



2022

SUSTAINABILITY REPORT





LAX workers prepare Atlas Air cargo airplane for loading
©Brandon Tseng

Front cover photo: The Theme Building and Air Traffic Control ©Brandon Tseng

MESSAGE FROM CHIEF EXECUTIVE OFFICER



Dear Readers,

I am pleased to share with you the Los Angeles World Airports (LAWA) 2022 Sustainability Report for Los Angeles International Airport

(LAX) and Van Nuys Airport (VNY). The Report was developed by our Environmental Programs Division and summarizes LAWA's continuous efforts to make sustainability foundational to LAWA's culture.

The focus of the 2022 Sustainability Report is to highlight our efforts to provide and enhance sustainability across all LAWA modes of transportation. It also highlights our achievements and updates our progress toward LAWA's Sustainability Action Plan (SAP) targets developed in 2019.

Key highlights of LAWA's sustainability performance in 2022 include:

- Met 2025 goal of 15% reduction of energy use per passenger
- Increased Sustainable Aviation Fuel usage at LAX
- Met 2023 goal of 20% zero emissions bus fleet
- Met 2025 goal of 25% waste diversion
- Received the first delivery of unleaded aviation fuel for general aviation aircraft at VNY
- Received first train car delivery for the Automated People Mover (APM)
- Updated LAWA's Electric Vehicle (EV) Purchasing Policy requiring 25% EV sedan fleet by 2023 and 100% by December 2031
- Achieved Envision Gold for the APM
- Established the LAX Residential Sound Insulation Program RSIP to provide sound insulation for approximately 2,385 eligible units in El Segundo and City of Los Angeles communities near LAX
- Increased the number of acres irrigated with reclaimed water to 66.8% of all landscaped areas at LAX
- Received two awards for the LAX Economy Parking Facility, recognizing its innovative and unique design for sustainable construction
- Held and sponsored 65 community and employee engagement events

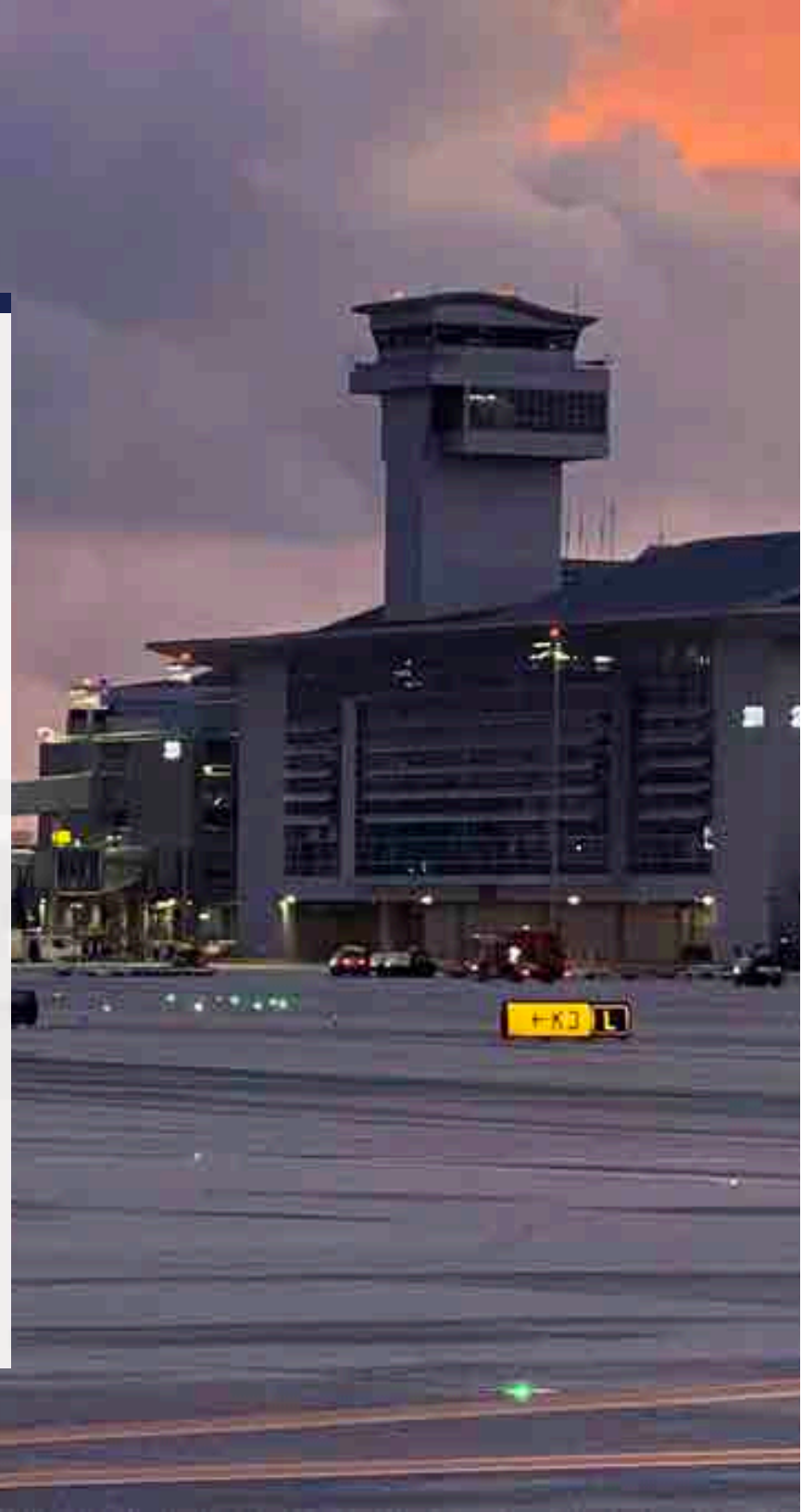
Several project milestones were celebrated in 2022, including the rehabilitation of Runway 16L/34R at VNY, Airport Carbon Accreditation (ACA) Level 3 certification for both LAX and VNY, the completion of the first major phase of the Delta Skyway at LAX (a collaboration between Delta and LAWA), and LEED Gold Certification of United Airlines' LAX Technical Operations Center. LAWA's success is credited to the dedication of our employees and tenants, as well as to our partnerships and support from local agencies, organizations, and business partners. I want to extend a special thank you to all our employees and partners who have helped LAWA reach our sustainability goals and milestones.

As always, we appreciate our passengers' and local communities' continued support and involvement throughout the year. We will continue to be a leader in sustainable aviation, driving our efforts towards making our airports greener and ultimately carbon neutral by 2045.

Justin Erbacci

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West Gates at Tom Bradley International Terminal (formerly Midfield Satellite Concourse North)
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- Matthew M. Johnson
- Nicholas P. Roxborough
- Karim Webb

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Also thank you to those we might have missed!

ACRONYMS

ACA	Airport Carbon Accreditation	EPD	Environmental Product Declaration	LPG	Liquid Petroleum Gas
ACBDE	Airport Concession Disadvantaged Business Enterprise	ESBB	El Segundo Blue Butterfly	LSBE	Local Small Business Enterprise
ACE	Aviation Careers Education	ESG	Environmental, Social, and Governance	MMBtu	Million British Thermal Units
ACI	Airports Council International	EUI	Energy Use Intensity	MMRP	Mitigation Monitoring and Reporting Program
ACI-NA	Airports Council International- North America	EV	Electric Vehicle	MSC	Midfield Satellite Concourse
AFV	Alternative Fuel Vehicle	FAA	Federal Aviation Administration	MTCO₂e	Metric Tons of Carbon Dioxide Equivalent
APF	Airport Police Facility	FQP	Fly Quieter Program	MW	Megawatt
APM	Automated People Mover	FY	Fiscal Year	NMT	Noise Monitoring Terminals
ART	Airport Response Team	GBP	Green Bond Principles	NOMS	Noise and Operations Monitoring System
ASQ	Airport Service Quality	GHC	Greenhouse Gas	NOx	Nitrogen Oxides
ATMP	Airfield and Terminal Modernization Project	GSE	Ground Service Equipment	PUPs	Pets Unstressing Passengers
BEV	Battery Electric Vehicle	HC	Hydrocarbons	PV	Photovoltaic
BMP	Best Management Practices	HVAC	Heating, Ventilation, and Cooling	QNP	Quieter Nights Program
BOAC	Board of Airport Commissioners	ICMA	International Capital Market Association	RSIP	Residential Sound Insulation Program
C&D	Construction & Demolition	ISI	Institute for Sustainable Infrastructure	RS-X	Receiving Station X
CAT	Credential Authentication Technology	ITF	Intermodal Transportation Facility	SAAP	Secured Area Access Project
CDIP	Coastal Dunes Improvement Project	kBtu	Thousand British Thermal Units	SAF	Sustainable Aviation Fuel
CEO	Chief Executive Officer	KPI	Key Performance Indicator	SAP	Sustainability Action Plan
CFR	Code of Federal Regulations	kV	Kilovolt	SBE	Small Business Enterprise
CIP	Capital Improvement Program	kW	Kilowatt	STEM	Science, Technology, Engineering, and Mathematics
CNG	Compressed Natural Gas	kWh	Kilowatt Hour	TBF	The Bay Foundation
ConRAC	Consolidated Rent-A-Car Facility	LA SAN	Los Angeles Sanitation & Environment	TMO	Transportation Management Organization
CPID	Coastal Dunes Improvement Project	LADBS	Los Angeles Department of Building and Safety	TSA	Transportation Security Administration
CTA	Central Terminal Area	LADWP	Los Angeles Department of Water and Power	USDA	United States Department of Agriculture
CUP	Central Utility Plant	LAMP	Landside Access Modernization Programs	USGBC	United States Green Building Council
DBIA	Design-Build Institute of America	LBE	Local Business Enterprise		
DCH	Design and Construction Handbook	LED	Light-emitting Diode		
DVBE	Disabled Veteran Business Enterprise	LEED	Leadership in Energy and Environmental Design		
EBEWE	Existing Building Energy & Water Efficiency	LNG	Liquid Natural Gas		

EXECUTIVE SUMMARY

The 2022 Sustainability Report highlights LAWA's initiatives and commitments to the environment, community, and economic growth of LAX and VNY. In 2022, LAWA continued to grow by advancing sustainability initiatives, workforce and community engagement, and the implementation of sustainable construction projects. LAX also returned to near pre-pandemic operations and passengers.



West Gates at Tom Bradley International Terminal
(formerly Midfield Satellite Concourse North)
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SUSTAINABILITY PERFORMANCE AT LAWA

Sustainability performance, goals, and targets at LAX and VNY are categorized under the following focus areas:



Corporate
Responsibility



Energy
Management



Water
Management



Air Emissions
Management



Material Resources
Management



Noise
Management



Natural Resources
Management

In 2022, passenger levels increased 37% and operations increased 10% at LAX over 2021 levels.



For the first time in LAWA's Annual Sustainability Report series, the Environmental, Social, and Governance (ESG) framework is incorporated as an element of the report, which are indicated with E, S, and G symbols.



As passengers and operations increased, water and energy use per passenger decreased, demonstrating increased efficiency across LAX facilities. While operations decreased 6% at VNY, other programs and initiatives continued to progress, such as the on-going implementation of new solar power projects.

Community and employee engagement remained high in 2022 as LAWA organized, hosted, or sponsored 65 events. LAWA advanced business diversity and local worker development through business participation initiatives and programs such as HireLAX. Sustainable construction moved ahead with projects such as Terminal 3 reopening, the APM and the Consolidated Rent-A-Car Facility (ConRAC) progressing among others, and many upcoming projects.

Several LAX projects acquired Green Bonds to finance sustainable construction. Green Bonds are awarded to projects aimed at increasing sustainability through the application of sustainable design features, identification of goals, and required reporting on annual progress towards meeting the project's objectives until Leadership in Energy and Environmental Design (LEED) or a sustainability rating system equivalent certification is obtained. The

Annual Sustainability Report was identified as the suitable place for LAWA to report on the progress of Green Bond funded projects and a section in this year's report has been dedicated to these updates.

LAWA was recognized with 23 awards in 2022 for its continued efforts on advancing sustainability.

Key successes from 2022 include:

- Reduction in stormwater pollutant concentrations within all LAX drainage basins (Dominguez, Argo, and Imperial Drainage Areas)
- Increase in EV charging stations to a total of 949 at LAX
- Acquisition of LAX's first electric heavy-duty truck
- First delivery of unleaded aviation fuel at VNY
- Launch of commuteLAX's Transit Pass Program
- Met 2023 goal of 20% zero emission bus fleet early
- Increase in LAX waste diversion rate
- Success with food waste diversion programs
- Significant removal of non-native plants from the LAX Dunes

ENVIRONMENTAL, SOCIAL, & GOVERNANCE

LAWA strives to be economically sustainable, inclusive, and socially and environmentally responsible through its design, construction and operations. Increasingly, airports and other organizations have begun to adopt the ESG reporting framework. The framework was developed to help innovate inter-capital investment programs, increase organizational efficiency, facilitate compliance, identify and mitigate risk, enable self-reflection on industry standards, and integrate purpose in organizational messaging. ESG frameworks are a valuable tool for investors and shareholders to analyze an organization's practices.

ESG reporting looks at key performance indicators (KPIs) to analyze an organizations performance commitment and innovation in environmental, social and governance topics. Historically, LAWA's Annual Sustainability Reports have included KPIs that fit into the ESG framework. For the first time, LAWA initiatives that fit into ESG categories are identified with E, S, or G icons, as shown above, alongside the metric or story throughout this report. The next page includes definitions of the three categories and examples from this year's Sustainability Report. While the majority of the Annual Sustainability Report incorporates environmental and social KPIs, additional information regarding LAWA's governance is incorporated within this section.



Look for the ESG icons throughout the report for metrics associated with LAWA's ESG reporting.



Governance

Executive Board Structure and Oversight

LAWA is a self-supporting department of the City of Los Angeles, which owns and operates two airports within its system: LAX and VNY. The Board of Airport Commissioners (BOAC) governs LAWA and includes seven members. Those on the BOAC are appointed by the Mayor of Los Angeles and approved by City Council to serve a five-year term. As of this publication, one seat is currently vacant. Current BOAC members include:



Beatrice C. Hsu
BOAC President



Valeria C. Velasco
BOAC Vice President



Vanessa Aramayo



Matthew M. Johnson



Nicholas P. Roxborough



Karim Webb



Airplane lands at LAX. © Brandon Tseng



Cargo is loaded into airplane at LAX. © Brandon Tseng



Airplane taxis at LAX. © Brandon Tseng

Airports Council International (ACI) developed the *Environmental, Social, and Governance (ESG) Management–Best Practice First Edition* guidance document for airports to implement and report on ESG metrics. The following are topics that are noted in ACI's report:

ENVIRONMENTAL

SOCIAL

GOVERNANCE

Topics identified in ACI's guidance document that are also included in this report include:

- | | | |
|---|---|--|
| <ul style="list-style-type: none"> ■ Energy Efficiency and Management ■ Water Efficiency and Recycling ■ Electrification and Decarbonization ■ Greenhouse gas (GHG) and Criteria Air Pollutant Measurement and Management ■ Materials Management | <ul style="list-style-type: none"> ■ Diversity and Gender Equity ■ Human Rights and Trafficking ■ Worker Health and Safety | <ul style="list-style-type: none"> ■ Executive Board Structure and Oversight ■ Codes of Business Conduct ■ Core Values ■ Risk and Crisis Management ■ Accountability and Transparency Policies ■ Financial Disclosure and Statements |
|---|---|--|

Some of LAWA's exemplary 2022 initiatives related to the ESG categories include:

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> ■ Reduced energy consumption (electricity & natural gas) per passenger—met SAP goal! ■ Reduced potable water use per passenger ■ Increased waste diversion rate—met SAP goal! ■ Increased LAX's zero emissions bus fleet—met SAP goal! | <ul style="list-style-type: none"> ■ Continued community and employee engagement activities throughout the year ■ Focused on job growth, career fairs, and hiring programs ■ Airport Police Department (APD) participation in the Los Angeles Regional Human Trafficking Task Force (LARHTTF) | <ul style="list-style-type: none"> ■ Increased total revenue generation at LAX by 21% and 5% at VNY ■ Awarded the Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association of the United States and Canada., the highest form of recognition for transparency and full disclosure in financial reporting |
|--|--|---|

CORE ETHICAL VALUES

BOAC adopted and LAWA continues to promote a series of ethical values to establish a standard set of expectations for LAWA employees and commissioners. These include:

Honesty

We support a culture that nurtures truth, sincerity, and openness.

Integrity

We uphold our personal conviction to the truth and we fulfill our obligations.

Respect & Collaboration

We promote human worth and the dignity of all, and foster partnerships of inclusion and cooperation.

Responsibility

We strive for excellence in performing our duties and cultivate a climate of shared accountability.

Public Trust

As one of our most significant responsibilities, we uphold the principles of open government including transparency in our decision-making, public disclosure, and public access.

Citizenship

We understand we are part of a larger community from which we benefit and, in turn, are obliged to promote and enhance this necessary collaboration.



Code of Business Conduct/ Office of Ethics

LAWA aims to promote a culture that upholds the highest standards of ethical conduct by encouraging honesty, integrity, and citizenship in accordance with applicable laws, policies, and procedures. The Office of Ethics is responsible for:

- Coordination and compliance with the City Ethics Commission
- Referral and resource for ethics inquiries and hotline
- Ethics and compliance training
- Enforcement of ethics violations
- Organizational ethics implementation

For more information about LAWA's Office of Ethics, please visit:

<https://www.lawa.org/lawa-governance/lawa-office-of-ethics>.



ACI's ESG Management Handbook



Nighttime photo of the TBIT.
© Brandon Tseng

Diversity and Equity

Diversity and equity is of utmost importance within the LAWA organization. Annual outreach efforts are conducted to various communities offering career and business opportunities.

In 2022,

250 employees

were hired for a total of

2,948 employees

employed by LAWA

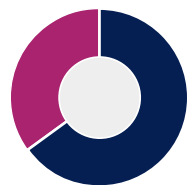
69 employees

retired

132 employees

were promoted

Total employee demographics included:



Male | 65%
Female | 35%



Hispanic | 39%

Black | 28%

Caucasian | 15%

Asian | 10%

Filipino | 5%

Other | 2.73%

American Indian | 0.27%

Risk and Crisis Management

LAWA is required to comply with the City of Los Angeles emergency preparedness Directives #15, #17, #18, and #19 as well as Title 14 Code of Federal Regulations (CFR) Part 139.325 Airport Certification Requirements for Emergency Incidents. It is vital to incorporate emergency preparedness and risk assessments to ensure the resilience of our transportation system and make LAWA airports a safe place for airport customers and the local community. LAWA utilizes working groups, committees, the Airport Response Coordination Center, alert and warning systems, operational coordination, planning/training exercises, interoperable communications, and threat/hazard identification to prepare for potential emergencies at LAWA airports.

LAWA partners in emergency response incidents include:

- LAWA employees
- Commercial, Private, and Cargo Air Carriers
- Service providers
- Concessionaires
- Federal, State, County, Local Government Agencies, and non-government organizations

In 2022, LAWA published the **Emergency Preparedness Guidance for Tenants at Los Angeles International Airport** which provides information to tenants on what to do in case of emergency, including contact information, reporting requirements, information sharing guidance, evacuation protocol, proper planning, and the identification of other airport resources to aid in an emergency.

Human Rights and Trafficking

Airport Police Department (APD) is part of the **Los Angeles Regional Human Trafficking Task Force**, whose mission is to increase identification of all forms of human trafficking, strengthen the investigation and prosecution of labor and sex trafficking cases, and address the individualized needs of trafficking victims through the provisions of comprehensive services in Los Angeles County. APD continues to work with local, state, and federal agencies and entities to eradicate human trafficking.



LAX Airport Operation Vehicle
©Brandon Tseng




AWARDS

In 2022, LAWA received 23 awards and recognitions for its operational and business practices as well

as for its success in innovation and sustainable design.



Corporate Responsibility

- Yvonne Wei, Management Analyst for LAWA's Rideshare Office, received a **40 Under 40 Award** from the **Association for Commuter Transportation** for her accomplishments in expanding commuteLAX which offers rideshare options for LAX employees.
-  LAWA was awarded the **Airports Council International—North America (ACI-NA) Environmental Management Award** for the development of the Custom Data Collection and Reporting System for Mitigation Monitoring and Reporting Program (MMRP). The award recognizes the MMRP's ability to track, monitor, and report on ongoing mitigation as well as help identify environmental impacts early on in the planning process.
-  **The Association of Environmental Professionals** awarded LAWA with its **Outstanding Environmental Analysis Award** for the Environmental Impact Report developed for the Airfield and Terminal Modernization Project (ATMP). The award recognizes LAWA's commitment to preparing high-quality and transparent documents.
-  LAWA was awarded the **Certificate of Achievement for Excellence in Financial Reporting** for the comprehensive annual report for FY2021 from the **Government Finance Officers Association of the United States and Canada**. This is the eleventh consecutive year LAWA has won the award which is recognized as the highest form of recognition in the area for transparency and full disclosure in financial reporting.
-  **The Public Relations Society of America** awarded LAWA as the first-place winner of the **Bronze Anvil Award in Executive Communication** at its annual conference and awards event. The award

recognizes LAWA's Chief Executive Officer (CEO) Messages series for its ability to spread information and keep LAWA connected.


- Business Traveler** named LAX the **Best Airport in North America**.
- At the **Western Winter Workshop**, LAWA was awarded the **Innovation Award**. The Award recognizes LAWA's advancement of the construction industry through the inclusion of innovative technologies in the \$15 billion Capital Improvement Program (CIP).
- LAWA BOAC Vice President Valeria Velasco was awarded with the **2022 Community Builder Award** at the **Airport Counseling Service's 22nd Annual Spring Into Well-Being Celebration**. Velasco was awarded for her community work, commitment to local neighborhoods, and involvement with the Rotary Club.
-  LAWA's iCARE Program was highlighted at the **South Bay Workforce Investment Board's 27th Annual Awards Ceremony** for its partnership that offers local residents paid training in guest experience.



LAWA team members receiving the ACI-NA Environmental Management Award
©LAWA

-  At the **LAX Coastal Chamber of Commerce Installation Awards Gala**, LAWA was named the **Chamber's Distinguished Partner of the Year**. This recognition comes after years of diligent work to foster strong community ties with the LAX Coastal Chamber and others in the surrounding communities.
-  LAWA received the **STAR Facility Accreditation** from the **Global Star Bio-risk Advisory Council** for cleaning, disinfection and infectious disease prevention protocols in facilities.
- LAWA received the **Health Accreditation** from **Airports Council International**.
- Ookla**, an internet intelligence company, ranked LAX for having the **6th fastest Wi-Fi speeds** out of airports in the United States and 8th fastest internationally. LAX has improved from 11th place nationally in 2017 when Ookla first began its ranking.
-  **Fluor Corporation** and its partnership with LAX was highlighted in a fact sheet released by the Biden-Harris Administration reporting on commitments toward equitable workforce development for infrastructure jobs. Fluor Corporation is hiring 30% of its workforce from the local community for its projects ongoing at LAX.
- Captains of Industry Award** was presented to VNY from **The Greater San Fernando Valley Chamber of Commerce**, which is awarded to long-time members demonstrating dedication and commitment to the Chamber of Commerce.

Energy Management


-  **2022 Sustainability Leadership Awards for Demand Response** LAWA's awarded/named Central Utility Plant (CUP) facility received second place for the award given by the **Los Angeles Department of Water**

and Power (LADWP). 6,000 kilowatts (kW) were saved over 2022 through the demand response program by increasing chilled water temperatures, running combustion turbine generators, and other voluntary energy savings measures throughout LAX.

Air Emissions: Smart Parking

-  At the **2022 National Parking Association's Annual Conference** held in September, the LAX Economy Parking Facility was recognized as the **Innovative Facility of the Year**. The award was presented to ABM Industries for its state-of-the-art smart parking system that will be implemented in all LAX parking structures. The smart parking system has features that allow for up-to-date tracking through a database of current parking options within the facility, online reservations, and available EV charging stations. In addition, the facility includes energy-saving fixtures, low-flow plumbing, drought tolerant landscape, dedicated spaces for EV or low-emitting vehicles, and the capacity to increase EV charging.
- The LAX Economy Parking Facility won the **National Award of Merit from the Design-Build Institute of America (DBIA)** for its utilization of unique design-build best practices. The facility was opened in October 2021 as the first major component of LAX's Landside Access Modernization Program (LAMP). It includes approximately 4,300 parking stalls with a total of 500 Level 2 EV charging stations.
- The **International Parking & Mobility Institute** awarded the LAX Economy Parking Facility an **Award of Merit** in the Stand-Alone Parking Facility Design Category. The Award recognizes the first of the LAMP to be opened for its innovation in parking and mobility.

Sustainable Construction

-  The APM won an **Envision Gold Award** for Sustainable Infrastructure from the **Institute for Sustainable Infrastructure (ISI)**. The APM scored highly among many Envision framework indications for its improvements in mobility, noise and vibration, minimization of light improvements, and others.
- Prix Versailles Airport World Title** was awarded to LAX for the West Gates at Tom Bradley International Terminal (formerly Midfield Satellite Concourse North). The Prix Versailles aims to promote interaction between the economy and culture and honors achievements in architecture worldwide that progress to help achieve this goal.
- LAWA received the **Civic Buildings Award** for the LAX Midfield Satellite Concourse (MSC) Project from the **Los Angeles Business Council** 52nd Annual Los Angeles Architectural Awards.
- DBIA—Western Pacific Region** awarded LAWA the **Region Award** at the Annual Design-Build Awards, recognizing the design and construction innovation for the newly opened Airport Police Facility (APF).



LAWA team members at the South Bay Workforce Investment Board's 27th Annual Awards
©LAWA

SUSTAINABILITY ACTION PLAN UPDATE

The SAP is the foundation on which sustainability actions are applied and tracked throughout LAWA's business practices, operations, community engagement, and environmental conservation. The SAP focuses on seven sustainability categories, each with goals and initiatives to guide LAWA through continuous implementation.

The following lists LAWA's seven sustainability categories, the corresponding SAP goals, and notable 2022 achievements toward those goals.

Bold items are SAP goals accomplished in 2022.

Note: Goals with a check mark ✓ have been completed in prior years and are ongoing initiatives for LAWA.



CORPORATE RESPONSIBILITY

- ✓ Continue to implement inclusivity requirements in LAWA contracts and monitor compliance.
- ✓ Develop and expand partnerships to promote a sustainable local workforce for the airport and airport-related projects.

2022 ACHIEVEMENTS

- Hosted or participated in **65** community events
- Increased contract values for local, small, and disabled business enterprises
- Over **300** graduates from the HireLAX Program



ENERGY MANAGEMENT

- ✓ Reduce energy use per passenger **15%** by 2025 over 2011 levels.
- Reduce energy use per passenger **30%** by 2035 over 2011 levels.
- Reduce energy use per passenger **65%** by 2045 over 2011 levels.
- Achieve **100%** renewable electricity by 2045

2022 ACHIEVEMENTS

- Achieved **20%** reduction in energy use per passenger ahead of target date
- Continued to expand solar projects across LAWA airports



WATER MANAGEMENT

Additional **25%** reduction in potable water use per passenger by 2025; **30%** by 2035

Increase recycled water use as a percentage of total water use **30%** by 2035

Eliminating potable water consumption for non-potable uses such as landscaping and the cooling towers by 2045

2022 ACHIEVEMENTS

- Continued to reduce potable water use per passenger towards goals for 2025
- Increased number of acres at LAX irrigated with reclaimed water to **66.8%** of landscape
- Implementation of LAX Stormwater Best Management Practices



NOISE MANAGEMENT

- ✓ Implement the LAX “Fly Quieter” Program
- ✓ Launch web-based noise portals for LAX and VNY
- ✓ Continue with the Sound Insulation Grant Program as funds are identified

2022 ACHIEVEMENTS

- Awarded **9** airlines with the “Fly Quieter” award at LAX
- Awarded **20** participants with the Friendly Flyer Award at VNY



AIR EMISSIONS MANAGEMENT

Carbon neutrality by 2045

- ✓ Achieve **20%** zero emissions bus fleet by 2023
- Achieve **100%** zero emissions bus fleet by 2030

2022 ACHIEVEMENTS

- Increased FlyAway Program Ridership
- Increased EV charging stations by **45%** at LAX
- Achieved **40%** zero emissions bus fleet ahead of schedule
- Updated LAWA's EV Purchasing Policy requiring **25%** of EV Sedans by 2023 and **100%** by 2031
- Increased Sustainable Aviation Fuel (SAF) usage at LAX
- Received first delivery of unleaded aviation fuel for general aviation aircraft at VNY



MATERIAL RESOURCES MANAGEMENT

- ✓ Achieve non-construction waste diversion of **25%** by 2025
- Achieve non-construction waste diversion of **50%** by 2035
- Achieve construction waste diversion of **90%** by 2025; **95%** by 2035

2022 ACHIEVEMENTS

- Achieved **44.8%** non-construction waste diversion ahead of schedule
- Updated Food Donation Policy, adding a business operational plan
- Updated Design & Construction Handbook to require tenants to consult with the LAWA Recycling Program on proposed waste management measures
- Implemented construction waste diversion requirements into the Project Requirements for future construction contracts



NATURAL RESOURCES MANAGEMENT

- ✓ Continue to strive for the natural addition of flora and fauna with no net loss of biodiversity in the LAX Dunes
- ✓ Implement invasive plant management in the El Segundo Blue Butterfly Habitat (ESBB) Restoration Area (HRA)
- ✓ Continue working to improve the Coastal Dunes Improvement Project (CDIP) area in northern section of the LAX Dunes
- ✓ Continue weeding and restoration activities

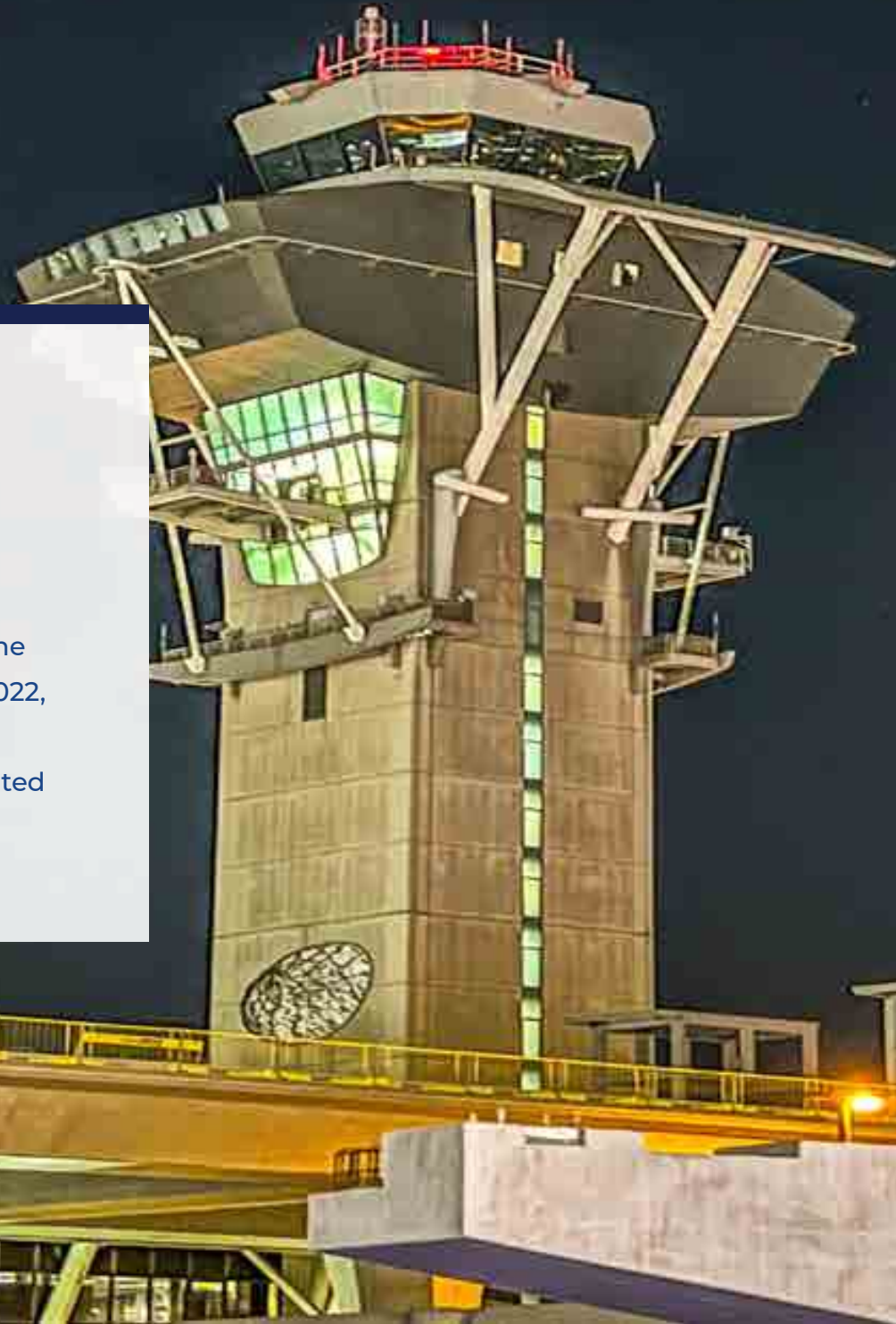
2022 ACHIEVEMENTS

- Completed annual El Segundo Butterfly survey
- Removed over **17,000** pounds of invasive plants



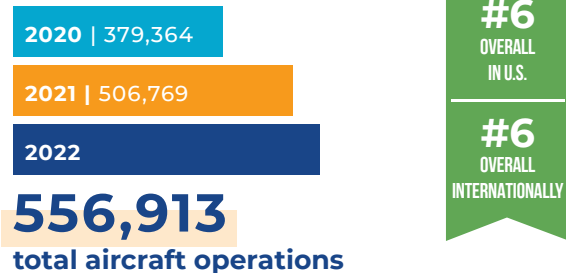
CORPORATE RESPONSIBILITY

Economic viability and social responsibility are at the forefront of Corporate Responsibility at LAWA. In 2022, LAWA continued to experience growth nearing pre-pandemic operational levels. LAWA demonstrated commitment to its employees, stakeholders, and passengers.

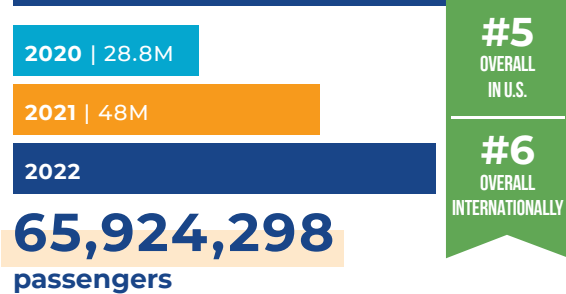


LAX

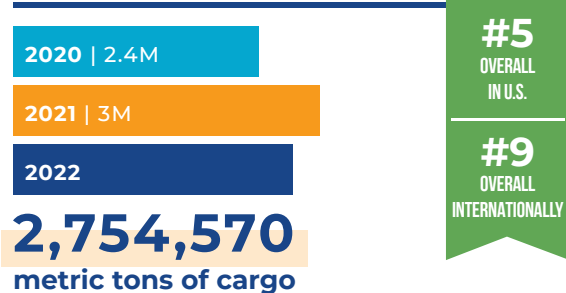
2022 LAX by the Numbers AIRCRAFT OPERATIONS



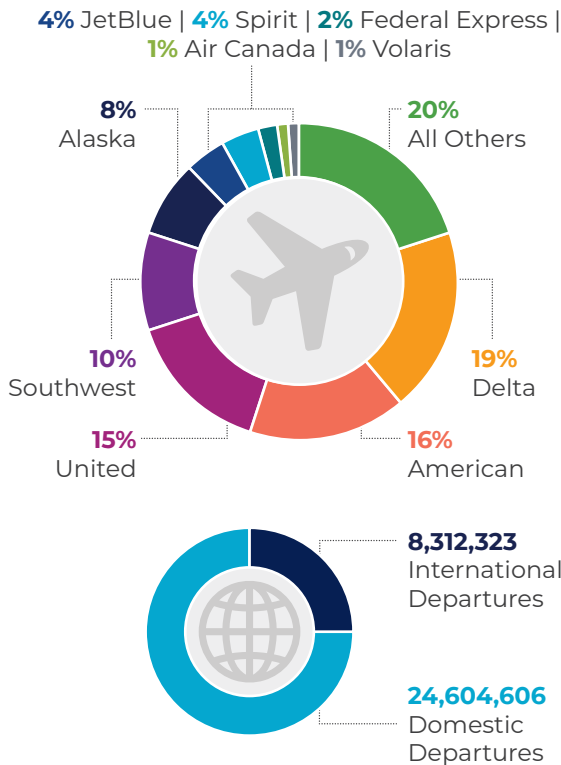
PASSENGER ACTIVITY LEVELS



AIR CARGO VOLUME



2022 AIRLINE MIX BY OPERATIONS (PASSENGER & CARGO)



AIRPORT SERVICE QUALITY

3.77 out of 5
Airport Service Quality (ASQ) Score

ACI's ASQ score is an airport passenger service and benchmarking program that helps airports understand how to improve business and passenger satisfaction. ASQ scores are based on check-in wait times, security checkpoint wait times, wayfinding, Wi-Fi, restroom cleanliness, food and beverage, and retail.

ORIGIN, DESTINATION, CONNECTING

81% departures on time
80% arrivals on time

#1 in the U.S. for **originating 1,324,394 domestic passengers**

KEY ECONOMIC DATA FOR LAX IN 2022



Total Revenue Generation	\$1,506,904,000
Total Expenses	\$732,370,000
Total Income	\$774,534,000
Total Outstanding Bonds for LAX	\$11,689,357,000
Debt Payments for LAX	\$496,344,000
Capital Reinvestment at LAX	\$1,061,962,000
Guest Experience and Guest Services at LAX	\$8,762,610
Environmental and Noise Programs	\$11,348,863
Safety and Security	\$148,590,102

LAX 2022 COMMUNITY EVENTS



LAWA is known for its high level of participation in community events. In 2022, LAWA hosted, sponsored, or participated in **65 events**. The timeline below demonstrates a select number of the community events held in 2022.



FEBRUARY

- LAWA partnered with the **Network for Teaching Entrepreneurship** organization to host **two virtual workshops for over 270 middle and high school students** from Environmental Charter High School, North Hollywood High School STEM Magnet and Silver Creek High School.
- LAX, in collaboration with Rum & Humble, a local concert production company, kicked off **LAX Presents**. This started with a spring through summer concert series with a performance from the **Gumbo Brothers** in Terminal 1.

APRIL

- LAWA, in partnership with Unibail-Rodamco-Westfield Airports, hosted a **Job Fair** at the Flight Path Museum in Los Angeles where **LAWA offered over 350 positions** for in-person hiring.
- LAX Presents** hosted Darynn Dean who performed in Terminal 7.

MAY

- LAX Presents** hosted **Leftover Cuties** who performed in the Grand Hall of Tom Bradley International Terminal.

JANUARY

- LAX opened **three new art exhibits** that feature work from local artists in Terminal 1, Terminal 7, and Tom Bradley International Terminal in partnership with the Los Angeles Department of Cultural Affairs.

LAX Police Officer reads in a local school for Read Across America Day
©LAWA



MARCH

- LAX joined in celebrations of **Read Across America Day** with a virtual aviation-themed program attended by **4,800 local students** from 34 school districts in pre-kindergarten through first grade.
- LAWA sponsored the **LAX Coastal Education Foundation Rock Roll & Run 5K**, a fundraiser for local LA schools.

- In early 2022, the mural **"Into the Blue"** was completed on the outside of the newly opened APF, which was painted by local artist **Francisco Letelier** in collaboration with Marybeth Fama.
- A large-scale abstract painting by **Renee Pretropoulos** donated by Fox Studios was unveiled in the Terminal 2/3 headhouse titled **"Just What is Your Position"**. This piece was commissioned by Twentieth Century Fox Film Corp.

JUNE

- More than 80 middle and high school students took part in LAX's first hybrid **Aviation Careers Education (ACE) Academy**, which offered a four-day virtual program and an in person fifth day session.
- LAX participated in **World Music Day** as a part of the *LAX Presents* Series. The celebration consisted of performances from pianist Tigran Hamasyan and multi-instrumentalist Daniel Ho in Terminal 7.
- LAX Presents* hosted **Daniel Ho** accompanied by **Hawaiian dancers** who performed at the West Gates at Tom Bradley International Airport (formerly Midfield Satellite Concourse North).

JULY

- LAWA participated in the **Annual LAX Coastal Chamber of Commerce Parade** in Westchester Park.

AUGUST

- LAX Presents* kicked off its fall and winter concert series with a performance from **Xocoyotzin Moraza** in Terminal 7.
- Four new art exhibitions** were opened in Terminals 2/3 in collaboration with the City of Los Angeles Department of Cultural Affairs.

OCTOBER

- A cohort of 16 California residents graduated from the **HireLAX Apprenticeship Readiness Program** which has prepared graduates to pursue construction trade apprenticeships.
- The First Flight Child Development Center reopened** since closing due to the COVID-19 pandemic. The center is open to children between 6 weeks and 5 years in age and offers innovative **STEM-focused activities**. The center provides cost effective local childcare and gives priority to LAWA employees and LAX tenant workers.
- LAWA held the **LAWA Vocational Worker Job Fair**.
- In 2022, **49 Pets Unstressing Passengers (PUPs)** events were held, comprising of **124.5 total hours and 49 active pups**. PUPs events included a Halloween Parade with PUPs in costume touring around LAX terminals.

NOVEMBER

- The **7th annual LAX Aviation Career Day** was held in person for the first time since 2020.

**SEPTEMBER**

- LAWA was a sponsor of the annual **Westchester Arts & Music Block Party**

**DECEMBER**

- LAX held its annual **Santa Fly-In** event and hosted more than **130 students** from local elementary schools. The event included a puppet performance, demonstrations of how K-9 canines perform their duties at the airport, dogs from the PUPs program to interact with students, and story books read to students by Santa.

Workforce Development

On September 29, LAX announced plans for an elevated dining and retail experience within the redesigned Terminal 3. Since LAWA requires all concessions to partner with the Airport Concession Disadvantaged Business Enterprise (ACDBE) program to increase minority participation, projects like the redesigned Terminal 3 are opportunities for minority-owned small businesses.



Local workers involved in active LAX projects total 11,163 and make up 30% of construction workers.

The redesigned Terminal 3 was opened to Delta passengers in October, ahead of schedule, as the COVID-19 pandemic allowed for expedited construction. Construction consisted of more than **4.5 million work hours** from **30.9% local workers**.

LAWA held its **LAWA Vocational Worker Job Fair** in November 2022. Over the course of one day, **201 interviews** were conducted with attendees from a local and diverse candidate pool. The Vocational Work program provides a pathway to city civil service with full-time, paid, on-the-job training job opportunities.

HireLAX has graduated

300+ students
from the 8-week program since its inception, leading to

200+ placements
in union construction positions in the five years the program has been around.

The **HireLAX** program has gained national attention, including a visit from U.S. Secretary of Transportation Pete Buttigieg this year for its success rate in providing specialized training to a diverse group of students in the LAX region.



Local/Small/Disabled Veterans Enterprise Program

LAWA is committed to providing equal opportunities to local, small, and disadvantaged veterans enterprises.

LAWA exceeded its pledged SBE, LBE, LSBE, and DVBE commitments in 2022.

“We must leave no talent on the table while building tomorrow’s infrastructure. HireLAX trains people who live in the community—especially women and people of color—for construction jobs at [LAX]. Programs like this are timely and needed across the USA”

—Secretary Buttigieg on Twitter after visiting with HireLAX students



Student works on assembly and repair of electrical outlet
©LAWA



In 2022, **28 TLC volunteers** served **123,249 passengers** over **4,153 hours** through the **LAX iCare** program.

LAX iCare Volunteers before holiday volunteer shifts
©LAWA



Guest Experience Programs

LAWA's iCARE program was developed to assist LAX team members provide upstanding service to its guests. In 2022, LAWA reintroduced the Team of LAXceptional Courtesy (TLC) employee volunteer program that hosted events on the 4th of July, Labor Day, and through the winter holidays. In partnership with the California Department of Rehabilitation and the South Bay Workforce Investment Board, disabled and other marginalized job seekers receive training and work experience to support future jobs in guest experience.

LAXceeders Program

The LAXceeders Program continued to provide guest services throughout LAX. The Program is for youth and young adults in local high schools or junior colleges and receive either course credit or pay for supporting LAX's information services.



Digital Experience

The Digitally Innovative Hudson Nonstop opened in December 2022 within Terminal 3 which allows guests to purchase items without waiting in line. The store uses technology which scans a user's credit card as they enter and uses cameras as they leave to determine what the customers bought and charge them, accordingly, expediting shopping time. The shop is also a minority and woman owned business in the LAX commercial program.

Credential Authentication Technology

Transportation Security Administration (TSA) launched new cutting edge passenger identification technology that uses facial recognition software through a **Credential Authentication Technology (CAT)** Unit to verify passenger identity. The CAT Unit expedites the verification of a passenger's identity, allowing them to hold onto their identification throughout the screening process.



Community Events & Business Development

The **We Fly as One Program**, a collaboration between LAWA and local Chambers of Commerce and Business Improvement District merchants, incentivizes LAX and VNY employees to shop at local businesses. The program expanded its list of participating companies in 2022, boosting sales opportunities to over **70 local businesses**.

The 7th annual **LAX Aviation Career Day** was held in person for the first time since 2020. **Nearly 1,000** local high school students attended the event to hear from pilots, airline representatives, federal aviation agencies, local first responders, and local community colleges and learn about aviation related career opportunities as well as opportunities to further their education. Four commercial aircraft were provided for student tours by American Airlines, Delta Air Lines, United Airlines, and JetBlue Airways.



VNY

2022 VNY by the Numbers

AIRCRAFT OPERATIONS

2020 | 232,039

2021 | 301,122

2022


283,690

total aircraft operations

Community Events

In 2022, Van Nuys introduced **Cups and PUPs** at the FlyAway terminal letting passengers meet and interact with the PUPS while enjoying a refreshment.

Workforce Development

 Local labor participation totaled **23% by headcount** and **38% by hours** for VNY construction projects.

KEY ECONOMIC DATA FOR VNY IN 2022



Total Revenue Generation	\$23,704,000
Total Expenses	\$18,842,000
Total Income	\$4,862,000
Environmental and Noise Programs	\$169,227
Safety and Security	\$3,483,295

The Greater San Fernando Valley Chamber of Commerce honored Van Nuys with the Captains of Industry Award for sustainable construction and advancement towards SAF over the last few years.





ENERGY MANAGEMENT

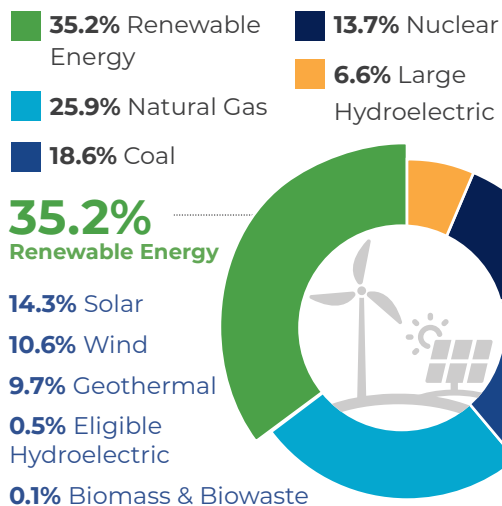
LAWA is dedicated to promoting the use of renewable energy and to conserving energy use throughout its facilities at LAX and VNY. Per passenger energy usage at both airports decreased since 2021, exceeding the SAP goal of a 15% reduction from 2011 levels ahead of schedule. LAX and VNY continued to engage in LADWP's Demand Response Program and LAX was awarded for achievements in energy saving measures through the program.

LAWA

Los Angeles Department of Water and Power's Power Grid

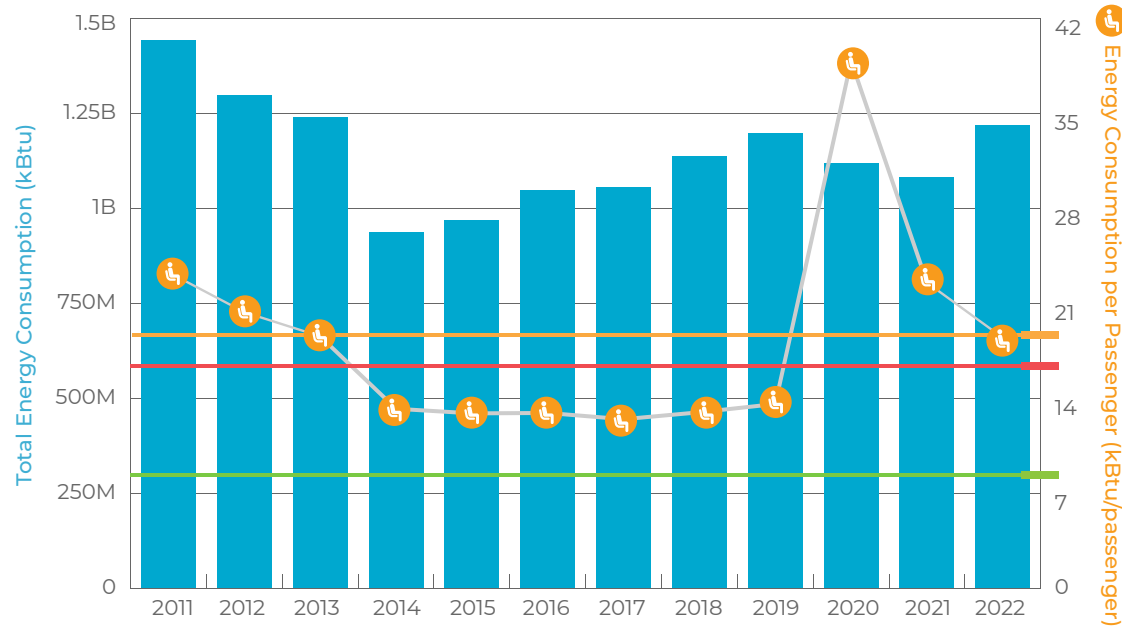
The LADWP power grid supplied both renewable and non-renewable energy to LAX and VNY in 2022.

In 2022, LADWP sourced its electricity from the following:



The Los Angeles City Council developed and approved an accelerated goal for all of the city's electricity production to be sourced from **zero-carbon energy by 2035**.

LAX TOTAL AND PER PASSENGER ENERGY CONSUMPTION



Note: Total energy consumption includes electricity and natural gas

SAP Energy Consumption Per Passenger Goals

- Additional 15% reduction from 2011 baseline by 2025
- Additional 30% reduction from 2011 baseline by 2035
- Additional 65% reduction from 2011 baseline by 2045

Los Angeles Department of Water and Power Demand Response Program

LADWP's Demand Response Program is a voluntary program which offers incentives to businesses for reducing utility bills during peak times. In 2022, LAWA participated in LADWP's Demand Response events by offloading or reducing electricity consumption at LAX by an average of **2,341 kW per event** (total of 10 events).



LAWA received nearly **\$117,410** in rebates for its participation.



LAX

Since 2011, energy consumption per passenger decreased by

↓ 20.7%

exceeding the SAP goal of a

↓ 15% reduction by 2025.

LAWA's CUP facility came in

2nd place

for the LADWP 2022 Sustainability Leadership Awards for Demand Response.

The airport **reduced energy** by

↓ 6,000 kw

over 2022 through the demand response program by increasing chilled water temperatures, running combustion turbine generators, and other voluntary energy savings measures throughout LAX.



Los Angeles Department of Buildings and Safety Existing Buildings Energy & Water Efficiency Program Ordinance

The Los Angeles Department of Building and Safety (LADBS) Existing Buildings Energy & Water Efficiency (EBEWE) Program Ordinance was established by Los Angeles Municipal Code Division 97 and implemented in 2017. The Ordinance consists of two parts:

- Benchmarking
- Audits and Retro-Commissioning

LAWA continues to adhere to the EBEWE Program Ordinance by conducting annual benchmarking, audits, and retro-commissioning to buildings subject to the ordinance.

Solar panels on the rooftop of the APM
©LAWA



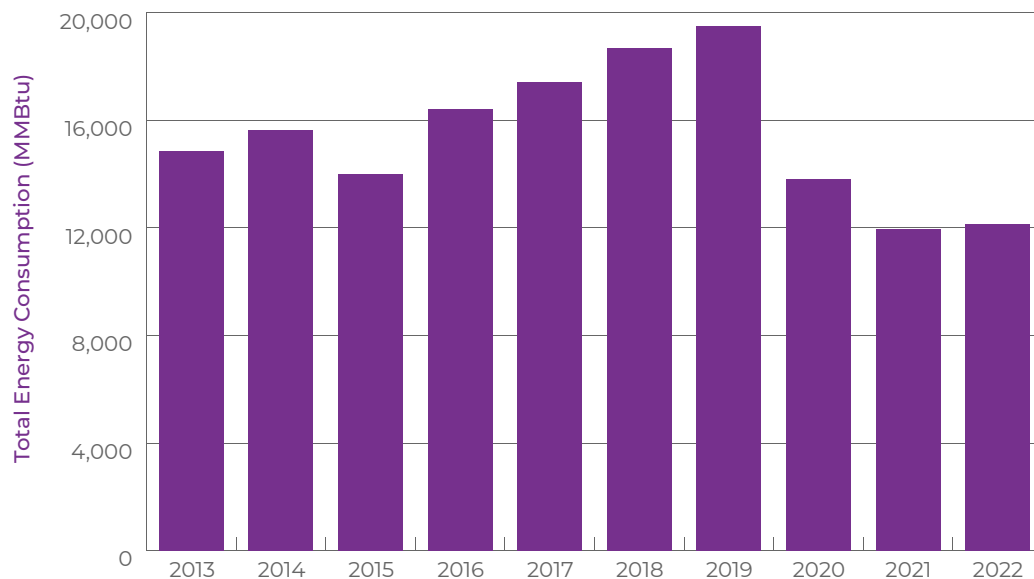
Receiving Station X

Receiving Station X (RS-X), which broke ground in 2020, was under construction throughout 2021 and was completed in May 2022. Construction was transferred to LADWP in 2022 for the final phase of completion. The RS-X will provide LAX with additional power reliability, redundancy, and capacity. It consists of a 4,800 square foot concrete, single-story building with a control room with transmission feeders to the 230kV LADWP transmission lines and electrical vaults, as well as distribution feeders from RS-X to LAX. The project provides additional resiliency, redundancy, and provides additional capacity in support of LAX's modernization projects.

"The safety, security and reliability of our airport is key for our guests and employees, and this includes ensuring we have reliable power at all times,"
—Justin Erbacci, Chief Executive Officer, LAWA.

VNY

VNY TOTAL ENERGY CONSUMPTION



Solar panels atop facilities at VNY. ©Aeroplex Group Partners

Renewable Energy Projects

Ongoing solar projects at VNY as of 2022 include:

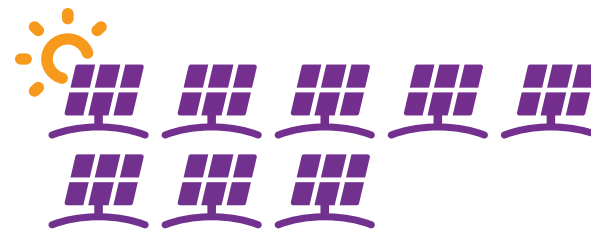
- » Pacific Aviation 3.00 MW | **6,569 panels**
- » Signature North 0.61 MW | **1,134 panels**
- » Signature West 0.49 MW | **907 panels**
- » Signature East 0.55 MW | **1,024 panels**
- » Jet Aviation 1.08 MW | **2,248 panels**

Completed Solar Projects in 2022:

- » **Castle & Cooke:** Completed in February 2022, installed **2,270 solar panels** on the roof of three hangars with a capacity of **0.91 MW**
- » **Signature Flight Support Midfield:** Completed in Fall 2022, installed **924 solar panels** on the roof of the hangar with a capacity of **0.41 MW**

Planned solar projects at VNY advertised in 2022 include:

- » Ground Mount Photovoltaic Solar Power System with a capacity of **10 MW**
- » Rooftop Photovoltaic Solar Power System for up to **8 rooftop locations** at VNY





WATER MANAGEMENT

Potable water consumption per passenger decreased in 2022, compared to 2021. LAWA further focused on improving the water quality of stormwater runoff and furthering its commitment to preserving local water quality.



LAX

Water Consumption at LAX

In 2022, LAX used approximately **454 million gallons** of water (potable and reclaimed water). Potable water accounted for **94.7%** of total water use.



Total potable water consumption per passenger at LAX **decreased 10%** from 7.2 gallons per passenger in 2021 to 6.5 gallons per passenger in 2022.

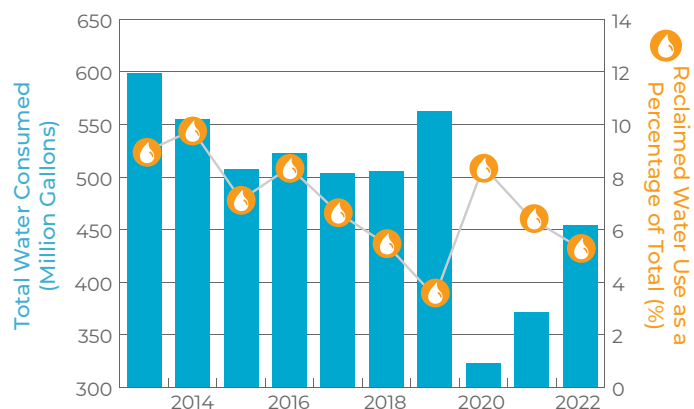
Reclaimed Water to LAX

In 2022, LAWA substantially completed the Recycled Water Extension Program, connecting LAX to LADWP's Conveyance Pipeline Project. LAX is ready to receive reclaimed water as it becomes available. Reclaimed water is used for irrigation, industrial, and non-drinking water purposes.

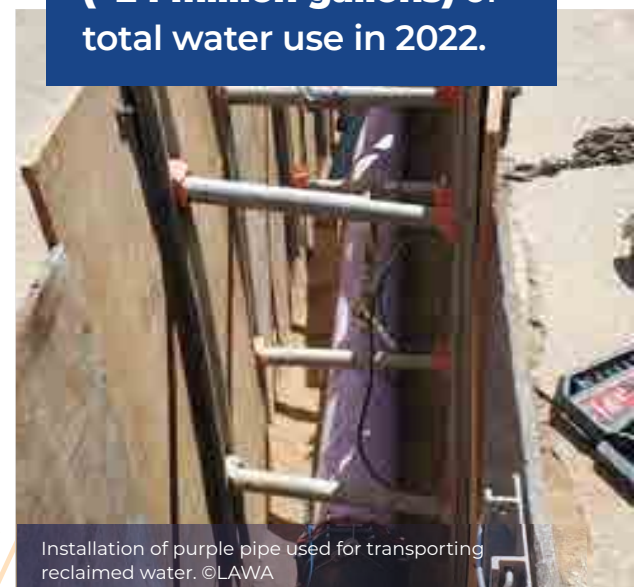
LAX TOTAL AND PER PASSENGER POTABLE WATER USE



LAX RECLAIMED WATER USE AS A PERCENTAGE OF TOTAL WATER USE



Reclaimed water accounted for **5.3%** (~24 million gallons) of total water use in 2022.





LAX Stormwater Best Management Practices

In 2021, LAX acquired and installed a combination of stormwater best management practices (BMPs), including drain inlet filters and Filtrexx® wattles, at 42 high priority, strategic locations associated with cargo and ground service equipment (GSE) facilities throughout the **Dominguez Drainage Area** to target and reduce metal contaminants in LAX's stormwater runoff. Ongoing maintenance and assessment of the BMPs during the 2021-2022 rainy season showed that the BMPs resulted in a total of

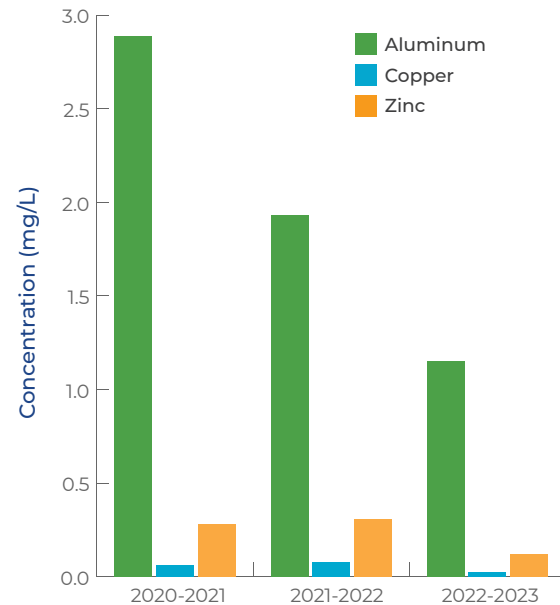
575 pounds

of trash, debris, and sediment

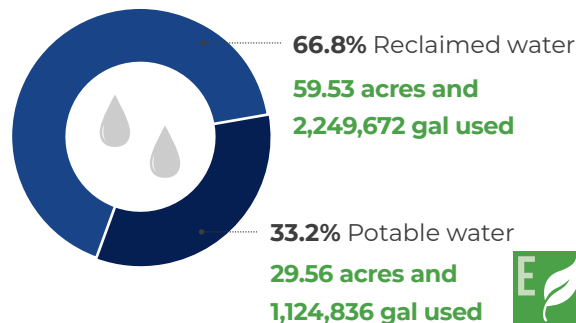
removed from drain inlet filters. Since the peak in the 2020-2021 rainy season, concentrations of aluminum, copper, and zinc in stormwater have decreased 40%, 70%, and 61% respectively due to BMPs.

Measurements of annual average quantities of aluminum, copper, and zinc have shown the impact of the BMPs in significantly reducing concentrations since the peak in 2020-2021 and has helped LAX reach its baseline status for copper and zinc.

ANNUAL AVERAGE CONCENTRATION OF METALS IN STORMWATER AT THE DOMINGUEZ DRAINAGE AREA

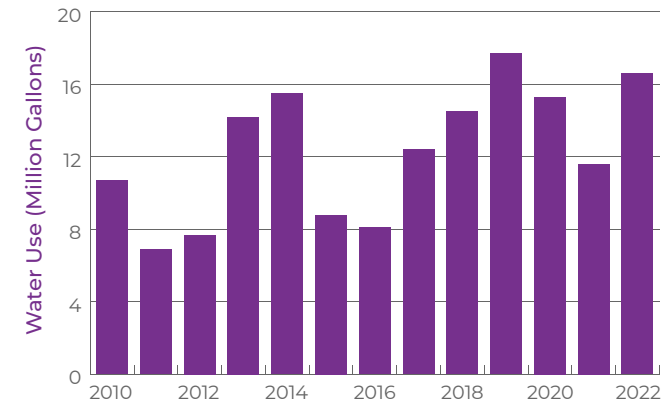


LANDSCAPE IRRIGATION AT LAX



VNY

VNY POTABLE WATER USE



The Jet Aviation Master Leasehold water treatment infiltration system remained in use in 2022. The infiltration system is designed to pretreat stormwater runoff, removing sediment, trash, and oil from stormwater. Pretreated stormwater is held in underground permeable storage units that have a capacity for a 50 to 100-year storm and allow for subsurface infiltration. Since 2016, the Jet Aviation Master Leasehold Water infiltration system has:

- ✓ Mitigated stormwater runoff for **53 acres** of VNY airport lease land
- ✓ **Infiltrated 1,200,000 gallons** of water into the water table



AIR EMISSIONS MANAGEMENT

LAWA strives to reduce GHG emissions and promote air emissions reduction initiatives by implementing and applying emissions management policies, installing EV charging stations, and encouraging rideshare opportunities for employees. In 2022, air emission reductions were seen at LAWA largely due to a rebound in rideshare and industry shifts towards EVs.

LAWA



Rideshare Program

In 2022, **14.2% of LAWA employees** used alternative modes of transportation, including transit, carpooling, or vanpooling; a 6% increase from 2021.

Through alternative modes of transportation, LAWA employees have saved a total of:

134,697

gallons of gasoline

3,068,691

vehicle miles traveled

2,639,039

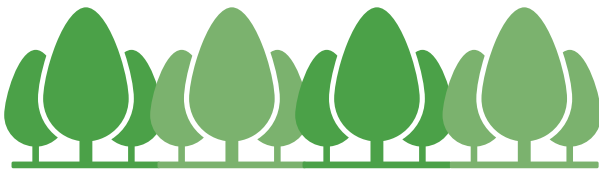
pounds of GHG emissions

(1,197 metric tons of carbon dioxide equivalent [MTCO₂e]).

Which is equivalent to carbon sequestered by

1,428 acres

of forest per year



Approximately one-third of LAWA employees have transitioned to a hybrid work schedule. These LAWA employees telecommute twice a week, reducing emissions from employee commute trips to the airport.

The LAWA Rideshare Office hosted **Rideshare Week** with snack tables, rideshare related trivia, prizes and information on how employees can commute sustainably.



commuteLAX

In alignment with LAWA's Mobility Strategic Plan and through LAWA's Transportation Management Organization (TMO), now called commuteLAX, LAWA published its first commuteLAX Fiscal Year (FY) Annual Report highlighting the program's goals, initiatives, and plans for the future. During the first year of the program, the following commute options were made available for LAX employees in coordination with LA Metro and the City of Inglewood:

- **Vanpool and Carpool**—64 LAWA Vanpool routes open



LAWA employees hold bags given out during LAWA Rideshare Week
©Melissa Molina

- **Metro Micro**—on-demand shuttle service reserved through a mobile app
- **iRide**—on-demand app-based shuttle service to LAX for employees that live in Inglewood and Lennox
- **Transit Planning**—online trip planner tool available to plan route as well as interest form for LAWA employees to receive support from commuteLAX staff in finding the most optimal route for their schedule and discounts for their selected route



FlyAway station at LAX
©Shirlene Sue

- **LAX FlyAway®**—monthly LAX FlyAway® passes offered to LAWA employees
- **Guaranteed Ride Home**—reimbursement program for LAX employees for up to two rides home per year through Metro's Guaranteed Ride Home Program
- **Bike to Work**—assistance from commuteLAX in finding the most optimal bike route and secure bike storage

In the fall, commuteLAX launched the **Transit Pass Program**, the first commute subsidy program for all LAX employees. If eligible, LAX employees can purchase monthly transit passes from commuteLAX at a discounted rate for work-related trips.

LAWA's goal is to reach

500

monthly participants

of the Transit Pass Program in the first year, but estimates that the program could grow to

4,000

monthly participants.



Going into 2023, LAWA plans to initiate carpool parking incentives with reduced monthly parking rates and preferred employee parking options, a two-year extension of current van leasing contracts

for hybrid vehicles, and to improve vanpool matching. The program will further track KPIs moving forward to include:

- Vehicle miles traveled savings
- GHG emissions reduced
- Mode shift
- Overall trips saved
- Ridership (vanpool/iRide)
- Gallons of gas saved
- Passenger feedback (iRide)
- Cost per trip (vanpool/iRide)

LAX FlyAway® Program

The FlyAway® Program served

1,461,838 riders

in 2022, up

↑ 45% from 2021.

- The program provides nonstop transportation between Union Station, Van Nuys, and LAX. The program reduced personal vehicle travel by **1,113,445 trips and 23,842,944 vehicle miles traveled**
- The FlyAway® Program saved **2,636 MTCO₂e**
- Van Nuys offered **128 trips per day**
- Union Station offered **80 trips per day**



FlyAway® bus pulls away from the Van Nuys FlyAway® Terminal
©LAWA

LAX



Electric Vehicles and Charging Stations

In 2022, the number of EVs charging stations throughout LAX **increased** from 265 chargers in 2021 to a total of 949 charging stations. LAX's goal is to achieve 1,327 charging stations by Fall of 2023. Over the course of the year, vehicles charged at the 557 charging stations in the Central Terminal Area (CTA) parking structures:

- Averaged a **1 hour 17 minute** charging time
- Generated a **revenue of \$106,875** from charging
- Granted **\$9,382 of discounts** to those using electric charging stations

EV charging stations at LAX included:

41,700 sessions
total offsetting

344,353
pounds of GHG emissions and

392,459 miles provided
via charging

Which is equivalent to carbon sequestered by

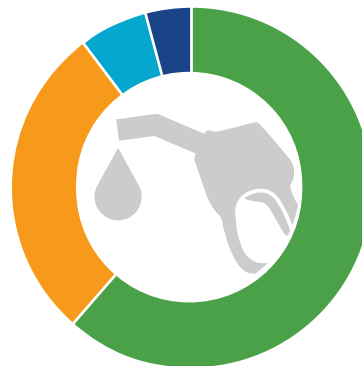
186 acres
of forest per year



LAWA team members receive a rebates check from LADWP for the electric bus charger project
©LAWA PR

LADWP awarded LAWA with **\$330,000 in rebates** for the electric bus charger project in 2022. The rebates covered 11 electric bus charging stations located across LAX.

2022 LAX Vehicle Fleet



60.7%

alternative fuel vehicles (AFV)

29.9%

gasoline vehicles

5.7%

diesel vehicles

3.7%

flexible-fuel vehicles



EV charging stations plugged into electric bus
©LAWA



Zero Emissions Bus Fleet

LAX has a total of 50 buses in its fleet including **20 electric**, **28 compressed natural gas (CNG)**, **1 diesel**, **1 gasoline**. LAWA's SAP identified a goal of 20% of LAWA's owned bus fleet to be zero emissions by 2023 and 100% by 2030. As of 2022, **LAWA has surpassed its 2023 goal with 40% of the LAWA owned bus fleet being electric.**



= 5 buses
 = electric
 = CNG
 = gas
 = diesel

GHG Emissions

Since 2013, **total GHG Emissions for Scope 1 & 2 decreased by 39.8% to 85,122 MTCO₂E**. While LAWA saw reductions in all types of Scope 1 & 2 emissions, the largest emissions reductions were attributed to vehicles and electricity.



LAX Vehicle Fuel Use

LAX celebrated the arrival of its **first heavy-duty electric truck**, a Nikola Tre battery electric vehicle (BEV). LAWA is the first government entity to acquire this model of truck which will be used to move heavy-duty equipment and transport construction materials.

Electric Vehicle Purchasing Policy

LAWA updated its EV Purchasing Policy in 2022. Updates included:

- **25%** of LAWA's sedan fleet to be EV by 2023
- **100%** of LAWA's sedan fleet to be EV 2031
- Pursue a **zero-emission first purchasing policy** for other light-duty vehicles in the fleet

Ground Support Equipment Emissions Policy Update

LAWA continues to achieve its GSE Emissions 2023 goal of less than 1.8 grams per horsepower-hours (g/hp-h) of hydrocarbons (HC) plus nitrous oxide (NOx).

LAX's first heavy-duty electric truck
©LAWA



The Nikola Tre BEV has a range of **330 miles on a single charge** and is anticipated to have significantly reduced maintenance and fuel cost compared to non-electric trucks of its size. The introduction of an electric heavy-duty truck demonstrates LAWA's overall commitment to creating an electric fleet.



New LAX zero emissions bus
©LAWA

For 2022, the aggregated GSE emission factor for LAX was

1.16 g/hp-h of NOx+HC

LAX GSE EMISSIONS GOALS

↓ **1.8** g/hp-h of NOx+HC by 2023
 |
 1.0 g/hp-h of NOx+HC by 2031



Carbon Emission Offsets

The Good Traveler program, launched in 2021 at LAX, allows travelers to purchase carbon emission offsets for their flights. The tool estimates the cost of offsets based on the distance traveled; as an example, offsets for a round-trip ticket from LAX to John F. Kennedy International Airport cost \$29.70 and offsets 2,745 pounds of CO₂. The Good Traveler program funds projects that lower carbon emissions such as sustainable tree plantings for carbon capture or investment in clean, zero-emissions wind energy production.

In 2022, LAX travelers offset 111 metric tons of CO₂ through the program.

Airport Carbon Accreditation Commitment

LAX achieved

Level 3

Airport Carbon Accreditation (ACA) Verification in 2021 and successfully maintained its status in 2022.

Renewable Diesel Demonstration Project

For 8 months in 2022, LAWA conducted a demonstration of **renewable diesel fuel** at LAX and VNY using 100% renewable diesel fuel. The demonstration included sixteen pieces of different equipment at LAX and VNY that were running on the renewable diesel to determine its GHG reduction potential and financial sustainability. The study found no discernible difference in operations from standard diesel and minimal cost difference. Full conversion to renewable diesel could have GHG reduction potential of **589 metric tons** per year.



Sustainable Aviation Jet Fuel

In 2022, **7.2 million gallons of blended 30% SAF/70% JET-A** was delivered to LAX which was an increase of 5.8% from 2021.

In November, **500,000 gallons of SAF** were delivered to LAX from Neste in cooperation with **LAXFUEL**, the consortium of airlines operating at LAX providing jet fuel infrastructure. **Neste MY Sustainable Aviation Fuel™** is composed of 100% sustainably sourced renewable waste, including used cooking oil and animal fats, and reduces greenhouse gas emissions by up to 80% during use (when used unblended). This is the largest delivery of SAF to LAX to date and will help create more opportunities for airlines and other operations to incorporate SAF into their fuel blend.

Transportation Network Companies

Transportation Network Companies (Lyft, Opoli, and Uber) eliminated

4,242 vehicles

through shared rides and eliminated

1,097,888 vehicles

through Rematch, a program that connects drivers dropping off passengers with new passengers to pickup without leaving the airport, reducing vehicle quantities, traffic and congestion in the LAX CTA.



EV charging stations outside of ConRAC
©LAWA

VNY



EV Charging stations

A total of 8 EV charging stations are available for users VNY. Signature Flight Support will install thirty-three (33) Level 2 EV charging stations at the Signature North/Jet Edge hangar facility with expected completion in 2023.

VNY Fleet

The VNY fleet remained unchanged from 2021 to 2022. AFVs accounted for **47%** of VNY's fleet in 2022, with 23 of the fleet's 48 vehicles operating using alternative fuels.

In 2022, fleet vehicles consumed **16,270 gallons of unleaded fuel** which is a **decrease of 11%** since 2021. Diesel fuel consumption from VNY fleet vehicles **decreased 48%** from 2021 consumption to 1,680 gallons.

GHG Emissions

From the baseline in 2013, Scope 1 and 2 emissions have **decreased 51.7%**. The reduction was primarily attributed to Scope 1 vehicles, which **decreased 61.4%** since 2013 from **404.6 MTCO₂E to 156 MTCO₂E**.

Airport Carbon Accreditation Commitment

VNY achieved

Level 3

ACA Verification in 2021 and successfully maintained its status in 2022.



Signature Flight Support's unleaded aviation gasoline fuel truck
©Christopher Mireles (LAWA)

In July, the first delivery of **unleaded aviation fuel** was delivered to VNY. The fuel is available for purchase for compatible piston aircraft. The introduction of the fuel was assisted by investments from Signature Flight Support and The Park VNY. In 2022, 5,200 gallons were received, and 2,378 gallons were sold.

Sustainable Aviation Jet Fuel

In 2022, Jet Aviation, Signature, and Clay Lacy delivered a total of 453,384 gallons of sustainable aviation jet fuel.

Unleaded Aviation Fuel

An 11 cents per gallon delivery fee for unleaded aviation fuel was waived at VNY, making the fuel more price competitive in comparison with other low lead aviation fuels. In addition, The Park VNY and Signature Flight Support have acquired tanks for unleaded aviation gasoline and Signature has purchased a mobile fueler.

Both of these developments have allowed unleaded aviation fuel to become more accessible and will help achieve the Federal Aviation Administration's (FAA's) goal of **all unleaded fuel for piston-powered aircraft by 2030.**



Air Emissions
Management





MATERIAL RESOURCES MANAGEMENT

In 2022, LAWA continued to implement waste reduction solutions outlined in its Zero Waste Roadmap. This included an increase in food donation and food waste recycling opportunities within the terminal areas at LAX, primarily through the expansion of the Organic Food Waste Recycling Program, conducted in partnership with Los Angeles Sanitation & Environment (LA SAN). A focus on organics collection has helped LAWA make significant strides toward statewide targets for reducing organics in landfills.

LAX



In 2022, **9,034 tons of commingled recycling** was collected at LAX. This waste stream is made up of paper, cardboard, glass, and aluminum collected from single stream recycling bins around LAX.

LAX Operations Waste Diversion

In 2022, LAX diverted

44.8%

of waste from entering its waste stream, excluding construction and demolition (C&D) debris exceeding the SAP goal of

25%

diversion by 2025.

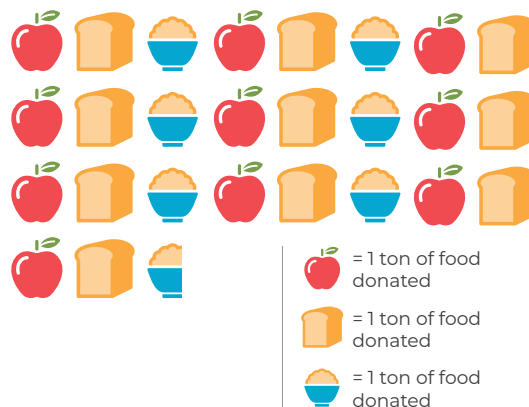
Project-Based Waste Diversion Requirements

The C&D contractual requirements for each CIP/LAMP project tracked in 2022 are:

- LAMP
 - » APM: 75%
 - » ConRAC: 75%
 - » Roadways, Utilities and Enabling Projects: 75%
- RS-X: 70%
- Secured Area Access Post Project (SAAP): 50%

The APM had a **86.2%** diversion rate for 2022.

In 2022, 26.8 tons of edible food were donated under the LAX Food Donation Policy.



Food Donation Policy

Originally adopted in 2020, LAWA updated its Food Donation Policy in 2022 to require LAX food businesses to adopt a formal operational plan detailing how they will avoid edible food disposal. Plans will include business specific practices and policies that will be implemented to reduce surpluses of edible food and/or set up food donation practices.



LAX Organic Waste Collection Program

In 2017, LAWA partnered with LA SAN to implement an organic food waste collection pilot with a selection of restaurants and concessionaires at LAX. The program allows restaurants and concessionaires to dispose of food waste separately, while LA SAN collects the food waste and transports it for processing and energy recovery.

LAWA expanded the program to all LAX lounge areas, diverting a total of

270.1 tons of food

or 5.2 tons per week, from the landfill.

22.5x

more food diverted than in 2021.

LAX On-Site Composting and Food Waste Reduction Program

In November 2022, United States Department of Agriculture (USDA) awarded LAWA \$300,000 in direct reimbursement for the purchase of an innovative organic waste aerobic composting system for on-site composting. This supports the implementation of the **LAX On-Site Composting and Food Waste Reduction Program**, which is a strategy in the Zero Waste Roadmap.

SUSTAINABLE CONSTRUCTION PRACTICES



LAWA continued work on numerous sustainable construction projects at LAX and VNY in 2022. VNY completed runway work using recycled materials and light-emitting diode (LED) lighting, while LAX made significant steps towards completing projects such as the APM and ConRAC which will increase the quantity of sustainable buildings at LAX. Recently completed projects at LAX, such as the Economy Parking Facility and West Gates at Tom Bradley International Terminal (formerly Midfield Satellite Concourse North), received awards and recognition for innovation in design.

LAX

All LAX construction projects are required to achieve a minimum of **LEED Silver** Certification from United States Green Building Council (USGBC)



Delta Skyway at LAX

Delta and LAWA are jointly investing **\$2.3 billion at LAX** to build a new state-of-the-art terminal by merging Terminals 2 & 3, and connecting the new terminal to Tom Bradley International Terminal. The new terminal will provide upgrades and enhancements to the customer experience. Passengers will have the opportunity to qualify with the TSA to use the latest facial recognition technology for a “hands-free” experience for departures from LAX. The project is scheduled for completion in 2023.

The Delta Terminal 2/3 Connection project recycled **over 75%** of construction waste



Ribbon cutting ceremony for the opening of Delta Skyway at LAX
©LAWA

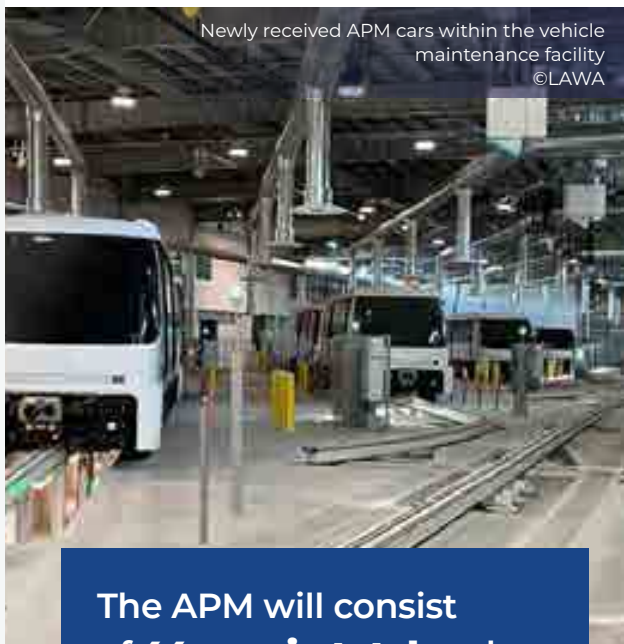
Project Highlights

- Anticipated to be completed 18 months early
- 3.2 million labor hours spent
- 31% of total labor hours from local hires
- 29% of spending with diverse suppliers
- All building systems meet CalGreen 2016 standards and will be LEED Silver Certified

Key Sustainability Features

- Low-flow water fixtures
- Use of low-emitting materials for interior spaces for good indoor air quality
- Implementation of a cool roof to reduce heat island effects and maximize air conditioning energy use

Newly received APM cars within the vehicle maintenance facility
©LAWA



The APM will consist of **44 cars in total** and during peak hours will arrive at each station **every 2 minutes.**

Automated People Mover

The first train car for the APM arrived in August. The train cars were constructed in Pittsburgh and have zero emissions and exteriors made from recyclable materials. The energy-efficient electric train cars have a regenerative braking system that converts kinetic energy lost during deceleration back in to energy used for onboard power demands. Once completed, the APM will reduce congestion on LAX roadways and provide connectivity to regional transportation modes.

Consolidated Rent-A-Car Facility

The ConRAC is a part of the LAMP and is scheduled to open in 2023. The facility will consolidate and streamline rental car operations, provide a direct connection to the APM and

reduce

↓3,200 daily

rental car shuttle trips.

The facility hopes to achieve a LEED Silver Certification and will feature native drought tolerant landscaping, reclaimed water usage, and solar panels to generate 8,400 MW annually.

Airfield & Terminal Modernization Project

The ATMP is a group of projects that will enhance LAX's airfield, terminals, and landside sites with a focus on Concourse 0, Terminal 9, airfield safety improvements, and an elevated roadway system. The project will reduce traffic congestion, allow for less aircraft idling therefore reducing air pollutant emissions, and provide connection to the APM train system and mass transit. Construction and operation phases will also create opportunities for local businesses and jobs for the community. The first projects were awarded construction contracts in 2022 with construction starting in 2023 and anticipated to be completed prior to the 2028 Olympics. It will be built to achieve LEED Silver Certification from USGBC.

Terminal Vertical Cores

The Terminal Vertical Cores are designed as new front door entrances for three LAX terminals. They allow for the vertical circulation of passengers as well as a direct connection to the APM. The three cores will be linked to Tom Bradley International Terminal, Terminals 5 & 6 (Terminal 5.5) and Terminal 7. Terminal 5.5 will be designed to earn LEED Silver Certification from USGBC.

Terminal Modernization

Terminals 4 and 5 are home to American Airlines, JetBlue, and Spirit Airlines. The modernizations of these terminals include a new Terminal Vertical Core, additional space for passenger amenities in Terminal 4, and improvements to Terminal 4's power systems. Direct, natural sunlight is a priority throughout the terminals and will help to reduce energy consumption. The project is designed to earn LEED Silver Certification from USGBC and was ongoing in 2022 with anticipated completion scheduled for 2028.

Terminal 6 Improvements

Projects included under Terminal 6 Improvements focus on enhancing the customer experience in gate areas, lounges, and passenger boarding bridges, as well as airside improvements. The project also includes improvements to the U.S. Customs and Border Protection's Federal Inspection Station and will modernize the TSA's Security Screening Checkpoint with additional lanes. The project was ongoing in 2022 and is expected to be completed in 2023.

AWARDS

- » The **APM** won an **Envision Gold Award** for Sustainable Infrastructure from the ISI. The APM is anticipated to open in the first half of 2024 and will serve around 30 million passengers a year. The APM scored highly among many Envision framework indicators for its improvements in mobility, noise and vibration, minimization of light improvements, and others.
- » At the 2022 **National Parking Association's** Annual Conference held in September, the **LAX Economy Parking Facility** (completed in 2021) was recognized as the **"Innovative Facility of the Year"**. The award was presented to ABM Industries for its state-of-the-art smart parking system that is being implemented in all LAX parking structures.

The smart parking system has features that allow for up-to-date tracking through a database of current parking options within the facility, online reservations, and EV charger availability. In addition, the facility includes energy saving fixtures, low flow plumbing, drought tolerant landscaping, dedicated spaces for EV or low-emitting vehicles, and the capacity to increase EV charging.

- » The **LAX Economy Parking Facility** won the **National Award of Merit** from the **DBIA** for its utilization of unique design-build best practices. The facility was opened in October 2021 as the first major component of LAX's LAMP. It includes approximately 4,300 parking stalls with a total of 500 level 2 EV charging stations.

- » **Prix Versailles Airport World Title** was awarded to **for West Gates at Tom Bradley International Terminal (formerly Midfield Satellite Concourse North)**. The Prix Versailles aims to promote interaction between the economy and culture and honors achievements in architecture worldwide that progress this goal. Each year twenty-four projects in eight different categories across the world are awarded for their design achievements in innovation, creativity, reflection of local heritage, eco-efficiency, and incorporation of social interaction. LAX was one of three airports in the world to win the award.

Upcoming Projects

Midfield Satellite Concourse South—

An 8-gate complex concourse comprised of 9 building segments and arranged on a north to south axis to provide the best natural light while enable passive cooling and energy conservation. Construction is expected to begin in 2023 and the facility is anticipated to be operational by 2025. It will be built to achieve LEED Silver Certification from USGBC.

VNY

Runway 16L/34R was reopened at VNY in August after around 6 months of work improving safety of airfield facilities.

The runway's base was reconstructed with

100%
recycled materials

and **167 iridescent lights were replaced by LED**, increasing visibility and reducing electrical demand.

VNY team members stand on Runway 16L/34R to celebrate the runway reopening after construction.
©LAWA





NOISE MANAGEMENT

LAWA's implementation of noise mitigation and abatement measures has shown positive impacts to surrounding communities at both LAX and VNY. LAWA furthered the LAX Sound Insulation Program by insulating additional homes and providing funding to eligible local schools. LAWA also completed the upgrade of its Noise and Operations Monitoring System (NOMS). LAWA continues to award airlines at LAX and aircraft operators at VNY through its Fly Quieter Program (FQP) and Friendly Flyer Program.

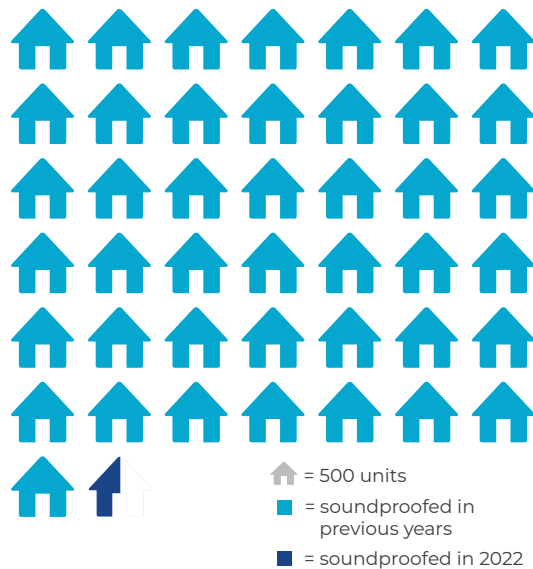


LAX

Sound Insulation

In 2022, an additional 320 homes were soundproofed in the cities of Inglewood and Los Angeles County, for a total of

21,875 homes
completed to-date.



LAWA launched the LAX Residential Sound Insulation (LAX RSI) Program to soundproof approximately **2,400 dwelling units** in the City of El Segundo, as well as those homes in the City of Los Angeles that did not participate in the prior RSI program. In May 2022, LAWA awarded a **\$35 million** project management/construction management contract to implement the new LAX RSI Program through 2029.

Fly Quieter Program

LAWA recognized nine airlines as winners of the 2022 LAX Fly Quieter Program (FQP). Airlines were divided into three different categories depending on the number of daily operations.

WINNERS OF 2022 LAX FQP

	CATEGORY 1 100+ Operations Daily	CATEGORY 2 5-99 Operations Daily	CATEGORY 3 1-4 Operations Daily
Gold 🥇	American Airlines	Volaris	Nippon Cargo
Silver 🥈	United Airlines	Avianca	Copa Airlines
Bronze 🥉	Delta Airlines	Spirit	Fiji Airways

The FQP encourages commercial airlines to comply with LAX noise abatement procedures and to implement voluntary measures to reduce LAX's noise footprint. The program promotes on-going airline education, awareness, and participation. LAWA evaluates each airline's noise score based on program criteria. The program has resulted in increased airline engagement with local communities through participation in the LAX/Community Noise Roundtable. It also recognizes certain airlines that participate in retrofitting their existing A320 aircraft with vortex generators to reduce noise during landing. In 2022, 3 out of 4 airlines (Spirit, JetBlue, and American) completed their A320 retrofit programs.



LAX/Community Noise Roundtable

Created in 2000, the LAX/Community Noise Roundtable provides an interactive forum where elected officials and representatives, members of recognized community groups, the FAA, airlines, and LAWA can identify and address noise issues associated with aircraft operations at LAX. The Roundtable meets six times a year and may schedule additional meetings as needed. Information about the Roundtable's efforts to address aircraft noise issues is available online at www.lawa.org/LAXNoiseRoundTable.aspx.


Noise and Operations Monitoring System Replacement

LAWA Noise Management uses an array of noise monitors and specialized software for flight track and noise analysis. LAWA completed its upgrade of the NOMS for LAX and VNY in June 2022. The upgrade included the latest version of Envirosuite's Airport NOMS software and the replacement of thirty-two noise monitoring terminals (NMTs); 25 at LAX and 7 at VNY. LAWA received Caltrans certification of the upgraded system in October 2022.



Noise monitoring
terminal at VNY
©Dan Yeung



VNY

In 2022, there were
3% fewer nighttime 
jet flights than in 2019.

Quieter Nights Program

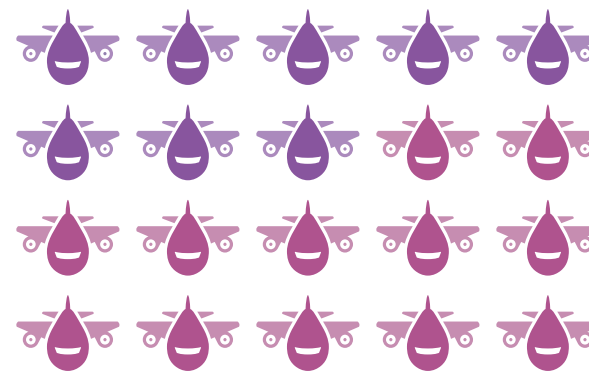
LAWA implemented the VNY Quieter Nights Program (QNP) in March 2020. The QNP is a voluntary program which encourages jet aircraft operators to avoid arrivals and departures at VNY between 11 p.m. and 7 a.m. whenever possible, unless the aircraft are involved in military, law enforcement, emergency, fire or air ambulance/life flight operations. LAWLA Noise Management continues its outreach and engagement with based and transient operators to promote noise abatement at VNY through the QNP.

Specifically, VNY received commitments from operators to avoid maintenance and repositioning flights during the QNP hours. Additionally, VNY staff attended the National Business Aviation Association Schedulers and Dispatchers Conference to engage with industry representatives on the QNP. To encourage participation, the program continues to be incorporated in the VNY Friendly Flyer Award Program.

	 NIGHTTIME JETS	 DAYTIME JETS	% OF NIGHTTIME VS. TOTAL JETS
2019	4,514	53,759	7.7%
2020	2,797	44,063	6.0%
2021	4,097	65,810	5.9%
2022	4,361	65,192	6.3%

Friendly Flyer Award Winners

Twenty aircraft operators earned the 2022 Friendly Flyer Award with 8 first-time winners, and 12 repeat winners. The program publicly recognizes jet aircraft operators who do an exemplary job following all VNY noise abatement policies and programs.



■ = first-time winners
■ = repeat winners



QNP promotional material
©Greg Lavender and Diana Sanchez



QNP signage on airfield blast fence
©Dan Yeung



NATURAL RESOURCES MANAGEMENT

In 2022, LAWA increased efforts to improve natural areas and protect local flora and fauna important to supporting biological diversity and natural functions. Restoration activities helped reduce the spread of invasive species and a new survey of the endangered El Segundo Blue Butterfly (ESBB) was conducted. LAWA continued to collaborate with the USDA to capture and safely relocate a variety of birds at LAX and VNY to prevent bird strikes.



LAX

El Segundo Blue Butterfly

The annual survey was conducted of the ESBB and the population was estimated to be

17,640 butterflies

LAX Dunes Restoration

In the 1980's, LAWA began restoring the LAX Dunes, which comprise 307 acres of coastal sand dunes located on the western portion of the airport. The LAX Dunes are home to over 900 species of native flora and fauna, including the federally endangered ESBB, and sensitive species such as the Southern California Legless Lizard and San Diego Horned Lizard.



Argo Ditch after the completion of the maintenance project
©Nebu John

After the completion of the Argo Ditch Maintenance Project, adjacent to Runway 6L/24R, the USDA worked with LAWA to help capture and release congregating birds to prevent bird strikes on LAX runways.

LAX Dunes Restoration Events

LAWA's partner, The Bay Foundation (TBF), completed its planting program by adding 4,000 plants in 2022 as a part of the Coastal Dunes Improvement Project (CDIP) in the northern section of the LAX Dunes as part of the ongoing restoration effort. Vegetation surveys conducted by TBF in 2022 show that restoration efforts in the area have been effective in reducing non-native cover. Additionally, survey results consistently show that there is higher native cover and lower non-native cover within the CDIP area when compared to outside areas.



Volunteers conducting invasive species removal at the LAX Dunes
©Nebu John

17,896 pounds of invasive plants were removed over the course of



13 events with a total of



302 volunteers working



650 hours




Since 2018, over

41,300 pounds

of non-native vegetation have been removed and

43% of invasive plant species removed to date occurred in 2022





GREEN BOND SECTION

In 2022, LAWA issued multiple Green Bonds, with an external review from an accredited provider of Second Party Opinions. The Green Bonds partially finance seven projects at LAX and each were evaluated by the verifier for conformance with International Capital Markets Association (ICMA) Green Bond Principles. LAWA issues Green Bonds in order to provide transparency for market participants around the intended uses of proceeds and features incorporated to reduce environmental impacts.



LAX

Green Bonds are any type of bond instrument where proceeds will be exclusively applied to finance or refinance eligible Green Projects which are aligned with the four core components of ICMA Green Bond Principles as follows: Use of Proceeds, Process for Project Evaluation and Selection, Management of Proceeds, and Reporting.



©LAWA PR

North Terminal Improvement Project (2022 Series G)

The North Terminal Improvement Project is a replacement and associated improvements of Terminal 3 in partnership with Delta Airlines. The Project includes a walkway connection to Tom Bradley International Terminal, access to the APM, new gates, and other passenger amenities. The Project will obtain LEED Silver at minimum through energy saving technologies, high efficiency LED lighting and sensors and the installation of low flow water fixtures. The Project consists of 40+ LEED Environmental Product Declarations (EPDs) and 20+ LEED Material Ingredient Products.

- **Status:** Anticipated completion Q4 2023
- **Energy Performance:** Will improve energy use by 7.4% from the baseline and improve energy cost by 26.3%
- **Waste Diversion:** To date, 90% of construction waste has been diverted
- **LEED Certification Status:** On track for LEED Silver Certification



©Bernardo Villarica

Terminal 5 and Tom Bradley International Terminal Vertical Core projects (2022 Series G)

The Terminal 5 and Tom Bradley International Terminal Vertical Core projects are aimed at allowing better mobility and connectivity between terminals with the APM. The Project will achieve LEED Silver at minimum through energy efficient designs, sustainable building materials, energy metering, and low-flow water fixtures. The Projects consist of 40+ LEED EPDs, 20+ LEED Material Ingredient Products.

- **Status:** T5.5—expected completion in Q3 2023; TBIT—expected completion in Q2 2024
- **Energy Performance:** Will improve energy use by 9.25% from the baseline and improve energy cost by 9.1%
- **Waste Diversion:** To date, 90% of construction waste has been diverted
- **LEED Certification Status:** On track for LEED Silver Certification



©LAWA

Terminal 4 Modernization Program (2022 Series G)

The Terminal 4 Modernization Program consists of activities within Terminal 4 where American Airlines currently operates. The Program consists of the consolidation of 30 gates to improve passenger mobility, the development of a new connection to Terminal 5, offices, central areas for ticketing, security, and baggage claim, and connection to the APM. The Program will achieve LEED Silver at a minimum through its anticipated reduction of indoor water use and purchasing of energy credits for at least 20% of the total building energy usage.

- **Status:** Terminal 4 anticipated completion by Q1 of 2028 and T4.5 vertical core completed Q4 2022
- **Energy Performance:** Terminal 4—8.98% energy use intensity (EUI) improvement, and 9.48% energy cost savings over baseline conditions, and commitment to purchasing Renewable Energy Credits with a 10 year commitment for minimum of 20% annual energy cost; T4.5 Core—Heat island reduction, advanced energy metering
- **Waste Diversion:** To date, Terminal 4—96% diversion; T4.5—91.87% total for project
- **LEED Certification Status:** Tracking LEED Gold Certification



©LAWA

Consolidated Rent-A-Car Facility (2022 Series A)

The ConRAC is a part of LAX's LAMP. The ConRAC will consist of over 200 EV charging stations and will include future capacity for up to 305 EV charging stations. The Project also includes the installation of efficient LED interior and exterior lighting, drought resistant landscaping, employee amenities such as bike racks, diversion of waste, and a solar array that will provide at least 60% of the building's energy needs. The Project will help alleviate traffic congestion by consolidating rental cars, and provide infrastructure to expand growing EV use. The ConRAC will achieve LEED Silver at minimum.

- **Status:** Anticipated completion in 2024
- **Total EV Charging Stations:** 234 Level 2 chargers as of December 2022
- **Total capacity of solar array** is 4.83 MW. 15,106 solar panels
- **Waste Diversion:** Goal of between 50% and 75%. To date, 83.66% waste diverted from landfill, +/- 14% recycled content of buildings
- **LEED Certification Status:** Tracking LEED Gold



©LAWA

Automated People Mover (2022 Series I)

The APM is a part of LAX's LAMP. The APM will provide a fully electrified train system connecting regional public transit, the ConRAC, and the CTA. The Project will eliminate 3,200 daily shuttle trips, alleviate congestion, improve mobility, and improve access to regional transportation connections. The Project received Envision Gold Verification and is anticipated to receive LEED Gold Certification.

- **Status:** Anticipated completion in 2024
- **Energy Performance:** On site photovoltaic (PV) array will supply just under 44% of the APM's operational energy
- **Waste Diversion:** 86.2%
- **LEED Certification Status:** Minimum of LEED Silver Certification



©Joshua Sudock

West Gates at Tom Bradley International Terminal (formerly Midfield Satellite Concourse North), (2023 Series A)

The TBIT West Gates Project opened in May 2021 and Green bonds refunded Subordinate Commercial Paper Notes that financed a portion of its costs. The Project achieved LEED Gold Certification and consists of a multilevel 15-gate concourse, to include gates equipped with ground powered and pre-conditioned air, low-flow water fixtures, efficient HVAC and lighting systems reducing energy usage by 29%, and plumbing to use reclaimed water for restrooms and other non-potable uses. In addition, more than 75% of construction waste was recycled.

- **Allocation of proceeds:** \$85 million
- **Energy Savings:** TBD*
- **Water Savings:** TBD*
- **Gates electrified:** 15
- **Square footage:** 750,000 sf



©LAWA

Bradley West and Terminal 4 Connector (2023 Series A)

Green bonds refunded prior bonds which financed a portion of the Bradley West and T4 Connector project and consisted of improvements to the TBIT and construction of a new Connector Building to join TBIT with Terminal 4. The Bradley West Project was opened in 2015 and achieved LEED Gold Certification. The T4 Connector was opened in 2016 and exceeded Green Building Code Tier 2 Requirements sent by the City of Los Angeles by 37%. T4 Connector includes space for circulation, baggage inspection fitted with energy efficient motors reducing energy consumption by 40%, security areas and an outdoor public plaza.

- **Allocation of proceeds:** Bradley West—\$80,085,000, T4 Connector—\$90,600,000, Series 2013A Bonds
- **Energy Savings:** TBD*
- **Water Savings:** TBD*
- **Gates electrified:** Bradley West—13 gates, T4 Connector—N/A
- **Square footage:** Bradley West—1,215,925 sf, T4 Connector—104,170 sf



LAWA BY THE NUMBERS



LAWA

CORPORATE RESPONSIBILITY

Key Economic Data for 2022 at LAX and VNY

	LAX 2022 (\$)	VNY 2022 (\$)
Total Revenue Generation	\$1,506,904,000	\$23,704,000
Total Expenses	\$732,370,000	\$18,842,000
Total Income	\$774,534,000	\$4,862,000
Total Outstanding Bonds for LAX	\$11,689,357,000	N/A
Debt Payments for LAX	\$496,344,000	N/A
Capital Reinvestment at LAX	\$1,061,962,000	N/A
Guest Experience and Guest Services at LAX	\$8,762,609	N/A
Environment and Noise Programs	\$11,348,863	\$169,227
Safety and Security	\$148,590,102	\$3,483,295

Note: Total of Operating Income before Depreciation and Amortization and Other Non-operating Revenue, net before Interest Expense.

Airports Council International Airport Service Quality Program

Category	Q4 2018 Score	Q4 2019 Score	Q4 2020 Score	Q4 2021 Score	Q4 2022 Score
Overall	3.82	3.79	4.11	3.81	3.77
LAX check-in wait times (at airline check-in)	4.10	4.10	4.31	4.01	4.13
Security checkpoint wait times	3.94	3.97	4.35	3.96	3.99
Wayfinding	3.96	3.93	4.19	3.12	3.85
Wi-Fi	3.67	3.74	3.87	3.79	3.64
Restroom cleanliness	3.78	3.87	4.10	3.55	3.72
Food and beverage	3.59	3.55	3.57	3.52	3.48
Retail	3.56	3.54	3.61	4.07	3.38

Note: All scores are out of 5.

Local/Small/Diverse Business Participation

Business Type	% Utilization	% Average Pledge
Small business enterprise (SBE)	37.6%	23.6%
Local business enterprise (LBE)	39.3%	9.1%
Local small business enterprise (LSBE)	17.4%	4.5%
Disabled veteran business enterprise (DVBE)	8.2%	2.8%
Disadvantaged business enterprise (DBE)	11.9%	N/A
DBE (Federal Contracts)	20%	16%

LAX

PASSENGER VOLUME, CARGO ACTIVITY, AND AIRCRAFT OPERATIONS

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
2017	84,557,968	2,389,474	700,362
2018	87,533,177	2,448,337	707,833
2019	88,068,013	2,313,247	691,257
2020	28,779,527	2,464,845	379,364
2021	48,007,284	2,974,073	506,769
2022	65,924,298	2,754,570	556,913

ENERGY STEWARDSHIP

Year	Total Energy Consumption (MMBtu)	Total Energy Consumption per Passenger (kBtu/pax)	Electricity Consumption (kWh)	Electricity Consumption per Passenger (kWh)	Natural Gas Consumption (therms)	Natural Gas Consumption per Passenger (therms)
2011	1,443,426.57	23.33	163,880,003	2.65	8,842,680	0.14
2012	1,298,672.47	20.39	173,698,818	2.73	7,060,121	0.11
2013	1,240,649.80	18.61	200,464,917	3.01	5,566,635	0.08
2014	937,727.59	13.27	204,947,976	2.90	2,384,451	0.03
2015	968,851.25	12.93	190,373,140	2.54	3,192,981	0.04
2016	1,048,815.54	12.96	167,221,670	2.07	4,782,552	0.06
2017	1,057,364.05	12.50	171,866,868	2.03	4,709,543	0.06
2018	1,138,869.69	13.01	184,727,253	2.11	5,085,803	0.06
2019	1,199,637.79	13.62	191,463,331	2.17	5,463,649	0.06
2020	1,120,015.06	38.92	164,585,042	5.72	5,584,509	0.19
2021	1,083,357.12	22.57	167,116,624	3.48	5,131,552	0.11
2022	1,220,338.37	18.51	186,636,714	2.83	5,835,339	0.09

WATER CONSERVATION

Year	Total Potable Water Use (gallons)	Potable Water Consumption per Pax (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	500,940,836	7.1	54,315,272	9.8%
2015	471,740,412	6.3	36,190,484	7.1%
2016	479,056,600	5.9	43,740,796	8.4%
2017*	470,707,424	5.6	33,553,036	6.7%
2018	478,642,208	5.5	27,532,384	5.4%
2019	543,405,544	6.2	19,499,612	3.5%
2020	281,587,592	9.8	27,119,488	8.8%
2021	347,543,988	7.2	23,620,344	6.4%
2022	429,861,388	6.5	24,085,600	5.3%

*Baseline year

AIR EMISSIONS MANAGEMENT

Vehicle Fuel Use

Year	Gasoline (gallons)	Diesel (gallons)	Propane (therms)	Liquid Natural Gas (LNG) (gallons)	CNG (gasoline gallon equivalent)	Total
2011	297,390	67,148	48,867	274,692	888,988	1,577,086
2012	299,056	67,073	54,463	310,416	870,820	1,601,828
2013	305,248	48,044	80,177	243,460	854,456	1,531,386
2014	295,868	51,764	85,444	248,998	860,830	1,542,905
2015	287,637	53,100	87,982	240,491	912,807	1,582,017
2016	281,328	54,598	84,559	237,460	846,200	1,504,145
2017	278,869	76,976	97,247	288,662	685,767	1,427,521
2018	256,964	83,760	84,519	273,454	910,541	1,609,237
2019	296,797	104,980	48,090	475,619	564,602	1,490,088
2020	236,832	55,305	19,660	129,398	837,169	1,277,913
2021	246,176	66,017	15,893	100,411	733,146	1,161,642
2022	247,816	68,245	20,632	91,830	770,288	1,198,811

LAX LAWA Fleet

Fuel Type	Percentage of Total Fuel
Gasoline	29.9%
Diesel	5.7%
Flexible-fuel	3.7%
CNG	33.0%
Fully Electric	20.7%
Hybrid Electric	2.3%
Propane	3.8%
Bifuel	0.2%
LNG	0.6%

Note: Totals may not add up to 100% due to rounding.

FlyAway® Program

Year	FlyAway® Program Ridership (riders/year)	FlyAway® Program Emissions Reduced (MTCO ₂ e)
2011	1,383,350	8,697
2012	1,435,180	9,135
2013	1,477,885	6,715
2014	1,576,945	7,073
2015	1,637,421	7,175
2016	1,620,991	6,997
2017	1,820,343	8,336
2018	1,920,082	3,674
2019	1,984,879	5,271
2020	634,277	Not Reported
2021	1,004,906	633
2022	1,461,838	2,636

Note: FlyAway® Program Ridership Emissions Reductions were not reported in 2020 as passenger levels reduced significantly due to route changes, social distancing, and LA's Safer-at-Home Order in response to the COVID-19 pandemic.

GSE Equipment Breakdown by Fuel Type

Year	Total Equipment	Diesel Equipment (% of total)	Electric Equipment (% of total)	Gasoline Equipment (% of total)	LPG/Propane/CNG Equipment (% of total)
2013	2,724	860 (32%)	999 (37%)	421 (15%)	444 (16%)
2014	N/A	N/A	N/A	N/A	N/A
2015	2,133	558 (26%)	848 (40%)	373 (17%)	354 (17%)
2016	2,603	619 (24%)	1,073 (41%)	614 (24%)	297 (11%)
2017	2,715	680 (25%)	1,052 (39%)	591 (22%)	392 (14%)
2018	2,608	670 (26%)	919 (35%)	690 (26%)	304 (12%)
2019	2,691	645 (24%)	925 (34%)	726 (27%)	395 (15%)
2020	2,642	585 (22%)	817 (31%)	834 (32%)	406 (15%)
2021	3,513	873 (25%)	1,047 (30%)	1,047 (30%)	546 (16%)
2022	3,563	872 (24%)	1,117 (31%)	970 (27%)	604 (17%)

GHG Emissions (MTCO₂e)

	1990	2015	2016	2017	2018	2019	2021	2022
Scope 1—Stationary Sources	41,860	18,679	20,591	22,760	29,601	30,965	32,798	30,834
Scope 1—Vehicles	4,219	11,775	7,711	9,316	9,885	7,169	5,063	3,992
Scope 2—Electricity	65,781	54,380	82,692	58,5392	58,697	56,728	44,338	50,296
Scope 3—Indirect	14,669,323	1,709,237	1,684,133	1,654,111	1,855,567	1,571,719	1,097,501	1,192,365



LAX Alternative Fuel Vehicle Requirement Program Breakdown by Fuel Type

Year	Total Vehicle Count	Bio-diesel	CNG	Diesel—Compliant	Diesel—Non-Compliant	Electric	Gasoline—Compliant	Gasoline—Non-Compliant	Hybrid	LNG	Propane
2016	1,290	3	409	183	226	41	224	125	5	6	68
2017	1,739	3	625	225	237	51	352	131	5	15	95
2018	1,758	3	571	465	0	51	554	0	6	17	88
2019	1,177	3	311	419	0	65	290	0	8	6	68
2020	1,137	2	386	331	0	11	318	0	8	12	116
2021	1,122	3	386	351	0	43	312	0	2	6	89
2022	1,369	8	384	358	0	45	422	0	2	15	133

MATERIAL RESOURCES MANAGEMENT

LAX Recycled Materials (tons)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Construction & Demolition Debris	8,996	10,825	9,615	13,282	20,179	405,360	391,123	129,008	0.0	59,993	6,300	6,005
Mixed Paper/Cardboard	7,423	5,581	8,067	8,207	1,516	675	286	1,197	1,485	—	—	7,280
Wood & Pallets	2,452	1,146	2,582	1,154	1,755	192	50	68	27	48	26	10.2
Biomass	229	341	394	349	146	59	96	37	4	—	0	780
Food & Grease Rendering	133	13	14	28	60	19	35	135	91	—	0	1,598.7
Glass	10	28	11	11	10	0	0	N/A	0	—	—	—
Plastic	558	829	765	859	873	389	428	392	0	—	—	—
IT Equipment (Recycled & Donated)	N/A	N/A	N/A	10	17	12	N/A	N/A	N/A	—	1.7	5.7
Metals	486	440	562	454	377	179	122	126	136	114	70	112
Others	996	400	617	400	1,241	1,651	1,217	616	691	839	1,013	1,754
Tires	377	85	77	85	17	14	15	20	16	6	0	12.1
Food Waste	—	—	—	—	—	—	68	100	139	86	12	297

Notes: Numbers as reported to LAWA's Environmental Programs Division.

"Others" category through 2017 includes CPUs/monitors, jet fuel/engine oil, toner cartridges, textiles, and mixed recyclables. "Others" category beginning in 2018 includes universal waste (motor oil, batteries, solvents, coolants, paints, and fluorescent lamps), and mixed recyclables.

SUSTAINABLE CONSTRUCTION PRACTICES

Green Building Projects at LAX to Date

Project	Description	Square Footage	Rating System	Certification Status	Level	Construction Completion Date
Tom Bradley International Terminal (TBIT)	First renovation of terminal	993,244	LEED NC v2.1	Certified	Silver	Mar-2010
Air Rescue and Fire Fighting (ARFF)	Construction of ARFF Station 80	27,500	LEED NC v2.2	Certified	Gold	Oct-2011
Terminal 6 Alaska Board Room	Renovation of Alaska Board Room; completed as a tenant project	4,666	LEED CI v2009	Certified	Gold	Sep-2012
Interim West Bus Terminal	Renovation of the TBIT bus terminal located on the new north concourse	42,743	LEED NC v2.2	Certified	Silver	March-2013
Bradley West	Design and construction of new terminal building, concourses, gates, and surrounding aprons	1,215,925	LEED NC v2.2	Certified	Gold	Apr-2015
Central Utility Plant	Design and construction of a new plant that replaced the existing facility	88,814	LEED CI v2.0	Certified	Gold	Jun-2015
Star Alliance Lounge (in TBIT)	Air New Zealand passenger lounge; completed as a tenant project	18,000	LEED CI v2009	Certified	Gold	Feb-2016
Bradley Renovations	Renovation of existing Bradley main terminal and demolition of old terminal buildings	277,084	LEED CI v2009	Certified	Silver	Feb-2017
Terminal 1.5	New construction of the New Passenger Processing Building for Southwest Airlines (between Terminals 1 and 2)	194,000	CAL Green Tier 1 LEED NC v2009	Certified	Silver	2020
United Airlines East Aircraft Maintenance and GSE Project	Consolidate and modernize existing aircraft maintenance and GSE facilities	410,000	LEED NC v4	Final Certification Review Underway	Silver Target	2021
West Gates at Tom Bradley International Terminal (formerly Midfield Satellite Concourse North)	New multi-level concourse, associated aircraft parking aprons, taxiways/ taxilanes, and utilities	750,000	LEED NC v2009	Certified	Gold	2021

Green Building Projects at LAX (continued)

Project	Description	Square Footage	Rating System	Certification Status	Level	Construction Completion Date
Intermodal Transportation Facility West	Four story, 4,300 stall parking structure, the first component of LAX's LAMP project. Will include 5,000 square feet of concession space and LAWA Security & Badging Office	1,700,000	CALGreen Tier 1	Complete	Tier 2 Platinum Target	2021
LAX Airport Police Facility	New construction of LAX Police Headquarters that includes police headquarters, parking structure, firing range	160,000 SF headquarters building, with 40,000 SF training facility and parking structure	LEED v4 BD+C: NC	In progress	Silver Target Tracking Gold	Construction complete 2021. LEED certification anticipated 2023.
American Airlines Terminals 4.5 Terminal Vertical Core	The Vertical Cores Project is the interface between the T4 and T5 and the terminal	605,948	Phase 1—LEED NCv4, T4/5 Interiors—LEED CIV4	In progress	Silver Target Tracking Gold	T4.5 construction completed Q4 2022; future phases through 2028
LAX Terminal Core APM T5.5	Passenger connection point between the APM, Terminal 5, and Terminal 6	99,000	LEED v4 BD+C: NC	In progress	Silver Target	Anticipated 2023
LAX Bus Yard	Relocation of the Bus Yard at LAX: 4,000 sq ft office building serving the bus employees and staff and a bus charging pad, charging the electric buses running for airport operations	4,000	LEED v4 BD+C: NC	In progress	Silver Target	On-hold
Automated People Mover Maintenance Storage Facility	Maintenance and storage facility to clean, store, and maintain APM vehicles	115,000	LEED v4 BD+C: NC	In progress	Gold Target	Anticipated 2023
ConRAC	New construction of a consolidated car rental facility	498,576	LEED v4 BD+C: CS	In progress	Silver Target Tracking Gold	Anticipated 2023
Delta T2/3—Delta Sky Way at LAX	Facility for Delta Air Lines and code share partners; Rebuild of Terminal 3 and renovation of parts of Terminal 2; Centralized security screening, consolidated baggage, and secure connector to TBIT	801,070	LEED NC v3	In progress	Silver Target	Anticipated 2023

Green Building Projects at LAX (continued)

Project	Description	Square Footage	Rating System	Certification Status	Level	Construction Completion Date
LAX Terminal Core APM TBIT	Interface between the APM and the TBIT	141,000	LEED v4 BD+C: NC	In progress	Silver Target	Anticipated 2024
Automated People Mover	Elevated electric train system that will transport travelers in and out of the LAX CTA	N/A—2.2 miles of elevated guideway	Envision V3.0	Complete	Gold	Envision Gold received 2022. Project completion anticipated 2024
Midfield Satellite Concourse South	South Concourse extension of West Gates at TBIT	Eight ADG III gates, 148,913 sf	LEED v4	In progress	Silver Target	Anticipated 2024
LAX Terminal 4 Modernization Project	Phased redevelopment of LAX terminals 4 and 5 for American Airlines	796,474	LEED v4 BD+C: NC	In progress	Silver Target	2028
Airfield & Terminal Modernization Project	Improvements to airfield, terminal, and landside focusing on Concourse 0, Terminal 9, airfield safety improvements, and an elevated roadway system.	Concourse 0: 650,000 sf Terminal 9: 1,400,000 sf	LEED v4	In progress	Silver Target	2028

NATURAL RESOURCES MANAGEMENT

Dunes Volunteering

Year	# Volunteers	# Lbs of Invasive Plants Removed	Year	# Volunteers	# Lbs of Invasive Plants Removed
2015	377	4,254 lbs	2019	774	8,939 lbs
2016	467	5,747 lbs	2020	119	500 lbs
2017	671	6,850 lbs	2021	56	7,230 lbs
2018	689	6,829 lbs	2022	302	17,896 lbs

Note: Prior to the LA Safer-at-Home Order, LAWA held dune restoration events, however events were put on hold on March 3, 2020 and restarted in October 2021, therefore the amount of trash removed in 2020 from the dunes decreased compared to other years.

VNY

AIRCRAFT OPERATIONS

Year	Aircraft Operations
2011	298,049
2012	263,948
2013	273,173
2014	238,618
2015	217,063
2016	220,228
2017	231,323
2018	262,903
2019	219,048
2020	232,039
2021	301,122
2022	283,690

WATER CONSERVATION

Year	Total Potable Water Use (gallons)
2011	6,933,730
2012	7,711,898
2013	14,244,164
2014	15,526,236
2015	8,878,012
2016	8,166,664
2017	12,402,588
2018	14,541,382
2019	17,740,316
2020	15,257,704
2021	11,636,636
2022	16,575,680

ENERGY STEWARDSHIP

Year	Total Electricity Use (kWh)	Total Natural Gas Use in Buildings (therms)	Total Energy Consumption (MMBtu)
2011	4,048,286	23,620	16,175.33
2012	4,076,587	21,970	16,106.90
2013	4,204,799	17,399	14,858.19
2014	3,960,424	9,929	15,636.85
2015	4,012,968	9,485	14,019.21
2016	4,359,074	15,485	16,422.28
2017	4,632,587	16,415	17,448.55
2018	4,917,200	19,284	18,693.59
2019	4,872,710	29,067	19,532.39
2020	3,497,391	18,916	13,824.70
2021	2,993,841	17,597	11,974.69
2022	3,066,464	16,727	12,135.48

AIR QUALITY

VNY Fleet

Fuel Type	Percentage of Total Fuel	Count
Gasoline	38%	18
Diesel	4%	2
Flexible-fuel	10%	5
CNG	21%	10

Fuel Type	Percentage of Total Fuel	Count
Fully Electric	19%	9
Hybrid Electric	2%	1
Propane	4%	2
Bifuel	2%	1

Greenhouse Gas (GHG) Emissions (MTCO₂e)

	2013 (baseline)	2014	2015	2016	2017	2018	2019	2021	2022
Scope 1—Heating	11.4	7.0	9.9	12.5	10.0	15.2	28.5	10	12
Scope 1—Vehicles	404.6	363.9	352.8	390.2	304.7	296	189.9	184	156
Scope 2—Electricity	94.8	88.7	87.2	73.8	76.3	144.3	100.1	190	79
Scope 3—Indirect	N/A	N/A	N/A	N/A	N/A	115,549	104,193	125,337	119,849



Central Terminal Area at LAX
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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 2022 LAWA Sustainability Report should not over-ride or replace any previously published findings such as LA Economic Impact Analysis documents, LAX CBA progress reports, and LAX Mitigation Monitoring & Reporting Program (MMRP) reports.



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