

2016



*Los Angeles  
World Airports*

# Sustainability Report



# Message from Chief Executive Officer



Los Angeles World Airports (LAWA)'s commitment to advancing sustainability at our airports and in local communities is reflected in the organization's ongoing efforts to collaborate, deliver results, and drive innovation over the past years. It is more important than ever to ensure that our airports continue to develop with the environment in mind, serve as an asset to our surrounding communities, and continue to play a key role in the region's economic success.

LAWA is proud of its accomplishments in 2016, some of which include:

- › Achieving Airports Council International Global Airport Carbon Accreditation at Level 2 (Reduction) – one of only 14 U.S. airports – reflecting LAWA's commitment to decreasing greenhouse gas emissions to 80% below 1990 levels by 2050;
- › Reducing potable water use per passenger at LAX by more than 6% over 2015's record decrease; a cumulative decrease of 26% in two years;
- › Launching the United Airlines' biofuel partnership at LAX on March 11, 2016, making LAX the first airport in the nation to use biofuel for commercial flights;
- › Surpassing the LAX airport-wide ground support equipment emissions reduction target 5 years ahead of the 2021 deadline;
- › Achieving milestones for the new Automated People Mover (APM) and Consolidated Rental Car (CONRAC) facility, including issuing the Request for Qualifications for the APM and launching the selection process for the CONRAC development team; and
- › Granting 35 friendly flyer awards for excellence in noise abatement cooperation at Van Nuys airport.

This annual sustainability report showcases the results of many programs and initiatives that LAWA has developed and implemented over the years to reduce its environmental footprint, build stronger partnerships and healthier communities, and continue to serve as a major economic engine in the Southern California region. Guided by the goals set forth in Mayor Garcetti's Sustainable City pLAN, LAWA strives to align its sustainability elements with the citywide plan in the way its airports operate and grow. I am proud of the progress LAWA has made in 2016, and look forward to future achievements that will keep LAWA on track as a leader in sustainability, and also a value driven, world class airport.

*Deborah Flint*

**Deborah Flint**

Chief Executive Officer

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# Executive Summary

This 2016 report provides snapshots of sustainability actions, both in progress and accomplished, across Los Angeles World Airports (LAWA). The first part focuses on the progress made at Los Angeles International Airport (LAX), the largest airport operated by LAWA, followed by coverage of accomplishments at Van Nuys Airport (VNY). Detailed data for both LAX and VNY is presented in the Appendices.

In 2016, LAWA made progress in advancing sustainability, a critical component of how the organization operates and grows. This is reflected in continued improvements at LAX and VNY. Positive trends in various sustainability initiatives—from energy and water savings to natural resource conservation and building stronger community partnerships—are happening while both airports continue to experience operational growth. Last year marked LAX's third consecutive year for setting record passenger traffic with over 80.9 million passengers—an 8 percent increase in volume over 2015. At VNY, after a drop between 2011-2015, aircraft operations bounced back in 2016. In addition, to meet future aviation needs, VNY plans on spending approximately \$63.9 million on Airport Capital Improvement Projects (ACIP) and non-ACIP projects through 2022.

On November 2nd 2016, City of Los Angeles Mayor Eric Garcetti announced the official transfer of ownership of LA/Ontario International Airport (ONT) from LAWA to the Ontario International Airport Authority (OIAA).

Meanwhile, LAWA continues to own and administer 17,500 acres on the northeastern section of LA County near the City of Palmdale. While most of the property is unoccupied, there are a few leasehold including the National Aeronautics and Space Administration (NASA), the County of Los Angeles, and agricultural tenants.

LAWA's sustainability performance in 2016 demonstrates the organization's continued momentum in balancing environmental stewardship, economic growth, and social responsibility in its operations and development. This report highlights last year's accomplishments in the following categories:



**Economic Viability**



**Guest Experience**



**Social Responsibility**



**Water Conservation**



**Energy Stewardship**



**Air Quality**



**Noise Management**



**Material Resources Management**



**Sustainable Construction Practices**



**Natural Resources Management**

Additionally, given LAWA’s holistic approach to sustainability, many projects and programs provide benefits across multiple categories. Highlights of LAWA’s cross-cutting programs and initiatives in 2016 include:

### Terminal 4 Connector Project



In May 2016, LAWA celebrated the completion of the Terminal 4 Connector (T4 Connector) Project at LAX. This multi-use, multi-level facility provides a secured and more convenient connection for passengers between Tom Bradley International Terminal (TBIT) and Terminal 4. The T4 Connector is the first non-residential building to achieve Los Angeles Green Building Code Tier 2 certification in the City; some of the “green” features of the facility include the use of drought-tolerant plants for landscaping and application of low-VOC paints for the project’s interior. The T4 Connector’s energy performance already exceeds state mandated energy standards by more than 37 percent.

### Central Utility Plant



Last year was the first full year of operation for the 90,000 square-foot Central Utility Plant (CUP) at LAX. Equipped with high-efficiency chillers and motors, the facility is anticipated to drastically reduce energy use over 6 million kWh annually. New state-of-the-art pollution control equipment will also result in a reduction of nearly 4,900 tons of CO<sub>2</sub> emissions annually. As one of the first sustainable utility plants at a U.S. airport, the CUP also achieved LEED-Gold certification in 2015.

### LAX Dunes



In 2016, LAWA donated nearly 47 tons of invasive plant materials from the LAX Dunes to feed animals at the LA Zoo. This was not only good news for the animals, it also helped LAWA avoid filling up landfills while effectively managing its natural resources.

### Employee Rideshare Program



LAWA encourages all employees to participate in the Employee Rideshare Program and consider various alternative commuting options including car or van pools, biking, and using alternative-fuel vehicles. In 2016, program participants helped reduce a combined 7.5 million vehicle miles traveled, saved 271,000 gallons of fuel, and reduced approximately 2,455 metric ton of CO<sub>2</sub> emissions. In addition to reducing traffic congestion around LAX, this program contributes to improved air quality in the area and raises sustainability awareness efforts among LAWA employees.



# Los Angeles International Airport (LAX)







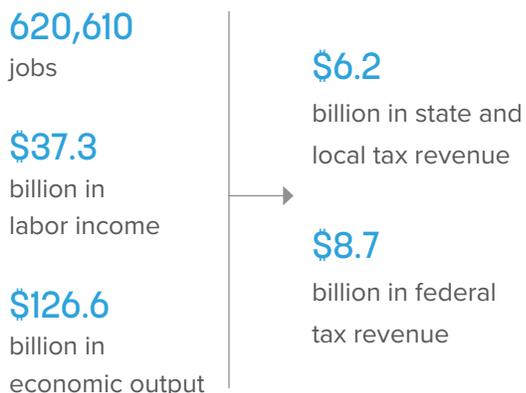
## Economic Viability & Social Responsibility

Recognizing its footprint in the Southern California region, and also that the sustainability of the organization relies on the well-being of the people it serves and who keep it running, LAWA aims to operate in a fashion that will ensure prosperous, healthy and equitable growth for its employees, businesses, guests, and surrounding communities.

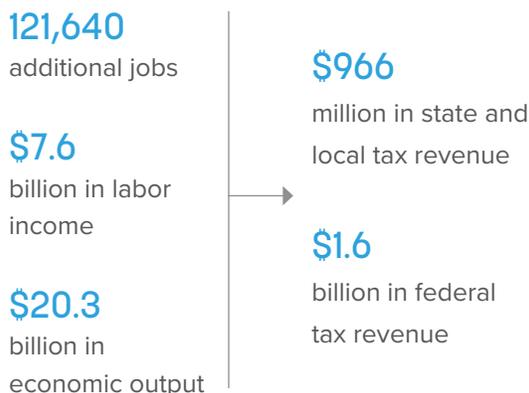


## Economic Viability

### LAX Generates Jobs and Revenue in Southern California (based on 2014 operations)



### Capital Improvement Program



### Skytrax Top 10 Most Improved Airports in 2017, ranked LAX as:

**2nd**  
busiest airport in the US

**4th**  
busiest airport in the world

### LAX 2016 Aircraft Operations



**697,138** aircraft operations.  
A **6.5% increase** from 2015.



**742**  
daily non-stop flights to 101 cities  
in the US



**1,280**  
weekly non-stop flights to 77 cities  
in 42 countries

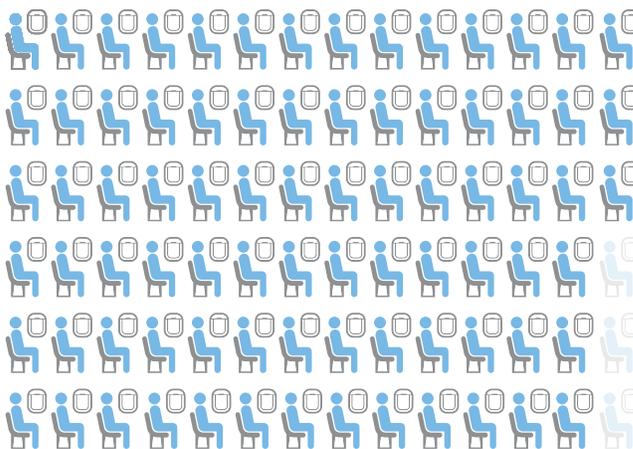
### LAX 2016 Cargo Volume



**2.2m tons**  
air cargo processed and  
valued at over \$101.4b.  
A **3.5% increase** from 2015.

### LAX 2016 Passenger Volume

= 1 million passengers



**80.9m** passengers served. An **8% increase**  
from 2015 and a record-setting passenger traffic for  
the third consecutive year.



## Tenant Partnerships

Partnering with airlines, concessionaires, and other airport leaseholders is critical to LAWA's sustainability efforts. Whether helping to put a roof over a family's head or preparing underserved children for school, LAWA tenants support such efforts by donating time, supplies, and financial resources. LAWA also applauds the many years of tremendous support that LAX's tenants have given to the LAX Bob Hope Hollywood United Service Organization (USO), which serves our military troops. Highlights of LAWA-tenant partnership activities include:



**United Airlines - LAX (UAL)** donated 7,312 lbs of furniture and kitchen equipment from their lounge in Terminal 7 to Habitat LA's ReStore. UAL also donated food from their old lounge to the LAX Bob Hope Hollywood United Services Organization (USO). In addition, during the Christmas season, United Airlines hosted a Fantasy Flight event for approximately 250 foster-care children from Vermont, Compton, and Wateridge areas. The children were invited on a United Airlines flight headed to the North Pole, where they were greeted by Santa. Each child got to take pictures with Santa, received a stocking filled with gifts, and enjoyed snacks donated by LAX-Delaware North Food Management Group.



**The LAX-Bob Hope Hollywood USO** has been our tenant partner for over six decades. This 24/7 facility, located across from Terminal 2, provides complimentary sandwiches, snacks, and beverages, along with amenities (showers, nap room, high speed internet, TV, etc.) for military personnel and their families during their stay at the airport. In 2016, approximately 93,400 military personnel and their families visited the LAX-Bob Hope Hollywood USO.



**Delta Air Lines-LAX** donated 2,015 pounds of usable material from their Terminal 5 remodeling project to Habitat LA's ReStore. Delta Air Lines also pledged \$900,000 to build affordable housing in Los Angeles. To date, Delta Air Lines has built six homes in the greater Los Angeles area. As a partner with Habitat for Humanity, their employees participate in home-builds.



## Employee Wellness and Professional Development

LAWA believes that every employee should have the resources and support necessary to excel at their current positions and thrive in their career paths. In 2016, LAWA offered 714 hours of classroom instruction to airport employees on various topics, including effective communication, interview tips & tricks, and conflict resolution.

LAWA also launched a new and improved Employee Wellness Program aimed at promoting wellness both inside and outside of the workplace. The program offers a variety of educational and physical activities, such as lunchtime walks, weekend day-hikes, nutrition seminars, on-site yoga sessions, and more.



© Fran Sur, LAWA



© Fran Sur, LAWA

The new and improved Employee Wellness Program successfully hosted its first Wellness Hike in June 2016 and drew over 50 employees (with their families and friends) to the Santa Monica Mountains.



**1,250** LAWA employees participated in the Annual Health Fair & Employee Appreciation Day at LAX. LAWA organized this annual event in partnership with local healthcare & wellness service providers and advocacy groups. Employees can inquire about various health and wellness topics, check their blood pressures, and more.

# 2016 Highlights of Ongoing LAWA Community-Partnership Programs



## Local Communities

LAWA strives to be a good neighbor by engaging and empowering local communities through youth outreach programs, aviation education, community service activities, and public-private partnerships. In 2016, LAWA joined with several charity programs, including the American Red Cross, Special Olympics, Tommy Scott Memorial Fund, Lions Club's Eye Glasses Donation Program, Los Angeles County Department of Public Social Service's Toy Loan Program, and the LAX-Bob Hope Hollywood United Service Organization (USO).

LAWA also participated in public outreach and education programs focused on raising environmental awareness, career development, and women's leadership. Highlights included celebrating Earth Day and the Industry Forum for the LAX Landside Access Modernization Program. Last year was also the first year that LAWA held a Veterans' Job Fair and an Aviation Career Day.



© Nancy Price, LAWA

LAWA's First Source Hiring Program provides cost-free referrals of pre-screened, qualified and trained applicants to contractors working at LAX and early notifications and access to position openings for job applicants. In 2016, the program referred 67,674 individuals for jobs posted at LAWA. Meanwhile, approximately 100 LAWA employees volunteered an estimated 576 hours as part of the Team LAWA Volunteer Program, that works with community-based organizations to better the surrounding community.

Since its inception the Business Job Resource Center (BJRC)'s Gateways Internship Program placed more than **1,256** high school and college students in paid- and non-paid internship positions with various LAWA divisions and other organizations at LAX.



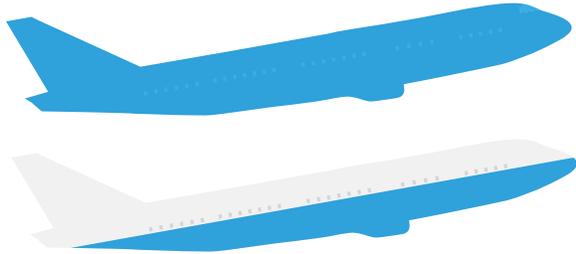




## Water Conservation

In response to the ongoing drought in California, LAWA has developed a number of water-wise initiatives. As a result, in 2016, despite experiencing another record-breaking year in passenger travel, LAX reduced potable water use per passenger—from 6.3 gallons in 2015 to 5.9 gallons in 2016. Additionally, reclaimed water use for landscaping increased more than 20 percent over 2015 levels. LAWA also supports LADWP with its public outreach efforts to promote water use efficiency and conservation in the region.

An estimated **396,625** gallons of water is saved every day at LAX, enough to fill approximately **1.5** Boeing 777 airplanes.



## Water Conservation Initiatives

LAWA's success in reducing potable water consumption can be attributed to a number of targeted water conservation efforts. Over the last ten years, LAX:

- › Converted approximately 95 percent of toilets and urinals in the Central Terminal Area to low and ultra-low flow systems that provide a savings of 1.25 gallons per flush.
- › Installed recycled water (purple) pipe as part of the CUP Replacement Project and Bradley West Terminal.
- › Increased use of recycled water for street sweeping, construction dust control, car washing, and other non-potable uses.

LAX realized savings of over

**\$200,000**

through recycled water use.

- › Reduced irrigation schedule to two days per week as mandated by Mayor Garcetti's Executive Directive No. 5, and discontinued irrigation in non-public areas. Signs were also posted to designate landscape irrigated with recycled water and irrigation schedule.
- › Converted traditional landscape to artificial turf, drought-tolerant plants, or low-irrigation hardscape palette. Additionally, LAWA's landscaping crew replaced approximately 2.39 acres of turf grass, mainly in the Central Terminal Area, with bark and stone landscaping that requires little or no irrigation.
- › Expanded public outreach campaign by supporting Los Angeles Department of Water and Power (LADWP) outreach and education on water conservation efforts within LAWA.
- › Installed signs from LADWP regarding water conservation for use in food and beverage concessions.

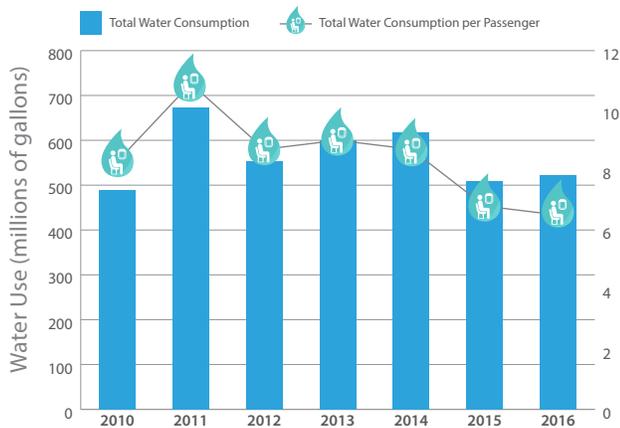


# Advanced Water Purification Facility

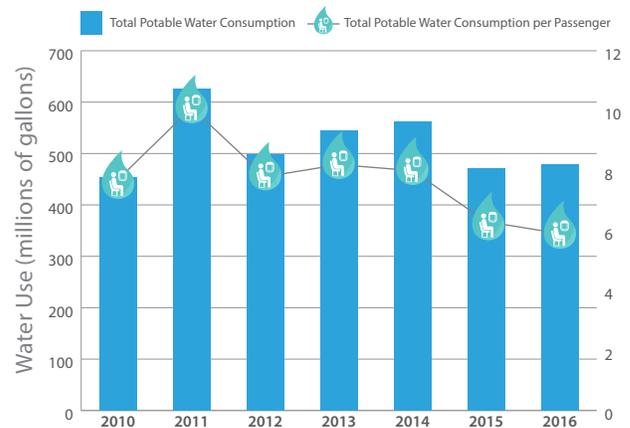
LAWA executed a Memorandum of Understanding (MOU) with the Los Angeles Department of Water and Power (LADWP) and Los Angeles Sanitation Bureau (LASAN) for the delivery of advanced treated recycled water from Hyperion Water Reclamation Plant (HWRP) to LAX in August 2016. Design and construction of the Advanced Water Purification Facility (AWPF) will begin in late 2017 with commissioning planned for late 2019. The AWPF will utilize membrane bioreactor and reverse osmosis (MBR/RO) technology to treat 1.5 million gallons of sewage received by HWRP. It is designed to provide one million gallons per day of extremely high-quality recycled water for the Central Utility Plan (CUP), Midfield Satellite Concourse (MSC), and the Consolidated Rent-A-Car (CONRAC) facility at LAX.



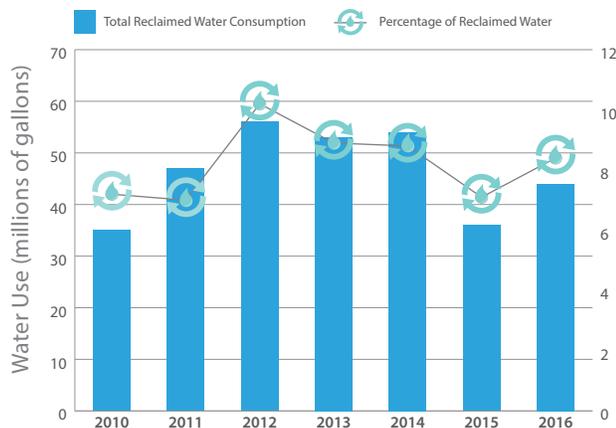
## LAX Total Water Use



## LAX Potable Water Use



## LAX Reclaimed Water Use







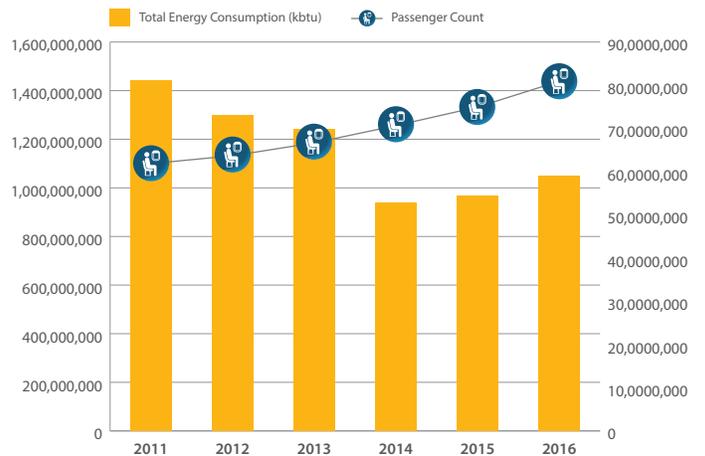
## Energy Stewardship

Through ongoing improvements in equipment technology, fuel efficiency, building controls, and operational practices, LAWA continues to explore ways to achieve energy savings and make its operations more energy efficient. While experiencing yet another record-breaking passenger volume last year—an 8 percent increase from 2015—LAX’s total energy consumption per passenger at LAX continued to decrease in 2016, compared to the past five years.

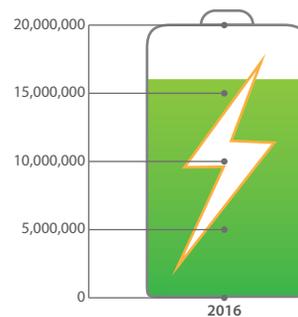
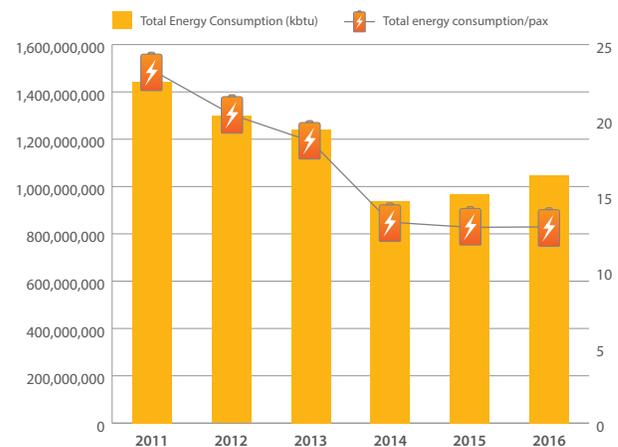
LAWA implemented a number of targeted energy efficiency improvement projects in recent years:

- › **Full-time operation of the 90,000-square-foot Central Utility Plant (CUP) in 2016:** The project’s new chillers are 20 percent more efficient and can help save approximately 5 million kWh annually. The use of high-efficiency motors and variable frequency drives further reduces electricity use by half, saving another 1.6 million kWh annually. The new turbines and boilers use natural gas and state-of-the-art pollution control equipment, resulting in a reduction of nearly 4,900 tons of CO<sub>2</sub> emissions annually. The CUP’s heat reflective roof also helps decrease cooling load, and heat recovered from the gas turbines is used to heat water and provide heat to terminal space. CUP began its full-time operation in September 2015.
- › **Installation of LED light ribbon along Second Level Roadway to CTA:** LAWA installed over 5,700 linear-feet of light ribbon in the Central Terminal Area (CTA) between 2014 and 2016. The project complies with the state’s CALGreen Code and also meets L.A. Green Building Code Tier 1 requirements. As part of this project, LAWA removed and replaced 78 high pressure sodium (HPS) street lights in front of TBIT with 91 new LED iconic light poles. This project results in an almost 45 percent reduction in electricity savings.
- › In 2016, LAX purchased **15,962,550 kWh of green power**, which equates to approximately 10 percent of total electricity consumption at LAX. Once again the EPA recognized LAWA as one of the largest green power users among local government partners within the EPA’s Green Power Partnership Top 30 Local Government.

### LAX Energy Use and Passenger Trends



### LAX Total Energy Use



**15,962,550 kWh**  
of green power  
purchased in 2016

## Turning off the lights for “Save Energy LA” Campaign



During the summer of 2016, City of Los Angeles Mayor Eric Garcetti, launched the “Save Energy LA” campaign, an energy conservation effort to encourage residents and businesses in the City to reduce energy use between August and October. “We can reduce our individual energy usage and save money by taking simple steps such as turning off unnecessary appliances and replacing light bulbs with energy efficient LEDs. These energy conservation measures will also help us to protect the environment, reduce greenhouse gas emissions, and achieve the goals of my Sustainable City pLAn,” said Mayor Garcetti.

To kick off the campaign, Mayor Garcetti asked Angelenos to turn off lights in their homes and businesses between 9-10 PM on July 29, 2016, to show their support for energy conservation. LAWA participated by having the signature LAX Gateway Pylons that illuminate the airport entrance go dark at that time, in concert with more than 40 participants

including city-owned buildings, landmarks, and famed structures across the City. “As a global leader in airport sustainability, Los Angeles World Airports (LAWA) is proud to partner with the Mayor’s office to align our efforts with citywide sustainability initiatives,” said LAWA Chief Executive Officer Deborah Flint. This unified action helped kick off other citywide energy-saving ideas and initiatives throughout the campaign.

The timing of this campaign was particularly critical due to the tragic Aliso Canyon gas leak in October 2015. After the leakage was stopped, a moratorium on new gas injections at Aliso Canyon made it more difficult for utility companies to maintain power reliability during high demand periods. The hot summer months in LA often put strain on neighborhood power distribution equipment and the electricity grid, as energy demand is much higher for air conditioning and cooling needs.



and industrial customers to reduce or shift their energy use from high demand, peak periods to off-peak periods.

**1546 kW** = amount of electricity demand reduced at LAX from June to September 2016. LAWA participated in LADWP’s SummerShift, an energy incentive program for large commercial





## Air Quality & Noise Management

Always striving to be a good neighbor, LAWA aims to minimize noise-related impacts and improve air quality in surrounding communities. In 2016, LAWA worked closely with local partners and stakeholders through existing noise abatement programs, while also exploring innovative, partnership-based solutions to identify opportunities for improvements as well as stay connected with community stakeholders on their noise-related concerns. Similarly, determined to help the region meet its air quality goals, LAWA sets high standards for its own operations and tenants.

## Airport Carbon Accreditation

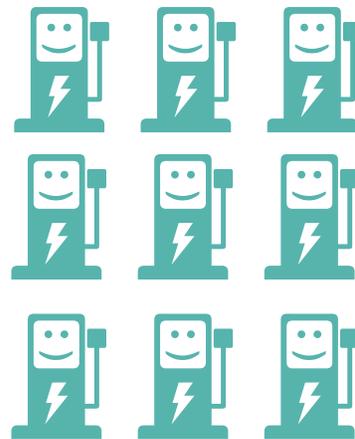


LAWA received ACA Level 2 Certification at ACI Conference.



In 2016, LAWA installed additional electric vehicle charging stations or replaced old ones at LAX and VNY.

In 2016, LAX became one of only 14 U.S. airports to be accredited through the Airport Carbon Accreditation (ACA) Program. This achievement reflects LAWA's goal to reduce greenhouse gas (GHG) emissions from LAWA-controlled facilities by 45 percent below 1990 levels by 2025, and by 80 percent by 2050. The ACA program recognizes airports worldwide that have committed to managing their carbon footprint through measurement, reduction, and a goal of carbon neutrality. LAX is currently certified at Level 2-Reduction, and is working towards Level 3-Optimization. As of 2015, LAWA has already achieved a 24 percent reduction in GHG emissions.



90

public electric vehicle  
chargers available at  
LAX and VNY.

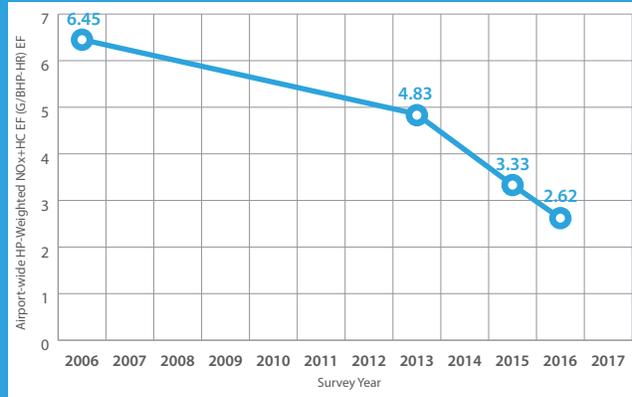


LAWA received an approximately \$4 million grant through the Federal Aviation Administration (FAA)'s Voluntary Airport Low Emissions Program (VALE) to finance the electrification of nine aircraft parking spaces that will be able to draw power from the airport's electricity supply, reducing jet fuel consumption, noise, and air pollution.

# LAX Ground Support Equipment Emissions Reduction Policy

Adopted in 2015, the LAX Ground Support Equipment (GSE) Emissions Reduction Policy is the first GSE emissions reduction policy of its kind in the country. It requires every GSE fleet operator to annually report on their fleet emission levels and to reduce emissions to 2.65 grams or less per brake-horsepower hour (gm/bhp-hr) of hydrocarbons (HC) and nitrogen oxide (NOx) by December 31, 2021. In 2016, approximately 40 percent of all GSE equipment used at LAX were powered by electricity and the airport-wide emissions factor was 2.62 g/bhp-hr of NOx and HC – surpassing the 2.65 target five years ahead of the 2021 deadline.

LAX Aggregated NOx+HC Emission Factor Trend



Source: LAWA

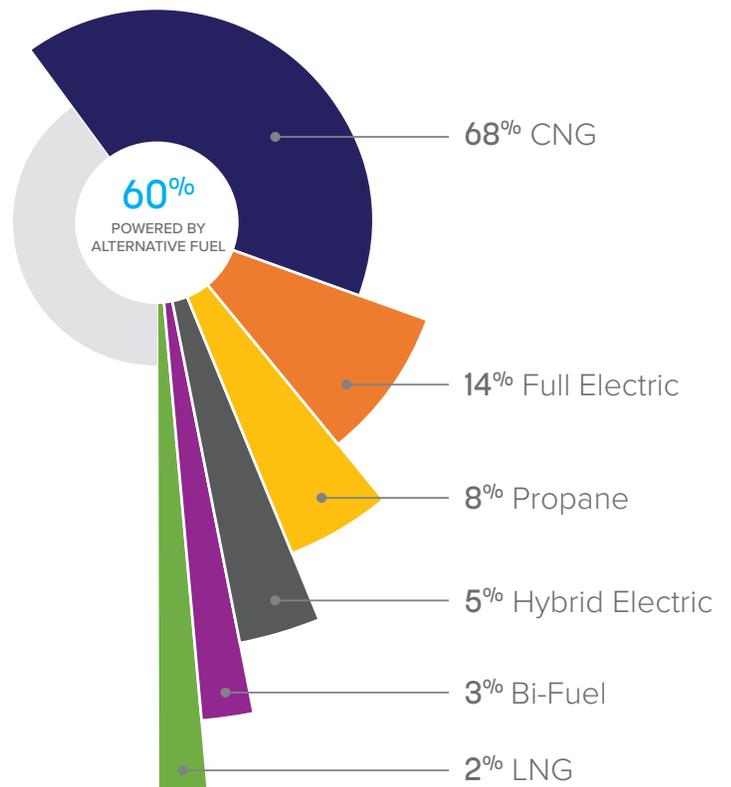
## Aircraft Biofuel



On March 11, 2016, United Airlines became the first U.S. airline to use commercial-scale volumes of biofuel as part of its everyday operations. This initiative made LAX the second airport in the world to incorporate biofuels into its shared jet fuel storage facility. Later in the year, KLM Airlines also began using biofuel for commercial flights out of LAX. Biofuel is refined from sustainable feedstock, such as agricultural wastes and non-edible natural oils, and is expected to provide a greater than 60 percent emissions reduction on a lifecycle basis when compared to traditional petroleum-based jet fuel.

## LAX Fleet

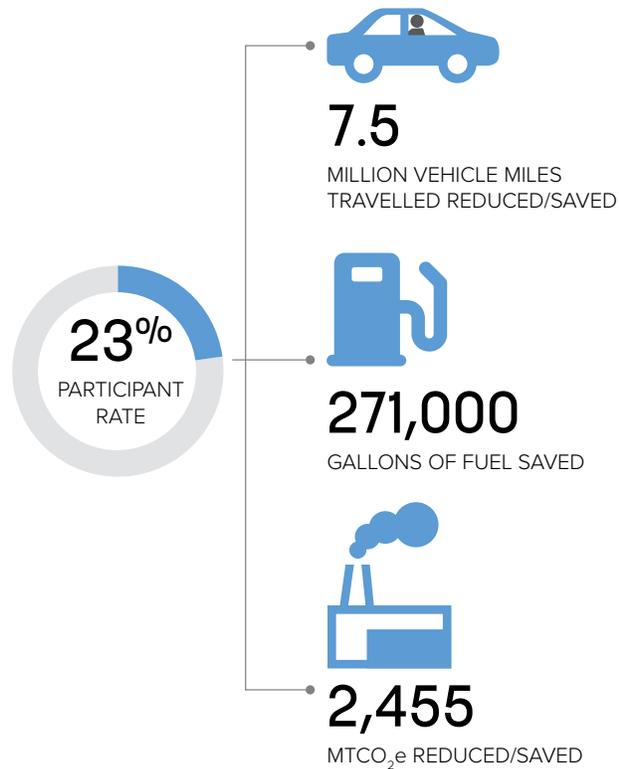
In 2016, approximately 60 percent of the LAX fleet was powered by alternative fuel.



## Employee Rideshare Program

The Employee Rideshare Program has been successful since the 1990s in promoting various commuting options such as car or vanpools, biking, and using alternative fuel vehicles around LAX.

### LAX Rideshare Program (2016)

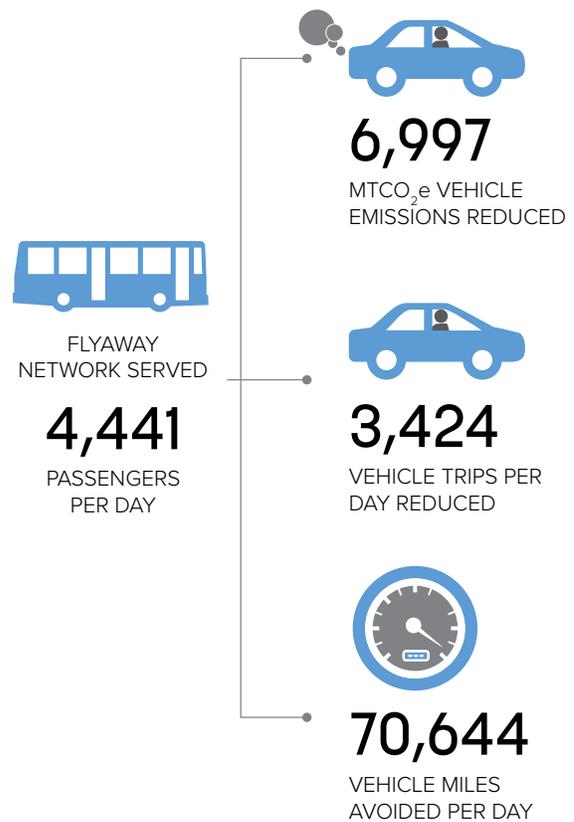


© Sara France

## LAX FlyAway® Buses

The LAX FlyAway® provides scheduled ground service between LAX and area locations to reduce traffic congestion and improve air quality. To date, the FlyAway® offers six different routes including locations to/from Van Nuys, Union Station in Downtown Los Angeles, Westwood, Hollywood, Long Beach, and the Metro Orange Line Woodley bus stop. The buses offer free internet access, are equipped with luggage bays and cushioned seats, and are fully compliant with requirements of the Americans with Disabilities Act. LAWA now offers a web-based system that allows FlyAway® riders to access real-time, bus-tracking information on select routes. Visit [www.LAXFlyAway.org](http://www.LAXFlyAway.org) for more information about the program and service schedule.

### FlyAway® Network (2016)



## WAMA Ground Run-Up (GRU) Monitoring System Goes Live

LAWA worked closely with local community stakeholders during the development of West Aircraft Maintenance Area (WAMA) to address potential noise concerns related to aircraft maintenance activities, including high-powered engine run-ups at the WAMA blast fence. Informed by community feedback, LAWA agreed to install a ground run-up (GRU) monitor and an online web portal that can show and log real-time noise levels during aircraft engine run-ups. The GRU system, consisting of a camera and a noise monitor located adjacent to the WAMA blast fence, went online during the summer of 2016. More information on the GRU system can be found at <http://www.lawa.org/laxwamagru/>.



## PlaneNoise™ - New Noise Comment System and Mobile App

In August 2016, LAWA implemented a new noise comment system, developed by PlaneNoise, Inc., to enhance options for the public to comment on noise and operations. The system is designed to work seamlessly with the existing WebTrak Flight Tracking system, providing direct access to a noise comment form. It includes a mobile web app that allows comments to be submitted quickly and easily.

These new tools also allow LAWA staff to better analyze and understand reported noise concerns in real time. As the FAA implements new flight procedures as part of its Southern California Metroplex Project, the PlaneNoise system will support LAWA's efforts to efficiently manage noise concerns and help staff identify aircraft noise and operations trends and focus on noise-reducing activities, such as those found at [www.lawa.org/laxnoise](http://www.lawa.org/laxnoise).

To date, Sound Insulation Grant Program (SIGP) program soundproofed a number of homes in the following communities:





 **LAX**   
RECYCLES

 Civitas Transportation



## Material Resources Management

Through collaborations with City departments and airport stakeholders, LAWA looks for opportunities to help the City of Los Angeles achieve its goal of zero waste by 2035. Additionally, as a response to local and state mandated waste diversion targets, LAWA has also established a 70 percent recycling goal for waste generated by passengers and cargo processes. At LAX, every guest and employee participates in such efforts through source reduction, reuse and recycling.

## Reduce, Reuse, Recycle!

In 2016, LAWA diverted an estimated 3,200 tons of material at LAX from the landfill or incineration. Additionally, LAWA recycled approximately 405,360 tons of construction and demolition debris, the highest level since the program's inception. A pilot program to collect food waste from the terminals for diversion is in the planning stages.

LAWA also ensures that many custodial products used in airport terminals and offices, such as paper towels, toilet paper, hand soap and cleaning products, are environmentally-preferable products (EPP), which contain post-consumer recycled content and non-toxic chemicals.

By implementing a double-sided printing policy, LAWA offices have saved over 15 tons of paper. That's equivalent to:



X360  
trees saved



weight of the entire  
LA Rams football team



Recycling at LAX.



© Harold Johnson, LAWA

TOP RIGHT  
LAWA's airline partners donated an estimated 5 tons of old furniture and office equipment, salvaged from airline offices and lounges in LAX terminals, to the local Habitat for Humanity ReStore.

BOTTOM RIGHT  
Through the LAX Harvest Food Donation program, LAX concessionaires donated over 37,000 lbs of food to local charities.



© Marjorie Phan, LAWA

# Environmental Procurement Practices are a Priority!

In late 2015, LAWA Environmental Planning Group (EPG) staff identified that its paper contractor was supplying LAWA and other City Departments with non-recycled content copy paper, failing to meet contract terms. Since then, LAWA worked with the General Services Department and Bureau of Sanitation to ensure paper delivered to the City and LAWA is manufactured in the United States with 30 percent post-consumer recycled content. The City began utilizing this contract in October 2016. LAWA Procurement Staff forced the paper contractor to take back the virgin paper and provide LAWA with contract-specified 30 percent recycled paper and now participates in the City's General Service Department paper contract as of January 2017. The provided paper meets the requirements of the Forest Stewardship Council's Control Wood Standard.



TOP  
Collection of recyclables, wood pallets and beverage containers.



BOTTOM LEFT  
As an effort to reduce plastic waste, LAX guests and employees can now refill their water bottles at new water refilling stations in Terminals 1, 5, and 6.





# Sustainable Construction Practices

Guided by state and local green building requirements, such as the Los Angeles Green Building Codes (LAGBC Tier 1 & 2), LAWA aims to be a leader in sustainability by meeting these standards and beyond. LAWA's ongoing efforts to improve other performance areas, such as reducing water and energy consumption, reusing and recycling material resources, and improving regional air quality, also greatly influence LAWA's practices when designing and/or constructing new buildings and infrastructure. Sustainable construction policies and practices are also required for LAWA contractors, such as low-emission equipment usage, construction and demolition waste recycling, and better schedule coordination to minimize non-essential trips.

# The Terminal 4 Connector (T4 Connector) Project

Construction Began: November 2013

Completion Date: May 2016

The \$115-million T4 Connector is a 104,170-square-foot multi-use, multi-level facility that provides a secured connection between the Tom Bradley International Terminal (TBIT) and Terminal 4 at LAX. The connector offers passengers easier access to connecting flights without having to re-check baggage.

The T4 Connector is LAWA's latest addition to the LAX Central Terminal Area, and is the City of Los Angeles' first non-residential building certified to the Los Angeles Green Building Code (LAGBC) Tier 2 standards. Some of the project's "green" features include:

- › Application of Low-VOC paints and finishes for the project's interior;
- › Use of drought-resistant and native California plantings for landscaping;
- › Installation of a "cool roof" that reflects approximately 80 percent of the sun's radiant energy, making the building much easier to keep cool;

- › Utilization of LAX's new Central Utility Plant (CUP), which provides heating and cooling more efficiently than typical standalone systems;
- › Installation of Light Emitting Diode (LED) lights in all public areas throughout the facility, along with high-tech lighting controls and daylight sensors to help minimize the use of artificial lighting;
- › Installation of an innovative ventilation system in the Baggage Screening area, taking advantage of local climate conditions to cool baggage equipment;
- › 40 percent more energy-efficient motors for the baggage handling system; and
- › Provision of infrastructure for future use of photovoltaic and other emerging renewable energy technologies.

While local mandates such as the LAGBC set high standards for all construction projects in the City of Los Angeles, LAWA continues to demonstrate its sustainability commitment by regularly surpassing these requirements. In fact, leading by example, the T4 Connector's energy performance already exceed tough California Title 24 Energy Use Requirements by over 37 percent.





Los Angeles Board of Airport Commissioners Members Nolan Rollins, Vice President Valeria Valesco and President Sean Burton; Los Angeles City Council member Bob Blumenfield; Los Angeles Mayor Eric Garcetti



Chief Executive Officer Deborah Flint discusses how the Terminal 4 Connector will improve the travel experience. Nearly 200 people, including Los Angeles Mayor Eric Garcetti and City Council member Bob Blumenfield gathered on September 29, 2016 to celebrate the completion of the Terminal 4 Connector at LAX

## Permeable Pavement at LAX

When possible, LAWA incorporates permeable pavement on its property to reduce urban pollutants in stormwater runoff. In 2016, approximately 31,000 square feet of permeable pavement were added as part of the Construction Access Gate Post 23 Project (25,000 square feet) and CTA Landscaping Project Parking Structure 3 & 4 (6,000 square feet). That brings a total of 159,437 square feet of permeable pavement at LAX.

Project Name	Year	Permeable Pavement Area (square feet)
Crossfield Taxiway Project	2010	73,000
MSC/PMO Parking Lot	2015	42,957
Taxi Holding Lot	2015	12,480
Access Gate Post 23	2016	25,000
Parking Structure 3 & 4	2016	6,000
<b>Total</b>		<b>159,437</b>

## New Construction in Progress: LAX Midfield Satellite Concourse



Designed as an extension of the Tom Bradley International Terminal (TBIT), the new 750,000-square-foot Midfield Satellite Concourse (MSC) will be on the west side and connected to TBIT and other terminals by an underground pedestrian tunnel, moving walkways and shuttle buses. Construction of this \$1.6-billion state-of-the-art, five-level facility began in February 2017, and is anticipated to complete in late 2019.

**Highlighted sustainability features of the MSC include:**

- › For MSC-enabling projects (such as the demolition of the former Qantas Hangar, relocation of the Aircraft Rotating Beacon, and the grading of MSC-North construction site), all demolition materials were recycled.
- › Reclaimed water was utilized for dust control for all MSC-related construction activities.
- › MSC is designed to achieve USGBC LEED Silver and LAGBC Tier 1 Certification.
- › MSC’s architectural design incorporates more natural daylight in public spaces, enhancing the environment for workers and guests, while also contributing to LAWA’s overall energy conservation efforts.

- › MSC will include 44,000 square feet of “LA-centric” concession and retail offerings to promote and support locally grown and/or produced products and services.
- › High-tech features such as a new LAX smartphone app and in-terminal displays with scanners included to allow passengers to retrieve personalized maps on their electronic boarding passes, and reduce unnecessary paper waste from printing.
- › Other notable environmentally-friendly features of the facility include energy and water conservation, heat island reduction through cool roofs and pavement, and recycled materials use.

Demolition materials (steel and wood) from the former Qantas Hangar were recycled.







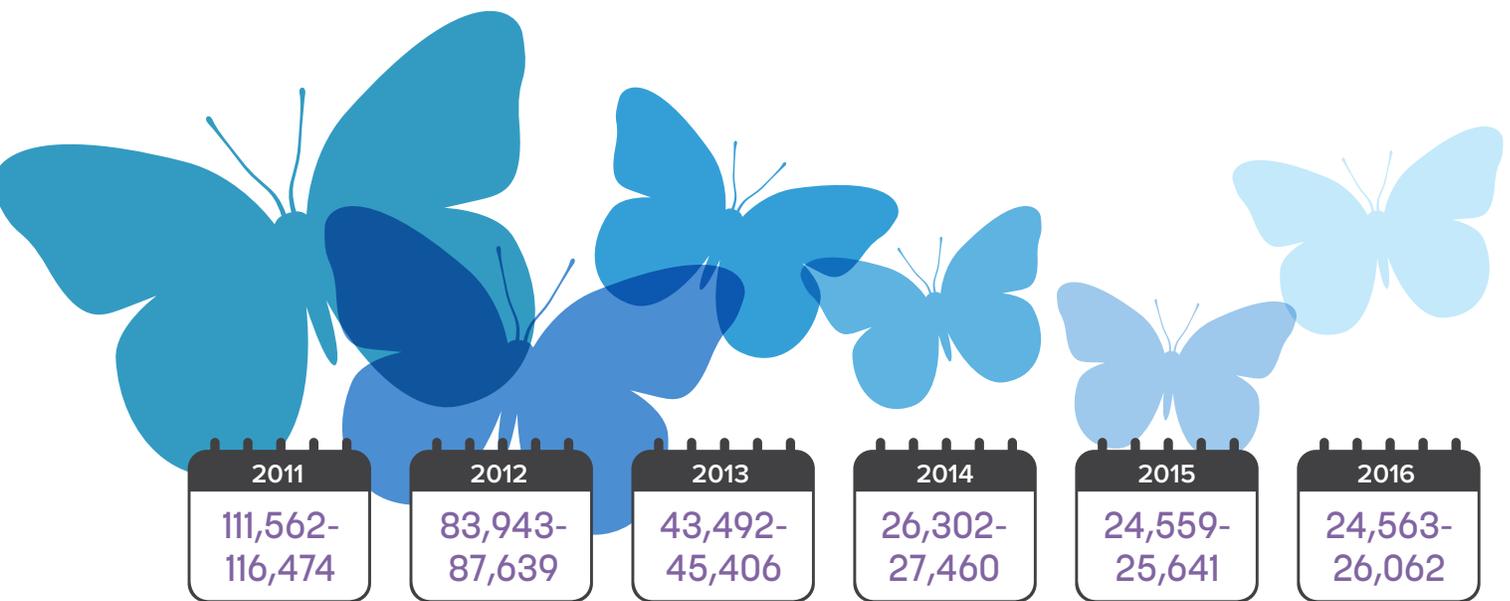
## Natural Resources Management

LAWA is committed to responsible natural resources management practices that help protect the LAX Dunes' endangered species, as well as reduce wildlife and aircraft collisions.

## Wildlife Conservation and Management

A portion of the 307-acre LAX El Segundo Dunes is dedicated to the protection of the El Segundo Blue Butterfly (ESBB), a federally-listed endangered species. Due to prolonged drought and infestation of invasive plant species that has impacted the ESBB's sole food source, the coast buckwheat, the ESBB population has declined every year since 2011. In 2016, however, the ESBB count showed a small increase!

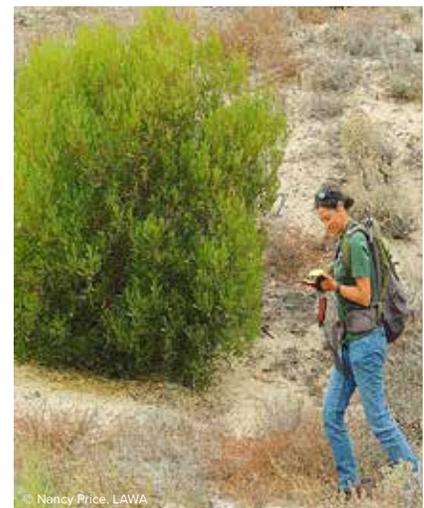
In addition to tracking and monitoring the ESBB population, LAWA staff also performs routine maintenance, such as removing trash and invasive plant species. Working under the direction of a habitat restoration specialist, LAWA maintenance staff have pulled away ice plant that is overwhelming the coast buckwheat plants. A five-foot buffer is established around each coast buckwheat plant, which allows the plant space to grow and propagate by dropping seeds near the "mother" plant.



Annual El Segundo Blue Butterfly Population Survey



© Albert Rodriguez



© Nancy Price, LAWA

Left: El Segundo Blue Butterfly. Right: LAWA hires a consultant to conduct annual surveys to track and monitor the ESBB population and their food source, the coast buckwheat. The annual survey typically takes place during ESBB flight season from mid-June through mid-August.



In 2016, LAWA donated 47 tons of invasive Acacia and Ficus plant materials removed from the LAX Dunes to feed animals at the LA Zoo.

## LAX Adopt-a-Dunes

LAWA has continued to lead efforts around dune restoration and preservation through the LAX Adopt-A-Dune Program, and through collaboration with Friends of the LAX Dunes (FOLD). In 2016, a combined total of 467 volunteers participated in these two programs.



## Migratory Bird Relocation

The Federal Aviation Administration (FAA) mandates that LAWA must regularly conduct wildlife hazard assessments and annually review its wildlife hazard management plans. The U.S. Department of Agriculture (USDA) has managed wildlife hazards at LAWA's airports since 2000. Two USDA wildlife biologists regularly conduct onsite wildlife mitigation



to ensure the safety of airplane passengers. Any raptors captured through the biologists' mitigation practices are relocated to the South Bay Wildlife Rehabilitation Center.



# Van Nuys Airport (VNY)



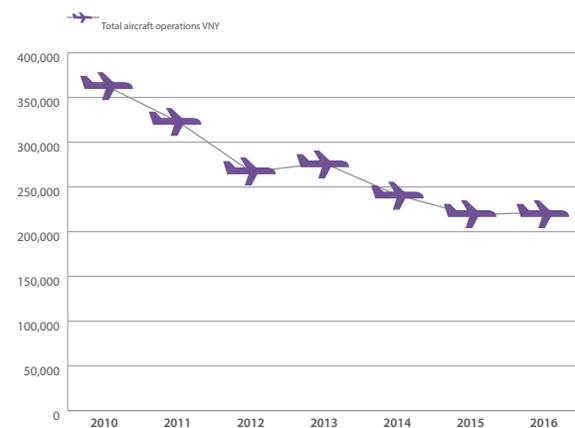


Owned and operated by Los Angeles World Airports (LAWA), Van Nuys Airport (VNY) is one of the busiest general aviation airports in the country. Located in the San Fernando Valley and within 20 miles of downtown Los Angeles, VNY serves as a valuable resource for general aviation business and services in the San Fernando Valley.

Dedicated to non-commercial air travel, VNY serves a variety of private, corporate and government aviation needs. More than 100 businesses are located on the 730-acre airport, including four major fixed-base operators: Castle & Cooke Aviation; Clay Lacy Aviation; Jet Aviation; and Signature Flight Support. These operators provide aircraft storage and parking, aviation fuel, aircraft sales, flight instruction, aircraft charter, and aircraft maintenance.

In 2016, operations at VNY stopped the downward trend: VNY had a total of 213,721 aircraft operations last year, a 1.3 percent increase from 2015.

#### VNY Total Aircraft Operations



## Economic Impacts

Contributing more than \$2 billion to the Southern California economy, VNY creates jobs and supports businesses that benefit neighboring communities. VNY also provides base and maintenance facilities for fire, police, air ambulance, search and rescue, and news media aircraft that serve the region. Business travelers and tourists flying in and out of VNY also benefit from the airport's convenient proximity to LA area's businesses, recreation and entertainment centers.



Based on a 2015 study released by the Los Angeles County Economic Development Corporation (LAEDC) of VNY's economic impact to the San Fernando Valley & Greater Los Angeles area.

## Capital Improvement Projects at VNY

To meet future aviation needs, VNY plans on spending approximately \$63.9 million on Airport Capital Improvement Projects (ACIP) and non-ACIP projects through the year 2022. As a result, the LAEDC study estimates significant economic benefits from these projects, including:

- > 670 jobs;
- > \$37.2 million in labor income;
- > \$107.5 million in business revenues; and
- > \$13.0 million in local, state and federal tax revenues.

In addition, the study also indicates a positive return on investments for facility improvements done by airport tenants. It is estimated that for every \$1 million spent on capital improvement projects by tenants, there will be positive economic impacts of:

- > \$583,000 in labor income;
- > a total of \$1,682,300 in business revenue; and
- > a total of local state and federal taxes of \$202,700.



Highlights of capital improvement projects by airport tenants that are in progress at VNY include:

**Perimeter Security Enhancement Project**—Removal of shrubbery, plants, and trees that had obscured gates and fences to strengthen airport security.

**The Park at VNY**—A \$21-million development project features hangars, tie-downs and exclusive office facilities for up to 270 propeller aircrafts and related businesses; this project is anticipated to be completed by the end of 2018.

**Aeroplex/Aerolease Group**—A \$3.5-million development project of a 123,162-square-foot facility that will feature a new hangar, aircraft ramp and staging areas, parking area, offices, shops and private terminal areas. This new facility is scheduled for completion in early 2017.

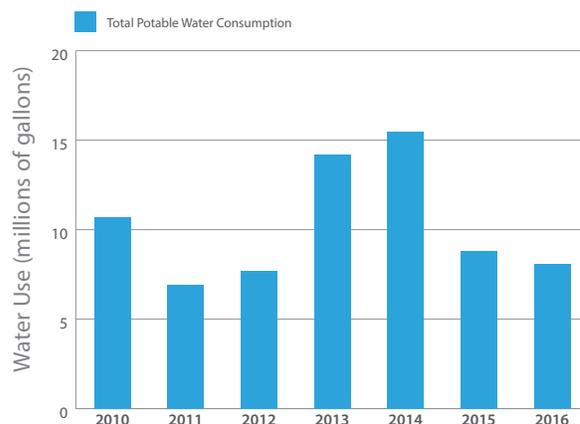
Anticipated upcoming capital construction improvement projects by airport tenants include:

Tenant	Investment	Anticipated Completion
Clay Lacy	\$10 million	June 2018
Signature 8361 LLC	\$3 million	December 2021
Signature 8433 LLC	\$6.3 million	December 2021
Signature 8390 LLC	\$6.9 million	December 2021
Pacific Aviation Development	\$21 million	December 2018

## Water Conservation

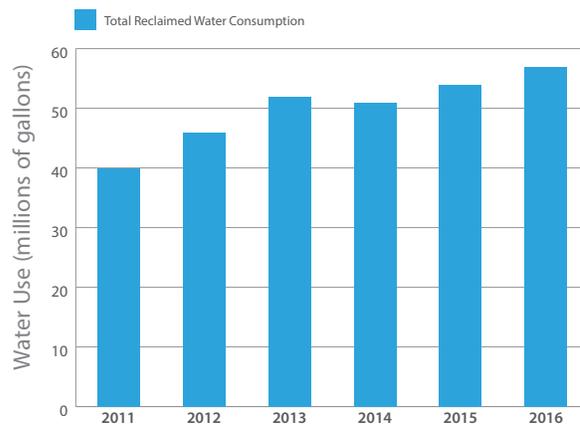
VNY continues to explore ways to reduce potable water consumption. Overall, total water use at the airport has decreased over the past couple years, as VNY voluntarily replaced turf areas with drought tolerant landscaping and implemented a prescribed irrigation schedule. This effort was implemented under Mayor Garcetti’s Executive Directive No. 5.

### VNY Potable Water Use



Through a joint effort with the Metropolitan Water District and LADWP, the VNY Golf course uses reclaimed water for irrigation.

### VNY Reclaimed Water Use

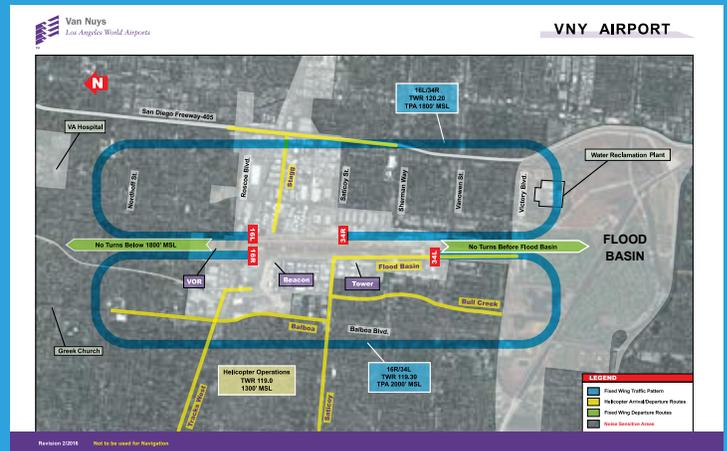


# The Van Nuys Airport Citizens Advisory Council (CAC)

The CAC is made up of 18 members and addresses all aspects of VNY’s operations, land use, and development around the airport. With the support of the CAC, VNY has been working diligently to address community concerns regarding frequent and repeated flights over residential areas.

Part of the Pilot Guide updates included a map with enhanced elements to help pilots avoid flying over the noise-sensitive residential areas around VNY.

An Ad Hoc Committee of the CAC helped LAWA develop “Noise Management Quick Facts,” to inform new pilots and operators on the regulatory and enforcement actions related to their day-to-day operations at VNY.



## Energy Stewardship

In 2016, approximately 25 percent of the total electricity use at VNY was renewable energy sources purchased through the Los Angeles Department of Water and Power (LADWP)’s Green Power Program.

## Noise Management

VNY works closely with airport stakeholders and neighboring communities through the Van Nuys Airport Citizens Advisory Council (CAC), exploring education programs and incentives such as the No Early Turn, Fly Friendly/Quiet Departure Program, and the Friendly Flyer Award Program. The noise officer at VNY monitors compliance and frequently communicates with jet operators to ensure that pilots use “quiet departure” procedures.

## Solid Waste & Recycling





## NOISE MANAGEMENT QUICK FACTS

### VNY CAN:

- Regulate aircraft activity on leaseholds/parking and ramp areas, including any aircraft maintenance.
- Implement restrictions proposed or implemented before 1990 ANCA\* including associated fines/penalties.
- Prohibit and/or fine aircraft departures whose estimated takeoff noise level exceeds 74 dBA (per FAA Advisory Circular (AC) 36-31) from 10 PM to 7 AM that are not exempt†.
- Prohibit and/or fine takeoffs and landings of any aircraft whose AC 36-31 takeoff noise level is equal to or exceeds 77 dBA that are not exempt†.
- Prohibit and/or fine engine run-ups for maintenance between 7 PM and 7 AM.
- Prohibit and/or fine touch-and-go operations by turbo-jet or fan powered aircraft, or by propeller powered aircraft between 10 PM and 7 AM [June 21 – September 15] and between 9 PM and 7 AM [September 16 – June 20].
- Develop and implement voluntary noise abatement programs such as the "No Early Turn", "Quiet Jet Departure/Fly Friendly" and "Helicopter Route and Altitude Deviation" programs.

### VNY CANNOT:

- Direct or control aircraft while in flight; responsibility of the Federal Aviation Administration (FAA).
- Implement new aircraft operation restrictions and/or fines after 1990 ANCA\* without FAA approval under Code of Federal Regulations Part 161.
- Prohibit takeoffs or landings of military, law enforcement, emergency, fire or rescue aircraft that are exempt‡.
- Prohibit aircraft not operating at VNY and whose AC 36-31 takeoff noise level is equal to or exceeds 77 dBA from flying through the VNY airspace.
- Prohibit takeoffs and landings of aircraft certified by FAA as Stage 3 or above.
- Prohibit the arrival/departure of any helicopter at any time.
- Fine aircraft operators who do not participate in the voluntary noise abatement programs such as the "No Early Turn", "Quiet Jet Departure/Fly Friendly" and "Helicopter Route and Altitude Deviation" programs.
- Fine any aircraft who violates Federal Aviation Regulations (i.e., low flybys or low passes over residential areas); FAA responsibility.
- Prohibit or fine any aircraft operation based on a specific single event noise level measured at an airport noise monitor.

\* 1990 ANCA – Airport Noise and Capacity Act of 1990 limits the ability of airport sponsors to propose and implement new restrictions and/or fines on aircraft operating into or out of their airport after 1990; proposed restrictions have to comply with Code of Federal Regulations Part 161, Notice and Approval of Airport Noise and Access Restrictions.

† FAA Advisory Circular (AC) 36-3 provides a listing of FAA-estimated airplane noise levels in units of A-weighted sound level in decibels (dBA) and is intended to provide a consistent basis for comparison of noise levels of major aircraft models; not equivalent to a specific single event noise level measured at a noise monitor.

‡ Exempt aircraft are defined in City of Los Angeles Ordinance Nos. 155727, 171889, 173215 and 181106.

An Ad Hoc Committee of the CAC helped LAWA develop "Noise Management Quick Facts," to inform new pilots and operators on the regulatory and enforcement actions related to their day-to-day operations at VNY.



© Brandon Nunn, VNY

# Friendly Flyer Award Program

In 2016, 35 general aviation jet operators were awarded the VNY Friendly Flyer Award for their commitment and exemplary compliance with all noise abatement regulations. These operators achieved 99 percent or greater compliance with the voluntary No Early Turn and Fly Friendly/Quiet Department Programs at VNY during 2016. Of the 35 award recipients, 10 are “legacy” winners who have been awarded every year since the Award program was established in 2012. For more information on the VNY Fly Friendly Program, visit: [www.lawa.aero/welcome\\_VNY.aspx?id=4245](http://www.lawa.aero/welcome_VNY.aspx?id=4245)

## Social Responsibility

VNY staff take pride in the relationship they have developed with the local community. Highlights of VNY’s community activities included:

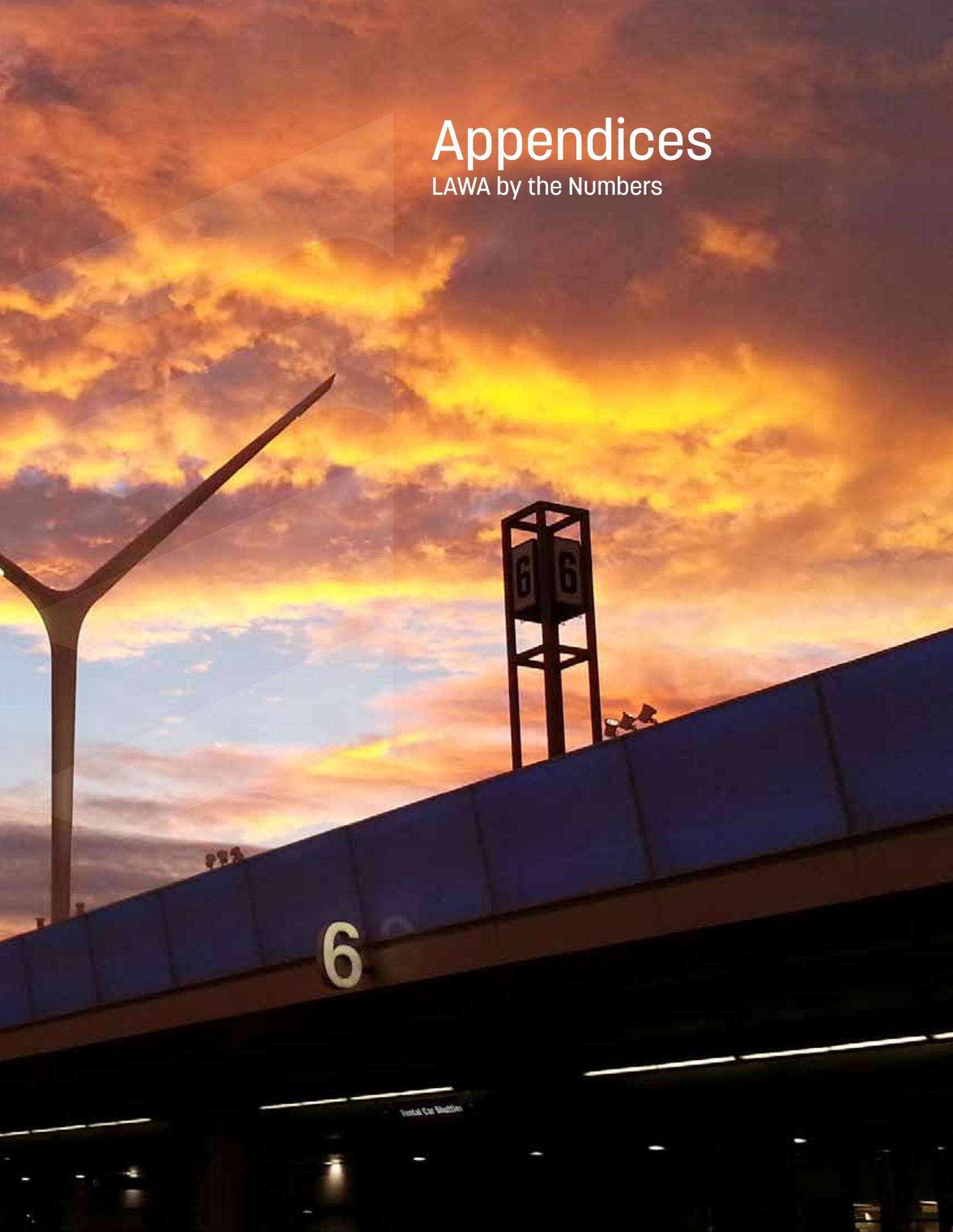
2016 Program	Participation
Adopt-a-School	475 students
Airport Tours & DVD Presentations	1,051 participants
Aviation Career Day	1,110 participants
Aviation Career Education (ACE) Academy	54 student, 17 host businesses
Career Fair	1,620 participants
Job Shadow Days	43 students, 26 mentors
Santa’s Visit Program	425
Street Fairs	31,000 participants





# Appendices

LAWA by the Numbers



## LAX



## Economic Viability

Year	Total Passengers	Cargo Activity (tons)	Aircraft Operations
2011	61,862,052	1,789,204	603,912
2012	63,688,121	1,867,155	605,480
2013	66,665,726	1,851,433	614,917
2014	70,663,519	2,002,910	636,706
2015	74,956,305	2,132,486	654,501
2016	80,921,527	2,205,335	697,138



## Water Conservation

Year	Total Potable Water Use (gallons)	Total Potable Water Consumption per Passenger (gallons)	Total Reclaimed Water Use (gallons)	Percentage of Reclaimed Water Use
2011	624,694,472	10.1	47,245,176	7.0%
2012	497,671,328	7.8	56,368,382	10.2%
2013	545,073,584	8.2	53,485,740	8.9%
2014	562,604,460	8.0	54,315,272	8.8%
2015	471,740,412	6.3	36,190,484	7.1%
2016	479,056,600	5.9	43,740,796	8.4%



## Energy Stewardship

Year	Total Energy Consumption (kBTU)	Total Energy Consumption per Passenger (kBTU)	Electricity Consumption (kWh)	Electricity Consumption per Passenger (kWh)	Natural Gas Consumption (therms)	Natural Gas Consumption per Passenger (therms)
2011	1,443,426,570	23.33	163,880,003	2.65	8,842,680	0.14
2012	1,298,672,467	20.39	173,698,818	2.73	7,060,121	0.11
2013	1,240,649,797	18.61	200,464,917	3.01	5,566,635	0.08
2014	937,727,594	13.27	204,947,976	2.90	2,384,451	0.03
2015	968,851,254	12.93	190,373,140	2.54	3,192,981	0.04
2016	1,048,839,359	12.96	167,221,670	2.07	4,782,552	0.06



### Energy Stewardship (cont.)

Year	Voluntary Green Power Purchased (kWh)	% of Total Electricity Consumption
2011	29,170,641	17.8
2012	27,097,016	15.6
2013	15,235,334	7.6
2014	20,900,000	10.2
2015	19,119,539	10.4
2016	15,962,550	9.5



### Air Quality

#### Vehicle Fuel Use

Year	Gasoline (gallons)	Diesel (gallons)	Propane (therms)	LNG (gallons)	CNG (gasoline gallon equivalent)
2011	297,390	67,148	48,867	274,692	888,989
2012	299,056	67,073	54,463	310,416	870,820
2013	305,248	48,044	80,178	243,460	854,456
2014	295,868	51,764	85,444	248,998	860,831
2015	287,637	53,100	87,982	240,491	912,807
2016	281,328	54,598	84,559	237,460	846,200

#### FlyAway Program®

Year	FlyAway® Program Ridership (riders/year)	FlyAway® Program Emissions Reduced (MTCO2e)
2011	1,383,283	8,697
2012	1,439,255	9,135
2013	1,477,999	6,715
2014	1,576,945	7,073
2015	1,637,421	7,175
2016	1,620,991	6,997

#### LAX Fleet

Alternative Fuel Type	Percentage of Total Alternative Fuel
CNG	68%
Fully Electric	14%
Hybrid Electric	5%
Propane	8%
Bi-fuel	3%
LNG	2%

## LAX (cont.)



## Greenhouse Gas (GHG) Emissions and Reduction Goals

	1990	2015	2025 Goal	2035 Goal	2050 Goal
Total GHG Emissions (MTCDE)	111,860	84,833	61,523	44,744	22,372
Scope 1 - Stationary	41,860	18,679			
Scope 1 - Vehicles	4,219	11,775			
Scope 2 - Electricity	65,781	54,380			
Reduction Achieved (MTCDE) (%)		27,027 (24%)			



## Noise Management

Year	Number of Individuals Who Submitted Noise Comments
2011	349
2012	399
2013	390
2014	557
2015	693
2016	1,127

## Total Soundproofed Housing Units to Date around LAX

Location	Total Soundproofed Housing Units
El Segundo	1,943
LA County	3,904
Inglewood	7,428



## Material Resource Management

LAX Recycled Materials (tons)	2011	2012	2013	2014	2015	2016
Construction & Demolition Debris	8,996	10,825	9,615	13,282	20,179	405,360
Paper	7,423	5,581	8,067	8,207	1,516	675
Wood & Pallets	2,452	1,146	2,582	1,154	1,755	192
Biomass	229	341	394	349	146	59
Food & Grease Rendering	133	13	14	28	60	19
Glass	10	28	11	11	10	0
Plastic	558	829	765	859	873	389
IT Equipment (Recycled or Donated)	N/A	N/A	N/A	10	17	12
Metals	486	440	562	454	377	179
Others <sup>1</sup>	996	400	617	400	1,241	1,651
Tires	377	85	77	85	17	14

<sup>1</sup> "Other" category includes CPUs/monitors, jetfuel/engine oil, toner cartridges, textiles, and mixed recyclables.



## Sustainable Construction Practices

### Los Angeles World Airports LEED Building Projects

Project Name	Description	Square Footage	LEED Version	LEED Status	LEED Level	Completion Date
ARFF	Construction of Air Rescue and Fire Fighting Station 80	27,500	NC 2.2	Certified	Gold	Oct-2011
Bradley Renovations	Renovation of existing Bradley main terminal and demolition of old terminal buildings	277,084	CI v2009	Certified	Silver	Feb-2017
Bradley West	Design and construction of new terminal building, concourses, gates and surrounding aprons	1,215,925	NC v2.2	Certified	Gold	Apr-2015
Central Utility Plant (CUP)	Design and construction of the new plant that replaced the existing facility	88,814	CI v2.0	Certified	Gold	Jun-2015
Interim West Bus Terminal	Renovation of the TBIT bus terminal located on the new north concourse	42,743	NC v2.2	Certified	Silver	Mar-2013
Star Alliance Lounge (TBIT)	Air New Zealand passenger lounge; completed as a tenant project	18,000	CI v2009	Certified	Gold	Feb-2016
Terminal 6 Alaska Board Room	Renovation of Alaska Board Room; completed as a tenant project	4,666	CI v2009	Certified	Gold	Sep-2012
Tom Bradley International Terminal (TBIT)	First renovation of terminal	993,244	NC v2.1	Certified	Silver	Mar-2010
Midfield Satellite Concourse North	New multi-level concourse, associated aircraft parking aprons, taxiways/ taxilanes, and utilities	800,000	NC v2009	In progress	Silver	2019

### Permeable Pavement

Project Name	Year	Permeable Pavement Area (square feet)
Crossfield Taxiway Project	2010	73,000
MSC/PMO Parking Lot	2015	42,957
Taxi Holding Lot	2015	12,480
Access Gate Post 23	2016	25,000
Parking Structure 3 & 4	2016	6,000
<b>Total</b>		<b>159,437</b>



### Natural Resource Management

Year	El Segundo Blue Butterfly Counts
2011	111,562 - 116,474
2012	83,943 - 87,639
2013	43,492 - 45,406
2014	26,302 - 27,460
2015	24,559 - 25,641
2016	24,963 - 26,062

## VNY



## Economic Viability

Year	Aircraft Operations
2011	300,833
2012	259,132
2013	268,531
2014	232,931
2015	210,570
2016	213,721



## Energy Stewardship

Year	Total Electricity Use (kWh)	Total Natural Gas Use in Buildings (therms)
2011	4,048,286	23,620
2012	4,076,587	21,970
2013	3,844,591	17,399
2014	4,291,717	9,929
2015	3,830,647	9,485
2016	4,359,074	15,485



## Water Conservation

Year	Total Potable Water Use (gallons)	Total Reclaimed Water Use (VNY golf course) (gallons)
2011	6,933,730	40,982,172
2012	7,711,898	46,050,620
2013	14,244,164	52,633,020
2014	15,526,236	51,268,668
2015	8,878,012	54,739,238
2016	8,166,664	57,518,956



The front and back cover image is a rendering of the LAX Midfield Satellite Concourse (MSC), a state-of-the-art facility designed as an extension of the Tom Bradley International Terminal (TBIT). When complete in 2019, MSC will provide LAX with new gates, enhance guest experience with high-tech features, and add flexibility to accommodate airline tenants and passengers while other terminal upgrades are underway. **Read more about this project on page 37-38 of the report.**

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## Contributing Consultants



**Disclaimer:** LAWA obtained data from a wide variety of sources to generate this report. The report team was not able to verify available data sets by fully reviewing each individual primary document. It is possible that certain numbers may not be accurate. Lacking full verification of performance data numbers cited within this 2016 LAWA Sustainability Report should not over-ride or replace any previously published findings such as LA Economic Impact Analysis documents, LAX Community Benefits Agreement (CBA) progress reports, and LAX Mitigation Monitoring & Reporting Program (MMRP) reports.



Los Angeles World Airports

# Sustainability Report 2016