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

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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.

THE CID SUSTAINABLE MASTER PLAN PROCESS INCLUDES MULTIPLE KEY ELEMENTS:

- Inventory of Existing Conditions
- Aviation Forecasting
- Facility Requirements
- Alternatives Analysis
- Land Use Compatibility Planning

GOALS

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 noise-sensitive 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.

Airport Financial Planning
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.

STUDY SCHEDULE

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


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EXISTING AIRPORT CONDITIONS

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

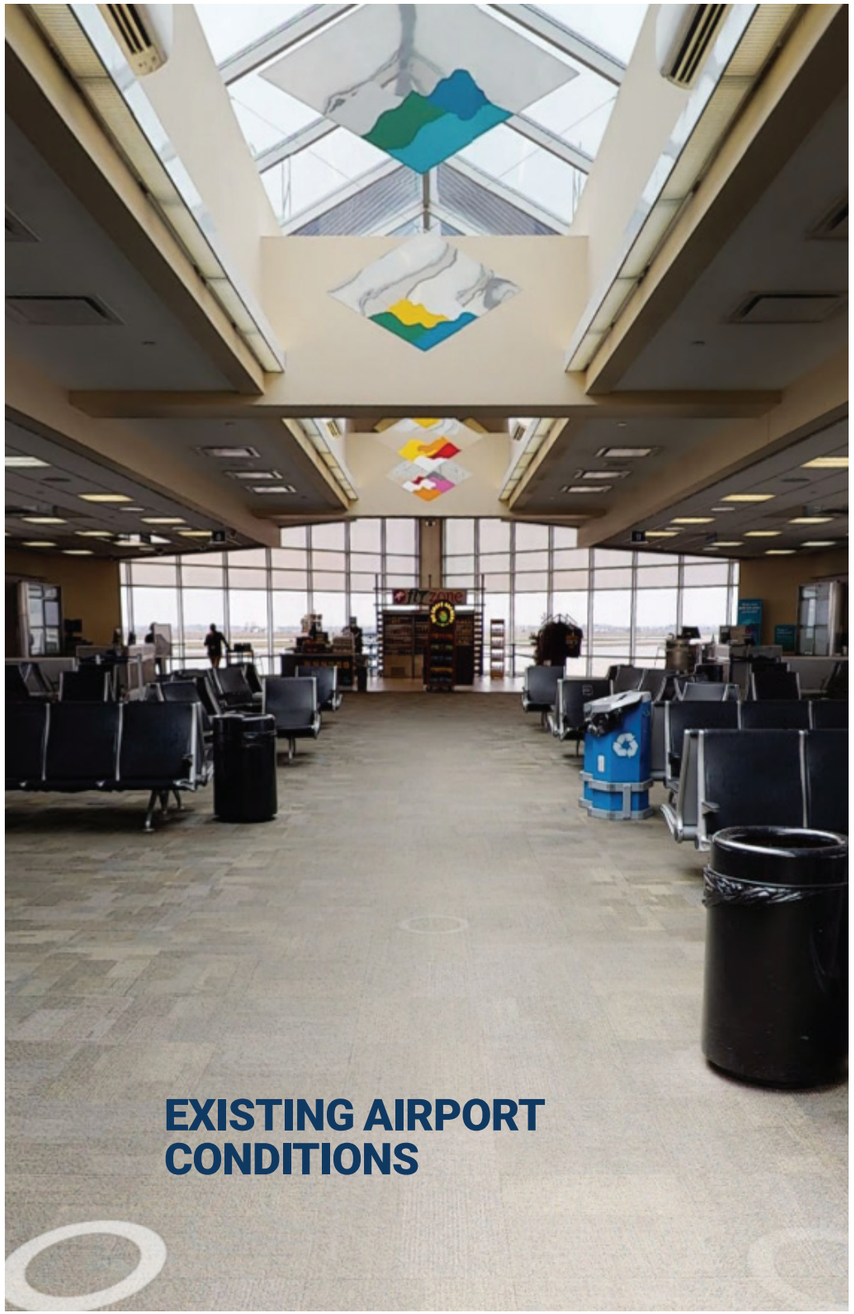
Support facilities are available throughout the Airport and include an aircraft rescue and firefighting (ARFF) facility, fuel storage facilities on both the west and east side of the airfield, the Airport's administration building, FAA Airport Traffic Control Tower facilities, employee parking, and airfield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

LANDSIDE ACCESS AND PARKING

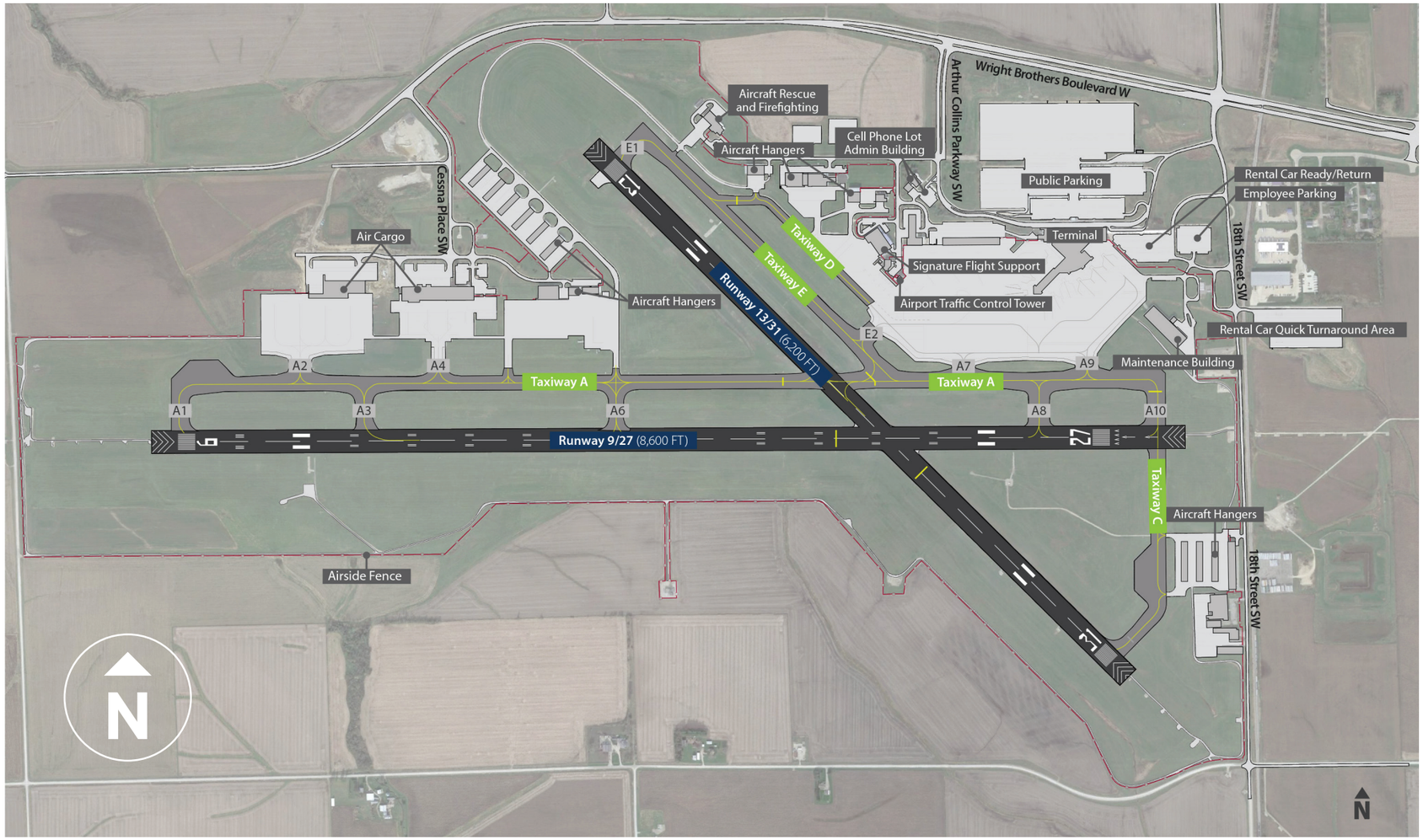
Airport access roadways connect the regional roadway network to Airport facilities, including the passenger terminal, rental car lot, parking areas, commercial vehicle loading, and support facilities. Wayfinding signage is provided throughout Airport property to guide passengers, employees, cargo operators,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

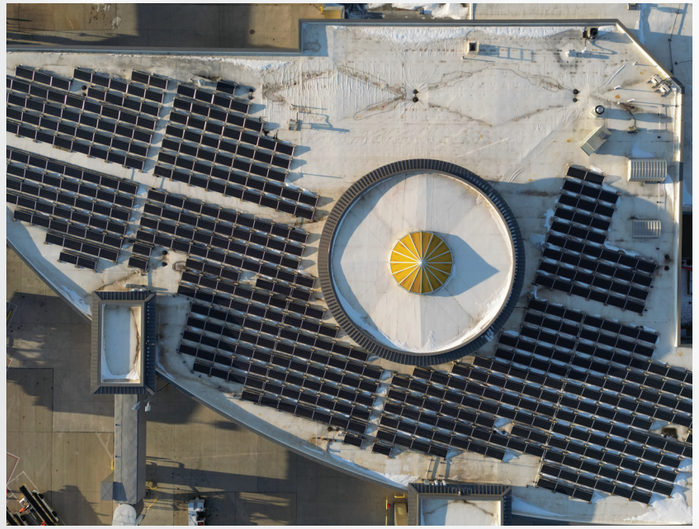
AIR CARGO

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 terminal area.



EXISTING AIRPORT CONDITIONS





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 QUALITY

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.

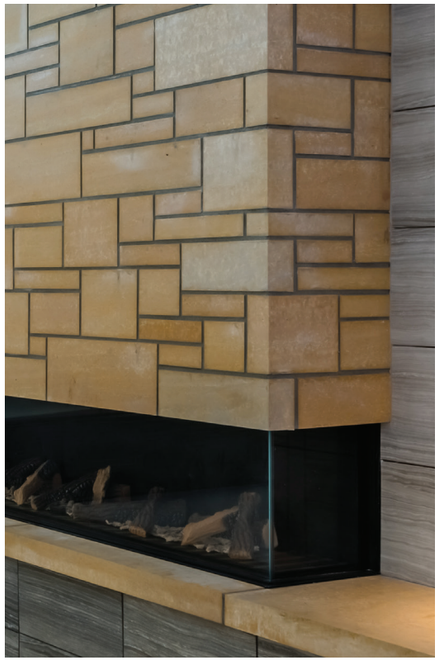
In the terminal building, sensory-operated toilets and faucets, low-flow sinks, and a water bottle refill station have been installed to improve water efficiency. The Airport also has installed drought-resistant native species and adapted landscaping.

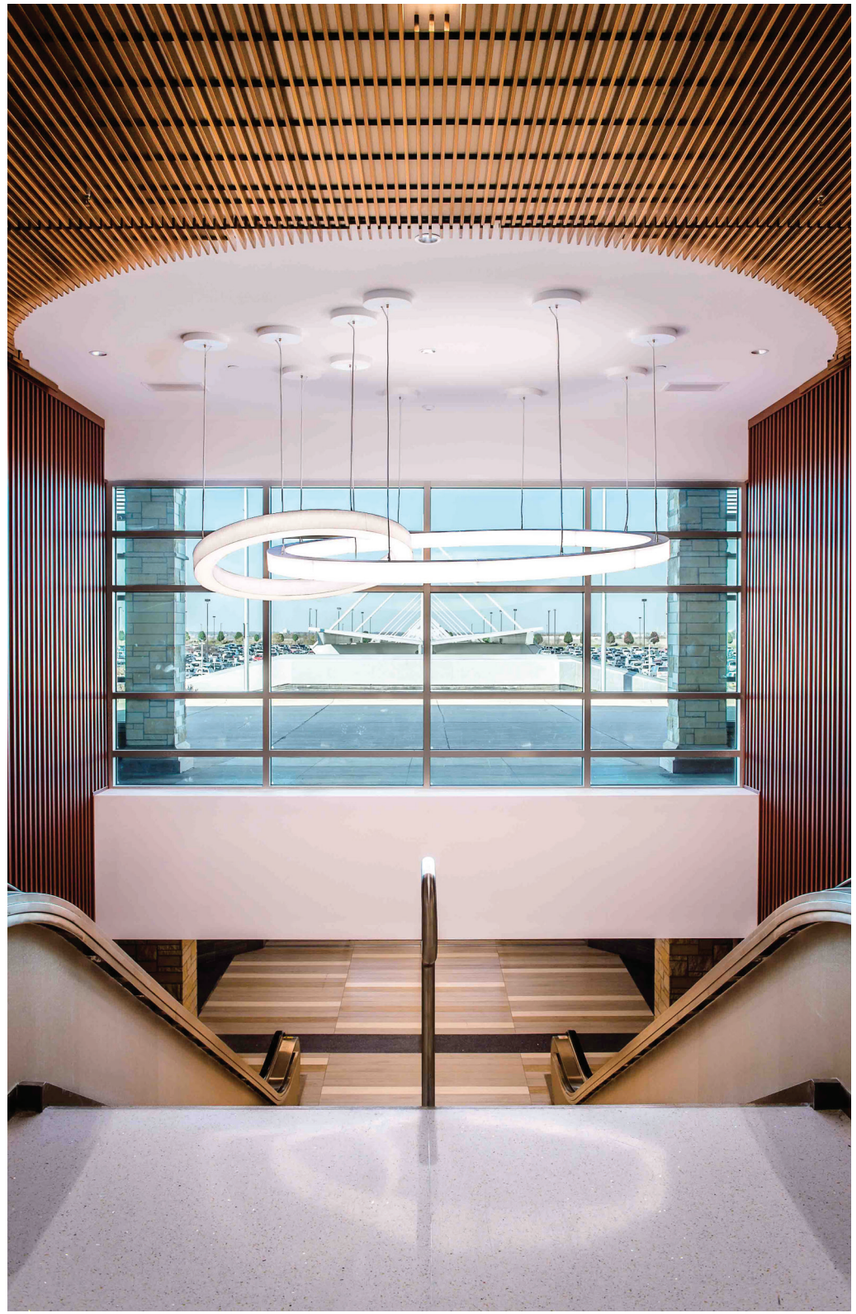
STAKEHOLDER ENGAGEMENT

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 FORECASTS

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

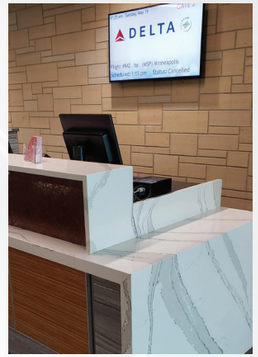
INDUSTRY TRENDS AND COVID-19 IMPACTS

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.

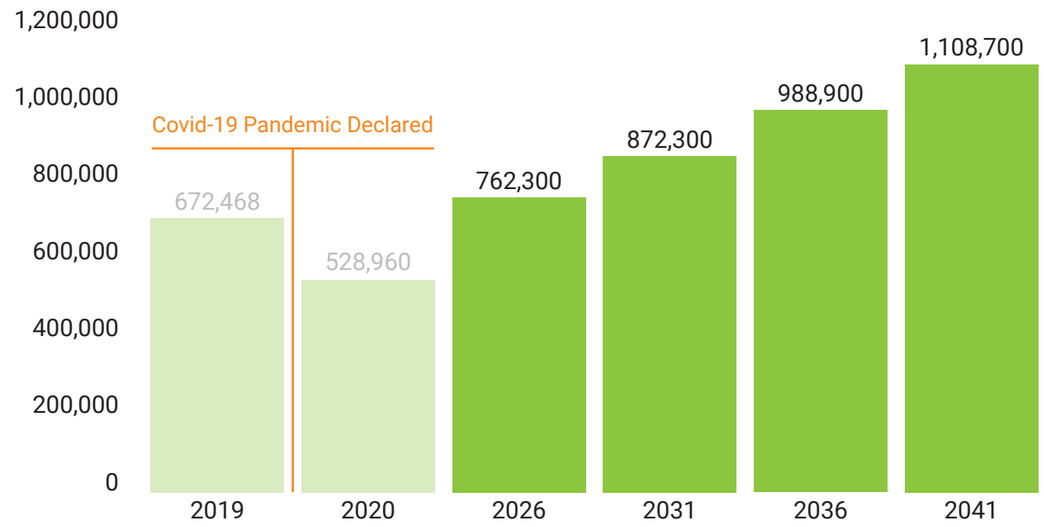
GENERAL AVIATION ACTIVITY

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

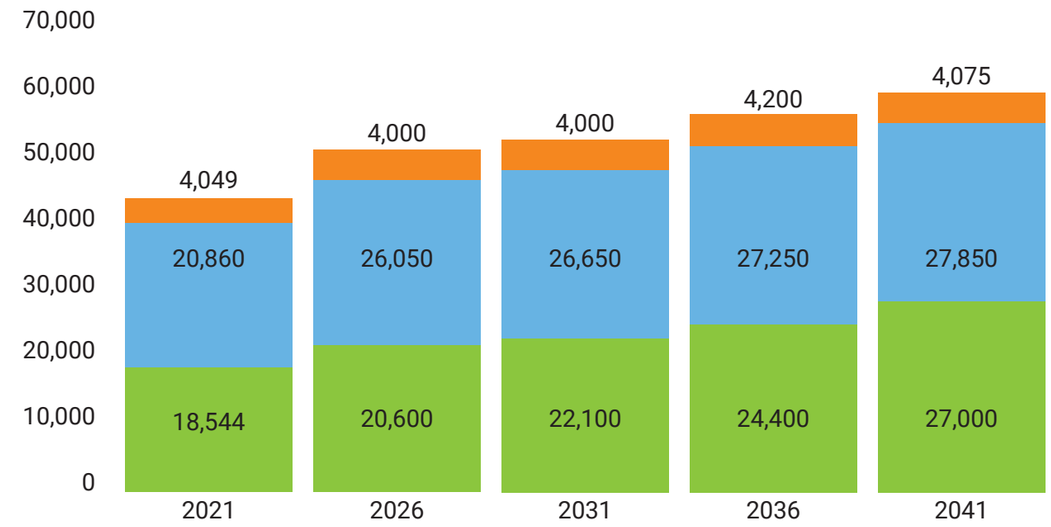
As the largest cargo hub in Iowa, air cargo activity is a strong economic driver for the region. The forecasts incorporated direct input from key air cargo stakeholders and industry data regarding the outlook of the U.S. domestic air cargo market. Annual air cargo at CID is expected to grow from 33,934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



CARGO GENERAL AVIATION COMMERCIAL

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 REQUIREMENTS

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

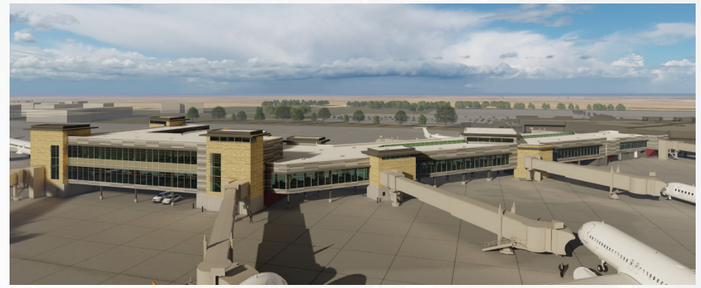
A new Airport Maintenance and Snow Removal Equipment (SRE) Building is needed. The new building also will incorporate this Master Plan's sustainability initiatives.

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.



RECOMMENDED DEVELOPMENT PLAN

The Recommended Development Plan (RDP) represents the most logical solutions to satisfy forecast demand and enhance the traveler experience at the Airport over a 20-year period. Solutions were identified for airside, landside, cargo, terminal, and support facilities. The RDP considers future aviation demand, the needs of Airport users and stakeholders, environmental constraints, and environmental sustainability. The plan is affordable for the Airport, and its implementation is achievable.

RUNWAY 9/27 EXTENSION

An extension of Runway 9/27 to 10,000 feet accommodates the runway length required for the Airport's design aircraft, the Boeing 767-300F. This project also includes extending parallel Taxiway A, constructing an additional taxiway connector to provide access to the new runway end, relocating runway lighting, and modifying Cherry Valley Road SW and Tissell Hallow Road SW to account for runway protection areas.

AIR CARGO FACILITIES

Two air cargo facilities are recommended. The first satisfies air cargo demand for the planning horizon, which includes a multi-tenant facility on the west side of the airfield. The second facility is planned in the event a new air cargo opportunity beyond forecast operations arises. This cargo expansion would occur adjacent to the existing air cargo area and includes new structures, apron pavement, and aircraft and vehicle parking.

GENERAL AVIATION FACILITIES

Multiple general aviation, aircraft-storage hangar areas are identified on the Airport. Hangars will be developed based on customer needs and priority of location. Notably, the development options along Runway 13/31 would require the construction of a parallel taxiway before development could occur.

CENTRALIZED DEICING FACILITIES

Two centralized deicing facilities are recommended. The first is located near the passenger terminal building and provides convenient access to service passenger aircraft. The second deicing facility is located near the west end of Runway 9/27, providing convenient access to cargo aircraft.

AIRPORT SNOW REMOVAL EQUIPMENT AND MAINTENANCE FACILITY

An area in the north-central portion of the airfield was selected for the new Snow Removal Equipment and Maintenance facility due to its proximity to the airfield and other support facilities. This project also includes the construction of a new taxilane.

TERMINAL CURBSIDE

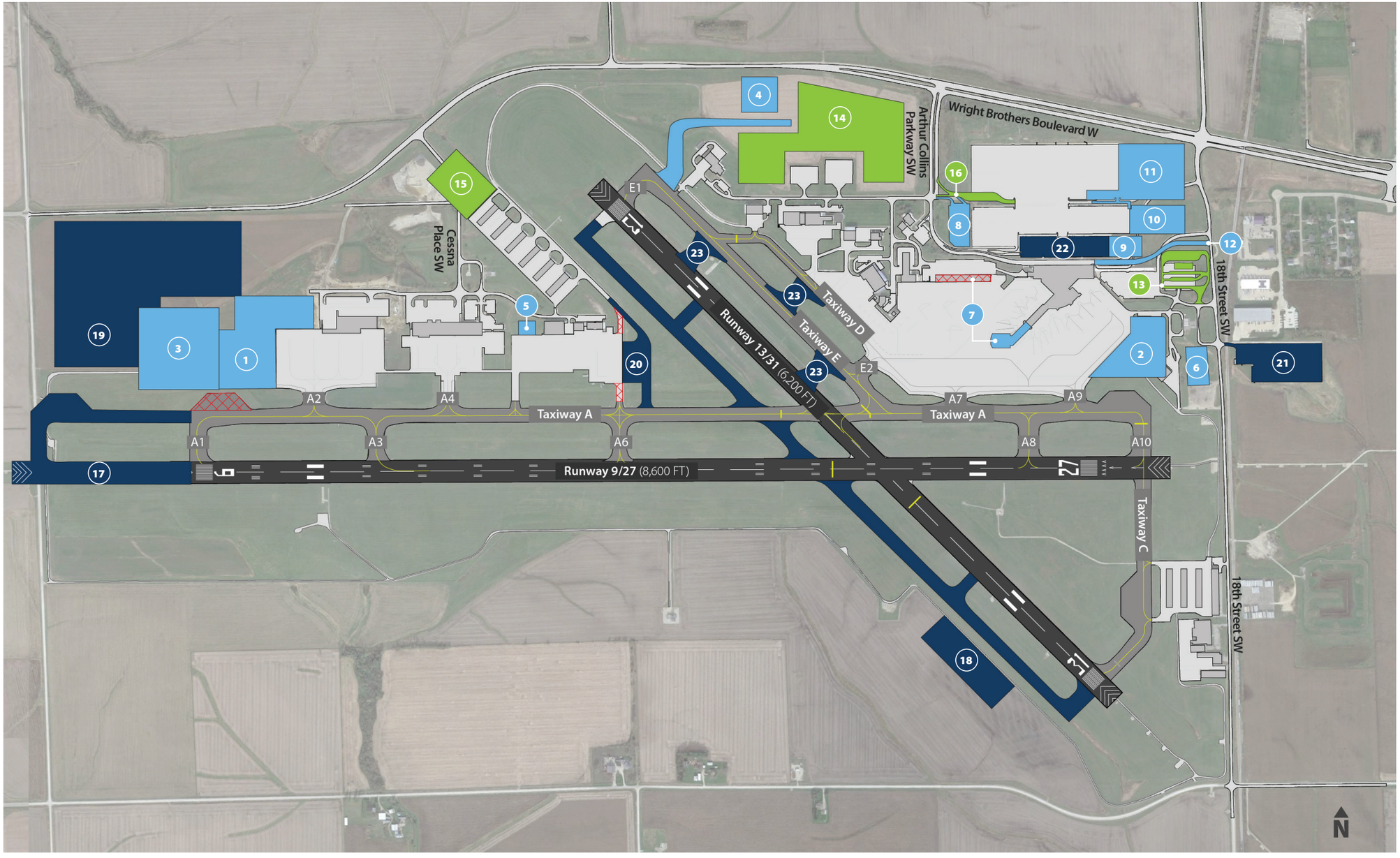
The plan includes extending the terminal curbside to provide additional space for dropping off and picking up passengers in front of the terminal. It also separates commercial and private vehicles, reducing congestion on the curbside.

MULTI-MODAL FACILITY

The recommended plan includes a new multi-modal facility that will serve taxis, rideshare services, shuttles, and buses, with built-in flexibility for a future rail connection. This project would further reduce congestion in front of the terminal during periods of peak activity.

AUTO PARKING

The existing long-term and short-term parking lots are proposed to be expanded. The exit plaza will also be relocated to maximize space for vehicle parking. This plan includes flexibility to construct a parking structure if future demand warrants it. It is also recommended that the employee parking lot be relocated to the west of the existing long-term lot to streamline employee terminal access.



SHORT-TERM *(2023 - 2028)*

1. West Cargo Expansion
2. East Consolidated Deicing Facility
3. West Consolidated Deicing Facility
4. Snow Removal Equipment, Maintenance Facility, and Taxilane
5. New FBO
6. Fuel Farm
7. Terminal Expansion/ Belly Cargo Demolition
8. Employee Parking
9. Short-Term Parking Lot Expansion
10. Long-Term Parking Lot, Phase 1
11. Long-Term Parking Lot, Phase 2
12. Arrivals Curbside and Roadway Improvement

INTERMEDIATE-TERM *(2029 - 2033)*

13. Multi-Modal Facility
14. Future Hangars
15. Aircraft Hangar Expansion
16. Future Exit Plaza and Parking

LONG-TERM *(2034 - 2043)*

17. Runway 9/27 and Associated Taxiway Extension
18. Aircraft Hangars and Parallel Taxiway
19. West Cargo Expansion, Phase 2
20. New Taxilane A6 Connector
21. New Fueling and Car Wash Facilities
22. Potential Parking Structure Footprint
23. Taxiway E Connectors

LEGEND

- Existing Airfield Pavement
- Existing Airport Buildings
- Proposed Demolition

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

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