INTRODUCTION

The City of Scottsdale, Arizona, owns and operates Scottsdale Airport (SDL). SDL is situated on 335 acres of property and is located approximately eight miles north of downtown Scottsdale. SDL serves as a reliever to Phoenix Sky Harbor International Airport, and it consistently ranks as one of the busiest airports in the state. The airport primarily serves corporate jet traffic, but it also experiences frequent charter activity, recreational flying, and flight training.

SDL is a vital infrastructure component that supports economic development and quality of life for residents in and around the Scottsdale area. In addition to connecting air travelers to the national and international airport system, the availability of air transport enhances public safety by supporting police operations and air ambulance services.

A master plan process is being undertaken at SDL to provide the Aviation Department of the City of Scottsdale (Aviation Department) with proper guidance for future development that will satisfy aviation demands while maintaining compatibility with the environment and communities that surround and support the airport.

WHAT IS A MASTER PLAN?

The Federal Aviation Administration (FAA) recommends that airports update their long-term planning documents every seven to 10 years, or as necessary, to address local changes at the airport. The last master plan update for SDL was completed in 2015. The Aviation Department has received a grant from the FAA to update the airport master plan.

The Aviation Department is responsible for coordinating capital improvements at SDL, as well as obtaining FAA and Arizona Department of Transportation (ADOT) Aeronautics Department development grants. In addition, the Aviation Department oversees all facility enhancements and infrastructure development projects conducted by private entities at the airport. The master plan is intended to provide **a 20-year vision of how SDL may be developed**, **guidance for future development**, and **justification for projects** for which the airport may receive funding. Funding priorities will be outlined through an updated capital improvement program (CIP) to be included in this master plan.

The airport master plan follows a systematic approach outlined by the FAA to proactively identify airport needs ahead of the actual demand for improvements. This is done to ensure the airport can coordinate environmental reviews, project approvals, design, financing, and construction to minimize the negative effects of maintaining and operating inadequate or insufficient facilities. An important outcome of the master plan process is a preferred development plan, which reserves sufficient areas for future facility needs. Such planning will protect development areas and ensure they will be readily available to meet future needs. The intended outcome of this study is a detailed airport land use concept that outlines specific uses for all areas of airport property, including strategies for revenue enhancement.

The preparation of this master plan demonstrates that the City of Scottsdale recognizes the airport's regional importance, along with the unique challenges involved in meeting its unique operating and improvement needs. The cost of maintaining an airport is an investment that yields impressive benefits

to the local community. Equipped with a sound and realistic master plan, the airport can maintain its role as an important link to the regional, state, national, and global air transportation systems. Moreover, the plan will support informed decision-making to allocate the airport's limited and valuable resources for future airport development. Ultimately, continued investment in the airport will allow the City of Scottsdale to reap the economic benefits.

Some common questions regarding what a master plan is and is not are answered below.

An airport master plan **is** a comprehensive, long-range study of the airport and all airside and landside components that describes plans to meet FAA safety standards and future aviation demand.

An airport master plan **is** required by the FAA to be conducted every seven to 10 years to ensure plans are up-to-date and reflect current conditions and FAA regulations. The last master plan for SDL was completed in 2015).

An airport master plan **is** funded by the FAA through the Airport Improvement Program (AIP) at 91.06 percent, with the remainder split between the City of Scottsdale and the ADOT Aeronautics Department. In addition, the city is funding an airport economic benefit analysis to be done concurrently with the master plan.

An airport master plan **is** a local document that will ultimately be presented for approval by the City of Scottsdale. The FAA approves only two elements of the master plan, which are the aviation demand forecasts and the airport layout plan (ALP) drawing set.

An airport master plan **is** an opportunity for airport stakeholders and the general public to engage with the consultant and Aviation Department on issues related to the airport and its current and future operations, as well as potential environmental and socioeconomic impacts. Four public information workshops will be conducted throughout the master plan process to facilitate this public outreach effort.

An airport master plan **is not** a Code of Federal Regulations (CFR) Part 150 noise study. The airport's current noise abatement procedures can be found on the **Scottsdale Airport website**.

An airport master plan **is not** a guarantee that the airport will proceed with any planned projects. Master plans are guides that help airport staff plan for future airport development; however, the need/demand for certain projects may never materialize.

An airport master plan **is not** a guarantee that Scottsdale Airport or the FAA will fund any planned projects. Project funding is considered on a project-by-project basis and requires appropriate need and demand. Certain projects may require the completion of a benefit-cost analysis.

An airport master plan **is not** environmental clearance for any planned projects. The master plan includes an environmental overview that identifies potential environmental sensitivities per the National Environmental Policy Act of 1969 (NEPA); however, most planned projects will require a separate NEPA study (environmental assessment or categorical exclusion) prior to construction.

WHO IS PREPARING THE MASTER PLAN?

The Aviation Department of the City of Scottsdale has contracted with the airport planning firm Coffman Associates, Inc. to undertake the airport master plan for Scottsdale Airport. Coffman Associates is an airport consulting firm that specializes in master planning and environmental studies. Coffman Associates will serve as the prime consultant responsible for all aspects of the master plan, including airport planning, environmental analysis, sustainability planning, land use planning, capital improvement planning, and the airport layout plan. Coffman Associates will lead the planning team with support from the following firms:

- **Compass Rose Communication** will coordinate public involvement, conduct public information workshops, develop meeting summary notes, and write project website content and press releases.
- **Mead & Hunt** will provide engineering support, primarily to offer insights into facility requirements and estimates of probable costs for projects included in the capital improvement program.
- **Quest Energy Group** will develop an assessment of airport owned and operated facilities and the fixed base operator (FBO) facilities. Identify opportunities to improve energy efficiency.
- **SWCA Environmental Consultants** will perform a cultural resource literature review.
- **Martinez Geospatial** will provide aerial photography, ground survey, and GIS products to meet FAA 5300-18B requirements for Airports GIS data submittal.
- **Kimley-Horn** will provide an economic benefit analysis of the economic impact of the airport.

The airport master plan update will be prepared in accordance with FAA requirements, including Advisory Circular (AC) 150/5300-13B, *Airport Design*, and AC 150/5070-6B, *Airport Master Plans*. The plan will be closely coordinated with other planning studies relevant to the area and with aviation plans developed by the FAA and the ADOT Aeronautics Department. The plan will also be coordinated with the City of Scottsdale, the airport advisory commission, and other local and regional agencies as appropriate.

GOALS, OBJECTIVES, AND ASSUMPTIONS

The primary goal of this master plan is to establish a framework to guide future airport development that will cost-effectively satisfy aviation demand, while also accounting for potential environmental and socioeconomic impacts. Accomplishing this goal requires an evaluation of the existing airport to decide what actions should be taken to maintain a safe, adequate, and reliable facility. A long-range planning study also requires several baseline assumptions that will be used throughout the analysis. Specific objectives and assumptions for this study are as follows.

OBJECTIVES

- Follow FAA guidelines for development of an airport master plan.
- Incorporate sustainability analysis and measures throughout the master plan process and provide a sustainability program the airport can use to guide future decision-making.
- Revisit existing FAA-approved Modification of Design Standards (MODs) for the airfield.
- Determine the current critical aircraft and the implications of any change to the critical aircraft.
- Address all airfield geometry complexities to ensure FAA standards are achieved, where practical.
- Evaluate all runway and taxiway safety areas and analyze options for correcting non-standard conditions.
- Complete an updated, AGIS-compliant aeronautical survey in accordance with AC 150/5300-18B standards.
- Identify the highest and best use of airport land, including the potential for redevelopment of facilities that are at the end of their useful life.
- Evaluate aircraft parking aprons and identify locations for apron expansion.
- Evaluate automobile parking needs and identify locations for parking expansion.
- Develop a new ALP set of technical drawings per FAA Standard Operating Procedure (SOP) 2.0 requirements.
- Evaluate general aviation expansion planning (hangars, taxilanes, and apron).
- Consider potential impacts to airport traffic control tower (ATCT) line-of-sight during landside development analysis.
- Develop a new Exhibit ‘A’ Airport Property Inventory Map per FAA SOP 3.00 requirements.
- Locate potential areas where electric vertical takeoff and landing (eVTOL) and advanced air mobility (AAM) activities and facilities are best suited.
- Analyze SDL’s economic benefit and impact.
- Maintain a fully transparent process wherein all airport stakeholders and the public can be involved.

ASSUMPTIONS

- SDL will continue to accommodate the diverse needs of general aviation users.
- Scheduled commercial passenger service will not be considered for SDL within the 20-year scope of this master plan.
- This master plan is not a noise study.
- The aviation industry will develop throughout the planning period as projected by the FAA. Specifics of projected changes in national aviation industries are described in Chapter Two.
- The socioeconomic characteristics of the region will generally change as forecasted (see Chapter Two).
- A federal and state airport improvement program will be in place throughout the planning period to assist in funding future capital development needs.

MASTER PLAN ELEMENTS AND PROCESS

The master plan has 11 elements that are designed to assist in the evaluation of future facility needs and provide the supporting rationale for their implementation. **Exhibit iA** graphically depicts the study process.

Element 1: Study Initiation, Organization and Project Management includes the development of the scope of services, schedule, and study website. The planning advisory committee is established at this stage and is comprised of various airport stakeholders that will serve as advisors throughout the master plan process. General background information, including an outline of the master plan's goals and objectives, is established.

Element 2: Inventory of Existing Conditions is focused on collecting and assembling relevant data pertaining to the airport and the area it serves. Information is collected on existing facilities and operations. Local economic and demographic data are collected to define the local growth trends, and environmental information is gathered to identify potential environmental sensitivities that might affect future improvements. Planning studies that may have relevance to the master plan are also collected. An AGIS 18B Survey/Obstruction Analysis will be conducted, including the acquisition of new aerial mapping (topographic/planimetric) of the airport and its surrounding environment.

Element 3: Aviation Demand Forecasts examines the potential aviation demand at SDL. The analysis utilizes local socioeconomic information and national air transportation trends to quantify the levels of aviation activity that can reasonably be expected to occur at SDL over a 20-year period. An existing and ultimate critical design aircraft, based on AC 150/5000-17, *Critical Aircraft and Regular Use Determination*, is also established to determine future planning design standards. The results of this effort are used to determine the types and sizes of facilities needed to accommodate the projected aviation demand at the airport throughout the planning period. This element is one of two elements that are submitted to the FAA for approval.

Element 4: Facility Requirements determines the available capacities of various facilities at the airport, assesses their compliance with FAA standards, and identifies what facility updates or additions will be necessary to comply with FAA requirements and/or the projected 20-year demand.

Element 5: Airport Development Alternatives considers a variety of solutions to accommodate projected airside and landside facility needs throughout the long-term planning period. An analysis is completed to identify the strengths and weaknesses of each proposed development alternative, with the goal of selecting a single direction for development. The airspace around SDL will also be evaluated during this element, aiming to assess the feasibility of improving the instrument approach procedures at the airport. Consideration towards including facilities to accommodate AAM and eVTOL aircraft will also be included within Element 6.

Element 6: Recommended Master Plan Concept provides both a graphic and narrative description of the recommended plan for the use, development, and operation of the airport. This includes both airside and landside recommendations, as well as on-airport land use classifications.

Element 7: Capital Improvement Program (CIP) and Financial Plan recommends a 20-year capital program for SDL, analyzing the benefits and costs associated with the recommended master plan described in Element 6. Specific costs are established for each project, ensuring logical staging of improvements. Potential funding sources are also identified, as well as a financial plan that focuses on overall annual operating revenues and expenses.

Element 8: Environmental Evaluation includes a baseline environmental inventory, with consideration given to resource categories within FAA Order 1050.1F, *Desk Reference*. Additionally, a recycling plan and environmental overview will be prepared that will identify potential environmental issues associated with the recommended concept; this includes mitigation measures that may be necessary for proposed projects. The public airport disclosure map, a required element for Arizona airports, will also be included.

Element 9: Sustainability Management Plan is a significant element of the master plan and will be integrated throughout the master planning process. This element will include a greenhouse gas (GHG) emissions inventory, an energy assessment of select airport buildings, a recycling plan, establishment of sustainability goals and targets, as well as an implementation and monitoring plan for use into the future.

Element 10: Airport Layout Plans is the preparation of the official Airport Layout Plan (ALP) drawings based on the recommended development concept. The ALP set is used by the FAA for determining grant eligibility. This element is the second element of the study that is submitted to the FAA for approval. The ALP will be developed in accordance with the FAA's SOP 2.00, *Standard Procedure for FAA Review and Approval of Airport Layout Plans*. The Exhibit 'A' Property Map will be developed in accordance with the FAA's SOP 3.00, *Standard Procedure for FAA Review of Exhibit 'A' Airport Property Inventory Maps.*

Element 11: Public Involvement includes meetings with the planning advisory committee (PAC) as well as other public/administrative presentations. These meetings are held at various project milestones to update airport stakeholders on the progress of the master plan, as well as to request input from the committee on the development of the planning study. Additionally, public information workshops are planned to educate and connect with the public, ensuring an open and transparent planning process. Additional public presentations will be made to the airport advisory commission and city council.

COORDINATION AND OUTREACH

This study is of interest to many within the surrounding community and region. This includes local citizens, local businesses, community organizations, city officials, airport users/tenants, and aviation organizations. As a component of the regional, state, and national aviation systems, SDL holds significance for both state and federal agencies responsible for overseeing the air transportation system.

A planning advisory committee (PAC) has been established to assist in the development of the master plan. PAC members will meet up to four times at designated points during the study to review study materials and provide comments to help ensure that a realistic, viable plan is developed.

Draft working paper materials will be prepared at various milestones in the planning process. The working paper process allows for timely input and review during each step of the master plan to ensure that all issues are fully addressed as the recommended program develops.

A series of four open-house public information workshops is also planned as part of the study coordination and outreach efforts. Workshops are designed to allow all interested persons to learn about and provide input on the master plan process. Notices of meeting times and locations are advertised through local media outlets. All draft working papers, reports, meeting notices, and materials will be made available to the public on a **study-specific website**.

SWOT ANALYSIS

A SWOT analysis is a strategic business planning technique used to identify **Strengths**, **Weaknesses**, **Opportunities**, and **Threats** associated with an action or plan. This technique involves identifying an action, objective, or element, and then identifying the internal and external forces that are positively and negatively impacting that action, objective, or element in a given environment. A SWOT analysis was conducted at the first PAC meeting, the findings of which are summarized in **Table iA**.

TABLE iA: SWOT Analysis

Strength	Central location
Strength	Robust community investment
Strength	Reputation as the premier business aviation hub
Strength	Strong international brand
Strength	U.S. Customs processing
Strength	Excellent facilities
Strength	Strong airport management team
Strength	Clean airport
Strength	Good flying weather
Strength	Strong political support for the airport
Strength	Availability of sustainable aviation fuels (SAFs)
Strength	Three world-class FBOs
Strength	Robust public involvement program for MP
Strength	Transparency
Strength	Community events (movie night)
Strength	Condition of airport pavements
Strength	Airport/Tracon/ATCT relationship

(Table continues)

TABLE iA (continued): SWOT Analysis

Weakness	Limited land for development
Weakness	Lack of auto parking
Weakness	Lack of aircraft parking apron
Weakness	Need more hangars
Weakness	Limit to size of aircraft that can use the airport
Weakness	Some airpark facilities are not aeronautical
Weakness	Airspace traffic flow
Weakness	Constraints to facility growth
Weakness	Meeting airport design standards (FAA)
Weakness	Wingspan and weight limits
Weakness	Getting from one side of SDL to the other
Weakness	Instrument approach capability (need straight-in)
Opportunity	Promoting the economic benefits
Opportunity	Capitalize on uptick in international interest
Opportunity	Implementing sustainability initiatives
Opportunity	Availability of air travel through a general aviation airport
Opportunity	Redevelopment of older facilities
Opportunity	New chip plant (and other businesses) in the area
Opportunity	Sustainability is a great opportunity
Opportunity	Increase in transient operations
Opportunity	Airpark development momentum
Threat	Competition from other airports
Threat	Growth plans of other airports
Threat	Other airports are striving to be “Scottsdale”
Threat	Airport design standards should align with activity
Threat	No straight-in instrument approaches (RNP only)
Threat	Congested airspace
Threat	Changing economic climate
Threat	Landlocked
Threat	Airfield capacity
Threat	PHX operations get priority
Threat	Northeast flight training area
Threat	Residential noise concerns

PIW #1

PAC #1

PROJECT WORK ELEMENTS

INVENTORY
- Airport facilities
- Airspace and air traffic control
- Area socioeconomic data
- Local planning and land use
- Airport access and parking, utilities, and aerial photography

WP

WP

FORECASTS
- Based aircraft and fleet mix
- Critical aircraft determination
- Annual operations
- Passenger enplanements

PIW #2

PAC #2

FACILITY REQUIREMENTS
- Taxiways
- Airfield capacity
- Hangar facilities
- Design categories
- Runway length and strength
- Support facilities
- Terminal functions
- Aprons
- Navigational aids

WP

AIRPORT ALTERNATIVES
- Evaluate development scenarios (airside, landside, support)
- Sustainability measures

PIW #3

PAC #3

RECOMMENDED MASTER PLAN CONCEPT/ ENVIRONMENTAL REVIEW
- Detailed master plan facility and I and use plans
- Review evaluation of NEPA environmental categories
- Sustainability Management Plan

WP

WP

FINANCIAL PLAN/ CAPITAL IMPROVEMENTS
- Airport development schedule (CIP)
- Cost estimates
- Economic benefit analysis
- Funding sources

PIW #4

PAC #4

AIRPORT LAYOUT PLANS
- Airport layout plan
- Landside drawing
- Recycling plan
- Airspace/approach drawings
- On-airport land use plan
- Property map
- Land use plan

WP

FINAL DOCUMENTATION/ DELIVERABLES
- Draft Master Plan Report
- Master Plan/ALP Approvals
- Final Master Plan Report
- Electronic Documentation

KEY:

PAC - Planning Advisory Committee

PIW - Public Information Workshop

WP - Working Paper