Wayne County Airport Authority Sustainability Program

2017

People

Planes

Planet

Sustainability

The Wayne County Airport Authority is committed to operating its airports under principles that value cost effectiveness, community involvement, safety, and environmental awareness, while providing economic benefit to the region. The Authority's Sustainability Program provides the means to implement these commitments, and the Sustainability measures documented in this report provide the basis for measuring their progress ■

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People.

Planes.

Planet.

Introduction

The Wayne County Airport Authority recognizes that global challenges such as resource depletion, economic stability, and energy security can impact the future of the aviation industry and the prosperity of Southeast Michigan. With these challenges in mind, the Authority is committed to increasing economic benefits, reducing environmental impacts, and improving employee and community relations associated with the operation of Detroit Metropolitan (DTW) and Willow Run (YIP) Airports.

As is evidenced in the WCAA 2016 Sustainability Accomplishments Report, WCAA has achieved numerous successes towards improving sustainability at both airports. In developing Sustainability Goals and Initiatives, the Authority is committing to continue these efforts.

Sustainability Themes & Objectives

Wayne County Airport Authority's Sustainability Program is focused on three themes: People, Planes & Planet. The "People" theme reflects the Authority's commitment to its employees, tenants, neighboring communities, and the flying public. "Planes" focuses on the operational components of the airports, including safety and efficient infrastructure. The "Planet" theme addresses the Authority's pledge to protect and conserve environmental resources. Each theme has a unique icon.

Within these themes are objectives, or categories, that outline the areas in which the Authority will focus effort and resources with regard to sustainability. These areas will be considered when making decisions regarding current and future operation of the airports.

People.

- Provide a World Class Passenger Experience
- Promote Employee Training and Succession
- Build Partnerships

Planes.

- Operate Safe and Secure Airports
- Maximize Airfield Efficiency
- Maintain Competitive Cost Structure

Planet.

- Air Quality
- Noise
- Waste Management
- Water Management
- Energy Management
- Natural Resources

Process of Sustainability Program Development

Development of the WCAA Sustainability Program drew upon the WCAA Mission Statement, the Sustainability Accomplishments Report, WCAA Fiscal Year 2017 CEO Goals, and information solicited from stakeholders.

In 2014 the WCAA Senior Management developed the following Mission Statement:

To operate safe, secure and dynamic air transportation facilities for our customers, creating economic vitality by providing global travel, cargo and business opportunities.

This Mission Statement provides an overall vision for how the Authority will operate Detroit Metropolitan and Willow Run Airports.

With this general vision in mind, the 2016 Sustainability Accomplishments Report was developed to document past and ongoing sustainability projects and programs at Detroit Metropolitan and Willow Run Airports. This documentation provides a generalized baseline inventory of existing conditions at the airports, including consideration of social, environmental, and financial programs, and levels of resource consumption. Understanding baseline conditions at the airports helps to determine potential areas for improvement and the structuring of Sustainability Goals.

The WCAA Chief Excutive Officer develops goals for the organization for the organization each year that are approved by the WCAA Board. With an overall vision set and existing conditions documented, the WCAA Sustainability Working Group considered the 2017 CEO Goals, and worked together to identify Sustainability Goals that would aim to achieve higher levels of sustainability, while balancing financial and staff resources, local economic and community concerns, and environmental priorities.

Metrics were then identified for each goal. Metrics are the mechanisms used to measure progress towards reaching goals over time and to provide a means to assess if and the extent that a goal is being met. These metrics were aligned with data that are already being recorded and tracked by WCAA, minimizing the need to have WCAA staff collect additional information.

Next, a set of Sustainability Initiatives was drafted to identify specific measures, and actions, that WCAA can take to achieve the identified goals. The purpose of a the initiatives is to make progress toward reaching or maintaining the goals, and the initiatives will guide the Authority in achieving success in the specific areas they have chosen to focus on for their Sustainability Program.

Finally, with input from WCAA staff and the Sustainability Working Group, prioritized initiatives were selected for near-term implementation. For each of these initiatives, an Implementation Plan was developed to provide a step-by-step process which the Authority can use to carry out the measure.

Goals & Initiatives

The Sustainability Goals presented in this section were developed to articulate specific targets and aspirations for sustainability at the WCAA airports. Each goal is defined, and several components are included to further describe and characterize the goal. The following components are included for each goal:

OBJECTIVES:

The objectives reflect the overall areas of focus for sustainability. Each goal falls under one or more objective.

DESCRIPTION:

This component provides a discussion on the goal. Background information is provided to explain the purpose of the goal.

METRICS:

Relevant metrics are assigned to each goal to measure progress towards the goals over time.

TRACKING:

This section explains the process by which staff will track progress towards reaching a goal.

BASELINE:

Baseline data provides a picture of existing conditions, and where the airports stand with regard to the goal. Achievement of goals will be assessed relevant to baseline conditions.

The concept of SMART goals was applied in developing many of the WCAA Sustainability Goals. SMART goals are Specific, Measurable, Achievable, Relevant, and Timebound. This framework provides structure and trackability to define a path toward achieving a milestone. Not all of the Sustainability Goals are easily measureable or quantified; however, such goals are still relevant and important to WCAA, and therefore are included in the list of Sustainability Goals.

Sustainability Initiatives define the actions or measures that can be taken to achieve or make progress toward reaching the goals. The sustainability initiatives are organized by goal. However, it is important to note that several initiatives may help to achieve more than one goal (i.e., reduction of energy and reduction of emissions). When implemented, these overlapping initiatives can provide a greater level of sustainability.
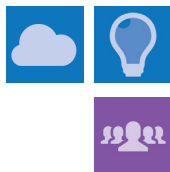
Sustainability

Goal

Achieve Airport Carbon Accreditation Level 2 Status by Fall 2017

The Airports Council International Airport Carbon Accreditation (ACA) program provides a framework for measuring and documenting operational activities that contribute to airport carbon emissions.
The WCAA intends to achieve Level 2 of the ACA program for Detroit Metropolitan Airport (DTW). Level 2 of the ACA program is called the "Reduction" step. In addition to fulfilling all the components for Level 1 (described below), it requires setting carbon/energy reduction targets, providing evidence of effective carbon management procedures at the Airport, and demonstrating that reduction targets are being achieved. Accreditation requires that all data be verified by a third party.

OBJECTIVES

METRICS

- Carbon/energy reduction targets
- Programs/control mechanisms to minimize emissions
- ACA verification level

TRACKING

- Prepare a list of all DTW programs to reduce Scope 1 emissions (direct emissions controlled by the airport) and Scope 2 emissions (indirect emissions from such sources as electricity and natural gas) within airport boundaries.
- Obtain certificate from ACA to authenticate Level 2 of the program has been achieved.

BASELINE

In 2016 Detroit Metropolitan Airport achieved Level 1 accreditation in the ACA program. Level 1 is called the "Mapping" step of the program. It entails determining the 'operational boundary' of the airport and its emissions sources (Scope 1 and Scope 2 emissions). The WCAA calculated annual carbon emissions for DTW to identify the airport's carbon footprint. The data was verified by a third party.
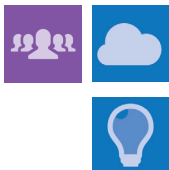
Initiatives

- **Set voluntary goals for reduction of Scope 1 and Scope 2 emissions**
- **Develop carbon reduction strategies:**
    - Develop quarterly inventory
    - Evaluate total life-cycle costs and "emission budgeting"
- Use industry-leading design certification for new construction
- Work with tenants and other stakeholders to reduce Scope 3 emissions
- **Annually review carbon reduction policy statement**

Goal

Reduce Greenhouse Gas Emissions from WCAA Owned and Operated Sources by 10% by 2020 (as compared to 2013 Baseline Emissions)

The purpose of this goal is to reduce total greenhouse gas emissions from sources owned and managed by the WCAA. Energy and greenhouse gas emissions are an important issue for WCAA because reducing energy/fuel use can improve air quality and reduce greenhouse gases, and reduce operating costs for the Airport.

OBJECTIVES

METRICS

- Tons of Carbon Dioxide Equivalent (CO2e)

TRACKING

- Prepare annual inventory of greenhouse gas emissions using Airport Carbon and Emissions Reporting Tool (ACERT).

BASELINE

As part of the required effort to achieve Level 1 of the ACI Airport Carbon Accreditation (ACA) program, WCAA used the Airport Carbon and Emissions Reporting Tool (ACERT) to calculate the annual carbon footprint for DTW in 2013, 2014, and 2015. In 2013 (baseline), DTW emitted approximately 154,519 tons CO2e.

Initiatives

- **Develop an Airport Expansion and Development GHG Emission Policy**
- **Use Thermal Imaging to Identify Areas of Energy Loss**
- **Change set points or exclude selected zones from heating/cooling**

- **Designate preferred parking for hybrid/fuel-efficient vehicles**
- **Partner with local University to develop an Energy Management Plan**
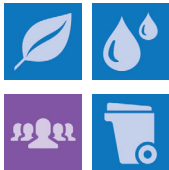- **Install daylight timers on lighting fixtures in the terminal buildings**

Goal

Highlight and Promote the Region's Abundant Freshwater Resources

Michigan is located in the heart of the Great Lakes Basin, which holds more than 20% of the world's freshwater. The region's abundant and clean water resources provide significant social and economic benefits to area residents, businesses and visitors. As the gateway airport for the region, DTW has an opportunity to highlight and promote the clean and abundant water resources of Michigan and the Great Lakes region, engage and educate passengers and the public, and identify and collaborate with key stakeholders. This social goal supports the FY2017 CEO Goal to strengthen the Airport Authority's regional collaboration.

OBJECTIVES

METRICS

- Number of passengers engaged
- Number of educational display days
- Dollars raised
- Volume of water restored

TRACKING

Prepare inventory of selected metrics, with an evaluation of progress and adjustments to the strategy throughout the campaign.

BASELINE

The WCAA currently has programs and guidelines in place to emphasize regional assets and pride at the airports. For example, the ongoing Project Oasis highlights materials, patterns, and themes to accentuate the Great Lakes. While these programs provide a sense of place, this goal is more specific to highlighting the benefits of the region's freshwater resources and the Great Lakes Basin.

Initiatives

- **Develop public engagement campaign**
- **Conduct educational event**
- **Develop temporary or permanent exhibit**
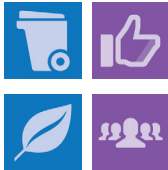- **Install signage at water filling stations**

Goal
Increase Recycling and Landfill Diversion at DTW

Increased recycling and re-use reduces dependency on landfills and consumption of natural resources. WCAA intends to increase landfill diversion of municipal solid waste through recycling and operational improvements. This goal provides the WCAA with an opportunity to collaborate with tenant airlines to address waste.

OBJECTIVES

METRICS
- Total quantity waste generated
- Total quantity waste recycled
- Quantity of waste avoided through re-use

TRACKING
- Track waste and recycling quantities collected by haulers
- Calculate recycling rates.
- Track re-use and waste reduction initiatives.

BASELINE

WCAA employees employed at the Berry Building and in other areas at DTW currently recycle office paper, newspapers, and magazines; cardboard; plastic bottles; batteries; toner cartridges; and scrap metal. WCAA employees located at Willow Run Airport separate paper, metal, and e-waste on-site, which is then delivered to the Berry Building and combined with the materials generated at WCAA areas at DTW.

Each of the passenger terminals at DTW is equipped with recycling bins and garbage cans. A waste audit conducted for each terminal in 2016 showed that the North Terminal generates 129 tons of waste per month, while the McNamara terminal generates 628 tons per month. Both terminals have a recycling rate of <1%.

Existing programs such as the Food Rescue Project have already diverted 14,000 lbs of food from the waste stream at DTW. WCAA is investigating other methods to increase the recycling rate.

Initiatives

- **Install liquid collection stations**
- **Coffee ground composting**
- **Coordinate with Michigan Recycling Coalition for waste/recycling signage and collection ideas**
- **Include EPA Waste Reduction (WARM) model in waste policy for measuring greenhouse gas emissions from waste**

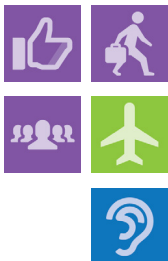# WCAA Sustainability Program Goals & Initiatives

Goal

Continue to Enhance Relationships with Surrounding Communities

The purpose of this goal is to reinforce the WCAA's commitment to community outreach and partnership. The WCAA, with its two facilities (Detroit Metropolitan and Willow Run Airports), is a visible member of the local community, Wayne County, and Detroit region. The airports provide access to travel, transportation of goods, employment opportunities, and essential services such as aircraft rescue, firefighting and emergency medical response. While there are many positive local and regional impacts, airport operations can also result in aircraft noise, air emissions, and stormwater impacts. The WCAA strives to be a good neighbor, to provide transparency to interested parties, and to reduce adverse effects to the extent possible.

OBJECTIVES

METRICS

- Number of plans and programs that include outreach efforts
- Number of community meetings
- Number of educational events
- Number of public involvement events

TRACKING

- Compile a list of community events, public workshops, and stakeholder engagement activities conducted annually.

BASELINE

In response to the 2017 CEO goals, WCAA is drafting a Community outreach Plan to identify ways to better engage with the community and airport stakeholders. Additionally, long range planning and environmental processes have included community involvement programs, and the WCAA aircraft noise abatement program continues its outreach to affected communities surrounding the airports. The Authority continues to host numerous community events from the Arbor Day celebration to Autism on Board. These types of programs help to foster a sense of community and enhance communication with the traveling public.

Initiatives

- **Provide walking paths around airport (Project Oasis)**
- **Donate surplus food to charity**
- **Continue to provide airport internships**
- **Arrange for space in public and private (i.e., tenant) areas for sustainability displays and awareness training**
- **Offer stationary bikes that can generate energy when pedaled for users to recharge personal electronics and allow passengers to get a workout in between flights**
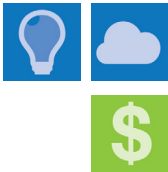
Goal
Reduce Energy Consumption

The purpose of this goal is to reduce energy consumption at WCAA's airports which would result in financial and air quality benefits. Significant progress has already been made in reducing electricity consumption. To date, more than $1 million in energy savings has been realized, due primarily to efficiency measures associated with powerhouses and improved lighting efficiency. This goal reflects opportunities to implement additional energy efficiency measures based on energy audits and other information. Remote monitoring and reporting of energy usage will identify priority focus areas for energy conservation.

OBJECTIVES

METRICS

- kWh of electricity consumption in occupied buildings and parking structures
- Square feet of occupied building space and parking structures
- kWh consumed per square foot

TRACKING

Calculate and report ratio of annual electricity use (based on electric bills) to total area of occupied building space and parking structures with electrical service.

BASELINE

In 2015 approximately 210.8 million kWh of electricity were consumed at Detroit Metropolitan and Willow Run Airports. To save on energy consumption and costs, in 2016, DTW installed approximately 6,500 LED bulbs in the MacNamara and Blue Deck parking areas. Some of these bulbs have independent sensors to adjust for light and daytime hours. Additionally, the WCAA has received approval to install a "Utility Command Center" which will bring all meters/submeters together for tracking (electricity, natural gas, steam, potable water, etc.). The software will allow for tracking, problem notification, calculation of energy intensity, and regular reporting. This kind of network could result in reductions in consumption, emissions, and costs.

Initiatives

- **Continue to improve efficiency of lighting system**
    - Optimize parking deck light sensor settings
    - Install daylight timers on existing lighting fixtures in the terminal buildings
    - Maximize number of LED fixtures
- **Employ utility command center to track electricity consumption**
- **Change set points/exclude selected zones from cooling**
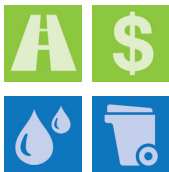- **Educate staff to increase awareness on ways to reduce energy consumption**

Goal
Reduce Potable Water Use & Associated Costs

The purpose of this goal is to better understand current water potable use and identify and implement measures to continue to reduce potable water uses at the airports (Detroit Metro and Willow Run Airports). Significant cost savings have been realized at DTW through the past use of stormwater for dust control, and there is potential for additional cost savings through education, leak repair, and installation of efficient water use fixtures. There may also be potential for the use of stormwater for other non-potable uses such as rental car washing, aircraft washing, cooling towers, landscape irrigation and fire protection. The benefit to WCAA is a reduction in potable water costs. Potential co-benefits may include reduced regulatory compliance risk and a hedge against the increasing cost of water.

OBJECTIVES

METRICS

- Gallons of potable water purchased
- Dollars spent to purchase potable water
- Gallons of stormwater reclaimed for non-potable uses
- Percent reduction in potable water purchased

TRACKING

Calculate and report annually the decrease in the volume of potable water purchased compared to the previous year. The calculation will need to be adjusted if there are other factors that influence potable water use.

BASELINE (2016 Data)

WCAA has received approval for funding to install a "Utility Command Center" to combine all meters and submeters into one network. Potable water consumption, as well as energy usage would be tracked in the same program. This software will allow for immediate notification of identified problems (i.e., leaks or mis-use), and could result in cost savings. Following are baseline data from 2016: 400 million gallons of potable water purchased, 2.5 million dollars spent on potable water, 19 million gallons of stormwater reclaimed, 5 percent reduction in potable water purchased (and associated costs).

Initiatives

- **Conduct water audit, develop baseline level, track and report water and cost savings**
- **Employ utility command center to identify leaks and track consumption**
- **Educate employees and tenants to encourage water-saving behaviors**
- **Replace high water use fixtures and equipment with more efficient options, and track progress**
- **Test and repair water and wastewater conveyances to stop leaks**
- **Reclaim stormwater and reuse/recycle water for non-potable uses (vehicle washing, parking ramp cleaning, landscaping)**

Goal
Increase Fuel-Efficiency of Fleet Vehicles.

The purpose of this goal is to increase the use of fuel-efficient fleet vehicles at the airports. The benefit to WCAA is cost savings associated with the purchase of fuel and the potential to reduce emissions. The goal may be achieved by replacing older models with fuel-efficient models as they reach the end of their service life and by implementing best practices in vehicle use.

OBJECTIVES

METRICS

- Miles traveled by fleet vehicles
- Gallons of fuel consumed by fleet vehicles
- Average miles per gallon for fleet vehicles

TRACKING

Calculate and report annually the ratio of miles driven to gallons of fuel consumed.

BASELINE

Both Detroit Metropolitan and Willow Run Airports have anti-idling policies in place. Additionally, DTW is looking to purchase within the next year a system to track mileage of fleet vehicles.

Initiatives

- **Gather data to better understand compliance with Idling Policy and**
- **increase awareness to improve participation**
- **Implement fuel efficiency tracking system after new electric rings are installed in all vehicles, and track MPG**

- **Convert fleet to start/stop technology**
- **Over the long term as vehicles are replaced, purchase fuel efficient technology where feasible**

People

Planes

Planet