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2023 Counties Supplement

California Statewide National Security Economic Impacts Study

June 2024

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Governor's Office of Planning and Research
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Key Findings

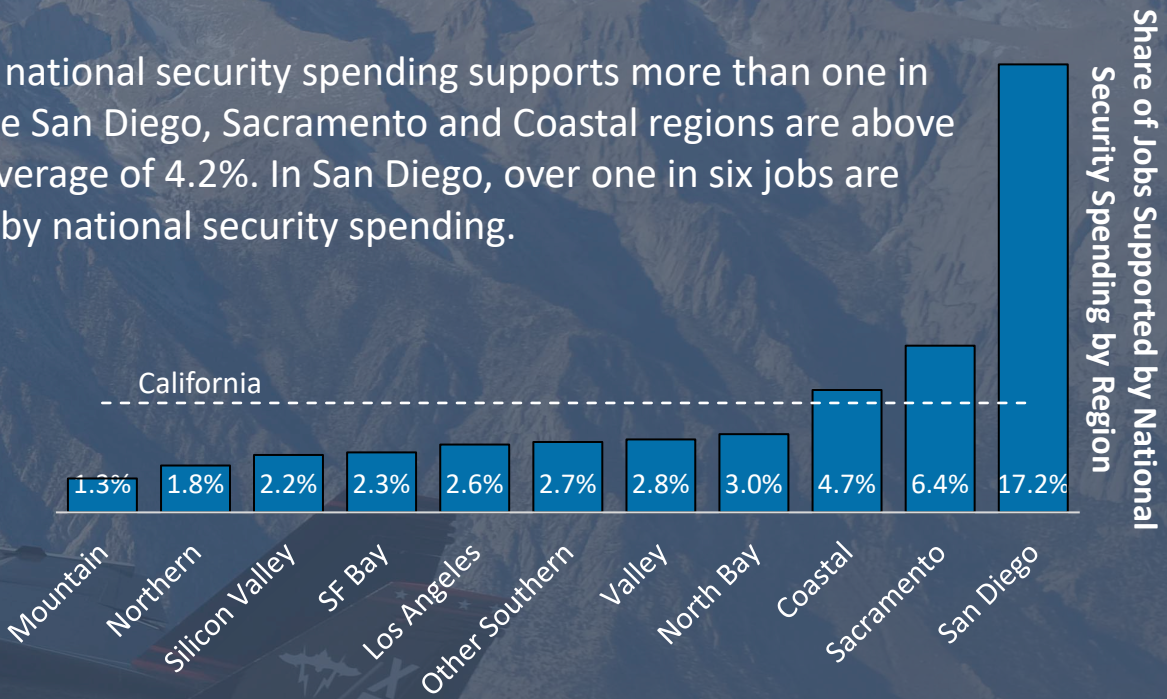
Economic output is concentrated in Southern California, the SF Bay Area and the Sacramento region.

Nearly $190 billion in economic output was generated statewide as a result of national security spending in 2022.

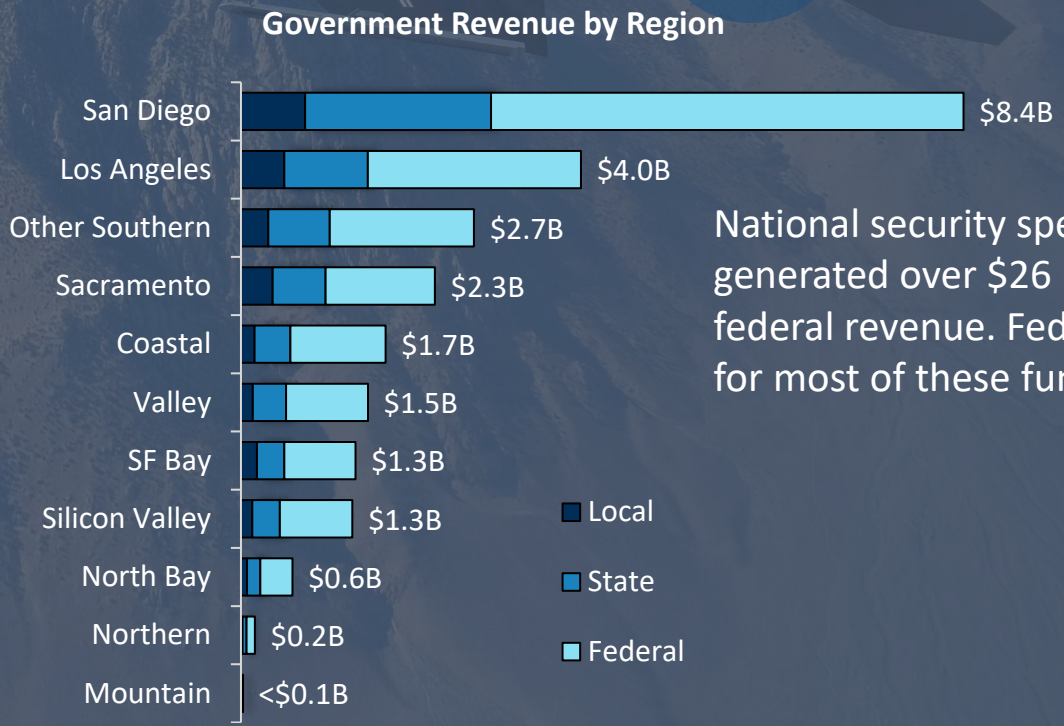
San Diego, Kings, Yuba, Sacramento, Monterey and Lassen counties lead the state in economic output relative to population.

National security spending supports more than 4% of jobs in the San Diego, Sacramento and Coastal regions.

Statewide, national security spending supports more than one in 25 jobs. The San Diego, Sacramento and Coastal regions are above the state average of 4.2%. In San Diego, over one in six jobs are supported by national security spending.



Spending generated more than $15 billion in government revenue in Southern California alone.



National security spending in California generated over $26 billion in local, state and federal revenue. Federal revenue accounted for most of these funds.

The U.S. Army conducts a simulated combat operation on the National Training Center at Fort Irwin in San Bernardino County.

Contents

Introduction 3

Regional Overview 5

Direct Activity 5

Economic Impacts 7

Appendix I: Methodology – County Analysis 14

Appendix II: California Counties 19

The U.S Coast Guard surveys a flooded region of the Russian River over the San Francisco Bay Area.

California Statewide National Security Economic Impacts, 2023 Counties Supplement

Introduction

In November 2023, the California Research Bureau at the California State Library published the sixth annual report on Statewide National Security Economic Impacts in California. The Research Bureau produced this report at the request of the Governor's Office of Planning and Research and the Governor's Military Council. This is the first of two years of reports produced with support from the Governor's Office of Business and Economic Development. This support allows for the continued expanded scope, including two local supplements. This supplement details findings by county and the second provides findings by congressional district. Readers should refer to the California Statewide National Security Economic Impacts, 2023 Update[1] for detailed information on data types and sources, such as direct spending and employment, methodology, and background, used in the main report as well as these supplements.

Using fiscal year 2022 spending and employment data from the three federal agencies that account for the bulk of national security spending and employment – the Departments of Defense, Homeland Security, and Veterans Affairs – this report examines the impact of national security spending and employment in California's 58 counties (map in Appendix II). Fiscal year 2022 includes continued impacts of COVID-19. Discussion of how this impacts the estimates is included in the statewide report.

In addition to this report, an Excel file containing the raw data specific to each county and congressional district is available.

In this report, counties are grouped into 11 regions (see Figure 1), based on the California Employment Development Department's "California Economic Markets"[2] but customized slightly to add greater detail in the San Francisco Bay Area and Southern California regions.

[1] Bedi, S. & Lavelle, D. "California Statewide National Security Economic Impacts, 2023 Update." California Research Bureau, California State Library, Nov. 2023.
[2] Lavelle, D.M. OPR Economic Regions. Regional Designations Among California's Governments. EDD Economic Markets. California Research Bureau, California State Library, Dec. 2022.

Figure 1: California Counties Grouped by Regions

Regional Overview

Direct Activity

Direct Employment

In fiscal year 2022, the U.S. Departments of Defense, Homeland Security, and Veterans Affairs directly employed approximately 336,000 civilian and military employees in California, making up 860 of every 100,000 Californians. Around 221,000[3] military and civilian personnel – nearly two-thirds of the statewide total – are concentrated in Southern California, which consists of six counties in three regions (San Diego, Los Angeles and Other Southern). Most of this employment is in the San Diego region, with the three U.S. departments employing roughly 148,000 civilian and military personnel, or over 4,500 out of every 100,000 residents in the region. In the Bay Area, which includes the San Francisco Bay, Silicon Valley and North Bay regions, the three departments had over 35,000 military and civilian employees. The Sacramento region was home to 17,000 of these employees.

Two regions – San Diego and Coastal – have a higher proportion of military and federal civilian employment to the region's population than the state average. Among the 11 regions, San Diego and Coastal rank first and third, respectively, in total military employment, but are fifth and eighth in total population.

Figure 2: Direct Employment by Region

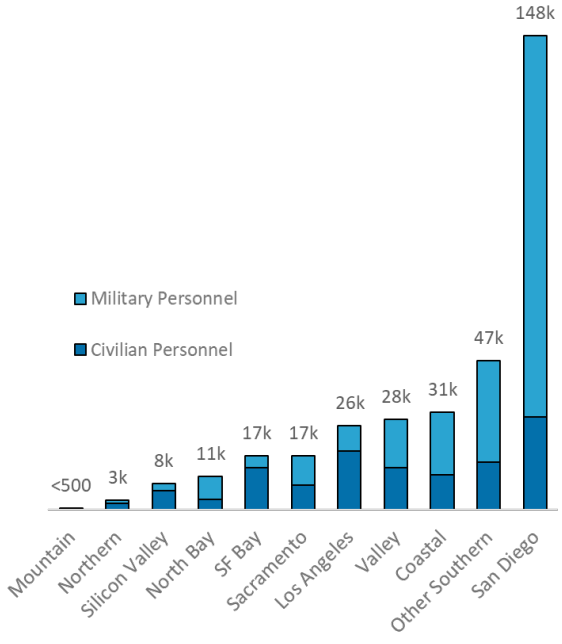
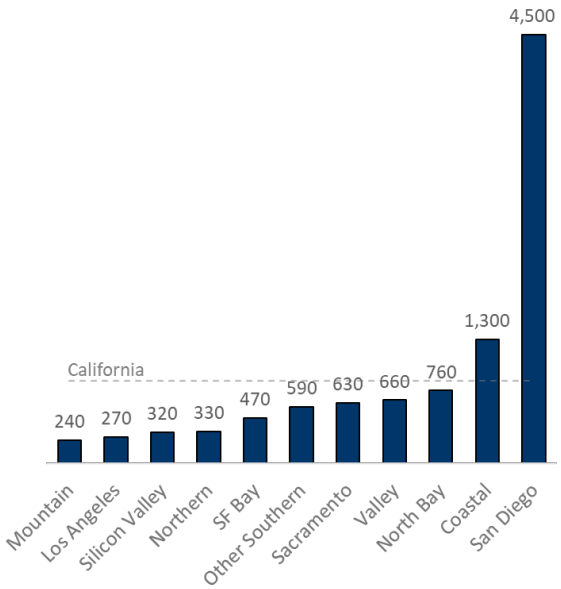


Figure 3: Direct Employment per 100k Residents



[3] Regional estimates may not match the congressional district supplement due to differences in regional composition as defined in each report.

Direct Spending

In fiscal year 2022, the U.S. Departments of Defense, Homeland Security, and Veterans Affairs collectively spent $51.4 billion on national security activity, over $130 million per 100,000 California residents. Southern California received $30.6 billion in spending, roughly 60% of the state's total. The San Diego region accounts for 25.5% of all national security spending in the state, totaling $13.1 billion in fiscal year 2022. The Los Angeles region received about $12.4 billion (24.1%) of national security spending in California. The Sacramento region received $7.4 billion (14.5%).[4]

Figure 4: Direct Spending by Region

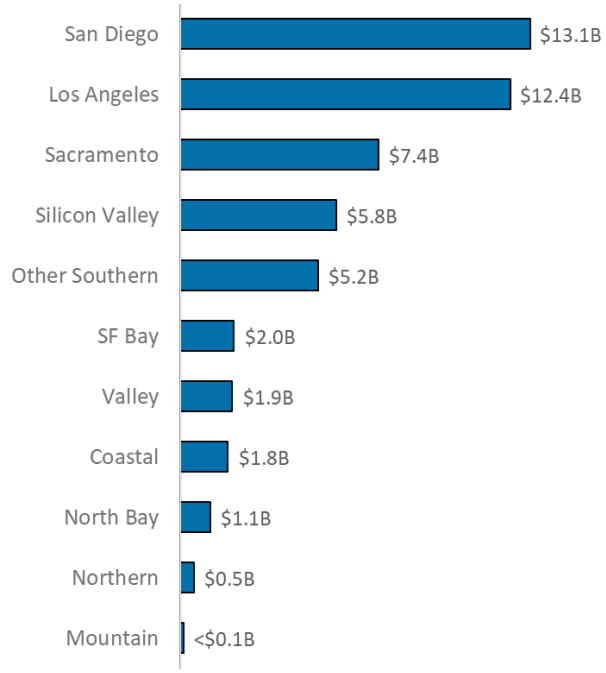
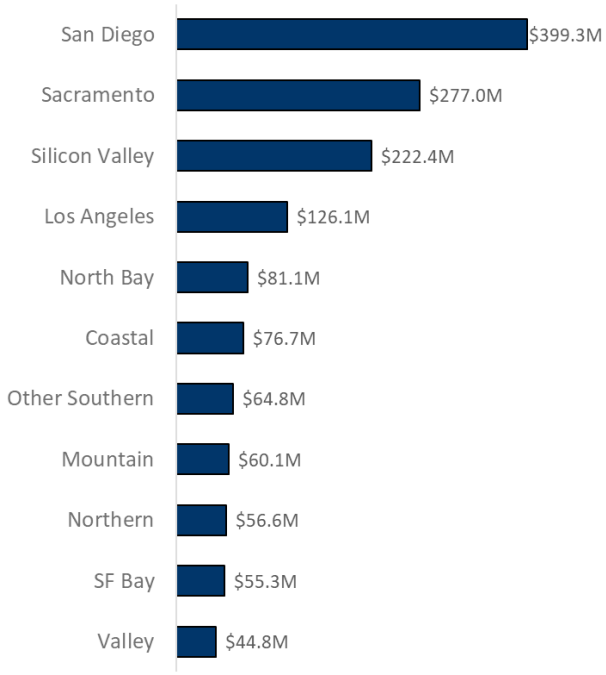


Figure 5: Direct Spending per 100k Residents



While the Los Angeles region received a considerable portion of national security spending, it received less per resident than the state average and three regions – San Diego, Sacramento, and Silicon Valley.

[4] This may overstate the true local spending, however, as a portion of this spending flows through the state government in Sacramento to other regions where the actual economic activity occurs.

Economic Impacts

This report used economic impact assessment software to develop standard input-output models to estimate the direct, indirect, and induced economic activity that typically results in a region from spending and employment within a given industry. Direct effects include the employment and economic output from the federal government as well as the employment and economic output of its direct contractors. Indirect effects include the output and employment of subcontractors. Induced effects include the employment and economic output generated because of spending created from earnings generated in the first two categories.

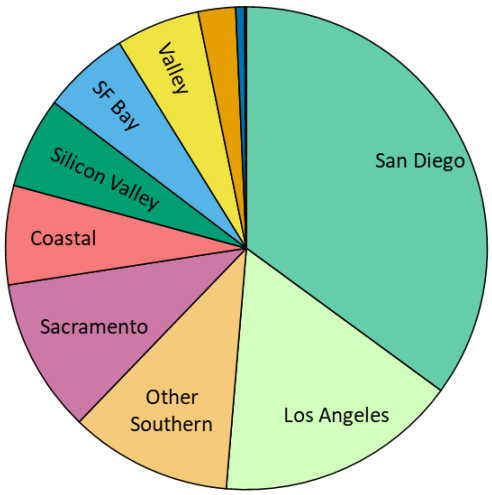
For more information about the methodology and software employed in this study, please refer to the methodology section in Appendix I of this report.

Total Output

Economic output follows a similar pattern to spending and employment. The San Diego region has the largest share, $63.3 billion, accounting for over one-third of California's $189.8 billion in total economic output generated by national security spending and employment. The Los Angeles region is second with $29.5 billion. In total, Southern California accounts for $112.5 billion in economic output, almost 60% of the state's total, due to the high concentration of military facilities, major national security contractors, and servicing industries among its three regions. The Sacramento region is the highest among the remaining eight regions with $18.7 billion in economic output.

(Note that, throughout the report, local estimated outputs add up to a modestly smaller amount than the statewide figure. A small amount of leakage from counties is unable to be accounted for within the software available for this project, resulting in this difference).

Figure 6: Share of Total Output by Region



The San Diego, Sacramento and Coastal regions have larger proportions of total output than the state average of $486.2 million.

Figure 7: Total Output by Region

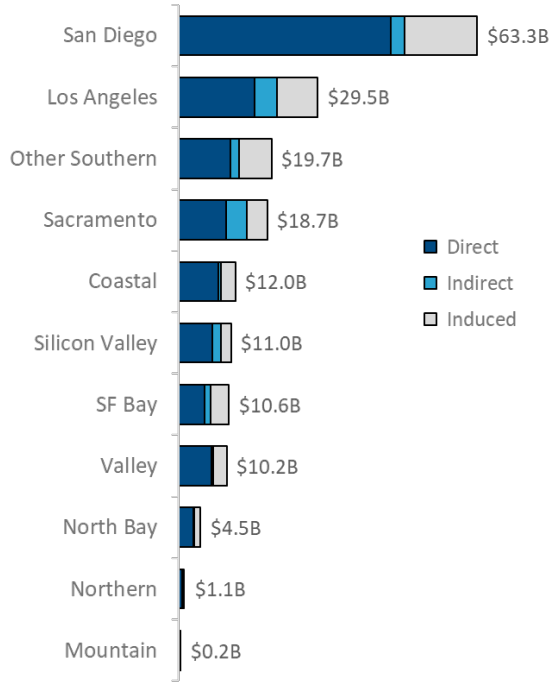
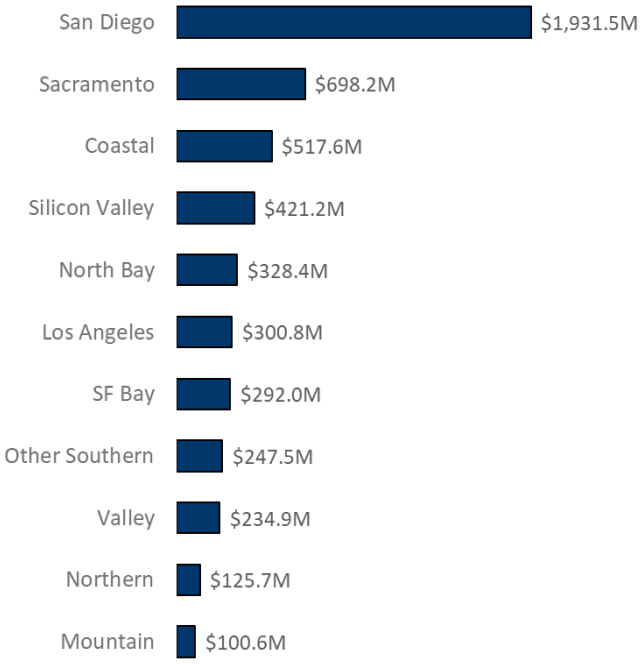


Figure 8: Total Output per 100k Residents



Total Employment

Estimated total employment generated by national security activity follows a similar pattern to total output across the regions. The San Diego region supported roughly 262,000 full-time equivalent (FTE) jobs, accounting for 34.5% of the 771,000 FTEs generated by national security activity in California. The San Diego, Los Angeles and Other Southern regions account for almost two-thirds of all employment in California, at 482,000 FTEs. The Coastal, Valley and SF Bay regions each account for around 6% of the state's total national security-supported FTEs.

San Diego is the state's leader with more than one in six jobs supported by national security activities, while the Sacramento and Coastal regions are next at around 6% and 5%, respectively. Most regions are slightly below the state average (4.2%) with around 2.0% to 3.0% of employment being supported by national security activities.

Figure 9: Total Employment by Region (FTEs)

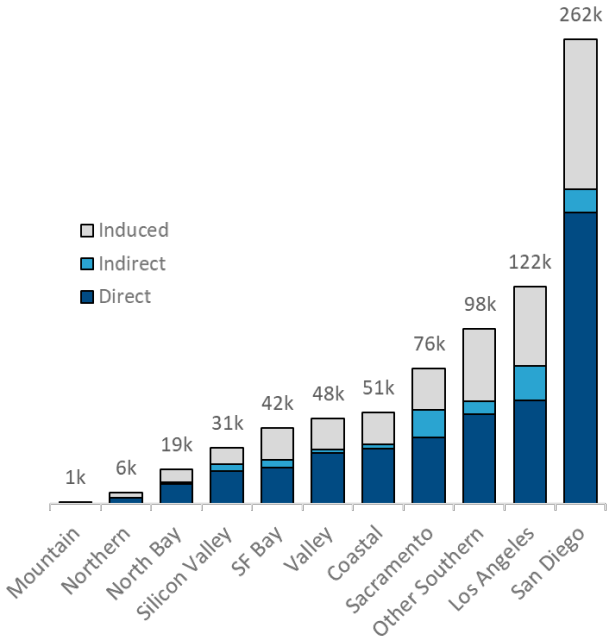
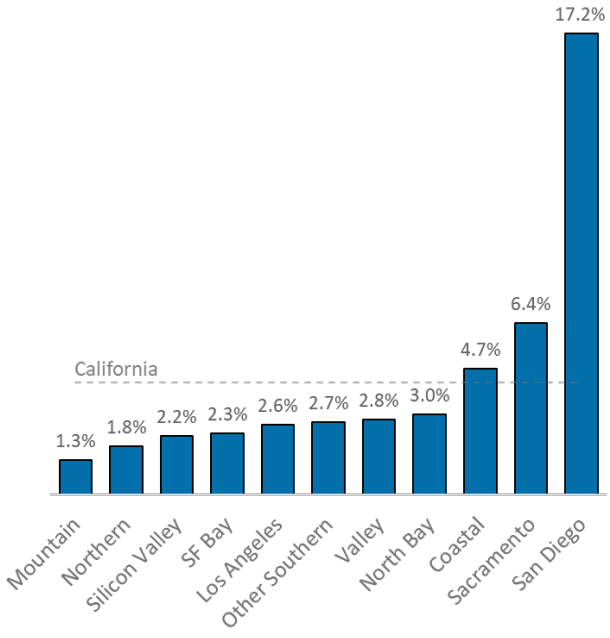


Figure 10: Total Employment as Percentage of Region's Employment



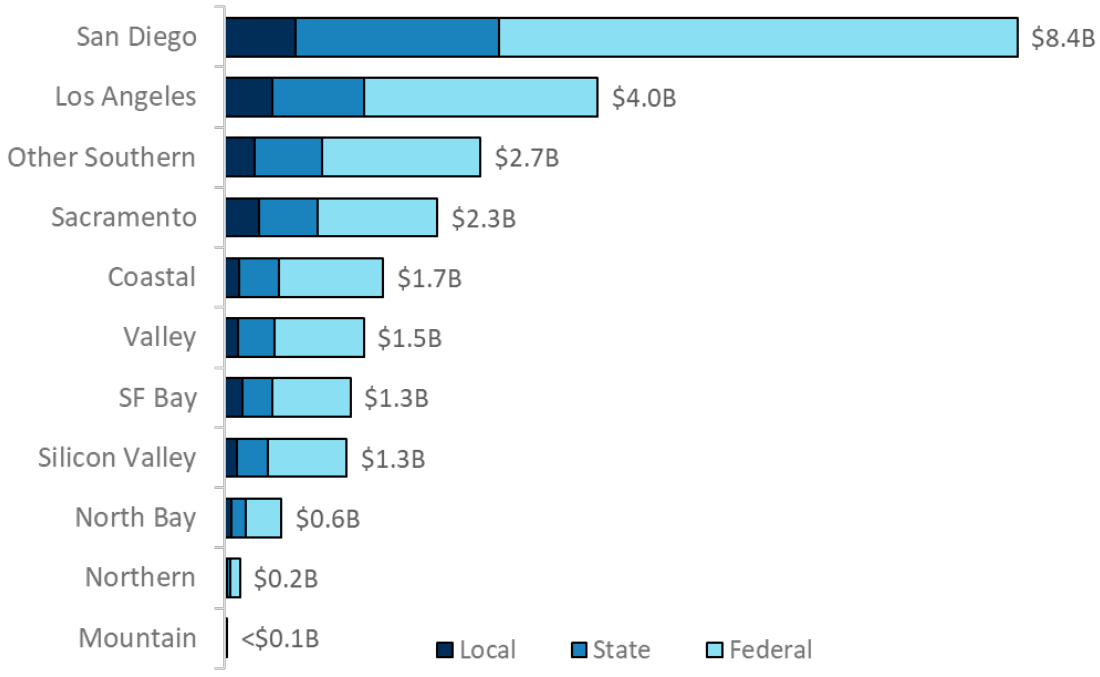
Government Revenue

National security activity in fiscal year 2022 generated $8.4 billion in combined local, state, and federal revenue in the San Diego region, which accounted for around a third of the state's $26.5 billion in total government revenue from national security activity. The three regions within Southern California totaled $15.1 billion in total government revenue, over 60% of the state total. The San Francisco Bay Area yielded just over $3.2 billion in combined government revenue, including taxes and fees, from national security activity.[5]

Statewide, 63.7% ($16.9 billion) of government revenue was federal and 36.3% ($9.6 billion) was state and local, combined. In the San Diego, Coastal, Valley, and Silicon Valley regions, federal revenue made up the highest portion of total revenue, about 65% in each region. The Sacramento and Mountain regions have the highest share of state and local revenue, 43.7% and 40.4%, respectively.

The economic software used for this study generally considers revenue that is collected by the state but passed through to local governments to be state revenue.

Figure 11: Government Revenue by Region



[5] IMPLAN Data Team (2024). Generation and Interpretation of IMPLAN's Tax Impact Report.

Industries Impacted

Nearly every industry in the state benefits from national security activity. Some industries – such as real estate, healthcare, wholesale, retail and financial – are spread relatively evenly throughout the state. These sectors, which service the population broadly, are typically associated with indirect and induced economic activity.

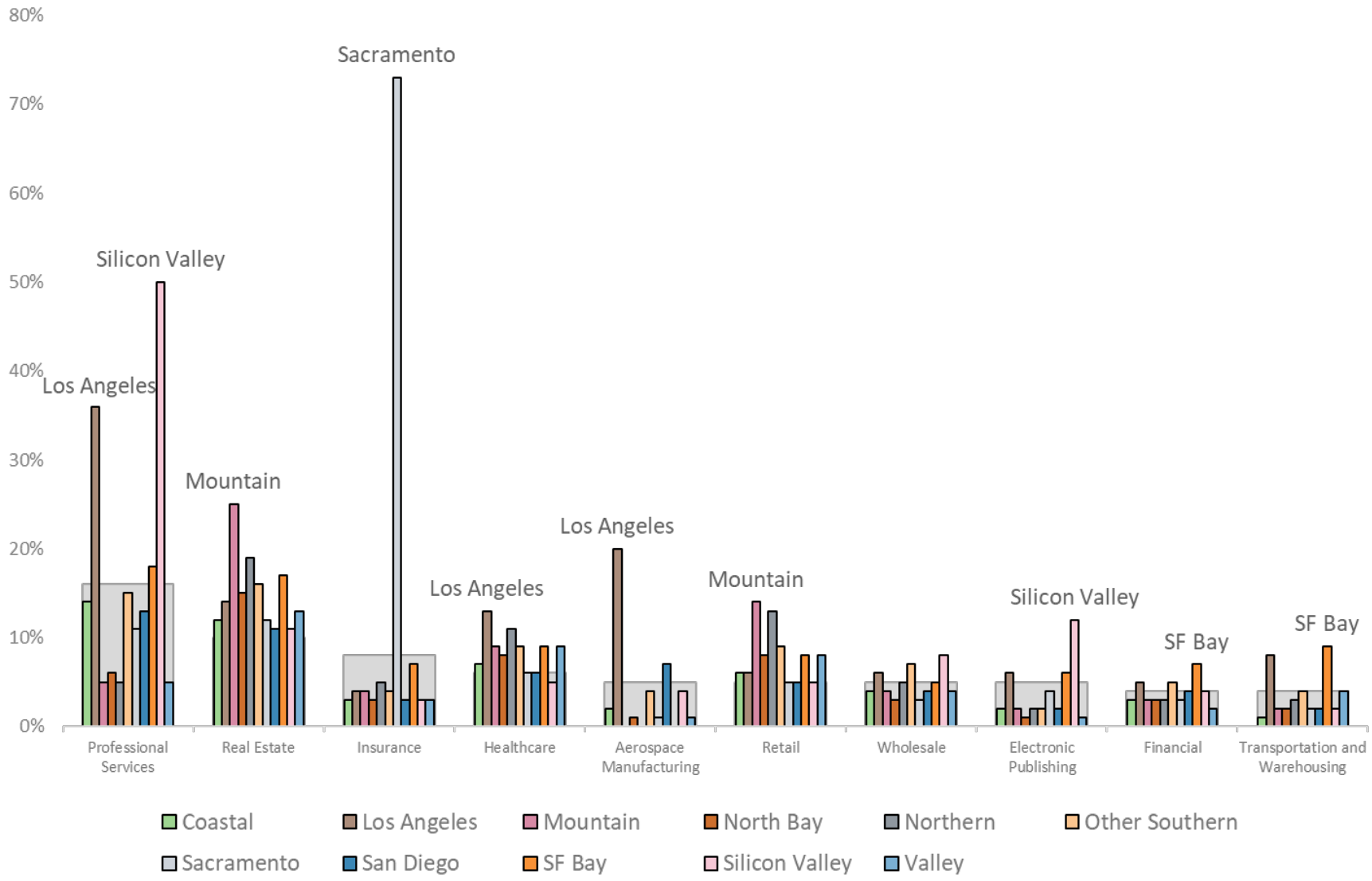
Other, more specialized industries that are concentrated in one or more regions are more typically associated with direct economic activity. This includes industries such as aerospace manufacturing in the Los Angeles region or electronic publishing in the Silicon Valley region. Professional services and insurance are among those industries whose activity are split relatively evenly between direct and indirect/induced. Similarly, both are represented broadly throughout the state, but also show clear concentrations in certain regions. Insurance has a major concentration in the Sacramento region, while professional services have concentrations in the Los Angeles and Silicon Valley regions.

The economic software used for this study analyzes spending [6] based on the North American Industry Classification System (NAICS) codes provided in USASpending.gov to allow for the collection, analysis and publication of data related to the U.S. economy. NAICS codes are self-assigned by each company, typically based on that company's primary industry. Many larger corporations do business across different sectors and specific contracts may be for services in an industry other than those described by that corporation's NAICS code. This could lead to an overstatement of direct activity in that industry and an understatement of direct activity in the other industry. In addition, this may have a smaller impact on indirect economic activity. Cyber security related activities have been raised as a potential area where this phenomenon may occur. [7]

Regional employment by industry followed similar patterns to output. In nearly all regions, the professional services, retail, restaurant and healthcare industries saw a significant amount of employment supported by national security activity.

[6] Clouse, C. (2023). IMPLAN Sectoring & NAICS Correspondences.
[7] Per CRB interviews with stakeholders.

Figure 12: Statewide Top Industries as a Percentage of Total Regional Output



Air-to-air refueling trials conducted out of Edwards Air Force Base.

Appendix I: Methodology – County Analysis

This report models economic impacts using IMPLAN software, based on standard input-output methodology. The purpose of the study is to estimate the impacts of existing spending, rather than modeling any policy changes or other counterfactuals. As a result, the analysis estimates gross benefits and does not account for alternate federal spending or other use of resources that might occur in California in the absence of national security spending and employment.

The IMPLAN (IMpact Analysis for PLANning) I-O economic model was selected for this analysis based on its reputation and the resources available. IMPLAN was developed by the U.S. Department of Agriculture Forest Service in the 1970s to fulfill the requirements of the Rural Development Act of 1972 to estimate the impacts of alternate uses for U.S. public forest resources.

For a full discussion of the overarching methodology and IMPLAN's input-output model, refer to the Methodology and Data section in the 2023 Statewide National Security Economic Impacts Study. This supplement builds on the analysis in the aforementioned study.

As in prior versions of the report, this supplement analyzes the localized impacts. It follows the same methodology as the 2019 report,[8] but provides expanded detail, estimating results for each of California's 58 counties. A separate supplement provides estimates for California's 52 congressional districts. These supplements use a two-model approach to estimate the impacts for local areas. This accounts for the fact that a traditional, single-model approach would understate the impacts occurring within a given geographic area, omitting spillover effects from spending in other counties.

Traditional models estimate the impact of spending and employment that happens within a given county has within that same county. For example, it would capture most of the economic impacts associated with the employment of a government worker who both works and lives in Sacramento County. The majority of the induced economic activity from their employment, spending on housing, shopping, healthcare, etc., would likely occur within the county because they both live and work there. While it would account for most of the economic activity resulting from their employment, it would miss some aspects. For example, if they went to a restaurant in neighboring Yolo County or went on vacation to Disneyland in Orange County, the resulting economic activity would be omitted. The Sacramento model would miss it because the spending occurs outside of Sacramento and the Orange/Yolo models would miss it because

[8] Lavelle, D.M. "California Statewide National Security Economic Impacts, 2019 Update." California Research Bureau, California State Library, Oct. 2019.

they would not include the original employment data that led to that induced activity because it occurred outside the county.

Still more economic activity is missed when economic relationships occur across counties. For example, if a Los Angeles company contracted with an Orange County law firm, the resulting indirect and induced economic impact would be missed altogether. Because the contractor is outside Los Angeles, the Los Angeles model would not include it and because the initial spending occurred outside of Orange County, the Orange County model would not account for it. Moreover, simply including the Los Angeles data in the Orange County model is not viable, because it would then over count economic activity associated with that spending that is actually occurring within Los Angeles County.

Economic activity omitted from a traditional model approach is significant in aggregate. In this case, such a methodology would overlook approximately 8% of total state output. It can also distort county information significantly. For example, 61% of economic activity in Santa Cruz County would be excluded by a traditional model. These impacts appear most significant in counties with large tourist economies and counties that are home to a large number of commuters from nearby counties.

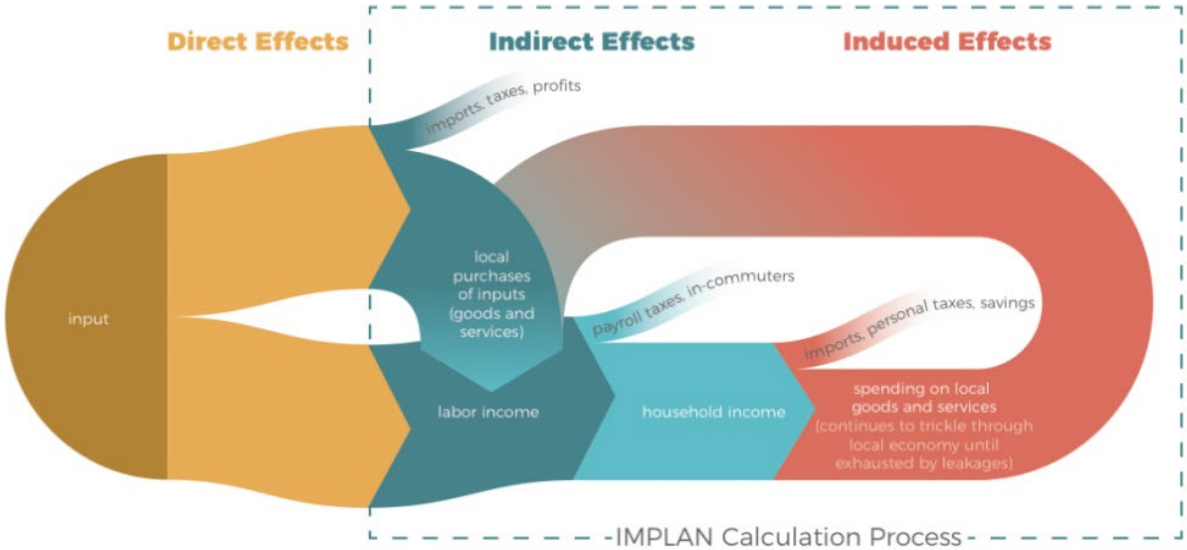
This supplement uses the same two-model approach as the 2019 report. This is refined and streamlined from the original three-model approach used in the 2018 report with the assistance of IMPLAN's Multi-Regional Input-Output (MRIO) tool. This tool estimates the impacts that spending within a given geography has on other selected geographies. "MRIO expands backward supply linkages beyond the boundaries of a single-region Study Area. MRIO analyses utilize interregional commodity trade and commuting flows to quantify the demand changes across many regions stemming from a change in production and/or income in another region. This powerful analytical method allows analysts to go beyond a single study region, measuring the economic interdependence of regions. In an MRIO analysis, the Direct Effect in one region, Region A, can trigger Indirect and Induced Effects in linked regions, capturing some of what would have been a leakage in a traditional I-O model."[9]

Because of the complexity of these models, however, IMPLAN is only able to analyze seven geographies within the MRIO tool. This prevents us from simply running a single MRIO model for each county.

[9] Clouse, C. (2023). MRIO: Introduction to Multi-Regional Input-Output Analysis.

Instead of using the MRIO tool to estimate all of the spillover resulting from spending in a county, we use it in reverse to calculate all of the spillover it receives resulting from spending in other counties. First, we run a standard model for each county using spending and employment within that county. We then set up a second MRIO-based model. This model uses a custom region that is composed of all of the counties in the state, except the county from the first model. Similarly, the input data for the analysis is the spending and employment from those 57 counties, omitting the spending and employment that was included in the first model. The county from the first model is then used as the secondary region within the MRIO framework. By doing so, the MRIO tool estimates the indirect and induced activity that occurs within that county as a result of spillover from spending and employment that occurs within the other 57 counties. These outputs are then added to the outputs from the first model to calculate the total outputs for that county. This approach, combining the economic activity resulting from direct inputs as well as spillover from outside the county, more fully accounts for the localized impacts within the state without impacting the statewide estimates.

Figure 13: IMPLAN Model[10]



[10] IMPLAN. Assisted Economy. IMPLAN also has a link to a larger version of this figure.

The first dedicated launch of the Space Development Agency's Tranche 0 mission from Vandenberg Space Force Base.

U.S. Marines run through a training exercise in Twentynine Palms.

Appendix II: California Counties

Economic impacts are detailed for all 58 California counties in a separate file that can be found on the Governor's Military Council website at militarycouncil.ca.gov.

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