi Startup Garage

NASA's Armstrong flight Research Center

Los Angeles Cleantech Incubator, LACI

UCLA Luskin Center for Innovation

Starburst Accelerator

USC Stevens Center for Innovation

CalTech's GALTIC - Graduate Aerospace

ALLIANCES & GROUPS

Los Angeles Economic Development Corporation, LAEDC

AMP SoCal (Advanced Manufacturing Partnership for Southern

Business Assistance Services (BAP) at LAEDC

California)

SoCal Aerospace Council [Formerly the Jobs Defense Council]

The Aerospace Corporation

WORKFORCE DEVELOPMENT

Los Angeles County graduates more engineers than anywhere else in the nation. This fact is unsurprising when you consider that L.A. County is home to three of the most distinguished research and engineering universities in the nation. All together, these universities have received billions of dollars in research funding.

- Department of Aerospace, California Institute of Technology, CalTech
- Department of Mechanical and Aerospace Engineering, University of California Los Angeles, UCLA
- Department of Aerospace and Mechanical Engineering, University of Southern California, USC

Other top research institutions in L.A. County include:

- Harvey Mudd College
- Cal Poly Pomona
- California State University, Los Angeles, CSULA
- California State University, Northridge, CSUN.

Overall, 121 accredited institutions confer associates, bachelors, and graduate degrees as well as numerous job training certificate programs.

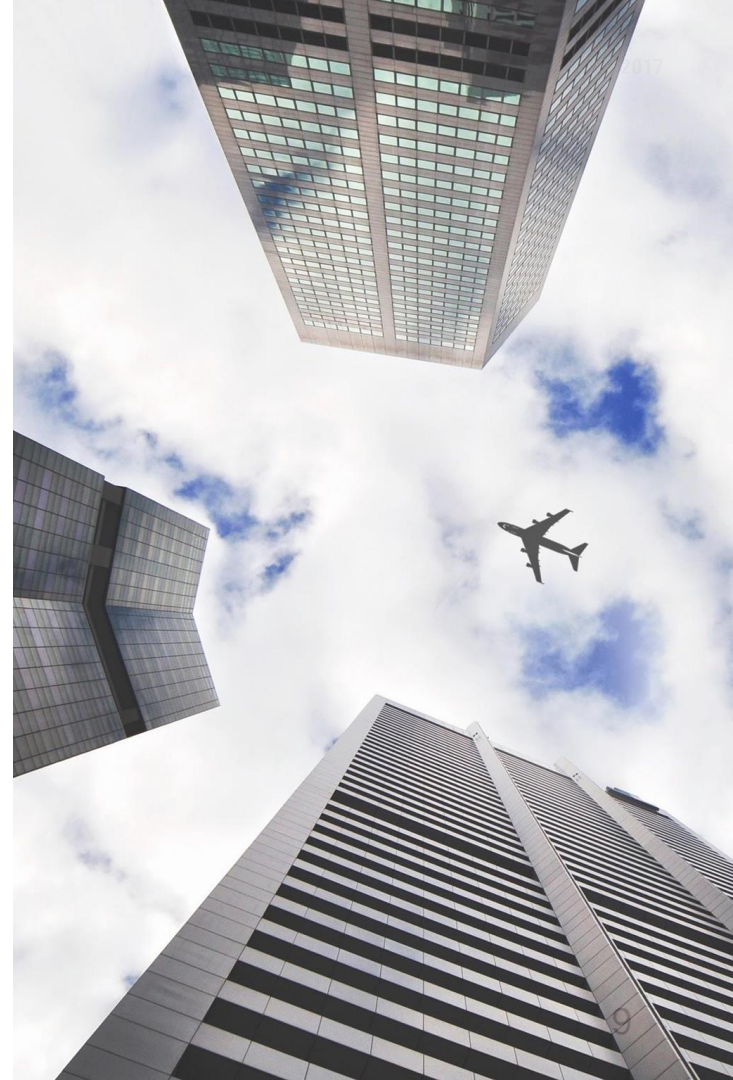
Many community colleges have specifically tailored programs for aerospace, including:

- Glendale Community College
- College of the Canyons
- El Camino College
- Los Angeles Trade-Tech
- Los Angeles Valley College
- Cerritos College.

The National Center for Aerospace and Transportation Technologies (NCATT)

provides licensing and certifications for aerospace/aircraft assembly, aircraft electronics technician, autonomous navigation systems, dependent navigation systems, onboard communications safety, radio communication systems and unmanned aircraft system maintenance throughout the Southern California region.

POLICY



INCENTIVES & TAXES

Incentives exist for the A&D industry including various statewide and county-specific tax exemptions and credits. These entice aerospace firms to locate, stay, and grow in L.A. County.

Business Tax Holiday (City of Los Angeles)

Exempts any new business from the City of Los Angeles's gross receipts tax for three years when you open or locate in Los Angeles.

Small Business Exception (City of Los Angeles)

Small businesses with less than \$100,000 in taxable and nontaxable gross receipts do not have to pay tax.

General Incentive

Historically Underutilized Business Zones (HUBZone)
Governor's Office of business and Economic
Development [<http://business.ca.gov>]
Employment Training Panel (ETP)
Workforce Investment Boards in Los Angeles

Sales & Use Tax on Purchases & Income Tax Credits

First Look out West (FLoW)
The Entrepreneur Forum

Property Tax Relief

Capital Investment Incentive Program

Utility Incentives

Energy Efficiency Programs
Commercial PACE Financing

INCENTIVES & TAXES

Foreign Trade Zone

Depending on the nature of your business, you may well benefit from the Foreign Trade Zone designation in both the Ports of Los Angeles and Long Beach. Benefits include:

- **Duty Deferral** -- FTZ users pay U.S. Customs duties only when merchandise is shipped into a Customs territory. Inventory held in an FTZ is exempt from payment of duties until shipped.
- **Duty Reduction** -- Also called "inverted tariff," duty reduction allows any FTZ importer or manufacturer to pay the duty rate applicable to either the imported components or the finished product, whichever is lower.
- **Duty Elimination** -- FTZ users are not required to pay U.S. Customs duties on merchandise exported from an FTZ, or on merchandise that is damaged, scrapped or unused.
- **Increased Flexibility** -- FTZs offer users greater flexibility for merchandise subject to just-in-time delivery constraints, quotas or marking requirements. In addition, Customs clearance of merchandise may be expedited through use of an FTZ.

- **U.S. Quota** -- FTZ users may store most merchandise in an FTZ even if the goods are subject to quota restrictions. In addition, the merchandise may be shipped when a quota is opened.
- Merchandise may be stored within a Foreign Trade Zone for an unlimited period of time and avoid all duties and excise taxes.
- Merchandise may be opened, examined, assembled, mixed, cleaned, labeled or repackaged within a zone.
- Merchandise may be displayed, sampled or examined within the zone.
- Waste materials and damaged merchandise may be destroyed within the zone to avoid duties.

Research Credits

Being on the cutting edge, your tech company may qualify for a 15 percent California Research Credits that reduces your taxes.

<https://www.ftb.ca.gov/businesses/credits/rd/overview.shtml>

RESOURCES



REPORTS & ANALYSIS

Fact Sheet on SoCal aerospace Industry Cluster (2016)

<http://laedc.org/wp-content/uploads/2016/02/LAEDC-Aerospace-OneSheet-0229B.pdf>

SoCal Aerospace Industry Cluster - "The Changing Face of Aerospace in Southern California" (2016)

<http://laedc.org/2016/03/01/laedc-release-socal-aerospace-industry-cluster-report/>

Overview of LA County Aerospace: "Los Angeles County: Leading in Aerospace" (2014)

Over \$750k of average seed funding, over \$6 million of average Series A round, 52% of funding rounds are local only investors

AT Kearney Report on the Economic Impact of Aerospace in California (2014)

<http://laedc.org/wp-content/uploads/2014/03/FINAL-REPORT-California-Aerospace-Industry-An-Economic-Impact-Study.pdf>

Deloitte, "US Aerospace & Defense Labor Market Study: Employment outlook upbeat, reversing job losses" (Feb. 2016)

\$109k is the average software engineer salary (higher than the North American average but lower than Silicon Valley at \$118k)
Over 200,000 engineers

LAEDC, "The Aerospace Industry in Southern California," (June 2014)

<https://www.cacities.org/Member-Engagement/Regional-Divisions/Los-Angeles-County/LAEDC.aspx>

REGIONAL SUPPORT

LAEDC Business Assistance Program

- The LAEDC has a targeted effort to assist companies expand in the bioscience industry within Los Angeles County.
 - <http://laedc.org/our-services/business-assistance-layoff-aversion/business-consulting/>
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Locate LA!

- Find buildings to lease
- Locate similar businesses in the City of Los Angeles
- <http://www.locatela.org/>



FIND YOUR INCENTIVE

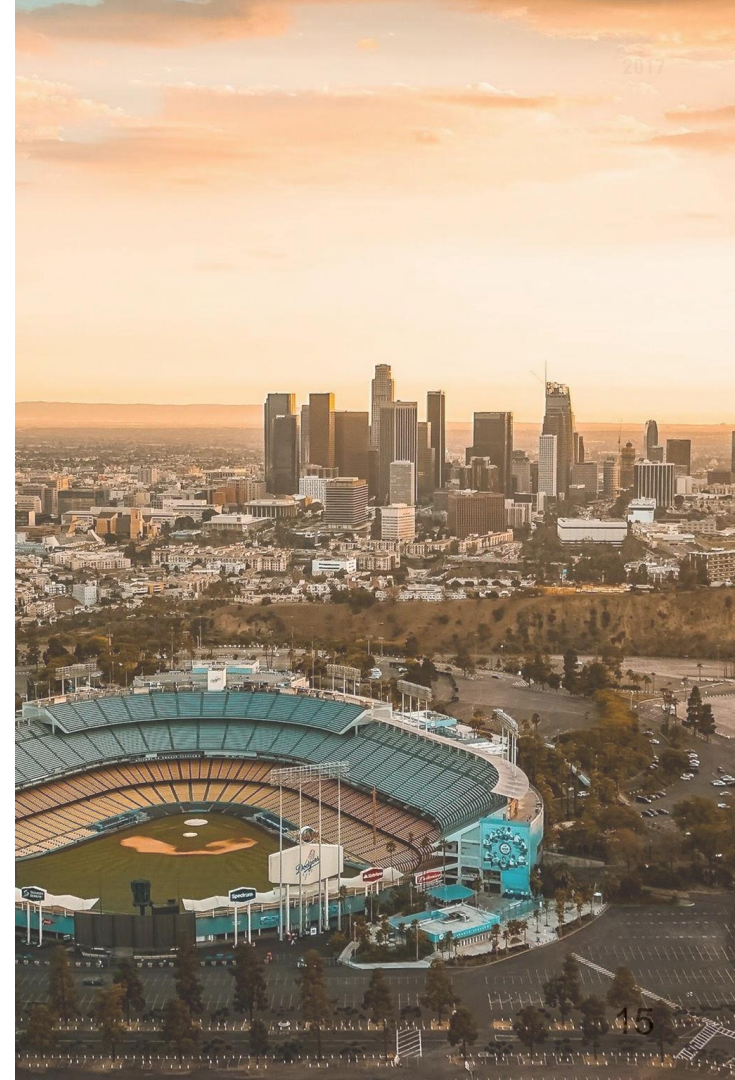
LAEDC Los Angeles County Business Incentives Guide:

<http://laedc.org/wtc/chooselacounty/business-incentives/>

LIFESTYLE

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Los Angeles is the most populous region in the United States and attracts people because of its trend-setting culture, diverse entertainment, and fantastic communities.



LIVE L.A.

Los Angeles is one of the most desirable locations to live in the United States.

17th

best city globally according to EIU

300

days of sun

88 diverse cities

17th

safest city globally according to EIU

70 miles

of beautiful California beachline

**One car drive from
sand to snow**



LIVE L.A.

Diversity

Los Angeles has many diverse, flourishing and prominent neighborhoods and cities that ensure you will find a new home.

- **88 cities** with diverse demographics, density, and cultures
- **Over 200** languages spoken

Move L.A.

Los Angeles has one of the biggest public transportation systems in the country with more than **46 million in ridership in 2015.**

- 15,967 bus stops
- 170 bus routes
- 93 Metro Rail Stations
- 105 miles of service

On November 2016, L.A. residents approved Measure M to raise \$860 million in 2017 and \$120 billion over 40 years to maintain and expanding one of the country's biggest transportation system.

LIVE L.A.

L.A. is the entertainment capital of the world. No other place provides you with the array of choices to live and enjoy life.

Bars:

756

Restaurants:

18,289

World-famous Theme Parks:

8

Arcades:

69

World-class Museums:

106

Performing Arts Companies:

784

Golf Courses and Country Clubs:

114

Libraries:

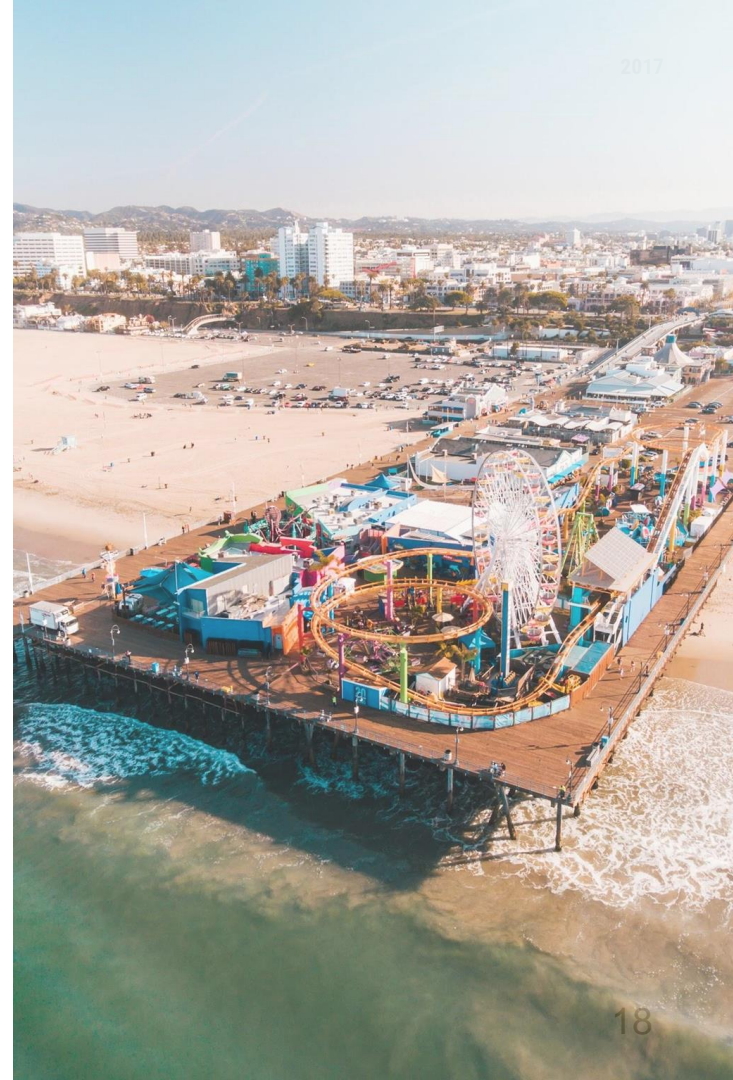
108

Pro sports teams:

6

Park acres per 1,000 residents:

6



PLAY L.A.

Food and Drink

Los Angeles is booming as a dynamic and star-powered culinary capital worthy of its celebrity legacy. L.A. is home to Jonathan Gold, a treasured Pulitzer Prize-winning food critic. It also stays to its agrarian roots with **over 200 farmers markets**.

Los Angeles is ranked
6th top food city of 2015 by Zagat.

Ranked
2nd top food destination by U.S. News

Bars:

756

Restaurants:

18,289



Recreation

World-famous Theme Parks:

8

Arcades:

69

Golf Courses and Country Clubs:

114