
CHAPTER 1: INTRODUCTION

Purpose and Scope

The information presented in this report represents the study findings for the 2022 – Airport Master Plan study prepared for the City of Warren, the airport owner. Airport Master Plans are prepared in accordance with Federal Aviation Administration (FAA) [Advisory Circular \(AC\) 150/5070-6B, Airport Master Plans](#). This project was funded in part by the City of Warren and the Minnesota Department of Transportation (MnDOT) Office of Aeronautics.

This study for the Warren Municipal Airport (D37) will serve as an updated guide identifying future development necessary to accommodate existing and future aviation demands. The airport's current and forecasted safety, capacity and compatibility needs are addressed in this study. Many projects have been completed and new planning considerations have surfaced since the last Airport Layout Plan (ALP) was approved in 2013. An Airport Master Plan study has not been completed for the Warren Municipal Airport before.

The airport sponsor and Kadrmas, Lee & Jackson (KLJ) developed the scope for the project in cooperation with the Minnesota Department of Transportation (MnDOT) Office of Aeronautics officials to identify the specific needs and objectives of the airport owner. The scope includes work tasks with the purpose of documenting existing conditions, forecasting future aviation activity levels, identifying future facility requirements, formulating, and evaluating development alternatives, preparing implementation plans and engaging the public and other government agencies. Recommendations will be made for improvements that are triggered by safety requirements or demand thresholds.

The Warren Municipal Airport is not included in the FAA National Plan for Integrated Airport System (NPIAS) therefore will not be federally funded. KLJ will use FAA design standards for airfield improvements and to meet facility and safety requirements.

The project received notice to proceed in July 2022 from the airport sponsor. The baseline project data is from inventory efforts completed in October 2022. Data from year 2021 was used to establish a baseline of existing airport information.

Background

The Warren Municipal Airport is directly east of the City of Warren, Minnesota located in the northwest corner of the state. There are currently two runways; Runway 12-30 is paved at 3,199 feet long by 75 feet wide, and Runway 4-22 is turf at 2,578 feet long and 200 feet wide. The airport sits on 167 acres of land surrounded by mostly agriculture. The airport opened in September of 1948.

Planning Considerations

Planning considerations for an airport master plan are features, elements or events that should be evaluated because they have the potential to affect the airport facility over the long term.

Previous Planning Studies

Warren has not had a comprehensive Master Plan study in the past. An ALP update was completed in 2013 with further updates a year later in 2014. Since the ALP completion, there have been several improvements completed at D37:

- A Fixed Based Operator (FBO) hangar.
- A west taxiway, removal of some of the apron to the south that was in the runway visibility zone and additional apron space with tiedown locations.
- A new terminal building with pilot facilities completed in 2019.
- Removal of obstructions in runway safety zones.

A Master Plan study will be implemented to identify a strategy to best address the aviation and community needs within today's economic and regulatory environment. Typically, planning studies are updated every 7-10 years and address forecasted needs for the next 20 years.

Planning Objectives

Based on the background and planning considerations, the planning objectives for this study identify the methods used to meet the airport development goals outlined by the airport owner. The key project objectives are identified as follows:

- Evaluate the planned parallel taxiway depicted from the 2013 ALP.
- Evaluate and forecast airport activity to make sure presented alternatives meet the needs of the current layout as well as the future.
- Review zoning of safety areas, MnDOT's airport safety zoning and clear zone as far as the surrounding land use and height of possible obstructions to protect the airport.
- Review the terminal area layout put in place in 2014 to determine if it still meets the needs of the airport.

Master Plan Process

Guidelines for completing a Master Plan are set forth in [FAA AC 150/5070-6B](#). Each master plan study scope and level of effort is customized to fit each individual airport's needs and address critical issues.

The Airport Master Planning process involves several coordinated steps. The master plan study for D37 consists of the following elements:

- **Pre-Planning** – Airport development concerns are identified, and planning objectives prepared to address these issues. An overall vision for the study is formulated that will guide the process.
- **Inventory of Existing Conditions** – Overview of airport setting and environment; infrastructure and assets which includes airside, landside, and support facilities; airspace, navigational aids, and airport access utilizing data from an FAA Aeronautical Survey.
- **Forecast of Aviation Demand** – Using established forecasting methods, estimate current and project future airport activity for general aviation, such as flight training, medical flights, agricultural spraying, and based aircraft.

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- **Demand Analysis and Facility Requirements** – Compare the existing capacity with the future demand and identify the facility requirements to satisfy the aviation safety, capacity, and compatibility needs.
 - **Alternatives Development and Evaluation** – Identify and evaluate options considering both on-airport and off-airport impacts consistent with the study goals and objectives. A preferred alternative is selected.
 - **Implementation Plan** – Provide a comprehensive plan for implementation of the preferred alternative including project triggers, sequencing, and cost estimates.
 - **Land Use Compatibility** – Complete a comprehensive review of land surrounding the airport for potential uses that are incompatible with safe airport operations and provide mitigation recommendations.
 - **Airport Layout Plan (ALP)** – Document the existing and planned airport facilities through a set of drawings approved by the airport sponsor and state.
 - **Stakeholder and Public Involvement** – Prepare and execute a plan to engage important airport stakeholder and the public throughout the study to gather their input and address their concerns.

Study Documentation & Approvals

The Master Plan Update was divided into chapters of information to document airport planning data, analysis, findings, and recommendation of the study. The following sections included in the narrative report:

- Executive Summary
- Chapter 1 – Introduction
- Chapter 2 – Airport Inventory
- Chapter 3 – Aviation Activity Forecasts
- Chapter 4 – Facility Requirements
- Chapter 5 – Alternatives Analysis
- Chapter 6 – Implementation & Compatibility
- Chapter 7 – Airport Layout Plan

Each chapter was prepared separately and distributed to the airport owner for review and comment. After the airport owner’s review, each draft chapter findings were made available to key airport stakeholders including the State for input prior to a final review and approval by the airport owner. Each approved final draft chapter was then published on the airport’s website for public viewing at <https://warren.airportplan.net/>.

The Master Plan Update was adopted by the City of Warren on February 2, 2024. The ALP was submitted to the State for review and approval on February 23, 2024.

Master Plan Format

The required and recommended contents of Airport Master Plans are detailed per FAA standards. Effective airport master plans are based on the analysis of significant amounts of data, and many airport master plans typically present not only the planning conclusions, but all data and accompanying analysis in considerable detail.

This Master Plan study presents data in a sequential manner following the typical FAA planning process. Appendices are included to provide more detailed information on a subject. In addition, internet hyperlinks are included to reference documents that are current as of the time of this report.

Public Involvement

Public involvement is a key component to the successful development of an Airport Master Plan study. The purpose is to encourage information sharing and feedback from airport stakeholders including the airport owner, airport users/tenants, local government officials, resource agencies, elected and appointed officials and the public. Public involvement provides valuable input to assist the airport owner in decision making and develop consensus on study conclusions.

A Master Plan Advisory Committee (MPAC) was established to provide input throughout the life of the study. The purpose of the MPAC was to facilitate group discussion and feedback from different stakeholder groups, providing recommendations to the airport owner. MPAC members represented the following stakeholder groups:

- City of Warren
- D37 Airport Users/Tenants
- Marshall County Minnesota
- Community/Area Businesses
- Minnesota DOT: Office of Aeronautics and Aviation

See **Appendix C: Meetings and Public Involvement** for other information including copies of public involvement meeting agendas, attendees, presentations, and summaries.

Conclusion

This Airport Master Plan for the Warren Municipal Airport provides the City of Warren with a usable guidance document to assist with capital improvement decision making to meet aviation demands for the near future. As with any planning study, assumptions made are subject to change due to unpredictable internal and external events. For this reason, this study should be reviewed periodically to verify project scope and triggering events are still valid to meet the airport need.