John Wayne Airport

Overview

John Wayne Airport (JWA) is owned and operated by the **County of Orange** and is the second busiest airport in the Greater Los Angeles Area, serving more than 10.6 million passengers annually. The airport is home to nearly 500 general aviation aircraft and is served by eleven commercial passenger airlines and two cargo airlines. There are approximately 300,000 commercial and general aviation operations each year, placing JWA in the top 30 busiest airports in the country.

With two runways, three terminals, four parking garages, a central utility plant, and numerous roadways, aprons, taxiways, and support facilities housed on over 500 acres, JWA maintains over $1B worth of facilities and assets. The **Thomas F. Riley Terminals** (A, B, & C) are 730,505 square feet in total, with 20 commercial passenger gates and two smaller commuter passenger gates. The Riley Terminal is also home to numerous restaurants, shops, and other services.

JWA's service area includes more than three million people within the 34 cities and unincorporated areas of Orange County. The airport has been a vital part of the Orange County community for nearly 100 years and prides itself on delivering a superior guest experience.

Click here for a short video on JWA from its inception as Orange County Airport to today. You can also view **JWA's 2020 Annual Report** to learn about the airport's operations and accomplishments during one of the most challenging years in aviation history.

Regulatory Structure

JWA falls under the authority of multiple federal, state, and regional governmental agencies including, but not limited to, the Federal Aviation Administration (FAA), the Transportation Security Administration (TSA), U.S. Customs and Border Protection (CBP), the Caltrans Division of Aeronautics, the South Coast Air Quality Management District (SCAQMD), and the Regional Water Quality Control Board (RWQCB). The airport is governed by a wide variety of local, state, and federal laws and regulations under the purview of these agencies and others, directly impacting how JWA's infrastructure is designed and maintained.

Additionally, JWA is one of the most highly regulated airports in the United States due to the noise and access regulations that apply to both commercial and general aviation operations. The landmark **1985 Settlement Agreement** formalized the nature and extent of facility and operational improvements that could be implemented at JWA and has since been amended twice. The Settlement Agreement established quarterly noise limits at ten defined noise monitoring locations, created an annual passenger cap, defined certain noise-based classes of aircraft operations, and set limits on the number of operations.

Funding and Future Needs

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 and 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 airport's sources of revenue include Airline Revenue, Non-Airline Revenue, **Passenger Facility Charges (PFC)**, Federal Grants, and General Aviation. Airline Revenue consists of terminal rents, landing fees, and other items that account for roughly 41 percent of total operating revenue. Non-Airline Revenues account for approximately 54 percent of total operating revenue and include sources such as rents or fees on automobile parking, car rental, food & beverage, and other concessions, ground transportation, and transportation network companies. PFCs are fees imposed on enplaned passengers by airports to generate revenue for projects that increase capacity, enhance competition among air carriers, improve safety and security, or mitigate noise impacts. In 2000, the Aviation Investment and Reform Act ("AIR-21") increased the maximum PFC airport sponsors could collect to $4.50 per enplaning passenger. The PFC cap has not been increased since then. JWA's average PFC collection has been about $19M annually, which pays for debt service on bonds issued to fund FAA-approved PFC projects. JWA is also eligible to receive approximately $2M annually in FAA entitlement grants to fund eligible **Airport Improvement Program (AIP)** projects. AIP funds originate from the Airport and Airway Trust fund, which draws support from user fees, fuel taxes, and other revenue sources. The General Aviation segment contributes the remaining 5 percent to JWA's operating revenues.

According to a recent **Airport Infrastructure Needs Study** conducted by Airports Council International, America's airports have a backlog of $115B in planned and much-needed infrastructure projects. To continue responding to the changing needs of the traveling public and the aviation industry, JWA anticipates spending more than $250M over the next five years to upgrade and modernize facilities.

The following sections describe some of the airport's infrastructure, factors that drive needed upgrades, and how the team maintains JWA's complex facility and assets.

Safety and Security

Safety and security at airports mean protecting the traveling public, the facility, and critical systems from disruption or outside threats, as well as maintaining structurally sound facilities. Safety and security infrastructure encompasses everything from physical barricades, fences, and hard infrastructure to high technology security cameras and systems.

To enhance public safety and ensure emergency operational use of the airport during and after a major disaster, critical facilities and equipment at the airport have been engineered and retrofitted to meet Seismic Risk Category IV (essential facility) design requirements. Standardizing a higher category for design improves structural resiliency in the face of natural disasters, allowing for continued use and increased levels of safety for our employees and the public.

The airfield is a critical piece of the airport safety infrastructure. JWA maintains continual FAA operating certification to ensure compliance with operational and safety standards. The combination of our airfield pavement management system, daily airfield inspections, and continuous airfield maintenance activities support the uninterrupted certification at the airport. Maintaining this high level of safety and incorporating changes and innovations required by the FAA requires continuous capital improvement of pavement, lighting, signage, communication, and emergency equipment.

An example of a typical airport infrastructure project is the recently completed airfield lighting and signage improvements project, in part using LED technology. Converting to LED technology reduces energy usage and maintenance, increases service life, and improves visibility. This $8M project included various airfield upgrades to meet FAA requirements and was funded primarily through a federal AIP grant.

Maintenance

JWA's facilities have miles of plumbing and electrical infrastructure, thousands of doors, and hundreds of HVAC units. Breaking it down even further, there are over 80 restrooms, one-half million square feet of floors, and millions of square feet of pavement.

The role of JWA's Maintenance Division is to ensure all facilities and assets operate in a safe, clean, efficient, and cost-effective manner. In doing so, facilities and assets run cleaner, last longer, and have a lower life cycle cost before needing major repairs and replacement. Many assets have a life expectancy of 10 to 50 years. As equipment gets older, the cost to maintain typically increases. For reference, Terminals A and B opened in 1990 (31 years ago) and Terminal C in 2011 (10 years ago).

As an industry rule of thumb, maintenance investment should be between one percent and six percent of the total facility value, increasing from the low end in the facility's younger years to the higher end as the facility ages. With $1B in assets, this equates to $10M per year in the early years and $60M per year in the later years for a facility such as JWA.

Deferred maintenance, or maintenance that is delayed due to available resources, results in unexpected downtime, emergencies, and a much greater cost to replace equipment that was not properly maintained.

Changing Needs

The traveling public wants efficiency and convenience in arriving, departing, and navigating the airport environment. The airport accommodates this need through infrastructure modifications in parking, roadways, and public transportation. These efficiency improvements have the added benefit of reducing air emissions caused by traffic congestion. Airports have also begun to transform from providing vast parking lots to facilitating mass transit and ease of connection with transportation network companies such as Uber and Lyft. Planning and building for these changes are ongoing.

These days, government agencies and the public call for cleaner and quieter aircraft. Advancements in aviation technology are also continuously underway. The airlines are responding with new, cleaner, and quieter aircraft. The airport evaluates future proposed aircraft to program projects that accommodate for changes in design, given the limitations and restrictions at JWA. This can result in the needed modification of passenger gates, taxiways, and vehicle service roads to maintain the proper safety clearances and zones. For example, the airport is currently planning to reconstruct and repave its taxiways and adjust turning radiuses to support changes in aviation design.

Resiliency and Sustainability

As the population grows, so do the stressors on our natural resources, particularly in highly urbanized areas. The airport is constantly evaluating its need for resources and impacts on the community. JWA plans and implements improvements to ensure resilient infrastructure that is sustainable into the future.

JWA's energy is supplied by a combination of Southern California Edison and the airport's Central Utility Plant (CUP), which is a cogeneration plant consisting of four natural gas engines. The CUP is the primary power supply for JWA Terminals and the airfield, and supplies cooling for the airport through various systems. To improve resiliency and future sustainability, the airport is engaging in an upgrade project that includes an energy storage system using large batteries, improved metering and power management systems, and water conservation equipment.

Orange County's South Coast Air Basin is listed by the EPA as an extreme air quality non-attainment area. This means that there is increasing urgency for public entities to reduce air emissions through changing paradigms and improved infrastructure. At the airport, this means providing cleaner electricity to replace hydrocarbon-fueled engines and equipment, providing charging stations for electric vehicles, replacing hydrocarbon-fueled shuttle buses with zero-

emission buses, developing the corresponding bus charging grid, and implementing electrical upgrades and infrastructure projects that increase efficiency and reduce electricity demand.

In an urbanized area such as Orange County, pollutants make their way into stormwater runoff and ultimately channel to our beautiful beaches and bays. Public entities are called on to be ever more vigilant to reduce urban and transportation-related pollutants in stormwater runoff. Infrastructure projects to accomplish this can require capturing and treating millions of gallons of stormwater and have been estimated at upwards of $35M to implement. The airport is currently evaluating infrastructure projects to support our region's clean water goals.