

# **JOHN WAYNE AIRPORT, ORANGE COUNTY ECONOMIC IMPACT STUDY CY 2022**

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## 1. EXECUTIVE SUMMARY OF THE JWA CY 2022 ECONOMIC IMPACTS STUDY

### A. Introduction

John Wayne Airport (JWA or the Airport) is owned and operated by the County of Orange (County) and is the second busiest airport in the Greater Los Angeles Area, serving more than 11.3 million passengers annually. JWA is the sole commercial service airport in Orange County, providing passenger, cargo, and general aviation (GA) services. JWA serves 3.15 million people within the 34 cities and unincorporated areas of Orange County (based on 2022 Census data). The Airport has been a vital part of the Orange County community for 100 years and prides itself on delivering a superior guest experience.

In calendar year (CY) 2022, JWA processed more than 11.3 million passengers including 314,000 international passengers.<sup>1</sup> Air cargo processed via JWA exceeded 34.6 million pounds. A total of 304,000 aircraft operations (takeoffs and landings) occurred including 202,000 GA operations, and 101,000 commercial operations and minor military operations.

JWA is a vital element of the regional economy, generating significant economic impacts through its aviation activities, as well as providing significant developmental and other qualitative benefits. Air transportation links are essential for leisure and business travelers, as well as for the transport of high-value, and time-sensitive cargo. Commercial air transportation services are directly provided by scheduled and charter airlines with support from industries providing local transportation, passenger and cargo processing, and aircraft services. Other Airport users include private and non-commercial aircraft operators, flight schools, GA pilots, and aviation industry firms.

The Airport's passenger, cargo, and GA activities generate economic impacts by supporting employment, labor income, and output for local residents and businesses. This Economic Impact Study estimates the level of local economic activity that is dependent on the Airport including the following types of impacts:

- Direct aviation (airline and Airport) impacts from transportation and supporting activities (including commercial and non-commercial)
- Direct capital impacts from projects at the Airport
- Direct visitor spending impacts by inbound passengers (both commercial and GA)
- Indirect impacts resulting from spending by direct impact sectors within the local economy
- Induced impacts derived from spending by impacted employees within the local economy

The impact of JWA on the Orange County economy is measured using a customized IMPLAN model that translates direct aviation and Airport-related activities into total impacts.<sup>2</sup> Direct transportation-based impacts are measured in terms of the employment, labor income, gross domestic product (GDP) (value-added), and output (or total expenditures for non-commercial operations) that directly result from the

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<sup>1</sup> Source: JWA internal statistics

<sup>2</sup> IMPLAN is a regional economic analysis system that uses input-output data to measure the economic impact of industrial activity on a particular economy (JWA on Orange County in this study). The model contains a detailed representation of the inter-relationships between internal Orange County households, businesses, and government entities, as well as the import and export of labor and other resources. The detailed data for this study was based on 2022 economic and other data.

Airport's activities including passenger transits, cargo transfers, and aircraft operations supporting GA activity (private or business). The direct impact of capital investment is measured separately to capture the benefits of developing infrastructure in support of Airport activities. Direct impacts of visitors who travel by air and make expenditures in the local economy are measured in terms of employment, labor income, GDP and output for the travel, tourism, and related industries. Indirect impacts measure the secondary spending by entities with direct impacts, while induced impacts result from household spending by all affected employees ("multiplier" effects).

The methodologies used to estimate these impacts varied by type of activity, but were based on the following general procedures:

- Direct employment for entities performing aviation-related Airport activities (excluding JWA, which is measured separately) was mostly measured through security badge counts and estimates provided by the Airport, along with secondary sources for certain activities.
- Direct spending for on-Airport concessions was based on JWA data.
- Direct spending for Airport-related ground transportation activities was estimated from JWA revenue data (for parking and car rental) and trip counts and constructed average fares (for taxi and other transportation options).
- Direct employment, labor income, and spending for JWA were provided using internal data.
- Direct capital expenditure impacts were estimated based on JWA spending data assigned to the affected construction and related service sectors as defined in the IMPLAN model.
- Direct visitor spending impacts combine inbound passenger estimates and spending profiles developed for domestic and international visitors. The spending totals for specific industry sectors were entered as output values into the IMPLAN model to derive income, employment, and value-added impacts.
- All other direct employment, labor income, value-added, and output impacts were estimated (using the IMPLAN model for Orange County), as were indirect, induced, and tax impacts.<sup>3</sup>

The estimated impacts are based on CY 2022 Airport activity and are measured in 2023 dollars.

## **B. Summary of Results**

### **B-1 Summary of Impacts**

JWA generated over \$5.7 billion in total impact for the Orange County economy in 2022 including \$3.4 billion of direct impacts, \$1.2 billion of indirect impacts, and \$1.2 billion of induced impacts. Direct employment impacts were over 32,000 jobs, yielding \$1.4 billion in labor income, while total employment exceeded 45,000 jobs, with \$2.3 billion in labor income, and \$3.5 billion in value-added. Employment as measured in full-time equivalents (FTEs) exceeded 40,000. State and local taxes totaled \$352 million.

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<sup>3</sup> The IMPLAN model converts direct employment or output impacts for specific industry sectors into the other direct impact measurements (labor income, proprietor income, and taxes) and also models the impact of indirect and induced spending.

**Table 1-1**  
**Total Impacts for JWA by Type**

	Employment (Jobs)	Full-Time Equivalents (Jobs)	Labor Income (mil. \$)	Value Added (mil. \$)	Output (mil. \$)	State/Local Taxes (mil. \$)
Direct	32,585	28,469	\$1,421	\$2,045	\$3,413	\$209
Indirect	6,478	5,843	\$457	\$685	\$1,153	\$62
Induced	6,469	5,780	\$398	\$748	\$1,170	\$81
<b>Total</b>	<b>45,531</b>	<b>40,092</b>	<b>\$2,276</b>	<b>\$3,478</b>	<b>\$5,736</b>	<b>\$352</b>

Source: IMPLAN model results

**B-2 Direct Impacts of Air Transportation and Related Activities**

The direct impacts of air transportation and related activities for JWA are summarized in Table 1-2. Annual direct output impacts are estimated at \$1.35 billion, including \$512 million in labor income based on 7,854 jobs (and 7,120 FTE's).

**Table 1-2**  
**Airline/Airport Impacts for JWA**

	Employment (Jobs)	Full-Time Equivalents (Jobs)	Labor Income (mil. \$)	Value Added (mil. \$)	Output (mil. \$)	State/Local Taxes (mil. \$)
<u><b>Direct</b></u>						
Airlines	1,391	1,307	\$150	\$211	\$520	\$7
Airport Services	1,676	1,557	\$102	\$112	\$223	\$7
Airport Concessions	610	492	\$22	\$33	\$53	\$5
Ground Transport	3,149	2,905	\$92	\$192	\$271	\$21
Government	859	699	\$121	\$177	\$177	\$5
JWA Operations	169	159	\$25	\$25	\$106	\$1
<b>Direct Total</b>	<b>7,854</b>	<b>7,120</b>	<b>\$512</b>	<b>\$750</b>	<b>\$1,350</b>	<b>\$46</b>
 <b>Indirect/Induced</b>	 <b>4,769</b>	 <b>4,275</b>	 <b>\$324</b>	 <b>\$542</b>	 <b>\$865</b>	 <b>\$59</b>
<b>Total</b>	<b>12,623</b>	<b>11,396</b>	<b>\$836</b>	<b>\$1,291</b>	<b>\$2,216</b>	<b>\$105</b>

Source: IMPLAN model results

Most of the impact occurred in the ground transportation sector, which generated over 3,100 jobs, \$92 million in labor income, and \$271 million of output. Airport services is the next largest impact sector, followed by airlines and the non-JWA government sector. Total aviation-related impacts include \$2.2 billion of output, \$1.3 billion of value-added, \$0.8 billion of labor income, and 12,623 jobs.

### B-3 Capital Expenditure Impacts

Airports require substantial capital investment for facilities, infrastructure, and equipment. The impact of Airport development on the local economy is measured separately to indicate the level of capital investment stimulated by Airport activities.<sup>4</sup> JWA's construction budget for FY 2023 exceeded \$60 million, up from \$35.5 million in FY 2022. The Capital Improvement Program for FY 2024 to FY 2026 totals \$405 million, with an estimated additional investment of \$229 million for future years.

Expenditures for capital projects generate revenues for local businesses providing construction, architectural/engineering, and management services, as well as materials sourced locally. Actual spending in FY 2022 and FY 2023 was \$12,583,641 and \$12,476,702 respectively, so the average spending (\$12,530,172 in 2022 dollars) was used for CY 2022 impacts which totaled \$21.1 million in total output, \$9.0 million in labor income, and 109 jobs.

**Table 1-3**  
**Construction Impacts for JWA**

	Employment (Jobs)	Full-Time Equivalents (Jobs)	Labor Income (mil. \$)	Value Added (mil. \$)	Output (mil. \$)	State/Local Taxes (mil. \$)
Direct	66	63	\$6.0	\$7.0	\$12.8	\$0.3
Indirect/Induced	43	39	\$3.0	\$5.2	\$8.3	\$0.6
Total	109	103	\$9.0	\$12.3	\$21.1	\$0.9

Source: IMPLAN model results

### B-4 Visitor Spending Impacts

The direct visitor spending impacts were estimated at \$2.1 billion of annual revenues, \$909 million in labor income, and nearly 25,000 jobs. The lodging, food and beverage, and entertainment sectors accounted for the highest number of jobs (over 18,000 combined).

With indirect and induced impacts, commercial and GA visitors accounted for \$3.5 billion in output, \$1.4 billion in labor income, and nearly 33,000 jobs while generating \$248 million of state and local taxes. The vast majority of the visitor impacts (96%) are accounted for via commercial travel airlines, with the remainder being business and other travelers using private aircraft.

<sup>4</sup> Capital expenditures are measured as a separate direct impact since direct impacts for JWA were limited to operating revenues. Public capital expenditures at the Airport represent a long-term contribution to the output of the airport system, but are measured in terms of a single year's funding to be consistent with other impact measures.

**Table 1-4**  
**Passenger Spending Impacts for JWA**

	Employment (Jobs)	Full-Time Equivalents (Jobs)	Labor Income (mil. \$)	Value Added (mil. \$)	Output (mil. \$)	State/Local Taxes (mil. \$)
<u>Direct</u>						
Accommodations/Lodging	7,917	7,128	\$385	\$594	\$900	\$57
Food & Beverages	6,085	4,823	\$202	\$309	\$522	\$47
Entertainment & Recreation	4,816	3,998	\$190	\$202	\$339	\$23
Ground Transportation	3,750	3,504	\$43	\$63	\$105	\$5
Retail (excluding airport)	2,161	1,893	\$89	\$127	\$195	\$31
Medical/Education	2	2	\$0	\$0	\$0	\$0
	<b>24,730</b>	<b>21,349</b>	<b>\$909</b>	<b>\$1,295</b>	<b>\$2,063</b>	<b>\$163</b>
<u>Indirect/Induced</u>	8,178	7,348	\$532	\$892	\$1,457	\$85
<b>Total</b>	<b>32,909</b>	<b>28,697</b>	<b>\$1,440</b>	<b>\$2,187</b>	<b>\$3,520</b>	<b>\$248</b>

Source: IMPLAN model results

## C. Qualitative Impacts of JWA

### C-1 Overview

The economic impacts measured above show the value of Airport-related business and non-commercial activities in terms of local output, labor income, and employment required to “produce” the transportation and other services. The impact of JWA can also be described qualitatively in terms of the important role a vital airport has in supporting and stimulating air transportation use. The structure and capabilities of a nearby accessible airport can benefit the local community by promoting efficiency, flexibility, and economic development.

A fundamental benefit of the County’s sole commercial Airport (JWA) to the local community can be measured in terms of the efficiency of accessing and using the Airport, and the competitiveness, diversity, and level of available services. In short, local leisure and business travelers are typically more interested in the “value” obtained from Airport use, rather than the effect of that use on local businesses. JWA maintains an aggressive policy for improving ground access and terminal efficiency through management and capital improvement programs. JWA seeks to maintain a competitive air service market through capacity investment, improved facility management, and active marketing for new services.

The ability to use JWA air services for both passenger and cargo transportation is a key factor in supporting and stimulating trade by local companies. Air cargo services allow local manufacturers to participate in worldwide markets for both inbound materials and outbound finished products, while also accommodating industries that are dependent on air trade. The air cargo market is well-served by the U.S. integrated carriers (FedEx and UPS), who connect the County to all of the U.S. and the world via their U.S. sort hubs. Similarly, companies dependent on business travel to manage multinational business or engage in services trade are also stimulated and attracted. The growth in U.S. merchandise

and services trade can be closely correlated with the expansion of air transportation access to world markets, and better trade access for the County benefits local industrial expansion and new development.

#### C-2 Role as Orange County's Primary Airport

Orange County is home to 3.15 million residents in 2022<sup>5</sup>, and is one of the most densely populated counties in California. It is California's 3<sup>rd</sup> largest county by population, behind Los Angeles and San Diego. Orange County has a diverse industry base including technology, healthcare, aerospace and defense, and education. Additionally, the region is a thriving tourism destination with multiple theme parks, beaches, and luxury resorts. The County is home to over 25 institutions of higher education serving over 200,000 students. The region is also known for affluent communities, with 22.6% of the residents in the Orange County region earning a household income of \$150K or above which is 5.3 points above the national average (17.3%). Since 2019, and after the entry of several new ultra low-cost carrier (ULCC) airlines, the average share of households earning \$150K or more using the Airport has dropped from 38.3% to 34.8%. This is just one example of how the Airport is reaching more diverse income levels, providing more equitable access to travel markets. The availability of competitive and efficient access at JWA benefits the business, local, and educational sectors.

#### C-3 Ease of Access for Commercial Air Passengers

JWA is the closest commercial airport for almost all of the zip codes in Orange County accounting for 88% of County population and 96% of outbound passenger trips. Outbound residents are within 17 minutes of the Airport on average. On average, JWA is 9 minutes closer than any of the other Los Angeles area airports (LAX, ONT, LGB and BUR) and 25 minutes closer than the primary alternative airport, LAX. The time savings are higher for outbound JWA passengers at 12 minutes relative to all Los Angeles area airports and 29 minutes versus LAX. In addition to reduced ground access costs (over \$100 on average for a round-trip taxi to LAX), JWA users enjoy the benefit of time savings. Using the Federal Aviation Administration's (FAA) estimate of \$58.87 per hour for the "value of travel time savings" provides a benefit of \$24 to \$58 per passenger trip (without regard to any differences in processing times at alternative airports, particularly LAX)

#### C-4 Time Saving with Non-Stop Services

The availability of direct passenger flights at JWA results in faster travel times and reduced trip costs relative to alternative routes accessed via connecting flights or long ground access times. JWA provides a substantial level and range of air services for passengers. At the end of CY 2022, JWA had non-stop service to 45 destinations including Mexico and Canada. Of domestic passengers using JWA, 71% traveled on direct non-stop flights in 2022, including 98% for the top ten markets and 92% for the top twenty.

The availability of direct non-stop flights between JWA and key markets creates enormous time savings over using connecting flights or flights at alternative airports. For five top non-stop domestic markets with significant connecting traffic (Denver, Dallas, Chicago, Seattle, and Salt Lake City), the average time

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<sup>5</sup> U.S. Bureau of the Census, American Community Survey, 2022 1-Year



savings between the average non-stop flight and the fastest connecting flights to these markets was 73 minutes. The annual time savings due to the availability of non-stop service amounts to 2.9 million people-hours for just 42% of the total non-stop passengers. While connecting flights may provide some fare savings, the high usage of non-stop services demonstrates their value to Orange County residents and businesses.<sup>6</sup>

#### C-5 Ease of Access for General Aviation Users

In addition to commercial airline services, JWA also has a significant level of GA activity including pilot training, personal aircraft operation, and corporate travel. In 2021, 475 personal and business aircraft were based at JWA, generating property tax for the County. It is estimated that two-thirds of all GA operations are business-related, generating substantial impacts from business and high-income visitors. In addition, the Airport facilitates numerous critical services such as airborne firefighting assets, airborne law enforcement assets, time critical organ transplants, and a means of rapid ingress/egress for both supplies and personnel during any sort of emergency response (e.g., natural disaster).

The Airport is similarly centrally located for GA users as it is for commercial airline passengers. For the 12 months ending June 30, 2023, there were over 107,000 visits to one of the Airport's FBO locations from an Orange County origin. On average, these visitors were 8.4 miles from the Airport and had a drive time of 15 minutes. Of all visits, 61% were within 15 minutes of the Airport and 98% were within 30 minutes. The ability to get relatively quick access to JWA is valuable to all GA users.

#### C-5 JWA Employees

In addition to the economic benefits of the thousands of jobs supported by JWA's activities, the County benefits from the households that are supported by those jobs throughout the County. In 2022, there were nearly 6,000 on-airport jobs (excluding taxi and other passenger pickup and delivery jobs). An estimated 77% of these jobs are filled by Orange County residents. The direct airport-related jobs are dispersed throughout the County with an average one-way commute of 14 minutes. The top employee locations are Santa Ana, Huntington Beach, and Costa Mesa which combine for nearly half of total jobs, although there are 29 localities with jobs.

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<sup>6</sup> Note that the time savings apply to both local originating passengers and leisure and business visitors, but both benefit the County.

## 2. PROFILE OF JWA AND ASSOCIATED MARKET REGION

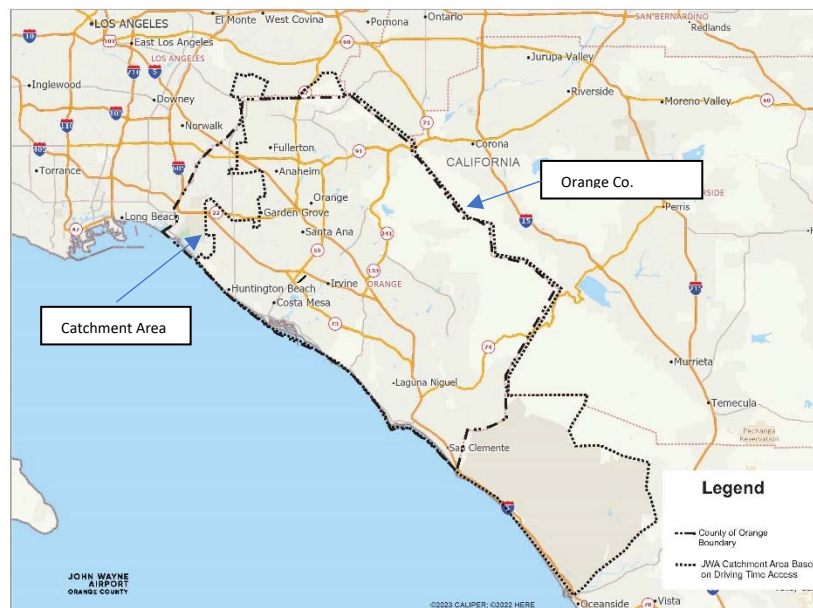
### A. Background and Role of the Airport

JWA comprises approximately 510 acres of property in central Orange County. It is located about 35 miles south of Los Angeles, between the cities of Costa Mesa, Irvine, and Newport Beach on unincorporated County land. JWA is the only commercial service airport in the County.

There are two runways, including a 2,887-foot runway for GA operations, and a 5,700-foot runway for both commercial and GA operations. The commercial passenger terminal has 20 loading bridge gates, two commuter hold rooms, and 730,505 square feet of terminal space. There are two full-service fixed base operators (FBOs) supporting both commercial and GA aircraft operations, as well as other supporting service providers.

JWA's catchment area for commercial passengers (as seen in Figure 2-1 below) was determined by drive times and the proximity to other commercial service airports. The catchment area includes most of Orange County.

**Figure 2-1: JWA Catchment Area Map**



Source: Airport

### B. Airport Administration and Financial Position

JWA is a department of the County of Orange and uses an enterprise fund to account for its operations. All costs to construct, operate, and maintain the Airport are generated by the Airport or through various grant programs. There are no city, County, or state general funds used. JWA's budget is directly linked to the number of aircraft operations and passengers that travel through the Airport.

The five-member Orange County Board of Supervisors oversees the management of the County government and its many special districts. The five Supervisors are elected in their respective districts to four-year terms by the citizens of Orange County. The Board creates policy for the management of the Airport. The Board also appoints a five-member advisory commission called the Orange County Airport Commission that makes recommendations to the Board for the development, maintenance, and operation of JWA. Each Airport Commissioner's term runs concurrent with the term of the Supervisor that appointed them.

JWA administration is responsible for management of the Airport. Orange County Public Works ("OCPW") is responsible for maintenance and capital development activities. In total, JWA has 169 employees as of mid-year 2022.<sup>7</sup> JWA spent a total of over \$131.3 million for operations in FY 2022<sup>8</sup> (including \$18.5 million for salaries and benefits and \$34.2 million for depreciation). Capital spending in FY 2022 and FY 2023 was \$12.6 million and \$12.5 million, respectively.

### **C. Traffic and Activity Profile**

JWA has fully recovered from the impact of the pandemic, with passenger levels in 2022 exceeding 2019 by 6.6%. JWA has experienced steady growth since 1990, with an average annual growth rate of 4.2%.

As of December 2022, ten commercial air carriers operated at JWA – seven domestic-only carriers (American Airlines, Alaska Airlines, Allegiant Airlines, Delta Air Lines, Frontier Airlines, Spirit Airlines, and United Airlines)<sup>9</sup>, Southwest Airlines with both domestic and international flights, and two international carriers (Air Canada and WestJet). They provided service to 45 non-stop destinations across the country, as well as to Canada and Mexico.<sup>10</sup> Additionally, JSX operates as a scheduled charter airline, serving three destinations – Las Vegas, Reno, and Napa/Concord. FedEx and UPS are the two all-cargo airlines operating out of JWA. In 2022, over 34.6 million pounds of air cargo traffic moved through JWA, 91% (31.1 million pounds) by freighter aircraft of the all-cargo airlines, with the remainder in the belly space of the commercial air carriers.

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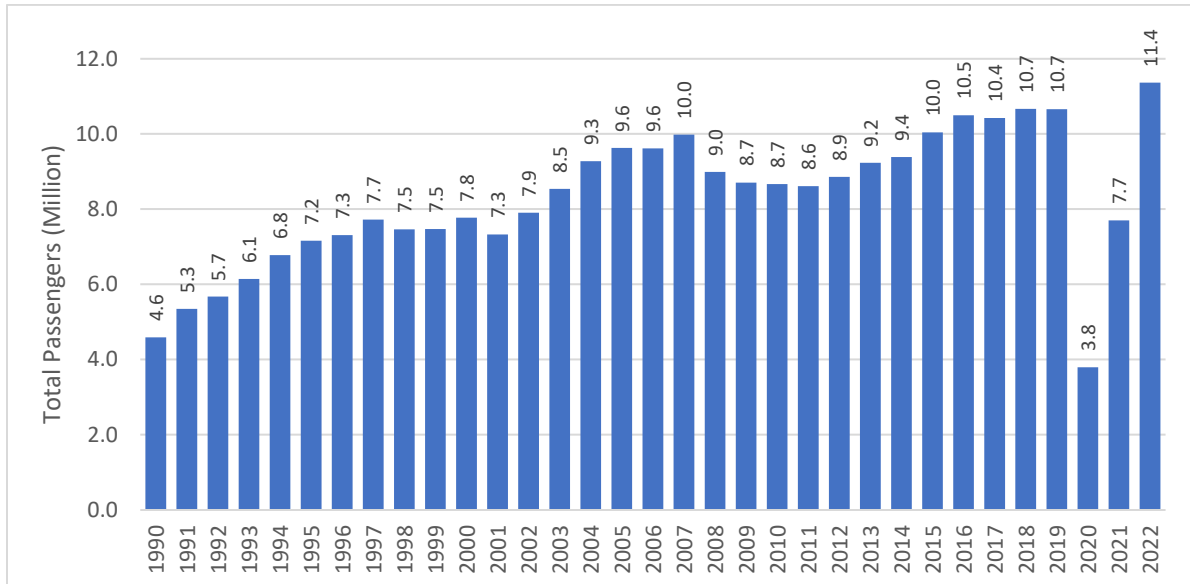
<sup>7</sup> During 2022, some employees were transferred from the Airport to OCPW, but still worked on Airport activities.

<sup>8</sup> The Airport's FY is the twelve months ending June 30<sup>th</sup>.

<sup>9</sup> Sun Country operated at JWA through Jan 2022, but was no longer active as of Dec 2022. New entrant Breeze Airways started service Feb 2023.

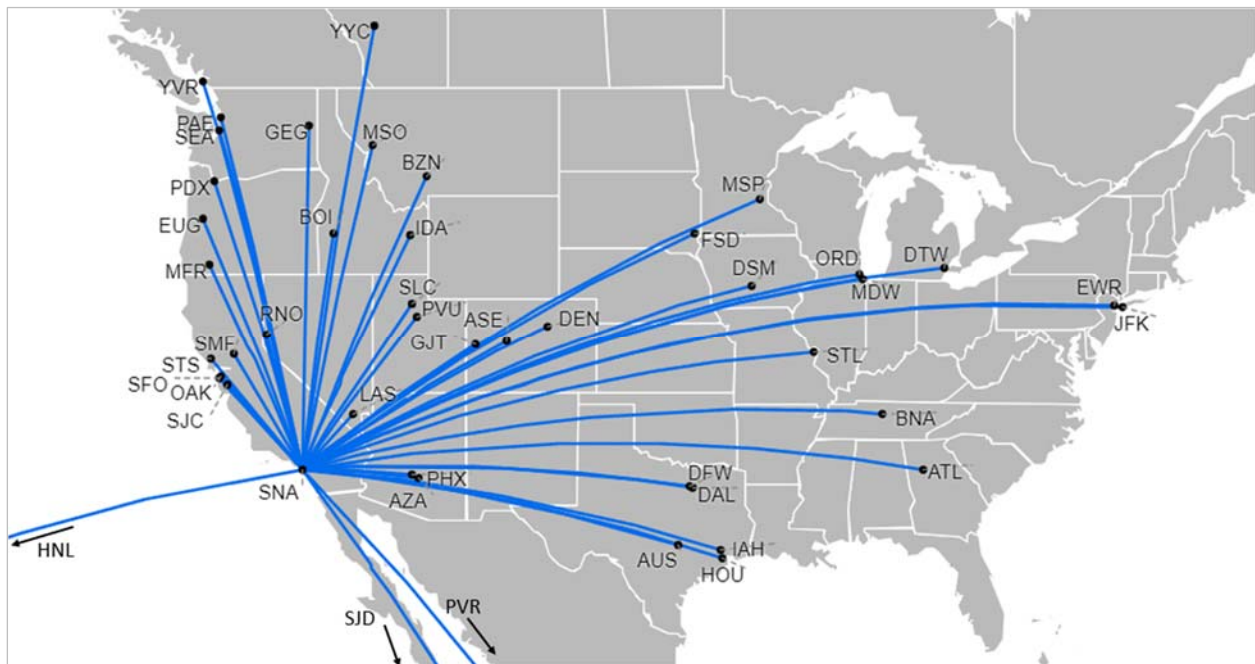
<sup>10</sup> 45 non-stop destinations include all markets that were served at any time in 2022.

**Figure 2-2: Total Passenger Traffic at JWA 1990-2022**



Source: John Wayne Airport Statistics

**Figure 2-3: JWA Route Map**



Source: 2022 Schedules via Cirium

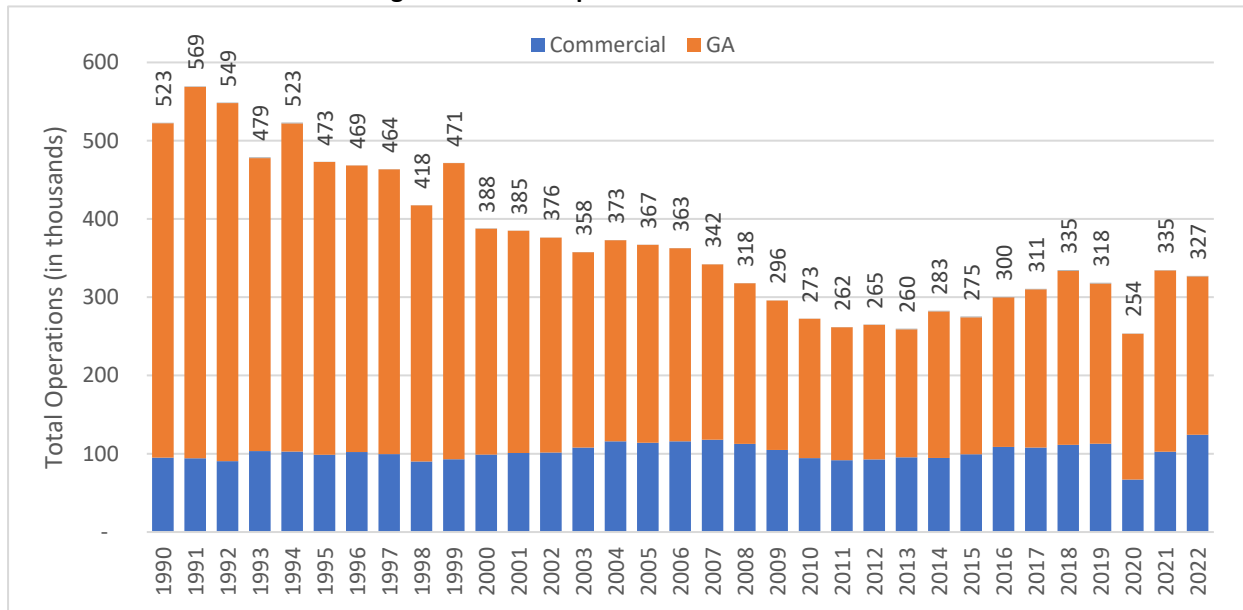
There were 303,970 aircraft movements at JWA in 2022, a decrease of 2.5% from the previous year.<sup>11</sup> “Aircraft movements” include both take-offs and landings and include commercial/commuter, GA, and

<sup>11</sup> Based on internal statistics, which may differ from FAA statistics.

military operations. In 2022, GA was the major source of movements at the Airport at 67% of the total, with commercial/commuter movements accounting for almost all of the rest.

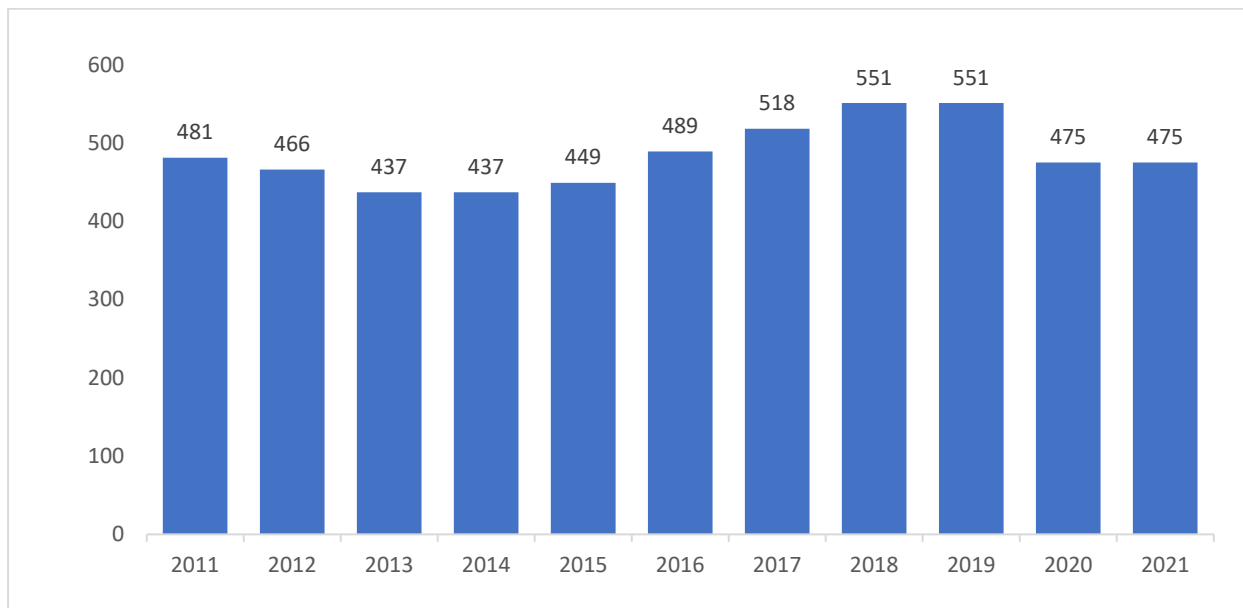
As shown in Figure 2-4, 2022 total operations were slightly above 2019 volumes but well below activity in the early 1990s as GA operations have dropped significantly. Commercial movements have slowly increased from the low period of 2013, with an average annual growth rate of 2.6% from 2013 to 2022.

**Figure 2-4: Total Operations at JWA 1990-2022**



Source: FAA OPSNET

**Figure 2-5: Based Aircraft at JWA (2011-2021)**



Source: FAA, 2022 Terminal Area Forecast

In 2021, 475 private and business aircraft were based at JWA, with the mid-2023 number at over 500 (Figure 2-5). In addition to generating revenues from operating and storing these aircraft, owners also pay a property tax based on the aircraft value directly to the County.

Scheduled air services at JWA have evolved over the past few years. Table 2-6 and Table 2-7 show the change in available non-stop seat capacity for a sample summer schedule (July 2019 vs. July 2022) and sample winter schedule (December 2019 vs. December 2022). Schedules from 2019 were compared to the current year as a baseline before the pandemic. Within just a few years, there have been significant shifts in the capacity offered at JWA. There have been three new entrant carriers to JWA since 2019, international carrier Air Canada, and new entrants Allegiant and Spirit. Additionally, Breeze Airways has started service effective February 2023, which brings the total carrier count to 11. The period from July 2019 to July 2022 saw a 48% increase in non-stop destinations, from 25 to 37, and a 14% increase in seat capacity. December 2022 non-stop destinations reached 41, a 71% increase from December 2019, with an additional 21% seat capacity. Much of this growth in new non-stops can be attributed to Allegiant, who served 11 non-stop destinations in December 2022, 10 of which were new since 2019.

**Table 2-6: Non-stop Flights Departing JWA July 2022 vs. July 2019**

	Jul-19				Jul-22				% Change			
	US	Mexico	Canada	Total	US	Mexico	Canada	Total	US	Mexico	Canada	Total
<b>Carriers</b>	6	-	1	7	8	-	2	10	33.3%	-	100.0%	42.9%
<b>Non-stop Destinations</b>	22	2	1	25	33	2	2	37	50.0%	-	100.0%	48.0%
<b>Avg Daily Departures</b>	122	1	1	125	127	2	2	131	4.2%	70.3%	93.5%	5.5%
<b>Avg Daily Seats</b>	16,718	171	134	17,023	18,855	291	291	19,437	12.8%	69.5%	117.4%	14.2%
<b>Seats per Departure</b>	137	144	134	137	148	143	151	148	8.2%	(0.5%)	12.3%	8.2%

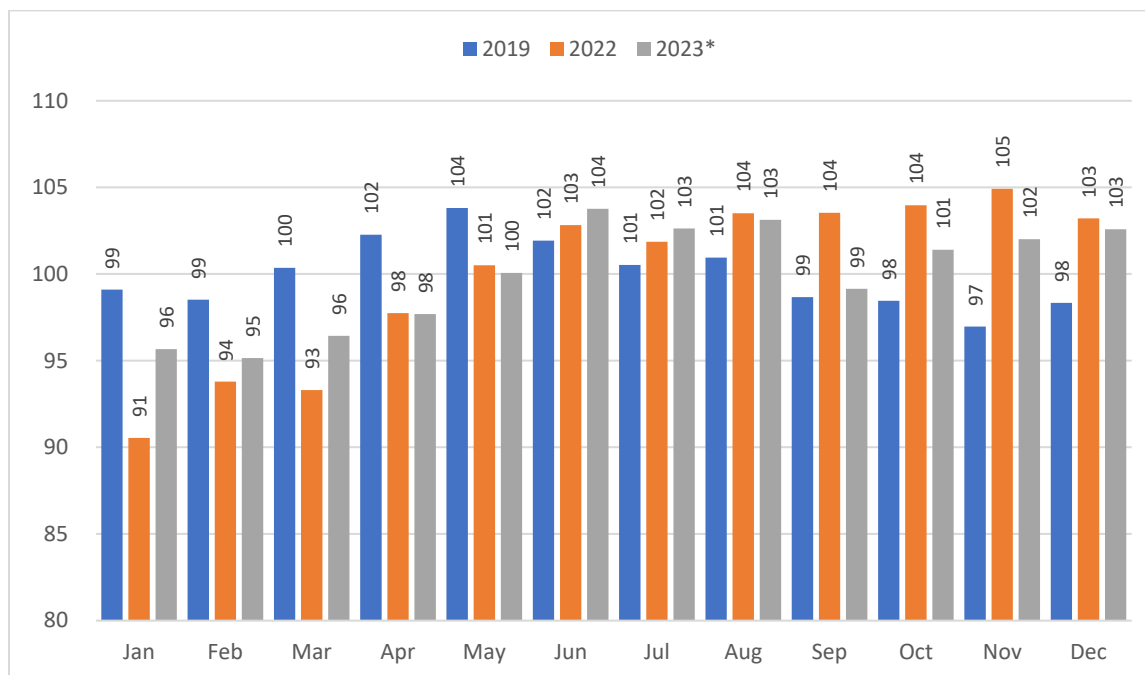
Source: Schedules via Cirium

**Table 2-7: Non-stop Flights Departing JWA December 2022 vs. December 2019**

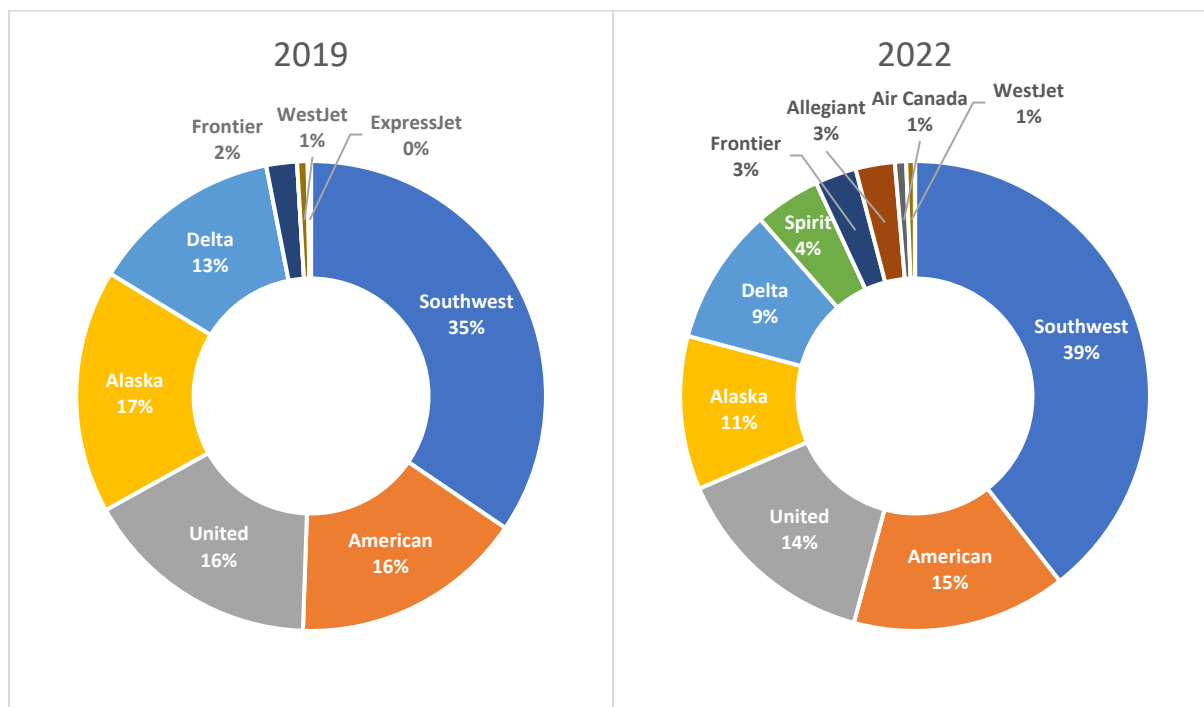
	Dec-19				Dec-22				% Change			
	US	Mexico	Canada	Total	US	Mexico	Canada	Total	US	Mexico	Canada	Total
<b>Carriers</b>	7	-	1	8	8	-	2	10	14.3%	-	100.0%	25.0%
<b>Non-stop Destinations</b>	22	1	1	24	37	2	2	41	68.2%	100.0%	100.0%	70.8%
<b>Avg Daily Departures</b>	126	1	1	128	132	2	2	136	5.1%	116.1%	122.2%	6.8%
<b>Avg Daily Seats</b>	16,398	143	111	16,652	19,559	309	292	20,161	19.3%	116.1%	162.8%	21.1%
<b>Seats per Departure</b>	131	143	128	131	148	143	151	148	13.5%	-	18.3%	13.4%

Source: Schedules via Cirium

**Figure 2-8: Scheduled Seat Capacity Seasonality at JWA, Annual Avg = 100<sup>12</sup>**



**Figure 2-9: Airline Seat Share – 2019 & 2022**



<sup>12</sup> 2023 schedule data is preliminary and subject to change – schedules are as of August 2023.

Historically, peak season falls in spring/summer, with seat capacity the highest during this period. However, with the recovery from the pandemic, capacity has continued to grow throughout 2022, and now December capacity is similar to summer. Looking ahead to 2023 capacity, seasonality peaks in both Summer and Winter but is relatively stable year-round.

Southwest was JWA's largest carrier in 2022 by seat share, with 39% of total seats, an increase of 4% since 2019. American and United decreased by 1-2% in seat share but held onto the 2<sup>nd</sup> and 3<sup>rd</sup> positions. Alaska and Delta dropped 6% and 4%, respectively. New entrants Spirit, Allegiant, and Air Canada made up 8% of JWA's total seat share in 2022.

#### **D. Capital Investment and Improvement Program**

As of June 30, 2022, JWA's capital assets were valued at \$1.2 billion, including \$937 million of structures and improvements, \$240 million of infrastructure, and \$17 million of equipment. Capital improvements are conducted on an ongoing basis with an FY 2022 budget of \$32.6 million and an FY 2023 budget of \$60.0 million. The top projects for FY 2023 include the parking structure repairs (\$3.0 million) and the rental car configuration project (\$1.2 million). The Capital Improvement Program for FY 2024 to FY 2026 totals \$405 million, with an estimated additional investment of \$229 million for future years.

Expenditures for capital projects generate revenues for local businesses providing construction, architectural/engineering, and management services, as well as materials sourced locally. Actual spending in FY 2022 and FY 2023 was \$12,583,641 and \$12,476,702, respectively, so the average spending (\$12,530,172 in 2022 dollars) was used for CY 2022 impacts (assuming 14% for the architecture/engineering services sectors, with the remainder for the construction sector).



### 3. METHODOLOGY AND IMPACT ESTIMATES

#### A. Introduction

Airports can be a significant source of economic activity for local communities by supporting domestic and international travel for local residents and non-local visitors, facilitating air cargo trade, and GA activities. JWA generates economic impacts for the County's economy through air transportation and supporting activities, Airport construction and development, and the expenditures of visitors. Economic impacts are typically separated into direct, indirect, and induced impacts, as described below.

The impact of JWA on the Orange County economy is measured using a customized IMPLAN model that translates direct aviation and Airport-related activities into total impacts.<sup>13</sup> Direct airline/Airport impacts are generated by transportation and other uses of the Airport as measured by the employment, labor income, local GDP (value-added), and output/revenues associated with the following industries or entities:

- Commercial scheduled and charter airline operations (passenger and cargo)
- GA (non-commercial) aircraft operators (including flight schools)
- Airport and aircraft service providers
- Airport concession firms servicing Airport passengers
- Passenger ground transportation providers to/from the Airport (including passenger-related parking and all trip spending on vehicles rented at the Airport)
- Government agencies supporting Airport use (including JWA operations activities)

The direct impact of capital investment in the Airport is measured separately to capture the benefits of developing infrastructure in support of Airport activities. Direct impacts include expenditures on Airport construction, design, and supporting services as measured by revenues, labor income, value-added, and employment for local construction, architectural/engineering, and other support industries.

Direct visitor spending impacts are derived by estimating the expenditures of air passengers visiting the County via JWA. Visitor spending translates into output, value-added, labor income, and employment for the following local industries:

- Traveler accommodations (hotels, motels, etc.)
- Food and beverage (restaurants, bars, and stores)
- Arts, entertainment, and recreation
- Ground Transportation (excluding spending for trips to/from the Airport)
- Retail (excluding spending at the Airport)
- Medical Spending (for international visitors)

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<sup>13</sup> IMPLAN is a regional economic analysis system that uses input-output data to measure the economic impact of industrial activity on a particular economy (JWA on Orange County in this study). The model contains a detailed representation of the inter-relationships between internal Orange County households, businesses, and government entities, as well as the import and export of labor and other resources. The internal detailed data for this study was based on pre-COVID 2019 economic and other data.

The types of impacts measured in this study include:

- **Direct Impacts:** Revenues (“output”) for local businesses, which generate jobs and household income (as well as various taxes).
- **Indirect Impacts:** Directly affected businesses will purchase goods and services from other County businesses, and those businesses will further make in-County purchases (and further on through the economy).<sup>14</sup>
- **Induced Impacts:** The employees of directly affected businesses who live within the County will similarly purchase goods and services from other County businesses, with their employees making further purchases (and further on through the economy).

The combination of indirect and induced impacts is commonly known as “multiplier effects.”<sup>15</sup>

The following sections describe the methodology and results associated with each impact category.

## **B. Direct Airline and Airport Impacts**

The methodologies used to estimate the direct impacts related to aviation activity (“airline and airport”) varied by type of activity, but were based on the following general procedures:

### **B-1 Airline & Airport**

Direct employment for entities performing aviation-related Airport activities (excluding JWA operations) was mostly measured through security badge counts and estimates provided by the Airport, along with secondary sources for certain activities (see Table 3-1). Commercial passenger airline employment was based on the 2019 Bureau of the Census, County Business Patterns for Orange County (as JWA is the only commercial airport in the County) adjusted to 2022 based on relative passenger traffic levels. The two full-service fixed base operators (FBOs) and one dedicated aircraft maintenance company provided employment estimates for their operations and their tenants (which are not separately identified in the badge data).<sup>16</sup> The count of FAA air traffic controllers (which are not badged) was based on an allocation of state totals using traffic and activity levels at JWA.

### **B-2 Airport Concessions**

Direct spending for on-Airport concessions was based on JWA data (see Table 3-2). In addition, banking services were included based on a badge count, which was used to generate direct revenues within the IMPLAN model.

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<sup>14</sup> The IMPLAN model is based on an input-output structure for Orange County where revenues flowing into one business sector are then distributed to businesses in that or any other sector, as well as local households (via labor income) and government entities (via taxes). Some portion of these “direct” revenues are distributed outside of the County (to non-local businesses and households) and are eliminated as the source of further impacts. The “direct” funds distributed secondarily to County business sectors, households, and government entities are similarly distributed within the County (or leaked) for multiple rounds to generate the total impacts.

<sup>15</sup> “Output” for non-commercial government and other entities are measured in terms of labor income plus total expenditures.

<sup>16</sup> Employment for other smaller maintenance operators was measured using badge data.

**Table 3-1**  
**Direct Airline/Airport Employment (2022)**

<u>Airline</u>			
Commercial	1,298	Flight Training	620
Charter	31		
Integrator	<u>62</u>	JWA Operations	169
Total	<u>1,391</u>		
		<u>Other Government</u>	
<u>Airport Services</u>		Federal	601
Fixed Base Operator	199	State/Local	248
Security	165	Postal	<u>10</u>
Maintenance	154		<u>859</u>
Miscellaneous	<u>538</u>		
	<u>1,056</u>	Total	<u><u>4,095</u></u>

Source: Campbell-Hill

**Table 3-2**  
**Direct Airport Concessions Spending (2022)**

Food & Beverage	<u>\$42,515,946</u>
Book Stores	\$1,792,581
General Retail	\$16,958,186
Advertising	<u>\$3,180,266</u>
Total	<u><u>\$64,446,979</u></u>

Source: JWA internal data

### B-3 Airport Ground Transportation

Direct spending for Airport-related ground transportation activities was estimated from JWA revenue data (for parking and car rental) or trip counts and constructed average fares (for taxi and other transportation options).<sup>17</sup> Off-Airport parking revenues (including at hotels) was estimated at 10% of on-Airport parking, assuming a longer trip time and lower daily rates. Trip counts for Transportation Network Companies (“TNCs”) (e.g., Uber), taxis, commercial limousines, and shuttles (“other

<sup>17</sup> It is assumed that all parking and car rental spending is related to air passenger activity (and excludes employee parking). Ground transportation spending generated by visitors was excluded from the overall visitor spending estimates in Section 3-C.

commercial options”) were derived from JWA revenues and unit trip fees. Average taxi costs were generated using the Airport taxi fare estimator combined with a weighted average of trip distances and times (based on counts and zip code origins for visitors to the passenger terminals)<sup>18</sup>. The average trip cost for TNCs was estimated at 50% of the taxi fare (based on a sampling for selected destinations). The average trip cost for limousines was assumed to be two times the taxi cost, with commercial shuttles assumed at 80% of the taxi rate. A weighted average cost for the “other commercial” options was derived using a distribution of vehicle types for December 2022 based on JWA’s internal billing records for specific companies.<sup>19</sup>

**Table 3-3**  
**Direct Ground Transportation Spending (2022)**

Parking (On-/Off-Airport/Valet)	\$34,536,246
Car Rental	\$184,459,004
TNC (e.g., Uber)	\$35,545,255
Taxi	\$6,480,583
Limo/Shuttle	\$4,115,742
Total	\$267,204,080

Source: JWA internal data and Campbell-Hill

#### B-4 JWA Operations

Direct employment, labor income, and spending for JWA operations were estimated using internal data. The employment and labor income estimates were based on FY 2022, as some of JWA’s positions were transferred to OCPW during FY 2023. These positions were assumed to have continued to support aviation at JWA but were not measured in the salary and benefits data. Spending for CY 2022 was estimated as the average of FY 2022 and FY 2023 values for specific types of expenditures, which were matched with IMPLAN’s industry sectors.<sup>20</sup> JWA spending estimates were combined with the labor income to measure the “output” as measured in the model.

<sup>18</sup> A profile of local residents’ points of origin for trips to the JWA passenger terminal was developed using Placer.ai “observed mobile location” data. JWA drive times were developed for all Orange County zip codes and used to develop average drive times and distance. An average one-way taxi fare was then estimated using the formula for the Airport’s designated taxi service.

<sup>19</sup> The weighted average includes a \$0 cost for hotel shuttles, the cost of which was assumed to be included in the accommodations spending estimates.

<sup>20</sup> Spending estimates were adjusted to account for some vendors who were included in the badge data and the direct airline/Airport employment estimates.

## B-5 JWA Capital Expenditures

Direct capital expenditure impacts were estimated based on the average of FY 2022 and FY 2023 spending data assigned to the affected construction and related service sectors as defined in the IMPLAN model (using a distribution based on detailed budget data for FY 2024-FY 2026).

## B-6 Total Direct Impacts

Other than for “JWA Operations” (for which all the direct impacts were model inputs), the specified impacts (i.e., employment for “Airline and Airport” and revenue/spending for all others) were assigned to individual IMPLAN industry sectors and used to derive all other direct impacts.<sup>21</sup>

## **C. Direct Visitor Spending Impacts**

The direct visitor spending impacts were estimated by combining air visitors with average spending patterns by point of origin. The methodology is as follows:

- **Commercial Air Visitors:** CY 2022 air visitors were estimated using origin and destination (O&D) data from the US Department of Transportation (DOT) O&D survey (domestic) and FM-Traffic (international) segment data.<sup>22</sup> Charter flight passengers were identified using T-100 data, and the resulting counts were adjusted to match the Airport traffic counts and assigned by point of origin to regions based on the visitor spending patterns.
- **GA Air Visitors:** The number of visitors via GA aircraft was estimated with the assistance of a local FBO. It was assumed that half of all itinerant<sup>23</sup> arrivals involved “visiting” aircraft with an itinerary originating at another airport. Of these, it was assumed that two-thirds involved visitors to Orange County. These patterns were applied to CY 2022 itinerant flight totals and combined with an average estimate of 3.2 passengers per flight staying an average of three days to estimate total visitor-days.
- **Average Spending Patterns for International Visitors:** Average spending per international visitor to JWA was estimated by region of origin (various large country markets plus general market regions) and spending category using the Department of Commerce’s National Travel and Tourism Office (NTTO) overseas visitor profiles for all visitors in 2022. The national averages were adjusted for JWA visitors using the ratio of spending for visitors to the Los Angeles Metropolitan Statistical Area (MSA) to the national average (constraining the adjustment to +/- 50% of the national average).

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<sup>21</sup> The IMPLAN model converts direct employment or output impacts for specific industry sectors into the other direct impact measurements (labor income, proprietor income, and taxes) and also models the impact of indirect and induced spending.

<sup>22</sup> Both data sources are accessed via the Diio Mi online data service which provides detailed passenger counts by origin, destination, and connecting points.

<sup>23</sup> An “itinerant” GA flight is one that originates and terminates at an airport other than JWA, as opposed to a “local” flight that originates and terminates at the same airport (as is typical with flight training and recreational flying).

- The average for commercial domestic visitors to JWA was based on average trip spending for long-haul U.S. air visitors to California in 2017 (adjusted to 2022 dollars).<sup>24</sup> The GA average spending per visitor-day was based on the same source using the “business” traveler data.

Direct visitor spending by industry sector was estimated by combining the air visitor counts with the average spending factors.<sup>25</sup>

**Table 3-4**  
**Air Visitor Spending in Orange County (2022)**

	Visitors	Spending (mil.\$)
<u>International</u>		
Europe	15,163	\$23.3
Asia	3,414	\$6.9
Oceania	939	\$2.0
Middle East	1,537	\$2.1
South America	3,013	\$5.8
Africa	647	\$0.7
Caribbean	3,541	\$5.9
Central America/Mexico	17,736	\$23.3
Canada	58,056	\$55.5
	<u>104,047</u>	<u>\$125.4</u>
<u>Domestic</u>		
Commercial	2,894,761	\$2,357.7
GA	114,629	\$98.2
	<u>3,009,390</u>	<u>\$2,666.7</u>
	<u>3,113,437</u>	<u>\$2,792.1</u>

Source: Campbell-Hill

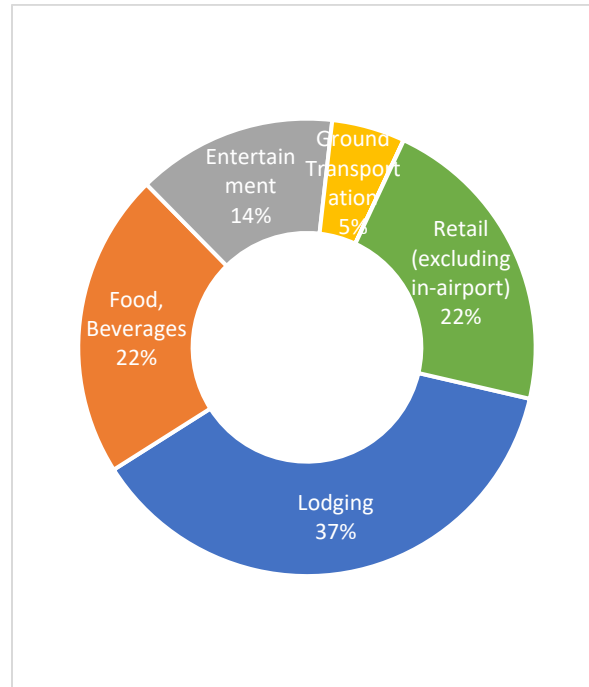
Table 3-4 summarizes the estimated visitors and spending amounts, and Figure 3-1 shows the distribution of spending by type. These spending categories were matched with IMPLAN industry sectors (using County-wide distributions of spending when multiple sectors applied to a spending category).<sup>26</sup> The commercial and GA spending for each IMPLAN sector was input into the model to derive the other direct impacts (e.g., employment).

<sup>24</sup> 2017 Domestic Travel to California (Long Haul States), TNS TravelsAmerica, 2017

<sup>25</sup> Ground transportation costs for JWA visitors were adjusted to account for rental car and local transportation, which was covered in the direct airport spending.

<sup>26</sup> For example, “Food & Beverage” spending was allocated between “Full-service restaurants”, “Limited-service restaurants”, and “All other food and drinking places” based on each sector’s share of combined spending in Orange County using the IMPLAN industry data.

**Figure 3-1: Distribution of Visitor Spending by Industry Group**



#### **D. Total, Indirect, and Induced Impacts**

The IMPLAN model translates direct impacts for specific industry sectors into indirect and induced impacts throughout the Orange County economy as measured by employment, labor income, value-added, output, and taxes (Federal, State, and local). Indirect impacts occur as directly impacted businesses spend with other local businesses (with some leakage of spending outside of Orange County), and those downline businesses further spend within the economy (based on multiplier effects). Induced impacts are similar, but based solely on the effect of the household spending of “direct” labor income within the local economy (with that spending further multiplied at secondary and further levels).<sup>27</sup> Total impacts combine direct, indirect, and induced impacts, as detailed in Appendix A.

In general, applying the IMPLAN model involved two steps: (1) generate all direct impacts from either the employment or revenue estimates for the various industry sectors, and (2) generate indirect, induced, and total impacts from the direct impacts. The exceptions to this were:

<sup>27</sup> Induced impacts include all the effects from household spending by direct employees, indirect business employees, and employees supported by all of the household spending. For example, employees at a hotel getting direct spending will produce induced spending by employees of the grocery stores and other local businesses that receive spending from the direct employees, and then the spending is multiplied through households in the economy. Similarly, the hotel may purchase fresh produce from local businesses (indirect revenue) and those businesses further multiply induced spending throughout the economy.

- As noted above, the direct impacts for “JWA Operations” were limited to wage and salary employment, employee compensation, and spending on “intermediate inputs,” with the latter assigned to specific IMPLAN industries. The impact calculations were based on a specification of all the direct impact factors except taxes (e.g., value-added) and a customized distribution of spending to local sectors based on internal financial data.
- Direct impacts for the “Airline and Airport” sector (“Air Transportation” in IMPLAN) can cause double-counting if the direct impact for one business results in an indirect impact for another included in the same category or one that is also counted as “direct.” For example, an airline may contract with an airport business to handle their passenger counter activities, and if both are counted as “direct,” there would be double-counting. To minimize this, the spending patterns for the “Air Transportation” sector were adjusted to eliminate any payments to the local “Air Transportation,” “Airport Services,” and “Petroleum Fuel” sectors. The impact calculations are similar to that of “JWA Operations” (using fully specified direct impacts, except for taxes).

The IMPLAN model is based on total employment, including full-time, part-time, and seasonal workers, but some factors were used to convert the total figures to FTE jobs for all affected sectors.<sup>28</sup>

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<sup>28</sup> A “full-time equivalent” job (FTE) converts part-time and seasonal jobs based on the share of a normal work-year (2,080 hours for IMPLAN). For example, a part-time employee working 30 hours per week on an annual basis would have an FTE of 0.75. Similarly, a seasonal worker working full-time for half of a year would have a 0.50 FTE.



## **4. QUALITATIVE IMPACTS**

### **A. Overview**

The economic impacts measured above show the value of Airport-related business and non-commercial activities in terms of local output, labor income, and employment required to “produce” the transportation and other services. The impact of JWA can also be described qualitatively in terms of the important role a vital airport has in supporting and stimulating air transportation. The structure and capabilities of a nearby accessible airport can benefit the local community by promoting efficiency, flexibility, and economic development.

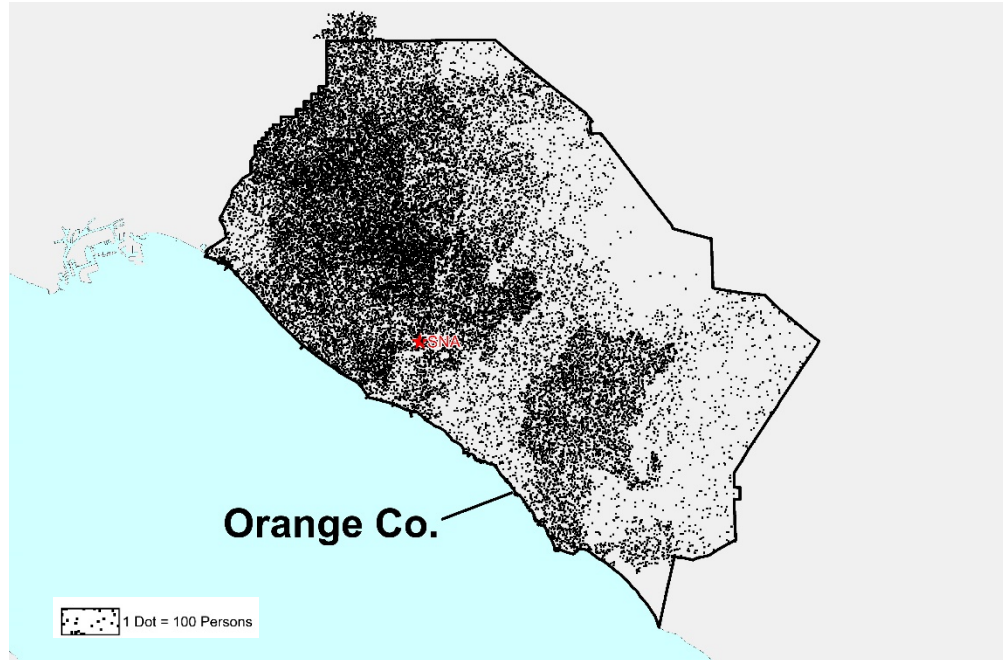
A fundamental benefit of the County’s sole commercial Airport (JWA) to the local community can be measured in terms of the efficiency of accessing and using the Airport, as well as the competitiveness, diversity, and level of available services. In short, local leisure and business travelers are typically more interested in the “value” obtained from Airport use rather than the effect of that use on local businesses. JWA maintains an aggressive policy for improving ground access and terminal efficiency through management and capital improvement programs. JWA seeks to maintain a competitive air service market through capacity investment, improved facility management, and active marketing for new services.

The ability to use JWA air services for both passenger and cargo transportation is a key factor in supporting and stimulating trade by local companies. Air cargo services allow local manufacturers to participate in worldwide markets for both inbound materials and outbound finished products while also accommodating industries that are dependent on air trade. The air cargo market is well-served by the U.S. integrated carriers (FedEx and UPS), who connect the County to all of the U.S. and the world via their U.S. sort hubs. Similarly, companies dependent on business travel to manage multinational business or engage in services trade are also stimulated and attracted. The growth in U.S. merchandise and services trade can be closely correlated with the expansion of air transportation access to world markets, and better trade access for the County benefits local industrial expansion and new development.

### **B. Role as Orange County’s Primary Airport**

Orange County is home to 3.15 million residents and is one of California’s most densely populated counties (see Figure 4-1). It is California’s 3rd largest county by population, behind Los Angeles and San Diego. Orange County has a diverse industry base, including technology, healthcare, aerospace and defense, and education. Additionally, the region is a thriving tourism destination with multiple theme parks, beaches, and luxury resorts. The County is home to over 25 institutions of higher education serving over 200,000 students.

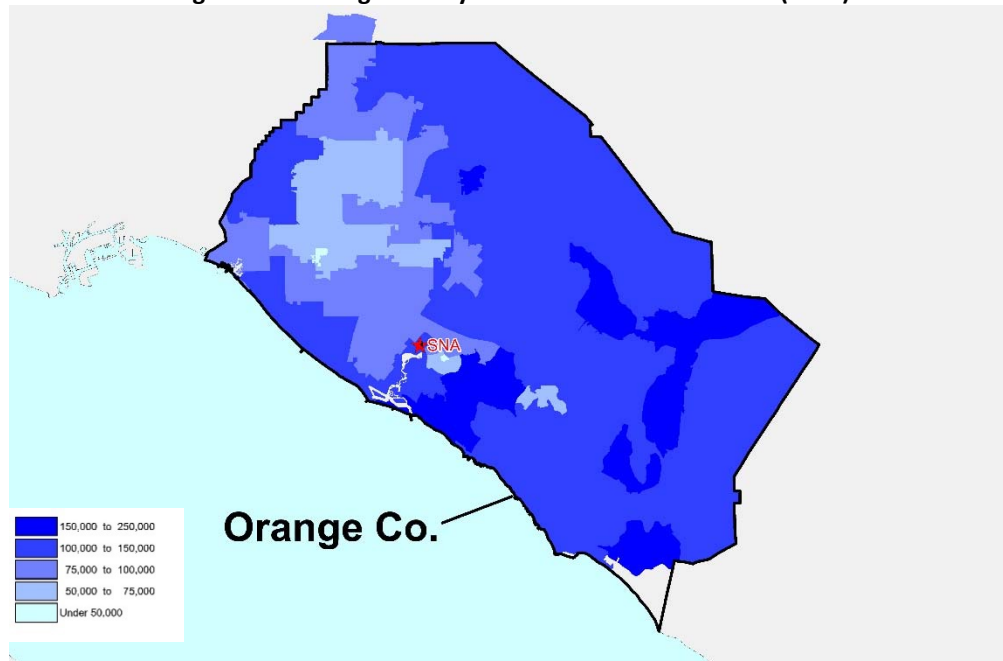
**Figure 4-1: Orange County Population Density (2022)**



Source: Bureau of the Census, American Community Survey 2021

The region is also known for affluent communities, with 22.6% of the residents in the Orange County region earning a household income of \$150K or above, which is 5.3 points above the national average (see Figure 4-2).

**Figure 4-2: Orange County Median Household Income (2022)**



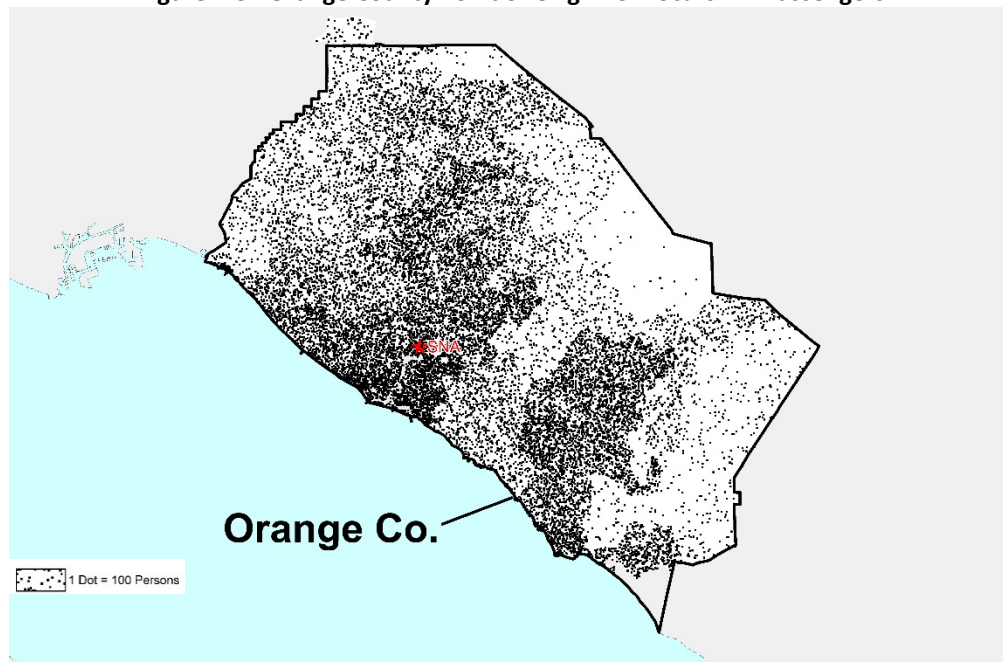
Source: Bureau of the Census, American Community Survey 2021

Since 2019, and after the entry of several new ultra low-cost carrier (ULCC) airlines, the average share of households earning \$150K or more using the Airport has dropped from 38.3% to 34.8%. This is just one example of how the Airport is reaching more diverse income levels and providing more equitable access to travel markets. The availability of competitive and efficient access at JWA benefits the business, local, and educational sectors.

### C. Ease of Access for Commercial Air Passengers

JWA is centrally located within Orange County and serves the entire County, as demonstrated in Figure 4-3.

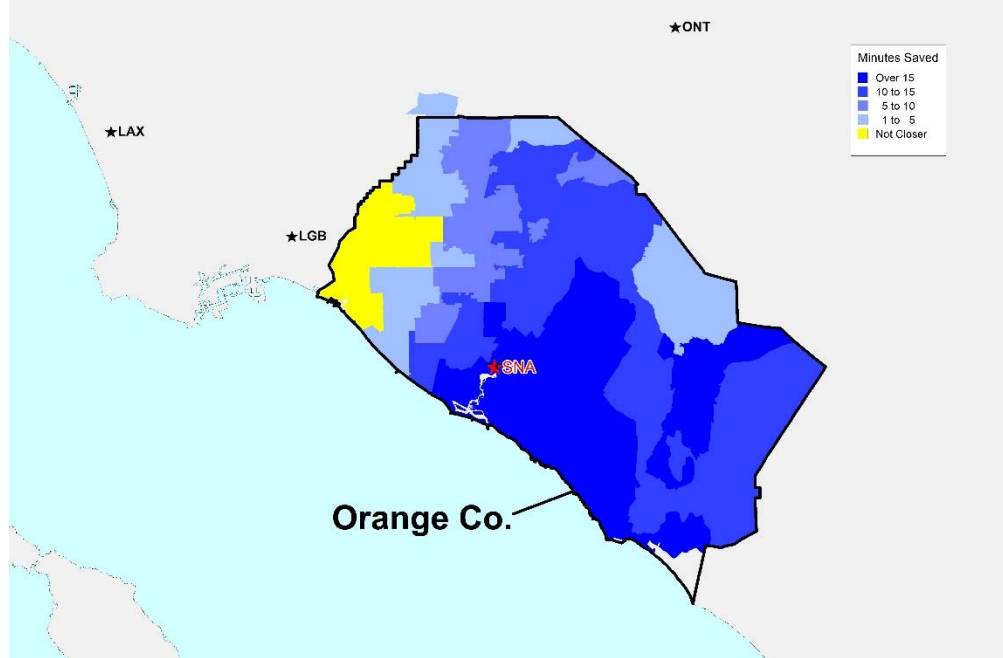
**Figure 4-3: Orange County Point of Origin for Local JWA Passengers**



Source: Campbell-Hill using placer.ie data.

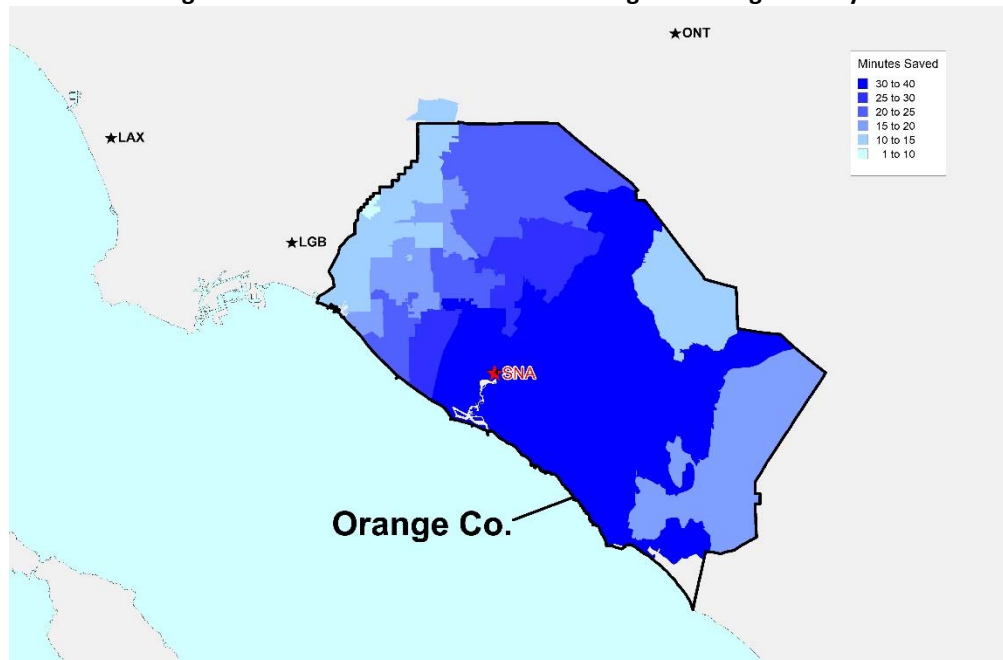
JWA is the closest commercial airport for almost all of the zip codes in Orange County accounting for 88% of County population and 96% of outbound passenger trips. Outbound residents are within 17 minutes of the Airport on average. On average, JWA is 9 minutes closer than any of the other Los Angeles area airports (LAX, ONT, LGB and BUR) for County residents and 25 minutes closer than the primary alternative airport, LAX (see Figures 4-5 and 4-6). The time savings are higher for outbound JWA passengers at 12 minutes relative to all Los Angeles area airports and 29 minutes versus LAX. In addition to reduced ground access costs (over \$100 on average for a round-trip taxi to LAX), JWA users enjoy the benefit of personal time savings. Using the FAA's estimate of \$58.87 per hour for the "value of travel time savings" provides a benefit of \$24 to \$58 per passenger trip (without regard to any differences in processing times at alternative airports, particularly LAX)

**Figure 4-5: JWA vs. Alternative Airport Travel Time Savings for Orange County**



Source: Campbell-Hill using MapInfo Pro Drivetime

**Figure 4-6: JWA vs. LAX Travel Time Savings for Orange County**



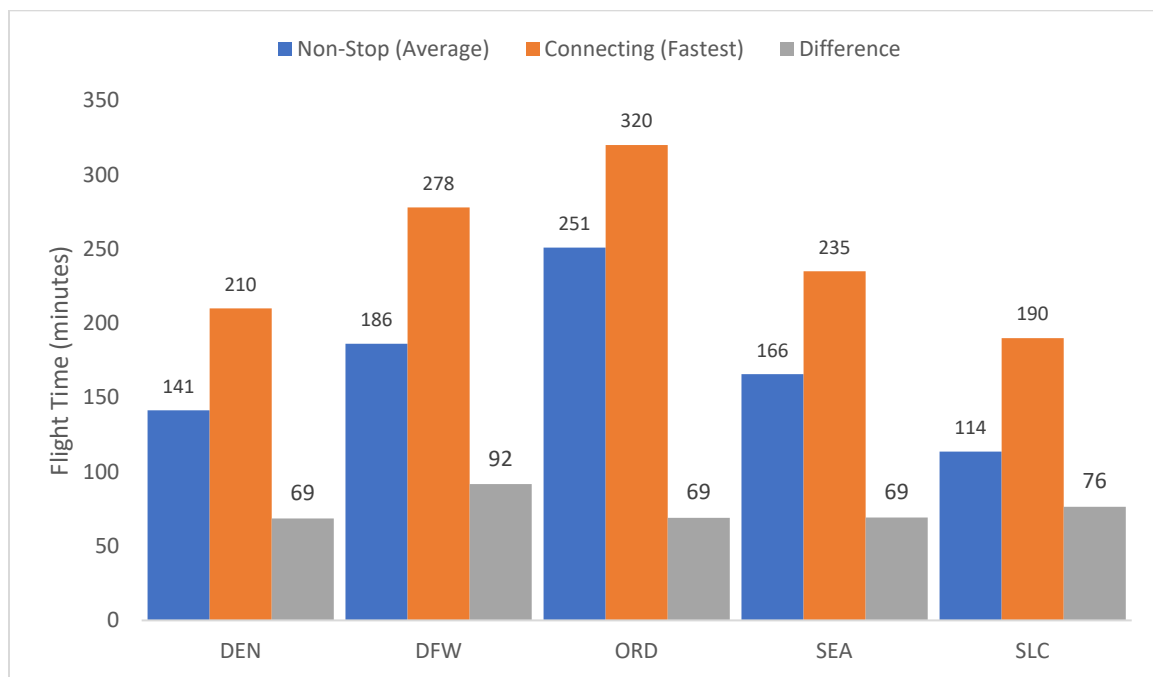
Source: Campbell-Hill using MapInfo Pro Drivetime

## D. Time Savings with Non-Stop Services

The availability of direct passenger flights at JWA results in faster travel times and reduced trip costs relative to alternative routes accessed via connecting flights or long ground access times. JWA provides a substantial level and range of air services for passengers. At the end of CY 2022, JWA had non-stop service to 45 destinations, including Mexico and Canada (see Section 2-C). Of domestic passengers using JWA, 71% traveled on direct non-stop flights in 2022, including 98% for the top ten markets and 92% for the top twenty.

The availability of direct non-stop flights between JWA and key markets creates enormous time savings over using connecting flights or flights at alternative airports. For five top non-stop domestic markets with significant connecting traffic (Denver, Dallas, Chicago, Seattle, and Salt Lake City), the average time savings between the average non-stop flight and the fastest connecting flight to these markets was 73 minutes. The annual time savings due to non-stop service availability amounts to 2.9 million people-hours for just 42% of the total non-stop passengers. While connecting flights may provide some fare savings, the high usage of non-stop services demonstrates their value to Orange County residents and businesses.<sup>29</sup>

**Figure 4-7: Non-stop Flight Time Savings for Major JWA Domestic Markets**



Source: July 2022 Schedules via Cirium

<sup>29</sup> Note that the time savings apply to both local originating passengers and leisure and business visitors, but both benefit the County.

## E. Ease of Access for General Aviation Users

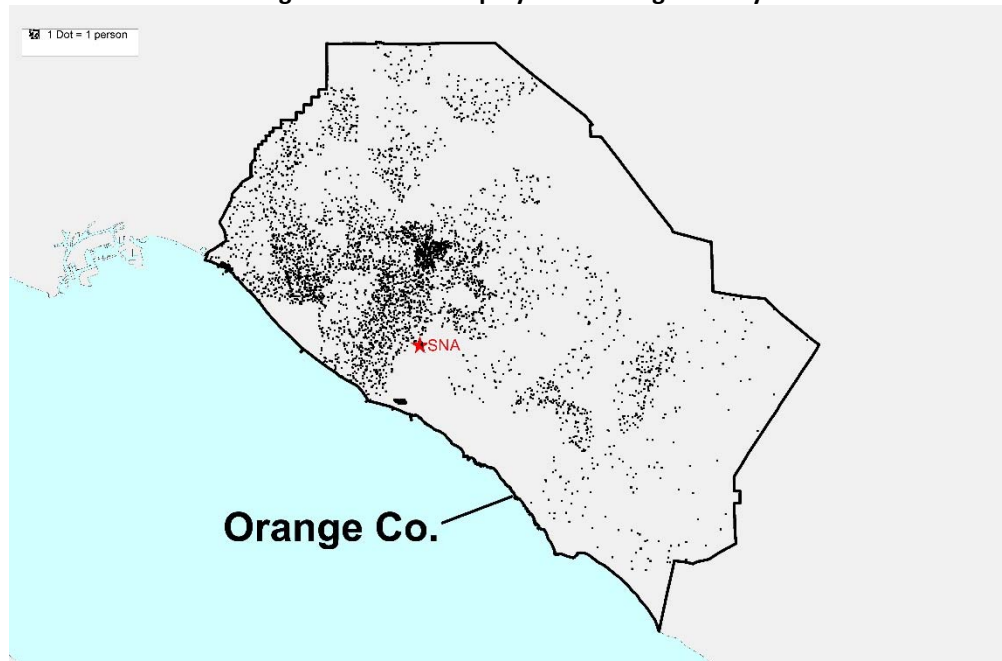
In addition to commercial airline services, JWA has a significant level of GA activity, including pilot training, personal aircraft operation, and corporate travel. In 2021, 475 personal and business aircraft were based at JWA, generating property tax for the County. It is estimated that two-thirds of all GA operations are business-related, generating substantial impacts from business and high-income visitors. In addition, the Airport facilitates numerous critical services such as airborne firefighting assets, airborne law enforcement assets, time-critical organ transplants, and a means of rapid ingress/egress for both supplies and personnel during any sort of emergency response (e.g., natural disaster).

The Airport is centrally located for GA users. For the 12 months ending June 30, 2023, there were over 107,000 visits to one of the Airport's FBO locations from an Orange County origin.<sup>30</sup> On average, these visitors were 8.4 miles from the Airport and had a drive time of 15 minutes. Of all visits, 61% were within 15 minutes of the Airport, and 98% were within 30 minutes. The ability to get relatively quick access to JWA is valuable to all GA users.

## F. JWA Employees

In addition to the economic benefits of the thousands of jobs supported by JWA's activities, the County benefits from the households that are supported by those jobs throughout the County.

**Figure 4-8: JWA Employees in Orange County**



Source: Campbell-Hill using Mobilytics data.

<sup>30</sup> Source: placer.ie mobile device data

In 2022, there were nearly 6,000 on-Airport jobs (excluding taxi and other passenger pickup and delivery jobs). An estimated 77% of these jobs are filled by Orange County residents.<sup>31</sup> As shown in Figure 4-8, the direct Airport-related jobs are dispersed throughout the County, with an average one-way commute of 14 minutes. The top employee locations are Santa Ana, Huntington Beach, and Costa Mesa, which combine for nearly half of the total jobs, although there are 29 localities with jobs.

	<u>% of Total</u>
Santa Ana	26%
Huntington Beach	12%
Costa Mesa	9%
Irvine	6%
Garden Grove	6%
Westminster	5%
Tustin	4%
Anaheim	3%
Rancho Santa Margarita	3%
All Other	23%

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<sup>31</sup> Using plaser.ie data (based on cellphone and other mobile equipment), it is possible to identify visitors to the JWA campus (including FBOs, parking, and rental car facilities) that meet a certain threshold of long and repeated visitation patterns (during daytime hours). When all time-based conditions are met, the user becomes categorized as an employee with the nighttime location assumed as the place of residence. The resulting total was 4,346 employee visits, which is a reasonable share of the direct job total considering some trips are not trackable. The Orange County share is probably understated as some of the “job” visitors may be contractors not involved in aviation activities.