

### EASTERN IOWA AIRPORT (CID) SUSTAINABLE MASTER PLAN





The Eastern Iowa Airport (CID) is preparing a Sustainable Master Plan. This document provides an overview of the master planning process and highlights the need to develop a plan that is rooted in sustainability, economic vitality, and partnership between CID and surrounding communities.



# SUSTAINABLE **MASTER PLAN**

#### WHAT IS AN AIRPORT MASTER PLAN?

An airport master plan is a forward-looking, comprehensive study that identifies short-, medium-, and long-term development needs to meet projected aviation demand. It serves as a road map for airport staff, public officials, and other stakeholders in developing an organized plan for maintaining and developing airport facilities into the future.

#### **WHY A MASTER PLAN?**

The Federal Aviation Administration requires airports to update their long-term plans as market conditions evolve. CID's previous master plan was prepared in 2014, and many of the projects outlined in that plan have been completed. Additionally, the aviation industry continues to evolve, which has a material effect on the Airport and its anticipated needs. Due to a growing region, changes in the industry, and increased levels of aviation demand, the time is right for CID to develop a new master plan.



#### SUSTAINABLE MASTER PLAN

The Sustainable Master Plan emphasizes overall sustainability in all facets of planning, including specific considerations for environmental, economic, and social sustainability. Examples within the study include efforts to reduce greenhouse gas emissions associated with Airport operations, a land use compatibility plan to direct sensitive land uses (houses, schools) away from CID, and an attainable, recommended development plan to promote financial self-sufficiency.





Land Use Compatibility Planning





### **Airport Financial Planning**

### **STUDY SCHEDULE**

The Sustainable Master Plan is expected to be completed in 2023.

The goals of the Sustainable Master Plan were developed to address future needs at CID based on regional growth, rapidly evolving demands of the industry, and emerging technologies.

#### **GOALS INCLUDE:**

- Determine future aviation demand, including passengers, operations, air cargo, and based aircraft.
- · Identify facility needs to accommodate future demand and to satisfy FAA design standards.
- Develop an attainable and financially responsible implementation plan for facility improvements.
- · Incorporate sustainability into the plan.
- · Update the Airport Layout Plan to reflect facility improvements and FAA design standards.

### **FOCUS AREAS**

The following focus areas of the Sustainable Master Plan highlight the unique challenges and opportunities at CID.

### **Greenhouse Gas Emissions**

This study will document current greenhouse gas emissions (GHG) associated with Airport operations. CID can leverage the GHG baseline data to evaluate future projects and reduce the overall carbon footprint.

#### Land Use Planning

Recent approvals of residential developments near the Airport have put a sharp focus on managing incompatible land use. Noise exposure and aircraft overflight data will be used to identify areas where noisesensitive land uses should be avoided. This study and subsequent recommendations will serve as a foundation from which ongoing land use compatibility efforts will be based.

#### Air Cargo

Air cargo operations at CID provide exceptional economic benefits to the Airport, region, and beyond. This master plan will include specialized research to inform the air cargo forecasts and the Airport's long-range planning efforts.

### **Aircraft Deicing**

Passenger aircraft deicing operations are currently conducted by individual airlines. This master plan will explore locations for dedicated deicing facilities.

### Stakeholder Engagement

This study will foster meaningful opportunities for engagement with the Airport's many stakeholders.

### Forecasts

Forecasting is a critical component in determining future aviation demand. The forecasts within this study will consider the impacts of the COVID-19 pandemic and explore various potential scenarios to account for the uncertainty of future aviation activity.

The financial component of the master plan is intended to position the Airport for future success with the confidence to implement the recommended development plan with the goal of financial self-sufficiency.



# EXISTING AIRPORT CONDITIONS

The Airport is publicly owned and operated by the City of Cedar Rapids and operated by the Cedar Rapids Airport Commission. Located approximately seven miles southwest of downtown Cedar Rapids, the Airport serves the Iowa City/Cedar Rapids Corridor and the border regions of Illinois and Wisconsin. The Airport accommodates commercial air service, general aviation (GA), and air cargo operations. Passenger air carriers servicing the region include Allegiant Air, American Airlines, Delta Air Lines, Frontier Airlines, and United Airlines. Cargo operators at the Airport include UPS, FedEx, and DHL.

#### AIRFIELD

The airfield has two runways: Primary Runway 9/27 (oriented east/ west to align with prevailing wind patterns) and Runway 13/31 (oriented southeast/northwest and used when winds favor that direction).

#### **PASSENGER TERMINAL COMPLEX**

The passenger terminal, named the Donald J. Canney Terminal, has nine commercial aircraft gates. Airport leadership has been modernizing and expanding the terminal over the last seven years to enhance the passenger experience and expand to accommodate growth. Improvements were recently made to an expanded security screening checkpoint, new passenger concessions and amenities, and two new passenger gates. Additional construction (to be completed by 2024) will add four new gates to accommodate projected growth.

#### **GENERAL AVIATION**

GA includes all civil aviation operations that are not passenger airlines. GA activities at CID are supported by a fixed based operator (FBO), Signature Flight Support, which provides services such as fueling, aircraft parking, and aircraft maintenance.

#### **SUPPORT FACILITIES**

Support facilities are available throughout the Airport and include an aircraft rescue and firefighting (ARFF) facility, fuel storage facilities on both the west and east side of the airfield, the Airport's administration building, FAA Airport Traffic Control Tower facilities, employee parking, and airfield maintenance facilities.

#### LANDSIDE ACCESS AND PARKING

Airport access roadways connect the regional roadway network to Airport facilities, including the passenger terminal, rental car lot, parking areas, commercial vehicle loading, and support facilities. Wayfinding signage is provided throughout Airport property to guide passengers, employees, cargo operators, and other visitors to their desired destinations.





#### **AIR CARGO**

Air cargo services at the Airport are provided by FedEx, UPS, and DHL. UPS and FedEx each have their respective facilities on the west side of the Airport, while DHL operates out of a building near the passenger terminal. Some air cargo also is transported in the bellies of passenger airlines. This cargo is processed and loaded/unloaded in the passenger















## SUSTAINABILITY

The Airport has a long history of prioritizing sustainability. CID has incorporated sustainability in four key management and operational practices: emissions and energy, water use and water quality, stakeholder engagement, and recycling and waste management.

### **GREENHOUSE GAS EMISSIONS AND ENERGY USE**

In recent years, the Airport took an inventory of existing energy systems to serve as a baseline for future energy conservation opportunities. In this time, the Airport has installed 738 solar panels on the terminal roof, providing enough electricity to power nearly 20 households per year. New solar panels also were constructed on five airport buildings.

The new terminal facility expansion is completely heated and cooled by geothermal technology. The concrete steps leading into the terminal building and the public safety building also are equipped with geothermal technology.

Energy use has been reduced by 80 percent through various lighting efficiency efforts, including the implementation of natural lighting in the terminal building and the use of energy-efficient LED lighting. Additionally, four electric vehicle charging stations are available for parking customers at no additional cost.

### WATER USE AND OUALITY

The Airport founded the Wings2Water (W2W) program, a non-profit partnership with Linn and Johnson counties, to help fund water quality improvement projects that help reduce nutrient runoff and improve local water quality. Now, a separate, 501c3 non-profit organization, the Airport continues to highlight the efforts of W2W throughout the terminal and on the Airport website.

Sustainable farming practices are used on the Airport's farmland, which accounts for 2,000 acres of Linn County's total 324,000 acres of farmland. This includes planting cover crops, no-till farming, and not allowing the use of fertilizers in the fall. These practices help reduce nutrient runoff in local waterways.

In the terminal building, sensory-operated toilets and faucets, low-flow sinks, and a water bottle refill station have been installed to improve water efficiency. The Airport also has installed drought-resistant native species and adapted landscaping.

#### STAKEHOLDER ENGAGEMENT

The Airport actively seeks partnerships with local organizations for pilot projects and sustainability initiatives. This includes the Iowa State University Research study on planting native crops to reduce nutrient runoff and the University of Iowa's pilot project to grow 70 acres of miscanthus grass as part of a biomass fuel study. Displays are present in the Airport's terminal to engage and inform the public on sustainability initiatives. A library kiosk also provides stories, essays, poems, and other educational materials.

#### **WASTE MANAGEMENT**

The Airport is equipped with recycling bins for the traveling public. The Airport also recycles oil, scrap metal, and light bulbs. Airport vendors and the FBO also recycle reusable materials when possible. Contractors also are required to dispose of waste and recycle reusable materials during demolition and construction projects.







# AVIATION

Aviation forecasts provide the basis for determining future facility requirements and justification for investments. Forecasting elements include passenger enplanements, aircraft operations (commercial, GA, air cargo, military), based aircraft, and air cargo tonnage. The development of forecasts considered historical trends, aviation industry trends and forecasts, and local socioeconomic information



#### **INDUSTRY TRENDS AND COVID-19 IMPACTS**

The COVID-19 pandemic greatly impacted the global aviation industry in 2020. Aviation activity began recovering in most U.S. commercial markets in 2021 as vaccinations became available to the public.

It has taken several years for passenger activity to rebound to pre-pandemic levels.

- Airline Fleet Changes Airlines are restructuring their aircraft fleets to focus on new, quieter, and more efficient aircraft.
- Low-Cost Carriers Recovery and growth in the leisure travel market supports expanded service for low-cost carriers. Low-cost carriers generally offer less-frequent service with lower airfares and fewer complementary amenities.
- Charter Activity Increased demand for non-scheduled charter flights is expected to influence the GA fleet mix and activity levels.

#### **COMMERCIAL ACTIVITY**

Enplanements, or the number of passengers departing the Airport, is an important measure to determine future infrastructure and terminal needs. CID passenger activity rebounded quickly from the pandemic,



and activity is expected to experience steady, long-term growth. An aggressive air servicing campaign at CID positions the Airport well to grow 2 percent to 4 percent annually over the next 20 years, fueled by opportunities to attract new airlines and offer routes to more non-stop destinations. Alternatively, the number of commercial operations is expected to grow at a more gradual rate compared to passenger enplanements as airlines operate larger aircraft at CID with more passengers.

#### **GENERAL AVIATION ACTIVITY**

GA includes all operations that are not associated with commercial, cargo, or military activity. GA-based aircraft are expected to grow from 128 in 2021 to 142 aircraft in 2041. GA operations are anticipated to grow at the same rate as based aircraft over the next 20 years.

#### **CARGO ACTIVITY**

As the largest cargo hub in Iowa, air cargo activity is a strong economic driver for the region. The forecasts incorporated direct input from key air cargo stakeholders and industry data regarding the outlook of the U.S. domestic air cargo market. Annual air cargo at CID is expected to grow from 33,934 metric tons in 2022 to 69,500 metric tons in 2041, a higher growth rate than is expected for the industry nationwide.

#### **PASSENGER ENPLANEMENTS**



#### Compounded Annual Growth Rate - 2021-2041: 3.77%

**AIRCRAFT OPERATIONS** 



Compounded Annual Growth Rate – 2021-2041: Cargo 0.03%, General Aviation 1.45%, Commercial 1.90% Note: Military operations are not shown as they comprise less than 1% of annual operations.



## FACILITY

Facility requirements at CID were developed to support future aviation activity by identifying necessary improvements to existing facilities and development of new infrastructure to meet forecast demand and satisfy FAA design standards.

#### **RUNWAY 9/27**

To accommodate future aircraft serving existing and new routes, it is recommended the Airport extend Runway 9/27 from 8,600 feet long to 10,000 feet long.

#### **PASSENGER TERMINAL**

Projected passenger needs will be met with the ongoing expansion of the terminal building, anticipated for completion in 2024. The new facility will be viewed through the lens of sustainability, incorporating efforts to reduce greenhouse gas emissions and conserve water use.

#### **AIRPORT ADMINISTRATION FACILITIES**

The Airport is including administrative office space as part of Phase IV of the terminal expansion program. These new offices will allow Airport management to have adequate space inside the terminal building.

#### **DEICING FACILITIES**

A dedicated deicing pad is required to minimize mixing deicing fluids with stormwater/melted snow runoff, which is currently processed for treatment off Airport property. New deicing pads will collect deicing fluids to be recycled or responsibly disposed of.

### AIRPORT MAINTENANCE AND SNOW REMOVAL EQUIPMENT BUILDING

A new Airport Maintenance and Snow Removal Equipment (SRE) Building is needed. The new building also will incorporate this Master Plan's sustainability initiatives.

#### **AIR CARGO**

The Airport will plan for areas that can be developed to support additional air cargo operations, including a potential new air cargo operator.

#### **AIRPORT ACCESS AND PARKING**

To accommodate growing passenger activity, improvements are recommended for the arrival curbside area, passenger parking facilities, rental car ready-return stalls and customer service counters.











The Airport is publicly owned by the City of Cedar Rapids and operated by the Cedar Rapids Airport Commission.



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