

Chapter 1 -

ALP Update Introduction and Inventory

INTRODUCTION

The Airport Layout Plan (ALP) is a planning tool that depicts existing facilities and planned development for an airport. The Federal Aviation Administration (FAA) must approve an ALP for airport sponsors to implement design and construction for facility improvements at federally obligated airports and receive FAA grant funding for eligible capital improvements under the terms of the FAA's Airport Improvement Program. The ALP, by definition, is a plan for an airport that shows existing and proposed airport property boundaries owned or controlled by the sponsor, the location and type of existing and proposed airport facilities and structures, and the location of existing and proposed non-aviation areas. Typically updated every 5 to 10 years, the ALP incorporates recent construction, reflects new documentation requirements, and illustrates future projects anticipated over the next 20 years.

Sonoma County wishes to update the existing ALP at Charles M. Schulz – Sonoma County Airport (STS) to reflect current conditions and proposed future facility requirements. This ALP Update analyzes existing facilities and requirements, updates aviation forecasts, proposes improvements, and develops the ALP for FAA approval. The ALP was updated in accordance with the following documents:

- ▶ FAA Advisory Circular (AC) 150/5300-13B, Airport Design (AC-13B)
- ▶ FAA AC 150/5000-17, Critical Aircraft and Regular Use Determination
- ▶ Federal Regulation Title 14 Part 77, Objects Affecting Navigable Airspace, Section 25, Civil Airport Imaginary Surfaces (Part 77)
- ▶ Standard Operating Procedure (SOP) for FAA Review and Approval of Airport Layout Plans (SOP 2.00)

This Narrative Report documents the changes to the STS ALP since the approval of the previous ALP by the FAA in 2012. The STS ALP was updated in conjunction with the 2012 Airport Master Plan (AMP) update. The 2012 ALP incorporated the facilities analyzed during the AMP, which included extensions to both runways, creation of a partial-parallel taxiway for Runway 2/20, expansion of the passenger terminal, and service road loops around all runway ends. Since the 2012 AMP update, the ALP has undergone one pen-and-ink update in 2015, which included the completed construction that extended both runways, relocated the localizer antenna, and installed two stormwater detention basins.

ALP Requirements and Expectations

STS completed a Runway Safety Area (RSA) project in 2015 that included runway and taxiway extensions, navigational aid relocation, and airfield grading. Following extension of Runway 14/32, STS experienced growth in passenger enplanements and the introduction of new scheduled passenger service. This growth has created a strain on the passenger terminal building, automobile parking facilities, and rental car facilities. Previous studies funded by STS have examined options for expanding the passenger terminal, providing additional facilities for rental cars, accommodating general parking demand, and improving traffic circulation as identified in the 2012 AMP. The development of this ALP update includes recommendations from each of these studies to formulate a comprehensive plan for the terminal area.

Since the previous AMP and ALP were completed in 2012, the FAA has updated its airfield design standards, described in AC-13B. The update to AC-13B includes new airfield geometry guidance with a focus on taxiway configuration and reducing the potential for runway incursions. To comply with current FAA guidance, the present configuration of the runways, taxiways, and aircraft parking aprons were evaluated as part of the ALP update. While the changes included in AC-13B are not expected to require immediate modifications to runways, taxiways, and aprons, they do require STS to plan for compliance when updating the ALP. For example, STS will reconstruct non-compliant pavements to meet FAA standards as they near the end of their useful life. The ALP update identifies areas of the airfield that no longer comply with FAA guidance, evaluates alternatives for bringing these areas into compliance, and depicts the preferred ultimate facilities on the ALP for FAA review and approval.

This ALP update establishes a purpose and need for proposed projects at STS. This update should be viewed as a planning tool and does not mandate action by Sonoma County. Major components of this ALP update include:

- ▶ Validating the aircraft operations and enplanements forecast,
- ▶ Correcting airfield geometry to reduce incursions and meet FAA standards,
- ▶ Relocating the airport rescue and firefighting (ARFF) facility,
- ▶ Creating a terminal area plan to accommodate near- and long-term building and apron area,
- ▶ Analyzing alternative layouts for terminal parking and access roads,
- ▶ Analyzing alternative locations for general aviation development or relocation,
- ▶ Updating baseline environmental data,
- ▶ Creating new noise contours based on new operations forecasts, and
- ▶ Updating the ALP set to current FAA standards.

FAA Actions

The FAA requires that airport sponsors keep the ALP up to date for airport development as obligated by FAA grant assurance. FAA approval of the updated ALP is required prior to the issuance of the grant for an airport improvement project. While this document is not a master plan, STS expects the FAA to review and formally approve the forecasts, design aircraft, and the ALP drawing set.

2012 Airport Master Plan

The 2012 AMP was developed concurrently with federal and state environmental documents. Although the AMP was comprehensive in its scope, it focused on:

- ▶ Resolution of the nonstandard runway safety area (RSA) for Runway 14,
- ▶ Improvement of runway incursion issues associated with Runway 20, and
- ▶ Accommodating anticipated increases in scheduled passenger service.

The draft master plan was completed in 2012. The AMP then required an Environmental Impact Report (EIR) to satisfy the California Environmental Quality Act (CEQA) environmental process. After the EIR was completed, the Sonoma County Board approved the AMP and EIR on January 24, 2012. The Federal Environmental Assessment (EA) was not approved until 2013. Construction of the first phase of the major improvements began in 2013 after approval of the EA. Construction was completed in 2015.

Prior to extension of Runway 14/32, STS had been served by only one airline — Horizon. Following completion of the extension, Allegiant Air began service at STS in 2016. American Airlines, United Airlines, and Sun Country Airlines started service at STS in 2017. Prior to the start of the Covid-19 pandemic in early 2020, STS was served by: Alaska Airlines, American Airlines, United Airlines, and Sun Country Airlines. Annual passenger enplanements grew from 132,361 in 2015 to 238,916 (revenue only) and 244,678 (total including non-revenue) in 2019.

The first two AMP elements were addressed through airfield modifications that included extension of Runway 14/32 from 5,121 to 6,000 feet, extension of the main runway's parallel taxiway, and extension of the crosswind Runway 2/20 from 5,021 to 5,202 feet. The 2012 AMP also included a layout for a five-gate passenger terminal, realignment of the terminal circulation road, and additional long-term parking.

New Facilities Since the 2012 AMP

Approval of the 2012 AMP resulted in the construction or modification of the following facilities during the period between 2013 and 2022:

- ▶ Extension of Runway 14/32 from 5,121 to 6,000 feet.
- ▶ Extension of Runway 2/20 from 5,021 to 5,202 feet.
- ▶ Addition of a partial parallel taxiway serving Runway 2/20.
- ▶ Relocation of the localizer antenna and associated equipment building outside of the RSA at the approach end of Runway 14.
- ▶ Addition of a paved service road that loops around the approach ends of Runways 14 and 20, including two bridges over creeks.
- ▶ Addition of a paved service road that loops around the approach of Runway 32.
- ▶ Construction of underground and aboveground stormwater detention basins in the northeast quadrant of the Airport.

- ▶ Construction on the passenger terminal expansion (to be completed in 2023).
- ▶ Construction of new Parking Lot B for long-term parking and solar array canopies.
- ▶ Acquisition of property: Parcels 7, 36, 43 as shown on the Airport Property Map.

In 2013, the Airport acquired three parcels, totaling approximately 22 acres, located in the approaches to Runways 14 and 20. Numerous trees in the approaches to Runways 14 and 20 were also removed to eliminate them as obstructions. In 2019, the Airport acquired a 2.5-acre parcel on southern border. The property contains a structure that had been an officers' club during World War II. A preliminary cultural resources evaluation concluded that the property may be eligible for inclusion in the National Register of Historic Places.

To accommodate the increase in scheduled service and passenger enplanements, the passenger terminal and commercial apron has received ongoing modifications. A modular holdroom was added in 2018 and expanded in 2020. Sidewalk improvements and a temporary baggage claim were also completed in 2020. These two improvements enabled a major terminal expansion project to begin. The expansion will involve construction of 30,000 square feet of new terminal space and renovation of 8,000 existing square feet. This expansion is scheduled for completion in 2023.

In 2016, the first phase of the expansion of long-term parking Lot B was constructed. This temporary parking lot had 126 spaces. It was replaced with a permanent 448-space parking lot. The permanent lot included handicap parking spaces, electrical charging stations, and parking canopies with solar arrays.

In 2017, the FBO Vine Jet added a wing to the north side of its large box hangar with commercial uses including a real estate office and a retail bakery. TrueAir constructed a new facility south of Apron D to house its aircraft and flight school operation. This is now occupied by Butterfly Aviation and other aeronautical users. In 2018, Sonoma Jet added a hangar on its leasehold along Flightline Boulevard for corporate aircraft storage.

Runway 20 RIM

The short extension of Runway 2/20 and associated taxiway improvements did not fully resolve the problem of runway incursions. Some pilots, intending to depart on Runway 20, unintentionally turn onto Runway 14. These incursions are commonly made by pilots of piston-powered aircraft who are not familiar with the Airport. The frequency of incursions caused the Airport to be added to the FAA's Runway Incursion Mitigation (RIM) program's Inventory of Airport Locations. If a location has three or more runway incursions in a single calendar year, or an average of one runway incursion per year since the program began, it is considered for inclusion in the RIM inventory. Airport staff worked with the FAA Certification Safety Inspector, Airport Traffic Control, and Airport District Office staff to identify and implement measures to eliminate or at least reduce incursions. Several modifications to pavement marking and striping were tried; none of the modifications have reduced the occurrences of incursions below the threshold for inclusion in the RIM Inventory. Analysis of options to reduce incursions is a key part of this ALP update.

AIRPORT ROLE AND EXISTING CONDITIONS

STS is a public-use facility supporting both commercial service and general aviation operations with limited use by transient military aircraft. STS is owned by the County of Sonoma and operated by the County of Sonoma Department of Transportation and Public Works. STS is located in central Sonoma County, approximately 7 miles northwest of downtown Santa Rosa, 55 miles northwest of San Francisco, and 18 miles inland from the Pacific Ocean.

STS occupies approximately 1,127 acres at an elevation of 128.7 feet above mean sea level (MSL). Land uses east of the airport are a mixture of offices and industrial uses. The Airport's environs also include a mixture of rural residential and agricultural (mainly vineyards) uses. U.S. Highway 101 is 1.6 miles east of STS. The following sections describe STS as it exists in 2022 and the role STS serves in California and the national air transportation system.

National Plan of Integrated Airport Systems and Caltrans

The National Plan of Integrated Airport Systems (NPIAS) is updated every two years to identify airports that are of importance to the national air transportation system. The NPIAS classification system uses predetermined evaluation criteria including proximity to other airports, annual passenger enplanements, and the number of based aircraft. Inclusion into the NPIAS makes airports eligible for FAA Airport Improvement Program (AIP) funding. The 2021-2025 NPIAS report classifies STS as a primary nonhub airport. This classification is assigned because STS receives between 0.05 and 0.25 percent of annual U.S. commercial enplanements.

The California Department of Aviation (Caltrans) Division of Aeronautics classifies STS as Public Use and as a Part 139 Commercial Airport. Airports in the Part 139 category have scheduled passenger service.

Major Facilities

Major airside, terminal, and landside facilities are listed below and summarized in **Table 1-1**. Major facilities include hangars, transient tie-downs, an air traffic control tower (ATCT), ARFF, fixed base operators (FBO), fuel, aircraft maintenance, and a CalFire attack base. Both self-service and full-service from fuel trucks are available with 100 low-lead (100LL) and Jet-A fuel. Fuel service is offered by the two FBOs, Kaiser Air Santa Rosa Jet Center and Sonoma Jet Center.

Airside

STS has two runways, designated as 14/32 and 2/20. Runway 14/32 is aligned northwest to southeast and Runway 2/20 is aligned northeast to southwest. Runway 14/32 is 6,000 feet long and 150 feet wide. Runway 2/20 is 5,202 feet long and 100 feet wide. Runways 14/32 and 2/20 are asphalt and each runway end, except Runway end 2, has blast pads. Runway 14/32 has a full-length parallel taxiway (A) on the east side. Runway 2/20 has a parallel Taxiway B on the east side.

Runway 14/32 is a precision runway equipped with high-intensity runway lights and precision runway markings. The approach to Runway 32 has a Medium Intensity Approach Lighting System (MALSR) and the approach to Runway 14 has a four-light box precision approach path indicator (PAPI). Runway 2/20 is a non-precision runway equipped with medium-intensity runway lights and non-precision runway markings. The approach to Runway 2 has a two-light box PAPI and the approach to Runway 20 has a four-light box PAPI.

Terminal

The terminal area is located on the east side of the Airport. The terminal supports a 13,000-square-foot terminal building, a short-term automobile parking lot, four rental car facilities, restrooms, and a passenger boarding lounge. The terminal building received an expansion and remodel in 2010 and again in 2020. The terminal building is located to the west of the Airport Boulevard loop. Airport parking is positioned to the north and inside of the Airport Boulevard loop. The FAA Air Traffic Control Tower (ATCT) is located in the terminal area, directly south of the terminal building.

Landside

The Airport is accessed via Airport Boulevard from US Highway 101. The Airport is generally encompassed by North Laughlin Road and Skylane Boulevard on the east, Laughlin Road on the south, and Slusser and Windsor Roads on the west. Airport Boulevard loops near the passenger terminal and provides curbside access. Three major parking lots are located in the terminal vicinity that accommodate short-term, long-term, and rental car parking as well as taxicab and ride-share staging. Becker Boulevard and Flightline Drive provide access to general aviation facilities on the east quadrant.

Instrument Approaches

Instrument approach procedures are a series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually. STS has four instrument approach procedures for Runways 2, 14, and 32, with details provided in **Figure 1-1** below. The FAA Airport/Facility Directory and FAA Instrument Flight Procedures Information Gateway were accessed on May 1, 2021, to determine the visibility minimums and descent heights for both approaches.

- ▶ Runway 14: Area Navigation with Global Positioning System (RNAV (GPS))
- ▶ Runway 32: RNAV (GPS) and Instrument Landing System (ILS) or Localizer with Distance Measuring Equipment (LOC DME)
- ▶ Runway 2: RNAV (GPS)

Figure 1-1: Airport Profile

General Information

- Airport Ownership: County of Sonoma, California
- Year Opened: 1939
- Airport Property: ~1,127 acres
- NPIAS Airport Classification: Primary, Non-Hub
- CA System Plan Classification: Primary, Non-Hub, Regional
- Airport Elevation: 128.7 ft. MSL

Runway/Taxiway Design

Runway 14/32

- Dimensions: 6,000 ft. long, 150 ft. wide
- Pavement Strength, Surface, and Condition
 - 120,000 lbs. (single wheel)
 - 184,000 lbs. (dual wheel)
 - 300,000 lbs. (dual tandem wheel)
 - Asphalt (grooved), good condition
- Runway Lighting, Marking, and Approach Aids
 - High-intensity edge lights
 - Precision markings
 - Runway 32: ILS
- Average Gradient: 0.17% (rising to southeast)
- Primary Taxiway: Full-length parallel (A) on east

Runway 2/20

- Dimensions: 5,202 ft. long, 100 ft. wide
- Pavement Strength, Surface, and Condition
 - 109,000 lbs. (single wheel)
 - 154,000 lbs. (dual wheel)
 - 254,000 lbs. (dual tandem wheel)
 - Asphalt (grooved), good condition
- Runway Lighting, Marking, and Approach Aids
 - Medium-intensity edge lights
 - Runway 2 Non-precision markings
 - Runway 20: Basic markings
 - Runway 2: PAPI 2 box
 - Runway 20: PAPI 4 box
- Average Gradient: 0.29% (rising to south)
- Primary Taxiway: Partial parallel (B) on northwest

Approach Protection

- Existing Runway Protection Zones (RPZs)
 - Runways 2: 1,700-ft. long; 63% on airport property
 - Runways 20: 1,700-ft. long; 96% on airport property
 - Runway 14: 1,700-ft. long; 21% on airport property
 - Runway 32: 2,500-ft. long; 86% on airport property

Airport Planning Documents

- Airport Master Plan
 - Approved by Sonoma County Board of Supervisors January 2012
 - Approved by FAA August 2013
- Airport Layout Plan Drawing
 - Post-construction Pen & Ink update submitted in June 2015

Traffic Patterns and Approach Procedures

- Airplane Traffic Patterns
 - Runways 2, 11, 29: Left traffic
 - Runway 20: Right traffic; gliders, left traffic; all other aircraft
 - Pattern altitude: 1,000 ft. AGL (1,100 ft. MSL) light aircraft; 1,500 ft. AGL (1,600 ft. MSL) heavy aircraft
- Instrument Approach Procedures (lowest minimums)
 - Runway 14 RNAV (GPS)
 - LNNAV Straight-in: 1 mile vis., 478 ft. AGL (600 ft. MSL) descent alt.
 - Circling: 1 mile vis., 471 ft. AGL (600 ft. MSL) descent alt.
 - Final approach course offset 15.08°
 - Runway 32 ILS or LOC/DME
 - ILS Straight-in: ½ mile vis., 255 ft. AGL (377 ft. MSL) descent alt.
 - Circling: 1 mile vis., 471 ft. AGL (600 ft. MSL) descent alt.
 - Runway 32 RNAV (GPS)
 - LPV Straight-in: ½ mile vis., 200 ft. AGL (322 ft. MSL) descent alt.
 - Circling: 1 mile vis., 471 ft. AGL (600 ft. MSL) descent alt.
 - Runway 2 RNAV (GPS)
 - LP Straight-in: 1 mile vis., 371 ft. AGL (500 ft. MSL) descent alt.
 - Circling: 1 mile vis., 531 ft. AGL (660 ft. MSL) descent alt.
- Standard Inst. Departure Procedures (initial course)
 - CHARLIE EIGHT:
 - Runway 2 climb left turn to heading 305°, 300 ft. per NM to 2100
 - Runway 14 climb heading 144°, 285 ft. per NM to 2500
 - Runway 20 climb heading 196°, 265 ft. per NM to 2200
 - Runway 32 climb heading 315°, 375 ft. per NM to 2200
- Visual Approach Aids
 - Airport: Rotating beacon, segmented circle, wind cone
 - Runway 14: PAPI 4-box (3.0°)
 - Runway 32: ILS (MALSR, Glide Slope, Localizer)
 - Runway 2: PAPI 2-box (3.0° glide slope)
 - Runway 20: PAPI 4-box (3.5°)

Terminal Areas

- Location: East side (principal), south and west sides (secondary)
 - Aircraft Parking Capacity (226 hangars)
 - 29 executive hangars (doors between 55 and 65 feet)
 - 261 T-hangars and shade hangars
 - 262 County tie downs
 - 73 transient tiedowns
- Other Major Facilities
 - Passenger terminal
 - Air traffic control tower
 - Aircraft Rescue and Fire Fighting facility
 - CalFire Air Attack Base
 - Sonoma County Sheriff's Helicopter Center
 - Redwood Empire Air Care Helicopter (REACH) facility
 - Pacific Coast Air Museum
- Services
 - Fuel: 100LL (self-serve); Jet-A, Jet A1+ (from truck)
 - Aircraft and helicopter rental and charter
 - Flight instruction
 - Airframe, powerplant, and avionics repair
 - Car rental

Sources: Airport 5010 record, ALP, ADIP, and FAA Instrument Flight Procedures Information Gateway (accessed on May 1, 2021)

Airfield Design Standards

STS is required to maintain facilities consistent with FAA standards as a condition of accepting FAA grants. FAA design standards for runways are determined by the FAA coding system called the Runway Design Code (RDC). The RDC is made up of the Aircraft Approach Category (AAC), the Airplane Design Group (ADG), and the runway approach visibility minimums.

The AAC is broken down into categories A through E and relates to the approach speed (in knots) of the design aircraft. The ADG is broken down into roman numeral categories, I-VI, and relates to the greatest wingspan or tail height of the design aircraft. The most demanding AAC and ADG at an airport sets the Airport Reference Code (ARC). The FAA codes taxiways using a standard called the Taxiway Design Group (TDG).

Some taxiway design standards are based upon the TDG of the design aircraft. The TDG considers the dimensions of the design aircraft's landing gear to determine taxiway widths and pavement fillets to be provided at taxiway intersections. Fillet pavement accommodates the inner wheel of the airplane as it turns. TDG classifications are determined by width of the main gear and wheelbase (the distance from nose gear to main gear).

The design aircraft is the most demanding aircraft that uses an airport on a regular basis, which the FAA defines as more than 500 operations per year. The AAC and ADG of the design aircraft is used to determine the RDC. The RDC of the design aircraft sets the ARC for an airport.

Design Aircraft and RDC on 2012 ALP

The 2012 ALP of record for STS identifies the Embraer ERJ-190 as both the existing and future design aircraft. It serves as the design aircraft for both runways and the main elements of the taxiway system. The ERJ-190 is a 100-seat passenger aircraft, previously used for scheduled service at the Airport. This aircraft is in ARC C-III. The 2012 ALP shows the RDC for Runway 14/32 is C-III-2400.

Existing and Future RDC

Activity forecasts for STS have been prepared as part of this ALP update. The forecasts are presented in Chapter 2 of this Narrative Report. The results of this forecasting effort led to modification of the existing and future design aircraft for STS.

The updated ALP designates the Boeing 737-800 as both the existing and future design aircraft. The 737-800 seats 162 passengers in a two-class layout or 189 passengers in a one-class layout. The 737-800's ARC is D-III. The current and future RDC for Runway 14/32 is D-III-2400. The existing and future design aircraft for Runway 2/20 is the Embraer 175, and the existing and future RDC for Runway 2/20 is C-III-5000.

Summary of Facility Improvements and ALP Changes

The following list summarizes changes to the STS ALP from the previous version. AC-13B was released near the completion of the draft ALP set. Items that required changes (taxiway OFAs, taxiway fillets, and obstacle clearance surfaces) were updated appropriately to match AC-13B standards. A time frame for anticipated implementation is provided after each major project.

- ▶ Updated entire ALP set to FAA SOP standards, with addition of detail building area plans, inner-approach airspace sheets, runway profiles with declared distances, and land use map.
- ▶ Expanded data tables, including runway, taxiway, and data tables on Data Sheet.
- ▶ Expanded and added tables on ALP sheet, including Facility tables, NAVAIDS, and non-standard conditions.
- ▶ Updated design aircraft to match the approved forecast fleet mix and updated the runway design codes and runway design surfaces to correspond to the design aircraft specifications.
- ▶ Updated baseline environmental data.

Airside

Airside facilities that were evaluated and updated as part of this ALP update are listed below.

Runway 20 RIM

Multiple alternatives to the Runway 20 – Taxiway H – Taxiway A – Runway 14 intersection was analyzed to reduce and eliminate runway incursions. A two-phase solution was proposed and added to the ALP. More information is provided in Chapter 3.

- ▶ Added interim sign and markings in this Runway 20 RIM area (See ALP Sheet 18). (1-5 years)
- ▶ Incorporated a future permanent geometry design, a 458-foot extension of the Runway 20 end to the northeast. This design extends Runway 2/20 to 5,600 total feet, realigns Taxiway A, provides right-angle entrances to Runway 20, and eliminates Taxiway H (See ALP Sheet 19). (5-10 years)
- ▶ Proposed modified future Runway 02/20 declared distances to support operations without effecting the RSA/ROFA. (5-10 years)

Taxiways

Taxiways were evaluated to eliminate non-standard design and intersections. See Chapter 4 for more information.

- ▶ Shifted Taxiway A connectors (A3, A4, A5) to eliminate direct apron to runway access and provide 90-degree intersections. (5-10 years)
- ▶ Incorporated taxiway fillet design at future Taxiway A connector intersections. (5-10 years)
- ▶ Proposed elimination of Taxiway Z. (5-10 years)

- ▶ Retained (from previous ALP) the future Taxiway E shift to the approach end of Runway 32. (5-10 years)
- ▶ Realigned Taxiway Z to the west 59 feet, closer to Taxiway A, to provide more terminal apron and airline parking position area. (5-10 years)
- ▶ Added future run-up apron east of Taxiway A and proposed eliminating the existing Runway 32 run-up apron located in Precision Obstacle Free Zone (POFZ). (5-10 years)

NAVAIDS

- ▶ Retained (from previous ALP) the future non-precision [D] approach type (¾ mile) on Runway 14 and incorporated future Part 77 airspace, Threshold Siting Surface (TSS), and Runway Protection Zone (RPZ). (5-10 years)
- ▶ Added future touchdown zone and centerline lights to support a future Category II approach (<½ mile) on Runway 32. (1-5 years)
- ▶ Added future midpoint runway visual range facility on Runway 14/32. (1-5 years)

Air Traffic Control Tower

- ▶ Proposed three future conceptual sites or a replacement ATCT in-place, of which two sites were retained from previous ALP. Next step is coordination with ADO and site selection study with line-of-sight analysis. (5-10 years)

Terminal Area and General Aviation

The passenger terminal expansion was underway (estimated completion in early 2023) during this ALP update. The ALP incorporated changes and proposed facilities, including expansion or relocation of GA facilities, that may be displaced with terminal expansion.

Terminal Expansion

- ▶ Added near-term terminal building expansion. (1-5 years)
- ▶ Illustrated conceptual long-term terminal building footprint based on the ultimate enplanement forecast. (10-20 years)
- ▶ Incorporated passenger terminal apron expansion including airline parking positions. (1-5 years)
- ▶ Added a future remain overnight (RON) apron with four parking positions north of Apron A and east of Taxiway Z to accommodate growth in passenger airline operations and RON operations. (1-5 years)

ARFF

Various locations for ARFF facility relocation were evaluated that considered environmental impacts, utility access, airside access, response time, and displacement of existing facilities. See Chapter 5 for more information.

- ▶ Added future ARFF facility north of the conceptual ultimate terminal footprint. (1-5 years)
- ▶ Reconfigured Apron A to continue to accommodate itinerant aircraft parking and circulation with addition of future ARFF facility. (1-5 years)

General Aviation

Multiple areas for future hangar construction were evaluated for either new or relocated tenants. The ALP shows conceptual hangar development with hangar footprints; other areas are shown as Aviation Reserve for long-term future hangars or redevelopment.

These Aviation Reserve areas may have immediate development obstacles, such as environmental impacts, landside or airside access, or utility constraints. See Chapter 6 for more information.

- ▶ Illustrated future general aviation areas with conceptual hangar layouts and other GA facilities in the following areas:
 - **Apron D:** Future box hangars on undeveloped east area. (1-5 years)
 - **Apron E:** Future T-hangars and fuel facility on undeveloped east area. (1-5 years)
 - **Apron F:** Future box hangars south of the existing apron on undeveloped area. (5-10 years)
 - **South hard stands:** Future corporate hangar area. (1-5 years)
- ▶ Demarcated three areas for long-term aviation reserve or related development on the west airfield. (10-20 years)
- ▶ Delineated future aviation reserve, FBO, or similar corporate development east of Apron B. (5-10 years)

Landside

Changes to landside facilities were analyzed and incorporated that will support terminal area expansion.

- ▶ Incorporated future rental car facility and CONRAC expansion. (1-5 years)
- ▶ Added future long-term parking on vacant lot east of parking Lot A with future canopies with solar arrays. (1-5 years)
- ▶ Added future perimeter fence south of Apron F, west of Runway 32 RPZ, and east of Runway 20 approach. (1-5 years)

Land Use and Property Acquisition

- ▶ Created new noise contours based on approved operations forecasts and added to new Land Use Plan sheet.
- ▶ Updated parcel data to include acquisition information and funding sources.
- ▶ Updated parcels to show existing and future property interests.

NEXT STEPS

- ▶ FAA approval for ALP set.
- ▶ Add eligible projects to the Airport's capital improvement plan.
- ▶ Coordinate with the ADO on project schedules and funding.
- ▶ Complete appropriate environmental documentation and engineering design.