



CHAPTER 1: INTRODUCTION

Purpose and Scope

The information presented in this report represents the study findings for the 2017 Pierre Airport Master Plan Update study prepared for the City of Pierre 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 FAA under grant number AIP 3-46-0044-037-2016.

This study for the Pierre Regional Airport 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 Master Plan study was completed in 2004.

The scope of the study was developed by the airport sponsor and Kadmas, Lee & Jackson (KLJ) in cooperation with FAA Airports District Office and South Dakota Department of Transportation 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 general public and other government agencies. Recommendations will be made for improvements that are triggered by safety requirements or demand thresholds.

The project received notice to proceed in January 2017 from the airport sponsor. The baseline project data is from inventory efforts completed April 2017. Data from year 2016 was used to establish a baseline of existing airport information.

Background

The Pierre Regional Airport was activated for public use in 1942, replacing the original airport which was built in 1927. PIR is located three miles northwest of the downtown of Pierre. The airport is owned by the City of Pierre and is part of the FAA's National Plan of Integrated Airports System (NPIAS). PIR is classified as a Virtual Primary commercial service airport by FAA.

The airport has two runways; Runway 13/31 is the airfield's primary runway (6,900 x 100'), Runway 7/25 (6,881' x 150'). Currently, Runways 13/31 and 7/25 are both maintained by the airport for commercial aircraft usage, and operate under Federal Aviation Regulation (FAR) Part 139 standards as prescribed in the airport's most up-to-date Airport Certification Manual (ACM). The City of Pierre owns approximately 1924 acres of land dedicated for aeronautical use.

The airport serves a multitude of aviation activities such as scheduled commercial airline service from ADI Inc., unscheduled air charter, air cargo (regional hub), air ambulance base, business/corporate air traffic, flight training and other general aviation services. According to Federal Aviation Administration records the Airport served 34,680 flight operations, 8,113 of which were commercial operations and enplaned 6,664 passengers in 2015.

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

The last comprehensive Master Plan study for PIR was updated in 2004. An update to the airport's Terminal Area Plan (TAP) was completed in 2014 to help guide future development. Since the 2004 study there have been several improvements completed or in process at PIR:

- Taxiway A reconstruction; construct general aviation hangar area and taxiway (2009);
- Phase I of new passenger terminal - site improvements, etc. (2009);
- Purchase land for Runway 13, 25, and 31 RPZs (2009);
- Phase 2 terminal design of new passenger terminal building (2009);
- Relocate Runway 7 wind cone and install surface painted hold signs (2010);
- Construct passenger building sanitary sewer, water, storm sewer, and fencing (2010);
- Terminal building construction including PCC Apron, marking, signage and airfield lighting, access roads/parking lots including paving, marking, storm sewer, water main/hydrants, grading, fencing (2011);
- Acquire articulating wheel loader, ramp plow and high-speed broom with blower (2012);
- Demo old terminal building, construct apron drainage improvements and acquire SRE blower (2013);
- Rehabilitate runways and taxiways, reconstruction of a portion of the GA apron, and acquire SRE plow/sander (2014);
- Reconstruct a portion of the GA apron (2015);
- Construct Aircraft Rescue & Fire Fighting Building (2016); and
- Initiate master plan update, eALP, aero survey, exhibit A title research (2016).

The existing Master Plan study is 12 years old. There is a need to update the Master Plan study to identify a strategy to best address aviation and community needs within today's regulatory environment. The FAA generally recommends that airports update their planning documents every 7 to 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:

- Complete an airport master plan study to current FAA and State standards tailored to the specific needs of PIR.
- Evaluate existing social, built and natural environment including identification of critical issues such as wetlands, farmlands, roadway alignments and property acquisition that may affect the environmental clearance of future airport development.
- Utilize the aviation demand forecasts developed as the basis for the new Master Plan forecasts. Identify a critical design aircraft fleet.
- Formulate a clear understanding of the airport's role and the types of aircraft and aviation activities it is expected to serve.
- Propose an achievable financial plan to support the implementation schedule, update the Capital Improvement Plan (CIP).
- Identify critical environmental conditions and subsequent environmental evaluations that may be required before a proposed project is approved.
- Complete a Solid Waste Management Plan in accordance with FAA standards.



- Assist the airport owner in developing stakeholder consensus on the airport development plan(s) through the execution of a public involvement program.
- Engage various stakeholder Focus Groups made up of individuals or representatives with a common airport interest to help provide direction and feedback in making planning decisions for the Airport's future.
- Develop consensus with local stakeholders on key airport planning issues including airport operational capacity and long-range airport development.
- Update the Exhibit A/Airport Property Map to current FAA standards.
- Complete an FAA aeronautical survey compliant with FAA standards.
- Perform an airfield capacity analysis and identify opportunities to increase airfield capacity and reduce delay.
- Identify airport facility requirements based on FAA, State and local requirements. Areas of emphasis at PIR include:
 - Runway needs for the design aircraft (i.e. runway length, pavement strength)
 - Airfield capacity (including airfield configuration)
 - General aviation facilities and major tenants
 - Identifying compatible potential non-aeronautical land uses
 - Landside facilities including airport roadway alignment and automobile parking

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.

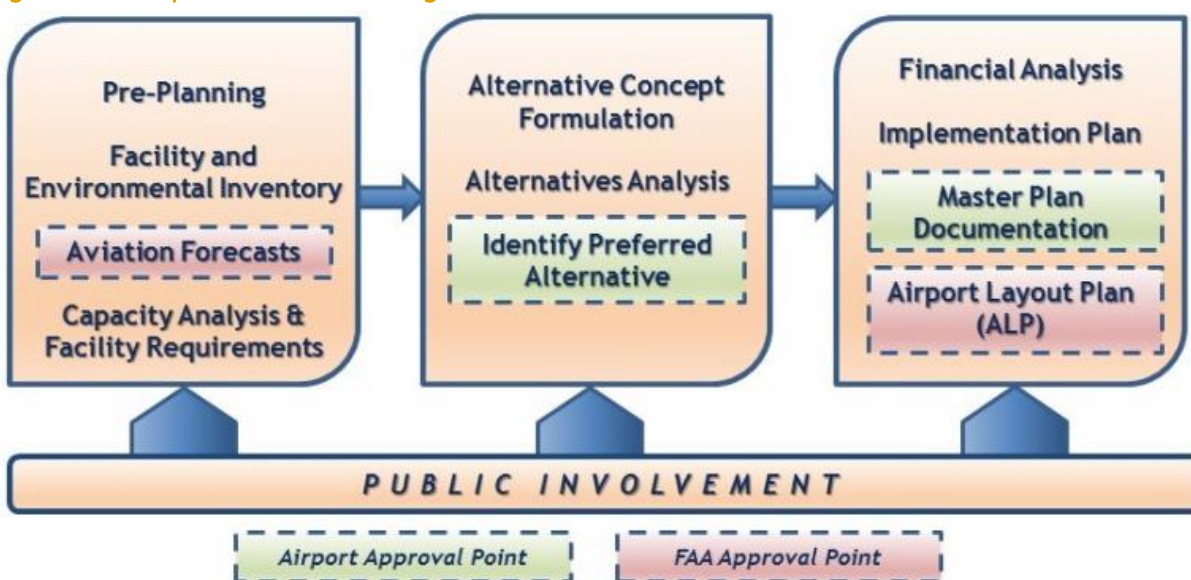
The Airport Master Planning process involves several coordinated steps. The master plan study for PIR consists of the following elements:

- **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, air cargo, and passenger enplanements.
- **Demand/Capacity 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.
- **Environmental Overview** - Provide an overview of anticipated environmental impacts as part of the development of alternatives.



- **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, state and FAA.
- **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.

Figure 1-1— Airport Master Planning Process



Source: KLJ

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 chapters included in the report are the following:

- Chapter 1 - Introduction
- Chapter 2 - Facility & Environmental Inventory
- Chapter 3 - Aviation Activity Forecasts
- Chapter 4 - Facility Requirements
- Chapter 5 - Alternatives Analysis
- Chapter 6 - Implementation & Financial Feasibility
- Chapter 7 - Environmental & Land Use Compatibility

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 and FAA 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.

In addition, an Executive Summary report has been prepared at the end of the master plan study to concisely document the recommendations of the study.

The Master Plan Update was adopted by the City of Pierre on XXXXX, XX, XXXX. The ALP was submitted to the State and FAA for review and approval on XXXXX, XX, XXXX

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 general public. Public involvement provides valuable input to assist the airport owner in decision making and develop consensus on study conclusions.

A Master Plan Advisory Group (MPAG) was established to provide input throughout the life of the study. A listing of individuals who participated on the MPAG is located in **Appendix X: Public Involvement**. The purpose of the MPAG was to facilitate group discussion and feedback from different stakeholder groups, providing recommendations to the airport owner. MPAG members represented the following stakeholder groups:

- City of Pierre
- City Council Members
- Mustang Aviation
- Pierre Airport Users/Tenants
- Federal Aviation Administration (FAA): Dakota-Minnesota Airports District Office

MPAG members met at four points throughout the study to discuss technical elements and provide direct feedback. Members also received copies of draft study documentation for review and comment.

Project information was uploaded to the Pierre Regional Airport website as a forum to share information about the project with the public. This website was used to distribute project documentation as well as collect feedback. Draft study documents were posted progressively and made available for review. An online comment form ran throughout the life of the project to provide feedback directly to the project team.

A Public Open House was held at two points during the master plan study; forecasts/facility requirements April, 7, 2017 and development alternatives/recommendations XXXXX,XX, XXXX. An Open House provided an opportunity for the airport owner and its representatives to share information on the study and solicit feedback from the public.



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

Conclusion

This Airport Master Plan Update for the Pierre Regional Airport provides the City of Pierre with a usable guidance document to assist with capital improvement decision making to meet aviation demands for the foreseeable 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.