



Los Angeles
County
Aviation
Division
Sustainability
Plan

2020 Update

Prepared by:





WELCOME BACK!

In 2016, the County of Los Angeles Department of Public Works Aviation Division (Public Works) published its first-ever Aviation Sustainability Plan (2016 Plan). The 2016 Plan established a clear direction for the County-owned airports, identifying focus areas, general goals, and strategy recommendations for the next five years. It is also established guidance for integrating sustainability into development and improvements projects. The 2016 Plan aligned with County and regional objectives and planning efforts, incorporating a balanced lens to establish a roadmap for the five County-owned airports:

- › **Brackett Field Airport (POC)**
- › **Compton/Woodley Airport (CPM)**
- › **San Gabriel Valley Airport (EMT)**

- › **General William J. Fox Airfield (WJF)**
- › **Whiteman Airport (WHP)**

The purpose of this update is to assess progress and further elevate sustainability across the system of airports. The Aviation Sustainability Plan – 2020 Update (Update), builds

on the achievements made since the 2016 Plan and identifies updated strategy recommendations that will lead Public Works to a more sustainable and resilient future.



Public Works defines aviation sustainability as the balance of Economic Viability, Operational Efficiency, Natural Resource Conservation, and Social Responsibility, or “EONS”. This expansion of the commonly used triple bottom line (People, Profit, Planet) incorporates the unique aspects of airports, including key priorities like safety. Applying a balanced lens will help maintain the facilities’ roles as economic engines to the region and integral elements of the transportation network.

Figure 1 - Aviation Sustainability as defined by Airports Council International - North America

(Graphic created by C&S Companies)

FRAMEWORK

With input from Public Works and in alignment with County, regional, and industry priorities, the 2016 Plan included seven focus areas, i.e., those of high importance. These focus areas helped guide the 2016 Plan's development and, as shown in Figure 2, are aligned with the EONS framework. Validated through successful implementation of the 2016 Plan and carried forward to the Update, the seven focus areas for the County-owned airports are:

- › Airport Projects (i.e., development and maintenance of the airports)
- › Business Continuity
- › Climate & Resilience (previously Climate & Risk)
- › Community
- › Energy
- › Materials
- › Water

As presented in Table 1, at least one goal was established for each focus area. Rather than prescribing a desired "end state", the goals were intentionally flexible to encourage continuous improvement and adaptability. This

Table 1—Public Works Aviation Sustainability Goals

Focus Areas	Goals
Airport Projects	Integrate sustainability into major improvements or development projects.
Business Continuity	Ensure a revenue stream that will be resilient to future changes and emphasize strategic asset management and life cycle costing to reduce future maintenance costs.*
Climate & Resilience**	Minimize contributions to climate change through reduction of greenhouse gases (GHGs) and enhance the airports' ability to respond and adapt to future changes.
Community	Increase engagement with the surrounding communities and stakeholders, preserve or enhance benefits at the airports, invest in the local workforce, and increase customer satisfaction.
Energy	Reduce energy consumption and increase the percentage of energy from renewable sources.
Materials	Procure sustainable materials (e.g., regional, recycled, and rapidly renewable materials), reduce waste, and increase diversion from landfills.
Water	Preserve water quality and conserve potable water, particularly through landscaping measures.

*Resource reduction measures that reduce operational and maintenance costs are covered under resource-specific focus areas (e.g., energy)

**Changed from Climate & Risk, as included in the 2016 Plan

flexibility paid off, as Public Works has been able to prioritize measures that make sense regardless of the situation while still contributing to their sustainability objectives.

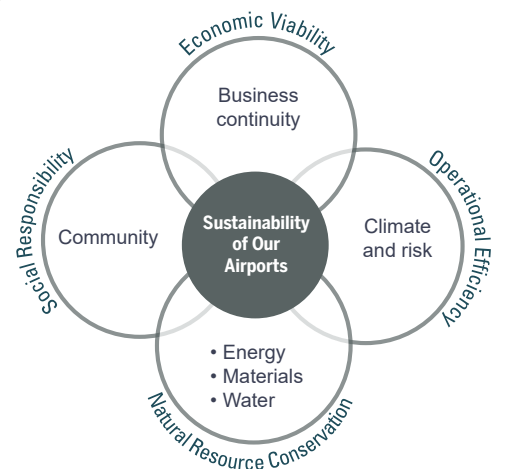


Figure 2 - Public Works Aviation Sustainability Focus Areas



COUNTY ALIGNMENT

Since the 2016 Plan was published, the Los Angeles Countywide Sustainability Plan – OurCounty – was released. Many of the goals and targets align with the Aviation Sustainability Goals described above, showing great potential for the airports to contribute to OurCounty. See examples in Table 2.

Table 2—Alignment with OurCounty Targets

Relevant OurCounty Targets	Aviation Focus Areas	Aviation Goals Alignment
<ul style="list-style-type: none"> › All new buildings and 50% of major building renovations to be net zero carbon › Increase the total land area covered by cool surfaces by 10% 	Airport Projects	Public Works seeks to integrate sustainability into its projects through measures such as minimizing paved surface coverage in new on-airport development and reducing airport building and infrastructure carbon emissions.
<ul style="list-style-type: none"> › 30,000 living wage job placements from County Workforce Development programs 	Business Continuity	Airports support continued employment on site and across related industries.
<ul style="list-style-type: none"> › Achieve a 25% reduction in GHGs › 5,000 EV charging stations at County facilities › 100% of non-emergency light duty vehicle purchases to be zero emission vehicles 	Climate & Resilience	Public Works seeks to reduce GHG emissions associated with airport operations through measures such as the transition to alternative-fuel and zero-emission vehicles.
<ul style="list-style-type: none"> › 30,000 living wage job placements from County Workforce Development programs 	Community	Provide living wage income levels for all Public Works employees and prioritize hiring through County Workforce Development programs.
<ul style="list-style-type: none"> › All County facilities to be powered by 100% renewable energy › Building energy use intensity reduced by 15% 	Energy	Reduced energy consumption and expanded renewable energy use feed directly into the County goals.
<ul style="list-style-type: none"> › Decrease per capita waste generation by 25% › Reduce organic waste to landfills by 75% › 80% of waste diverted from landfills 	Materials	Public Works seeks to reduce airport waste and increase diversion from landfills.
<ul style="list-style-type: none"> › Per capita water demand does not exceed 120 gallons per day 	Water	Public Works aims to conserve potable water and therefore reduce water demand within the County.

The above alignment with OurCounty goals reaffirms the validity of the 2016 Plan’s goals, which are therefore maintained..

While quantitative metrics were not available for all focus areas, the 2016 Plan documented baseline performance/conditions, where possible. Strategies to help meet the Aviation Sustainability Goals were

determined and selected based on a number of resources. With Public Works input, these were then screened and prioritized to result in high-value, implementable recommendations for the next five years.

The County also has established policies for sustainability in the design and construction of capital projects. All new facilities greater than 10,000

square feet are required to achieve Leadership in Energy & Environmental Design (LEED) Gold certification, and all retrofits are required to pursue certification. In addition, the County adopted the Institute for Sustainable Infrastructure’s (ISI) Envision rating system for infrastructure projects.

OUR AVIATION FOCUS AREAS



Public Works made quick progress in implementing effective sustainability measures from the 2016 Plan. As a result of this progress and the ever-changing nature of operating a system of airports, Public Works saw the value in proactively advancing its sustainability efforts. The Update provides a revised set of sustainability actions, which have been developed through an assessment of progress since the 2016 Plan, coordination with Public Works, the incorporation of new trends and opportunities, and a review of new and relevant resources. Each of the seven focus areas is addressed below on a summary page that documents the related goal, progress and recent highlights, and a summary of the updated associated actions.

Actions

ID	Action
Airport Projects - 1	Roll out Microsoft Project among staff for improved efficiencies and project delivery. Maximize use of remote collaboration software.
Airport Projects - 2	For all new or improved building projects, follow County's LEED policies and include these requirements for tenant projects. Consider Envision for infrastructure projects.
Airport Projects - 3	Where LEED does not apply, use the Sustainability Toolkit for Non-LEED Projects.
Airport Projects - 4	For major projects involving an alternatives assessment (e.g., for a pavement design), require the identification and prioritization of life cycle costs over capital costs in the design scope.
Airport Projects - 5	Incorporate sustainability criteria into approval process for tenant improvements and establish tenant improvement guidelines.
Airport Projects - 6	Clearly define sustainable design goals in requests for qualifications (RFQs), requests for proposals (RFPs), and bid review criteria.
Airport Projects - 7	Develop and implement standardized tracking forms and guidelines to document all sustainable construction activities and tie contractor submittals of these tracking forms to payments.
Airport Projects - 8	Discuss the project sustainability objectives during contractor and consultant outreach for all projects and request input.

AIRPORT PROJECTS

Goal

Integrate sustainability into major improvement or development projects

Progress

Public Works identifies and manages the capital projects at the airports, while design and construction is typically outsourced. All projects must fulfill environmental compliance requirements under the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). In addition, they must meet the County sustainability policies for the LEED and Envision rating systems (see County Alignment section). In coordination with the 2016 Plan, Public Works developed the Sustainability

Toolkit for Non-LEED Projects (Toolkit), which further identified requirements and priorities for the design and construction of all airport infrastructure projects. The Toolkit has since been used to support sustainability integration into projects at the airports.

Envision-Awarded Airfield Project

Public Works successfully applied the Toolkit to the Runway Reconstruction Project at General William J. Fox Airfield. As a result, the project made an early commitment to sustainability and ultimately achieved an Envision Bronze award. It was the first Envision award granted to a project at a General Aviation airport in the United States. A sustainability charrette was conducted at the onset of the project, setting a great foundation for sustainability integration. See the Institute for Sustainable Infrastructure's article for more information on the project: <https://sustainableinfrastructure.org/project-awards>. Lessons learned from this project helped to inform updates to the Sustainability Toolkit for Non-LEED Projects.

BUSINESS CONTINUITY

Goal

Ensure a revenue stream that will be resilient to future changes and emphasize strategic asset management and life cycle costing to reduce future maintenance costs.

- › Reducing material waste, including an emphasis on paperless processes; and,
- › Completing a Rent and Fee study to ensure rates are consistent with regional and industry norms.

Progress

Since the 2016 Plan's development, Public Works has implemented a number of measures to enhance the economic viability of the airports and reduce operating costs, such as:

- › Diversifying revenue sources, providing leasing opportunities on land or in facilities not needed for aeronautical purposes;
- › Transitioning to energy-efficient equipment and lighting;

Preventative Maintenance

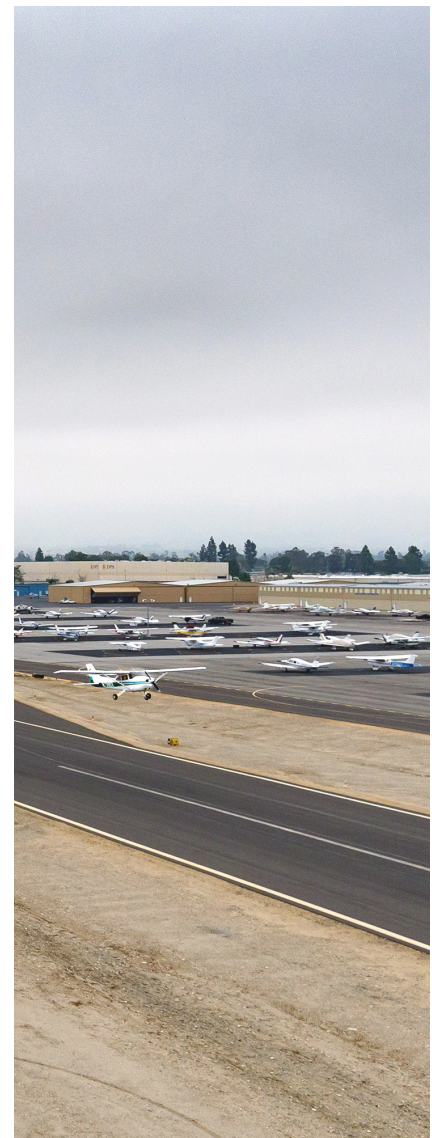
In the past, the airports did not use a consistent maintenance work order system. Brackett Field Airport was the first County-owned airport to make use of an electronic work order system. This system provides marked-up aerials of the airfield and a detailed description of what and how maintenance needs to be done. Once completed, the work order is submitted to the maintenance

supervisor for validation and quality of work, then signed and archived for future reference. This work order process streamlines and provides additional accountability for maintenance at the airports. As of 2019, all of the airports had implemented this electronic work order system.

Actions

ID	Action
Business Continuity - 1	Identify, pursue, and report out on transportation funding sources, including the Federal Aviation Administration's (FAA) Zero Emissions Vehicle and Infrastructure (ZEV) Program, to convert service vehicles to electric and expand availability of charging stations.
Business Continuity - 2	Implement business plan according to proposed schedule.
Business Continuity - 3	Implement Airport Pavement Management Program and conduct frequent updates to ensure effective maintenance.
Business Continuity - 4	Incorporate identification of alternative funding sources for non-AIP* eligible projects during internal, annual Airport Capital Improvement Program (ACIP) discussions, including local, state, and federal programs.
Business Continuity - 5	Maintain and use the sustainability budget to fund projects that are not AIP-eligible and require upfront investment.
Business Continuity - 6	Develop a comprehensive operation and maintenance (O&M) manual, including record logs, for all systems and operations at each airport.
Business Continuity - 7	Evaluate potential uses for airport land or areas not needed in the short- or mid-term for aviation purposes.

*AIP = Airport Improvement Program, a major funding source for airport projects through the FAA



CLIMATE & RESILIENCE

Goal

Minimize contributions to climate change through reduction of greenhouse gases (GHGs) and enhance the airports' ability to respond and adapt to future changes.

Progress

Public Works continues to address climate change by transitioning to electric vehicles (EV), thereby reducing fossil fuel use and GHG emissions. In addition, Public Works recognizes the role of its airports as important assets to their communities and seeks to prepare and respond to threats. For example, the U.S. Forest Service and

Cal Fire operate from various County airports to provide vital forest fire fighting services.

Going Electric

Public Works is taking significant steps in the transition to electric vehicles and plans to have electric airport utility vehicles and electric vehicle charging infrastructure at each airport by 2023. Public Works is intending to use FAA funding to support a fiscally responsible transition to EVs. However, the focus on electrification extends beyond ground-based transportation. With their eye on the sky, two new electric aircraft charging stations were deployed at Compton/Woodley

Airport in 2019. The Pipistrel SkyCharge stations were built in partnership with Tomorrow's Aeronautical Museum. Housed at Compton/Woodley Airport, Tomorrow's Aeronautical Museum is a non-profit organization with the vision of making aviation quieter, cleaner, more sustainable, affordable, and compatible with the environment and local communities. The stations are the first commercial electric aircraft charging stations in the U.S. Pipistrel plans to install SkyCharge stations at airports throughout Los Angeles County. It is anticipated that electric aircraft will be the future of aviation, and Public Works will be ready.

Actions

ID	Action
Climate & Resilience - 1	Post signage about the County's diesel anti-idling policy and the benefits/importance of this policy. Install placards, decals, and stickers to promote in all airport vehicles.
Climate & Resilience - 2	Prepare Greenhouse Gas emissions inventories for each airport and prioritize projects that will have the greatest impact in achieving emission reduction targets. Pursue third-party verification of the emissions inventories through the Airports Council International – North America (ACI-NA) Airports Carbon Accreditation Program.
Climate & Resilience - 3	Incorporate climate change considerations into maintenance procedures and future development and improvements.
Climate & Resilience - 4	Install additional electric vehicle charging stations for public and employee use, targeting availability at all airports. Leverage federal, state, or local funding.
Climate & Resilience - 5	Provide preferred parking for electric, hybrid, and/or alternatively fueled vehicles.
Climate & Resilience - 6	Evaluate airport emergency response preparedness and develop an emergency response plan.
Climate & Resilience - 7	Continue partnerships to expand electric aircraft charging stations availability and use, targeting deployment at additional airports.

Airport Carbon Accreditation (ACA)

Airport Carbon Accreditation is fully embraced by the aviation industry as the preferred carbon mapping, management, and verification program. Participation can help an airport track and prioritize emission reduction efforts, while demonstrating leadership among stakeholders and to their community. Additional information can be found here:

airportcarbonaccreditation.org



COMMUNITY

Goal

Increase engagement with the surrounding communities and stakeholders, preserve or enhance benefits at the airports, invest in the local workforce, and increase customer satisfaction.

Progress

There are a number of important stakeholders engaged in airport activities, including customers (pilots, business partners, and other users), surrounding communities, and employees.

Actions

Community Events

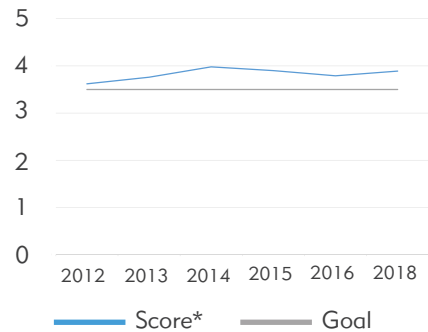
The airports host a range of community events such as open houses, Young Eagles events, school visits, and much more. For example, more than 80,000 people attended the 2017 Airshow at WJF.

Customer Service

Public Works measures customer service via annual surveys. It has established a goal customer service score of 3.5 and has successfully surpassed this every year. The 2020 survey is available to fill out online to enable easy access and to obtain a

broader range of feedback. Below are the results of past years:

Customer Service Survey Results



*scores are an average for all airports

Economic Impact

The recently completed Economic Impact Analysis demonstrates the airports' significant contributions to the region as shown below:



Supporting Employees

For the airport's internal community, Public Works is committed to training employees. The department compensates staff for various licenses and accreditations, including those that are sustainability-focused.

Suggestions Form

Public Works provides a suggestion form on its website as a means of reaching out to businesses and users. <https://dpw.lacounty.gov/avi/airports/Forms>

ID	Action
Community - 1	Promote professional development of staff in relation to sustainability by offering compensation for staff to become and maintain accreditations.
Community - 2	Offer, promote, and provide compensation for aviation education and training (e.g., CM program).
Community - 3	Continue with the annual Airport Customer Service Surveys with a new goal of 3.6. For any airport with survey results below the goal, require that a plan be submitted and implemented to address areas of concern.
Community - 4	Offer streaming and/or recorded public meetings online so community members and other stakeholders can view presentations remotely.
Community - 5	Coordinate with the Regional Planning Commission to develop Airport Land Use Compatibility Plans (ALUCPs) for individual facilities or to update the County-wide ALUCP.
Community - 6	Coordinate any tenant retrofits with hangar inspection or airport construction schedules requiring tenant displacements.
Community - 7	When lease agreements are updated or new lease agreements are established, incorporate sustainability language and requirements.
Community - 8	Complete update to the Rules and Regulations and incorporate sustainability where feasible.
Community - 9	Distribute press releases regarding specific airport projects and sustainability accomplishments.
Community - 10	Continue and identify additional opportunities for aligning airport facilities/services with educational institutions and/or sustainably-driven entities.
Community - 11	Continue to provide at least biannual educational training to on-site personnel on waste reduction, recycling, and storm water pollution prevention measures. Report out on this training.
Community - 12	Hold a fun run at one of the facilities to invite surrounding community members, airport users, and tenants to come together at the airport.

ENERGY

Goal

Reduce energy consumption and increase the percentage of energy from renewable sources.

Progress

Electricity is provided by at least two different entities depending on the airport: the Los Angeles Department of Water and Power (LADWP) and Southern California Edison (SCE). Public Works implements energy efficiency and conservation measures at the airports and continues to pursue opportunities for renewable energy.

Average monthly energy consumption decreased at three of the airports from 2017 to 2019, thanks to energy conservation measures and efficiency upgrades.

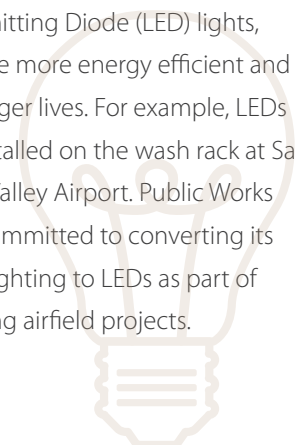


Actions

ID	Action
Energy - 1	Replace existing existing heating, ventilation and air conditioning (HVAC), lighting, and other appliances with energy-efficient alternatives.
Energy - 2	Conduct a cost-benefit analysis for solar water heaters.
Energy - 3	Implement more efficient collection and consistent tracking of energy data to assess trends, identify issues (e.g., inefficient equipment), and compare airports and other facilities.
Energy - 4	Where feasible, establish submetering at the airports to improve energy tracking.
Energy - 5	Conduct an energy audit for the airports and develop a plan for efficiency improvements and other projects based on this audit.
Energy - 6	Implement a solar array and/or rooftop solar on County facilities at one of the airports.
Energy - 7	Retrofit existing hangars with LED lighting, unless hangars are within five years of their useful life.
Energy - 8	Where cost-effective, continue installing sensors in all County-owned buildings and areas to control lighting.
Energy - 9	Where occupancy or timing sensors are not installed, post signage encouraging users to turn off lights and describing benefits.
Energy - 10	Assess the potential for geothermal heating and cooling systems at the airports and consider this for new development or major renovations.
Energy - 11	Implement energy efficient practices at the Public Works offices in coordination with County-wide efforts.
Energy - 12	For new projects or any lighting/signage at the end of useful life, upgrade to LEDs, including airfield lighting and signage.
Energy - 13	Continue to track and report energy utilities consumption data; note periods that are outside of the typical range and identify intended solutions (e.g., fixing malfunctioning equipment) or reasoning.

Energy Efficient Lighting

Public Works is continuing to install Light-Emitting Diode (LED) lights, which are more energy efficient and have longer lives. For example, LEDs were installed on the wash rack at San Gabriel Valley Airport. Public Works is also committed to converting its airfield lighting to LEDs as part of upcoming airfield projects.



MATERIALS

Goal

Procure sustainable materials (e.g., regional, recycled, and rapidly renewable materials), reduce waste, and increase diversion from landfills.

Progress

Public Works seeks to reduce waste production and increase waste diversion from landfills by reusing, repurposing, and/or recycling materials. Public Works has rolled out its recycling program since the 2016 Plan in support of its goal.

Actions

ID	Action
Materials - 1	Expand annual waste roundups to three or more of the facilities.
Materials - 2	When a need arises for a new facility/space, evaluate existing buildings on site to determine potential for adaptive reuse.
Materials - 3	Implement composting at major airport events, including the air shows.
Materials - 4	Conduct a waste audit for at least two of the airports to determine effectiveness of recycling programs and use the results to determine and implement improvements at all airports. Develop a system-wide recycling plan.
Materials - 5	Identify uses for surplus equipment and other goods at the various airports; donate any remaining and still usable materials to charity.
Materials - 6	Continue to track and report waste quantity data; note periods that are outside of the typical range and identify intended solutions or reasoning.
Materials - 7	Establish and implement an environmentally preferred product purchasing policy or follow County guidelines.
Materials - 8	Continue and expand all-in-one recycling and airside waste oil/filter drop-off recycling, and continue to partner with airport associations to discuss recycling topics.

Waste Roundups

The County-owned airports continue to host annual waste round-ups, as part of a program administered by the Environmental Division. More than 200 community members attended the household hazardous/electronic waste collection event in 2019.

Reduced Pick-ups

Bin service remained relatively consistent at most of the airports between 2017 and 2019, though pick-ups were reduced from 3x to 2x a week at WJF. This is an effective way to right size waste management systems and decrease both financial costs and emissions associated with pick-ups.

TOO TOXIC TO TRASH



Household Hazardous Waste and E-Waste Roundups

FREE recycling events sponsored by Los Angeles County and participating cities.

For more information or an event schedule, contact:

1(888) CLEAN-LA,
www.CleanLA.com
 or 1(800) 238-0172
www.lacsd.org

Open to all Los Angeles County residents



WATER

Goal

Preserve water quality and conserve potable water, particularly through landscaping measures.

Progress

Water and sewer service is provided by the City of Los Angeles to Whiteman Airport, while the local districts provide it to the other four airports. Public Works has established water quantity conservation measures such as desert landscaping to save water, and water quality measures such as storm water pollution prevention plans. These

Actions

ID	Action
Water - 1	Replace existing plumbing fixtures with low-flow water fixtures and/or waterless urinals and motion sensor sink faucets at all facilities where not already implemented.
Water - 2	Assess the optimal location for (considering cost/benefit) and install a rainwater collection tank at one or more airports; reuse water for allowable purposes.
Water - 3	Implement waste reduction practices at the Public Works offices in coordination with County-wide efforts.
Water - 4	Continue to track and report water utilities consumption data; note periods that are outside of the typical range and identify intended solutions (e.g., fixing malfunctioning equipment) or reasoning.

efforts have helped reduce the average monthly water use at Whiteman Airport since 2016.

Water-saving Facilities

As stated in the Los Angeles Countywide Sustainability Plan (OurCounty), “water conservation is critical to a sustainable and plentiful water supply in LA County.” Strategy 9B of OurCounty is: “Implement strong water conservation measures.” This includes efforts to reduce both indoor and outdoor water consumption. Public Works has taken efforts to

incorporate water-saving solutions into its facilities. For example, low-flow water fixtures and waterless urinals were included in the rehabilitation of the restaurant at Brackett Field Airport.

Tracking Our Use

Data on airport utilities, including water and energy consumption, is currently being tracked and collected at each airport. Airport managers present this data at all commissioners meetings to provide transparency on current performance. This tracking identifies utility inefficiencies to be addressed.

CONCLUSION

The County of Los Angeles Department of Public Works Aviation Division published its first Aviation Sustainability Plan in 2016. Public Works has not only maintained its dedication to sustainability and successfully implemented many of the short-term actions established in the 2016 Plan, but has committed to

continuing and expanding its program with the development of The Aviation Sustainability Plan – 2020 Update. This Update documents progress, identifies its alignment with the Los Angeles County’s sustainability program, and establishes new and continuing actions for its five airports. An actions tracking matrix and the Sustainability

Toolkit for Non-LEED Projects will support the ongoing implementation of this plan, until it is next revisited.

Prepared by: C&S Companies

For questions contact:

Carly Shannon, LEED AP BD+C, ENV SP, TRUE Advisor

CShannon@cscos.com