Airport Master Plan

Duluth International Airport

Prepared for Duluth Airport Authority

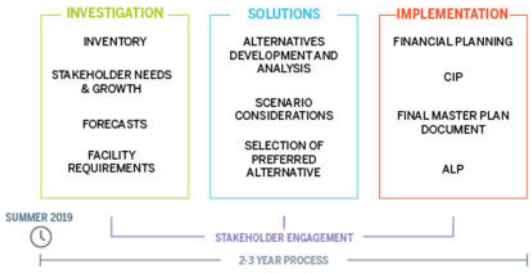
1 Project Introduction and Public Involvement Plan

The Duluth International Airport airport plays a large role in the economy and success of the region. The airport generates over $760 million in annual economic activity, supports travel and tourism, creates jobs and generates income that flows back into our community. The next 20 years has the power to transform the region, and the Master Plan provides the framework needed to lead the way. The Master Plan development began in 2019 identifies projects, which may be implemented at varying times as needed in the 20-year planning term. The main goal of the Master Plan was to provide the framework necessary to guide future development that will cost-effectively meet aviation demand, while considering potential environmental and socioeconomic impacts.

Prior to implementation, each project must undergo additional analysis including environmental review through the National Environmental Policy Act (NEPA). Additionally, project funding must be secured for each project prior to implementation. Funding sources may include FAA, MnDOT, the Duluth Airport Authority and other sources.

1.1 Vision 2024 Master Plan Process

The Vision 2040 Master Plan process began in 2019 and concluded in late 2021. Through robust stakeholder and agency engagement, the DAA documented existing conditions, forecasted future activity levels, documented facility requirements, developed alternatives to meet the needs of aviation and support economic development, and developed a financially feasible implementation plan.



1.2 Duluth has always been first in air travel.

The Lark of Duluth made the maiden flight by an airline back in 1913. Much about aviation has changed in over 100 years, but one constant remains true: Air travel is about where you're headed.

The Duluth Airport Authority has the opportunity to lead the way. Our recently completed Master Plan will help guide us in meeting our region's aviation needs for the next 20 years.

1.3 Thriving airport = thriving community

We have the opportunity to strengthen our region over the next 20 years, and our Master Plan provides the framework needed to lead the way into a bright future.

1.4 Our Region, Our Airport, Our Future

Our airport plays a large role in the economy and success of our region. The airport generates over $760 million in annual economic activity, supports travel and tourism, creates jobs, and generates income that flows back into our community. Our Master Plan provides a framework to help reinvigorate and sustain our region over the next two decades.

The Master Plan development began in 2019 and was completed in 2021. At the beginning of the planning process, the DAA identified several key goals to guide the planning study. These goals included:

- Supporting opportunities for business growth/relocation
- Anticipating evolving demand for air service in our region
- Increasing general aviation capacity
- Being agile in responding to tomorrow's opportunities/challenges
- Complementing neighboring communities
- Maintaining the DAA's financial sustainability

The plan identifies projects which may be implemented at varying times as needed in the 20-year planning term. The Master Plan provides the framework necessary to guide future development that will cost-effectively meet aviation demand while considering potential environmental and socio-economic impacts. Prior to implementation, each project must undergo additional analysis including environmental review through the National Environmental Policy Act (NEPA). Additionally, project funding must be secured for each project prior to implementation. Funding sources may include FAA, MnDOT, the Duluth Airport Authority and other sources.

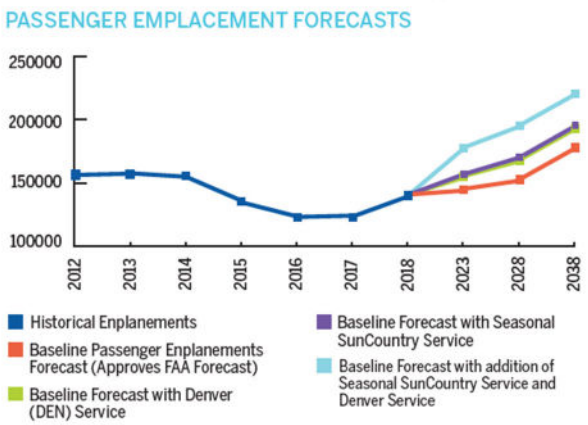
1.5 Future Aviation Activity

As part of the Vision 2040 Master Plan, activity forecasts were developed to project growth in based aircraft, operations (takeoffs and landings) and enplanements (number of passengers boarding a plane at DLH). The impacts of COVID-19 on aviation activity over the first 5-years of the forecast were taken into consideration in the development of the forecasts.

Currently, there is an unmet need for hangar space at DLH. If additional hangar space can be accommodated, the number of based aircraft is expected to increase from 68 to 85 over the planning term.

Air cargo and military operations are forecasted to remain relatively similar to current levels throughout the 20-year planning term. General aviation operations are expected to grow modestly with a compound annual growth of 1.24%, driven largely by increases in aeronautical manufacturing, flight training, air charter/corporate flights and additional based aircraft.

The passenger enplanement forecasts were developed beginning with a baseline forecast which assumed no new air service (new airlines or routes) enter the Duluth market. Several scenarios were then developed to estimate the impact to the forecast if potential air service additions were added including new service to Denver, seasonal Sun County service, and a combination of the two. The scenario-based approach to the forecasts will allow DAA to adapt and respond to likely changes in air service over the near-term.



1.6 The DLH of Tomorrow

The Master Plan process identified key infrastructure improvements that are needed to ensure the DAA can achieve the Vision 2040. The planning process evaluated all aspects of airside infrastructure including runways, airspace, instrument approach procedures, navigational aids, taxiways, aircraft parking ramps, and hangar and building areas. Landside facilities were also evaluated including the commercial service terminal, terminal parking, airport property, solid waste and recycling, land use and safety zoning recommendations, and snow removal equipment and facilities.

Key recommendations of the Master Plan include construction of a new Air Traffic Control Tower, taxiway network improvements, building area development and redevelopments and improvements to Runway 3/21.

1.6.1 Air Traffic Control Tower

A new DAA owned Air Traffic Control Tower (ATCT) is needed to replace the aging infrastructure. The existing tower was constructed in the mid 1950's and over $1.3M has been spent on maintenance and utilities since 2015. A new ATCT will provide improved ADA access, improve energy efficiency, improve airfield safety through improved line of sight, ensure passenger and military airport access and eliminate hazardous materials such as lead and asbestos from the work environment.

The Airport is seeking funding support through the new Airport Terminal Program, a highly competitive grant opportunity funded by the Infrastructure Bill. This new funding source provides a unique opportunity to solve the long-standing funding challenges for this project.

The ATCT replacement project will be a multi-year and multi-phase project that will be a catalyst for enhanced safety and efficiency that will influence ultimate development opportunities. The Master Plan included a preliminary siting analysis, and the following major steps will be completed within the next 5-10 years.

1.6.2 Taxiway Network Improvements

While Runway 9/27 was recently reconstructed, much of the remaining taxiway infrastructure is nearing the end of their useful life and in need of reconstruction and renewal. In addition, several areas of the taxiway

network do not fully meet user needs or FAA design standards. The Master Plan identified the ultimate layout and geometry of the future taxiway network serving both runways.

Taxiway A, the parallel taxiway serving primary Runway 9/27, is the highest priority for near-term reconstruction. The Master Plan outlined a 9-phase reconstruction project including expansions to adjacent aircraft parking areas. Although fewer phases are preferred to minimize construction impacts and to expediate improvements, the multiple phases were developed to accommodate FAA funding limitations. However, the Infrastructure Bill may provide opportunities to reduce the total number of phases. The 148th Air National Guard Fighter Wing is anticipated to be a significant funding partner in this project.

1.6.3 Building Area Development and Redevelopment

Aeronautical development and redevelopment should be pursued to meet aeronautical needs including GA and corporate hangar space, business tenants and aircraft manufacturing needs. The Master Plan identified areas to meet these diverse needs through both private hangar and building development as well as opportunities for DAA owned hangars. The future building area development layout clusters similar uses, such as aeronautical manufacturing or small general aviation aircraft hangars, together. Through the plan developed in the Master Plan, the DAA can accommodate the demand for future hangar and aeronautical building needs.

The Master Plan also identified areas where non-aeronautical development and redevelopment opportunities should be pursued in areas not needed for aeronautical use. These opportunities can bring a diversified revenue stream to DAA while meeting local and regional development demands. Multiple areas were identified throughout the airport property.

1.6.4 Runway 3/21

The Master Plan recommends planning for an extension of Runway 3/21 to 8,000 feet to provide users a secondary runway. Because of the lack of an existing funding source, the project is not included in the 20-year CIP. The Once a funding source is identified (it does not meet FAA funding eligibility criteria), the following steps are needed to implement the project.

Prior to implementation, projects outlined in the Master Plan must undergo additional analysis including environmental review through the National Environmental Policy Act (NEPA). Additionally, project funding must be secured for each project prior to implementation. Funding sources may include FAA, MnDOT, the Duluth Airport Authority and other sources.

1.7 Financial Implementation Plan

The Financial Implementation Plan developed as part of the Master Plan defines the potential sources and uses of funds to support the Master Plan Capital Improvement Plan (CIP) and evaluates the financial feasibility of the Master Plan. The primary sources of funding for the improvements outlined in the Master Plan include FAA Airport Improvement Program (AIP) funding, Passenger Facility Charges (PFCs), COVID relief grants, Military Construction Cooperative Agreements, MnDOT Aeronautics funding, state bond funding, Customer Facility Charges (CFCs), airport revenues, new incremental aeronautical and non-aeronautical revenue, scheduled rates and charges increases, and other third-party funding.

The Master Plan includes over $175 million in improvements over the 20-year period. The first 10 years of the CIP focuses largely on airside projects such as Taxiway A and the Air Traffic Control Tower replacement project. The recently passed Infrastructure Bill may allow some projects to be completed sooner than currently planned. The financial feasibility of the Master Plan will be continually evaluated, and project timing and funding sources adjusted as appropriate.

1.8 Project Goals

During the scoping of this project, the Duluth Airport Authority and Executive Staff identified key project goals for the overall master planning effort. These goals collectively aim to create a comprehensive and flexible Master Plan that addresses both aeronautical and non-aeronautical development, ensures financial feasibility, and involves stakeholders throughout the process.

- Develop a decision tree that guides short, medium and long term land use planning while allowing for flexibility in a dynamic environment
- Provide a graphic representation of existing airport features, future airport development and anticipated land use.
- Identify development zones and site packets
- Establish a realistic schedule for implementation of the proposed development.
- Identify a realistic financial plan to support the development.
- Develop a comprehensive Capital Improvement Plan (CIP) document; Airport CIP is only a subcomponent.
- Technically and procedurally validate the plan through investigation of concepts and alternatives on technical, economic and environmental grounds.
- Prepare and present the plan to the public after seeking their input that adequately addresses all relevant issues and satisfies local, state and federal regulations.

At the conclusion of DLH Vision 2040 the Duluth Airport Authority identified key success factors below:

- Provide opportunities for businesses to grow and relocate
- Anticipate the evolving demand for air service in our region
- Better respond to the needs of general aviation
- Improve agility in responding to tomorrow's opportunities and challenges
- Complement its neighboring communities
- Maintain the DAA's financial sustainability

2 Public Involvement Plan

A Public Involvement Plan (PIP) was developed to identify how the DAA would engage with project stakeholders to inform, educate and solicit feedback throughout the Master Plan process. A Master Plan Advisory Committee served in an advisory role throughout the Master Plan process and represented a wide array of stakeholders, including local government representatives, airport users, the business community and economic development organizations. Technical Advisory Committees (TAC) were established to discuss and evaluate technical topics at a detailed level. Additional in-person, virtual and written/online engagement efforts were conducted throughout the process.

Below is a summary of the public engagement efforts completed throughout the process and the dates the meetings occurred.

Master Plan Advisory Committee (MPAC)

- Meeting #1- June 17, 2019
- Meeting #2 – December 18, 2019
- Meeting #3 – June 17, 2020
- Meeting #4 – December 16, 2020
- Meeting #5 – June 30, 2021
- Meeting #5 – October 20, 2021

Runway 3/21 Technical Advisory Committee (TAC)

- Meeting #1 – July 25, 2019
- Meeting #2 – October 4, 2019
- Meeting #3 – June 21, 2021

Taxiway and Building Area Technical Advisory Committee (TAC)

- Meeting #1 – December 3, 2019
- Meeting #2 – March 9, 2020
- Meeting #3 – June 30, 2020
- Meeting #4 – August 12, 2020
- Meeting #5 – December 2, 2020
- Meeting #6 – June 28, 2021
- Meeting #7 – October 31, 2021

Air Traffic Control Tower Technical Advisory Committee (TAC)

- Meeting #1 – June 10, 2020
- Meeting #1 – August 11, 2020
- Meeting #2 – August 31, 2020
- Meeting #3 – November 12, 2020

Economic Development Technical Advisory Committee (TAC)

- Meeting #1 – April 9, 2020
- Meeting #2 – September 22, 2020
- Meeting #3 – September 10, 2021

Public Meetings and Open Houses

- Open House #1 – September 17, 2019
- Part 150 Noise Study Open House #1 – October 2, 2019

Project Newsletters

- Newsletter 1 – August 2019

- Newsletter 2 – November 2019
- Newsletter 3 – March 2020
- Newsletter 4 – November 2020
- Newsletter 5 – February 2021
- Newsletter 6 – July 2021
- Newsletter September 2021

Project Blog Posts

- Blog Post #1 – August 2019: Why does an Airport like DLH do a Master Plan?
- Blog Post #2 – November 2019: Who Uses DLH and Where Do They Go?
- Blog Post #3 – May 2020: Economic Impact of the Duluth International Airport (DLH)
- Blog Post #4 – November 2020: Pavement Condition and Life Cycle
- Blog Post #5 – July 2021: Aviation Activity Forecasts
- Blog Post #6 – August 2021: Taxiway A
- Blog Post #7 – September 2021: Air Traffic Control Tower

Several one-on-one meetings were conducted with various stakeholders throughout the process to gather input from these users in a more granular setting. The information that was shared during these meetings was used by the project team to develop the framework for discussion, alternatives and recommendations in the master planning process.

Additional details about the public involvement plan and the public engagement efforts completed as part of the Vision 20240 Project can be found in Appendix A of the Master Plan report.