CHAPTER 3

Airport Facility Requirements

The evaluation of airport facility requirements is intended to determine the facility needs for Creswell Municipal Airport - Hobby Field (77S) for the current 20-year planning period based on updated aviation activity forecasts and conformance to established airport design criteria..

Introduction

The evaluation of airport facility goals and requirements combines the results of the inventory and forecasts, and application of established planning criteria to determine the future facility needs for the Airport during the 20-year planning period. All airfield facility requirements definitions are based on Federal Aviation Administration (FAA) airport design and airspace planning standards, and locally defined goals for the Airport. The facility requirements evaluation identifies the adequacy of existing facilities and identifies what new facilities may be needed based on forecast demand or conformance to FAA standards. Potential options for accommodating current and future facility needs will be evaluated in Chapter 4 – Airport Development Alternatives.

Airside facilities focus on the movement of aircraft associated with operations, which includes runways, taxiways, navigational aids, and lighting systems. **Landside** facilities provide aircraft storage and support, which includes hangars, aircraft parking apron(s), terminal and fixed base operator (FBO) facilities. Support facility needs include aviation fuel storage and dispensing, security/perimeter fencing, surface access, automobile parking, and utilities.

Summary of Airport Activity

Recently, the Federal Aviation Administration (FAA) changed its forecasting guidance for airports with less than 90,000 annual operations through release of its August 2024 Memorandum – Forecast Review and Approval Instructions (8/12/2024).

The FAA guidance for "smaller general aviation (GA) airports with less than 90,000 annual operations" is that planning forecasts can be streamlined to focus on the existing and likely future critical aircraft for each runway. The guidance also indicates that the normal forecast consistency check with the FAA Terminal Area Forecast (TAF) is not required.

Where applicable, the FAA indicates that airport sponsors may attest that their current and anticipated aircraft operations will not exceed 90,000 in the foreseeable future (defined by FAA as "through the mid-term period).

A review of recent historical aircraft operations counting data and the updated 2025 (baseline) aircraft operations estimate confirms that annual aircraft operations levels at Creswell Municipal Airport - Hobby Field are less than 90,000 operations and are not expected to reach 90,000 operations by the mid-term period in the current 20-year planning period (2025-2045). As a result, the preparation of a full aviation activity forecast in the current Airport Master Plan is not required.

The following section in the noted FAA memorandum provides guidance relevant for the Airport:

Section 5. Forecasts at Non-towered, Low-activity Airports (defined as having less than 90,000 annual operations) recommend streamlining the analysis to focus on the existing critical aircraft by runway, and the likely future critical aircraft by runway.

The memorandum further recommends the following:

> *"The airport sponsor may attest that 'Current operations at the airport are less than 90,000 operations annually, and not expected to exceed 90,000 operations in the foreseeable future. Therefore, preparation of a detailed forecast is not warranted.'"*

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The sponsor provides the following statement attesting activity at 77S, consistent with FAA guidance:

"Current operations at the airport are less than 90,000 operations annually, and not expected to exceed 90,000 operations in the foreseeable future. Therefore, preparation of a detailed forecast is not warranted."

A summary of updated Hobby Field activity projections is provided below, with the "foreseeable future" 10-year period defined by FAA shown in **bold**:

Activity	2025	2030	2035	2040	2045
Based Aircraft	**84**	**91**	**91**	92	93
Annual Aircraft Operations	**21,297**	**22,273**	**23,293**	24,360	25,477

As noted above, the evaluation of airport activity, provided in **Appendix E**, confirmed that annual aircraft operations at Hobby Field are currently well below the FAA-defined threshold of 90,000 used to determine forecast requirements for the airport master plan. The evaluation was also used to identify the current and future critical aircraft for each runway and the corresponding design standards. The evaluation of demand-driven elements will quantify facility needs such as runway length, hangar space, and aircraft parking requirements based on projected demand and the type of aircraft being accommodated. Items such as lighting, navigational aids, and approach capabilities are evaluated based on overall airport activity and facility classification.

Demand/Capacity Analysis

The evaluation of runway capacity is used to identify existing or future operational constraints that may require specific facility improvements such as taxiways, aircraft hold areas, etc. As noted earlier, Runway 16/34 has a full-length parallel taxiway, three exit taxiways, and aircraft hold areas at both ends of the runway. This configuration provides a high level of functionality and operational capacity for general aviation (GA) runways of this length.

Annual service volume (ASV) is a broad measure of airport capacity and delay used for long-term planning as defined in *FAA Advisory Circular (AC) 150/5060-5, Airport Capacity and Delay*. Although the generic ASV calculation assumes optimal conditions (air traffic control, terminal radar, etc.) that do not exist at Hobby Field, it provides a reasonable basis for approximating existing and future capacity for master planning purposes.

More common capacity issues are often experienced during brief busy periods, when runway occupancy time can create delays or when taxiways experience bottlenecks at the departure end of a runway. If these constraints are persistent enough, taxiway improvements and aircraft hold/run-up areas are generally effective in reducing minor congestion.

The FAA estimates the ASV for a single runway with no air carrier traffic is approximately 230,000 annual operations. Hourly capacity is estimated to be 98 operations during visual flight rules (VFR) conditions and 59 operations during instrument flight rules (IFR) conditions.

The existing and future demand-capacity ratios for Runway 16/34 are presented below:

- *Existing Capacity: 21,297 Annual Operations / 230,000 ASV = 9% (demand/capacity ratio)*
- *Future Capacity: 25,477 Annual Operations / 230,000 ASV = 11% (demand/capacity ratio)*

Based on these ratios, the annual airfield capacity at the Airport will significantly exceed demand through the current 20-year planning period. Hourly capacity is also expected to be adequate to accommodate normal demand. The average delay per aircraft is expected to remain below one minute during the planning period.

Critical Aircraft and Airport Design Standards Discussion

CRITICAL AIRCRAFT AND DESIGN CODES

Critical aircraft (also referred to as “design aircraft”) are determined for runways based on the current and projected level of flight activity defined in an airport master plan. The critical aircraft represents the most demanding aircraft using a runway on a regular basis (defined by FAA as ≥ 500 annual operations). For fixed-wing aircraft, the FAA assigns an Aircraft Approach Category (AAC) and Airplane Design Group (ADG) based on the aircraft’s characteristics (approach speed and physical dimensions). These two items are combined to represent key components in the FAA’s alpha-numeric Runway Design Code (letters A-E for AAC, roman numerals I-VI for ADG) used to define design standards (see below). The applicable design standards for the runway and its associated facilities correspond to the design codes assigned to the critical aircraft, consistent with FAA criteria.

An updated evaluation of air traffic performed for the master plan update, indicates that the existing based aircraft fleet at Hobby Field consists almost exclusively of single-engine (piston) fixed wing aircraft (including LSA and Experimental), and one helicopter. These fixed-wing aircraft generate the majority of air traffic at the Airport and are classified as A-I “small.” The Airport also accommodates a mixture of transient general aviation aircraft types and seasonal wildfire response helicopters. A review of the recent 11-year historical instrument flight plan data (FAA

TFMSC) for Hobby Field indicates an average of 246 annual operations were logged between 2015 and 2025. Although the data include a variety of aircraft types ranging from single and multi-engine piston aircraft to business jets, the overall volume of this activity falls below the level required by FAA to define a runway's critical aircraft. The seasonal wildfire helicopters do not define runway-taxiway design standards, although rotor-specific design standards may be required for aircraft parking areas and other support facilities.

RUNWAY DESIGN CODE (RDC)

The RDC defines the design standards used for runway construction. As noted above, the RDC is comprised of the two physical characteristics inputs from the critical aircraft, combined with approach visibility minimums for the runway:

- **Aircraft Approach Category (AAC)** – based on the approach speed of the aircraft (in landing configuration, roughly 1.3X certified aircraft stall speed).
- **Airplane Design Group (ADG)** – based on the wingspan and tail height of the aircraft.
- The lowest **Approach Visibility Minimums** – The lowest visibility minimums required for landing, established for the runway. Visual runways typically have a minimum visibility values consistent with minimum FAA VFR visibility minimums established for that class of airspace. Instrument runways support approach procedures permitted in visibility conditions as a low as ½-mile (1-statute mile is common for non-precision instrument approaches):
  - » Approach visibility minimums are determined by FAA for runways based on the category of approach (visual, non-precision instrument, or precision instrument) and the most capable existing or future approach procedure. Lower visibility minimums generally correspond to instrument approaches that allow aircraft to descend to lower altitudes before requiring visual contact to be established with the runway environment prior to landing.
  - » RDC visibility minimums for each runway end are expressed in Runway Visual Range (RVR). For RVR-equipped runways, ground-based transmitters project horizontal beams of light near the runway to measure forward visibility levels in feet. The RVR values correspond to visibility measurements commonly expressed in fractions of statute miles (e.g., 1-mile, 3/4-mile, etc.). For runways not equipped with RVR, the approach visibility minimums are converted to the nearest equivalent RVR. For Runway 16/34 the 1-mile approach visibility minimums for the Runway 16 RNAV GPS approach most closely corresponds to RVR 5000. The RVR for a runway reflects the most capable approach type or procedure for either runway end.

The evaluation of current and future air traffic activity was used to define the applicable AAC and ADG designations for Runway 16/34. For more information see *FAA AC 150/5000-17, Critical Aircraft and Regular Use Determination*, and applicable airport planning & design standards summarized in greater detail below.

The RDC definition is similar to the Airport Reference Code (ARC) designations previously applied to runways. Approach visibility minimums were previously incorporated as a secondary input to ARC in runway design standards tables contained the FAA Airport Design advisory circular. For the purposes of this evaluation, the RDCs now defined for the runway are compared to the ARCs listed on the 2007 ALP. The ARC/RDC designations do not necessarily mean that larger aircraft cannot operate on that runway, but they define the design guidance to be used for FAA-funded improvements. The ARC/RDC for the runway is also typically applied to the overall airport and is referenced in state and federal airport listings.

Based on the evaluation of air traffic noted earlier, the recommended existing and future critical aircraft for Runway 16/34 is a single-engine piston aircraft included in A-I (small). This corresponds to **RDC "A-I (small)-5000**." This designation is comparable to the ARCs and approach visibility minimums previously defined for the runway. The four passenger Cessna 182 is a representative A-I small piston single-engine aircraft that is both based at the Airport and a common "transient" user of the Airport. The "small" designation indicates that the aircraft has a maximum takeoff weight of 12,500 pounds or less.

RUNWAY DESIGN CODES (RDC)

Runway 16/34

- The **existing and future RDC is A-I-5000** (not lower than 1-mile), small aircraft

FAA DESIGN STANDARDS

FAA AC 150/5300-13B, Change 1, Airport Design, serves as the primary reference in establishing the geometry of airfield facilities. The existing condition dimensions and design standards for Runway 16/34 are summarized in **Table 3-1**.

Table 3-1: Runway 16/34 Design Standards Summary (Dimensions in Feet)

FAA Standard	Runway 16/34 Existing Conditions[1]	Runway 16/34 RDC A/B-I (Small) Not Lower Than 1-Mile Visibility Minimums Existing/Future Standard[2]
Runway Length	3,102	See Runway Length Analysis
Runway Width	60	60
Blast Pad Width/Length	N/A	80/60[3]
Runway Shoulder Width	10 (turf)	10
Runway Safety Area Width Beyond RWY End Prior to Landing Threshold	 120 240 240	 120 240 240
Runway Obstacle Free Zone Width Beyond RWY End Prior to Landing Threshold	 250 200 200	 250 200 200
Runway Object Free Area Width Beyond RWY End Prior to Landing Threshold	 250 240 240	 250 240 240
Approach Runway Protection Zone[4] • Inner Width • Outer Width • Length	 250 450 <1,000[5]	 250 450 <1,000[5]
Departure Runway Protection Zone[4] • Inner Width • Outer Width • Length	 250 450 <1,000[5]	 250 450 <1,000[5]
Runway Centerline to: Parallel Taxiway/Taxilane CL Aircraft Aircraft Hold Position Aircraft Parking Area 20' Building Restriction Line (BRL)	 200[6] 125 245[7] 376/250[7]	 150 125 245[8] 376/495[9]

Source: FAA AC 150/5300-13B, Change 1; Table 3-1 Notes:

1. As depicted on 2007 ALP and documented on site; published dimensions cited in current FAA Chart Supplement and FAA Airport Record Form.
2. RDC A-I Small – 5000 aircraft exclusively (existing and future standard), representing the current/future critical aircraft for the runway and 1-mile approach visibility minimums.
3. Dimensions provided for reference. Blast pads not required for ADG I runways except as stated (turf runways, stabilizing soil treatments).
4. Existing RPZ dimensions correspond to the existing/ultimate approach visibility minimums depicted on the 2007 ALP and reflected on current FAA instrument approach procedure (RNAV (GPS) RWY 16). RPZ dimensions were not differentiated as approach and departure RPZ by FAA when the last ALP was approved.
5. Portions of the existing and future Runway 16 RPZs extend off airport property (north of Dale Kuni Road). The outer half of the existing and future Runway 34 RPZ extends off airport property.
6. Runway 16/34 centerline to Taxiway A centerline is 200 feet
7. Distance to nearest aircraft parking position (northeast section of FBO Apron).
8. Greater of "utility" NPI runway transitional surface clearance for 10' aircraft tail height or TOFA clearance for Taxiway A. Smaller aircraft parking may be accommodated if clear of TOFA and do not penetrate transitional surface.
9. The existing 376-foot west BRL for Runway 16/34 depicted on the 2007 ALP can accommodate up to 18-foot structures at the BRL without airspace surface penetration or conflicts with the parallel taxiway. Maximum allowable building heights are determined by zoning, but penetrations to airspace are not permitted without FAA approval. The existing 200-foot east BRL for Runway 16/34 depicted on the 2007 ALP is co-located with the outer edge of the (former) visual runway primary surface and the eastern airport property line boundary. The future east BRL depicted on the ALP is located 495' east of the runway centerline, entirely off airport property. The future east BRL can accommodate up to 35-foot structures at the BRL without airspace surface penetration. There are no parallel taxiway clearances currently required on the east side of the runway.
10. Future BRL dimension reflects 500' wide NPI primary surface for Runway 16/34 and the adjacent 7:1 transitional surface.

TAXIWAY DESIGN GROUP

The Taxiway Design Group (TDG) is based on the dimensions of the aircraft landing gear, including distance from the cockpit to the main gear (CMG) and main gear width (MGW). As shown in **Figure 3-1**, these dimensions affect an aircraft's ability to safely maneuver on airport taxiways and dictate pavement fillet design on runway or taxiway connections. Individual taxiways and taxilanes can be constructed using different TDGs based on the expected use by aircraft type. **Table 3-2** summarizes the applicable TDG dimensions for Hobby Field.

Table 3-2: Taxiway Design Standards (dimensions in feet)

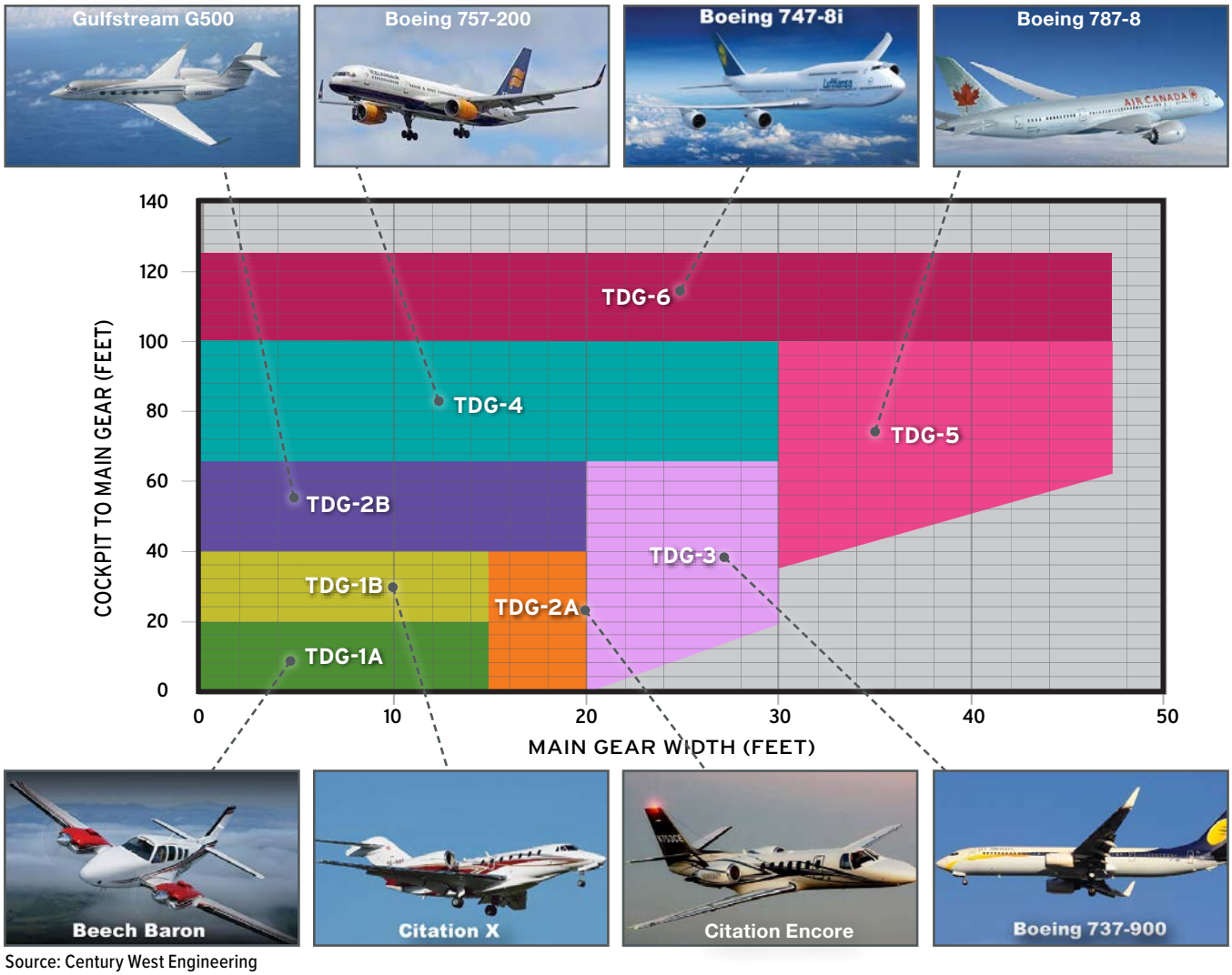
	Current Conditions	Current & Future Standard
Taxiway A, A1-A3		**ADG I / TDG 1A**
Taxiway Width	35	25
Taxiway Shoulder Width	10	10
TSA Width	49	49
TOFA Width	89	89

Source: Century West Engineering

The major taxiways (A, A1-A3) serving Runway 16/34 are 35 feet wide, which exceeds the dimensional standard (25') for ADG I aircraft. The current and future critical aircraft identified for Runway 16/34 is a single-engine piston aircraft, included in ADG I (TDG-1A).

For planning purposes, maintaining the current taxiway geometry is recommended where feasible, although TDG 1A standards may be applied for future FAA-funded taxiway improvements. These designations are consistent with the long-term development standards to be applied to the runway.

Figure 3-1: Taxiway Design Group Components



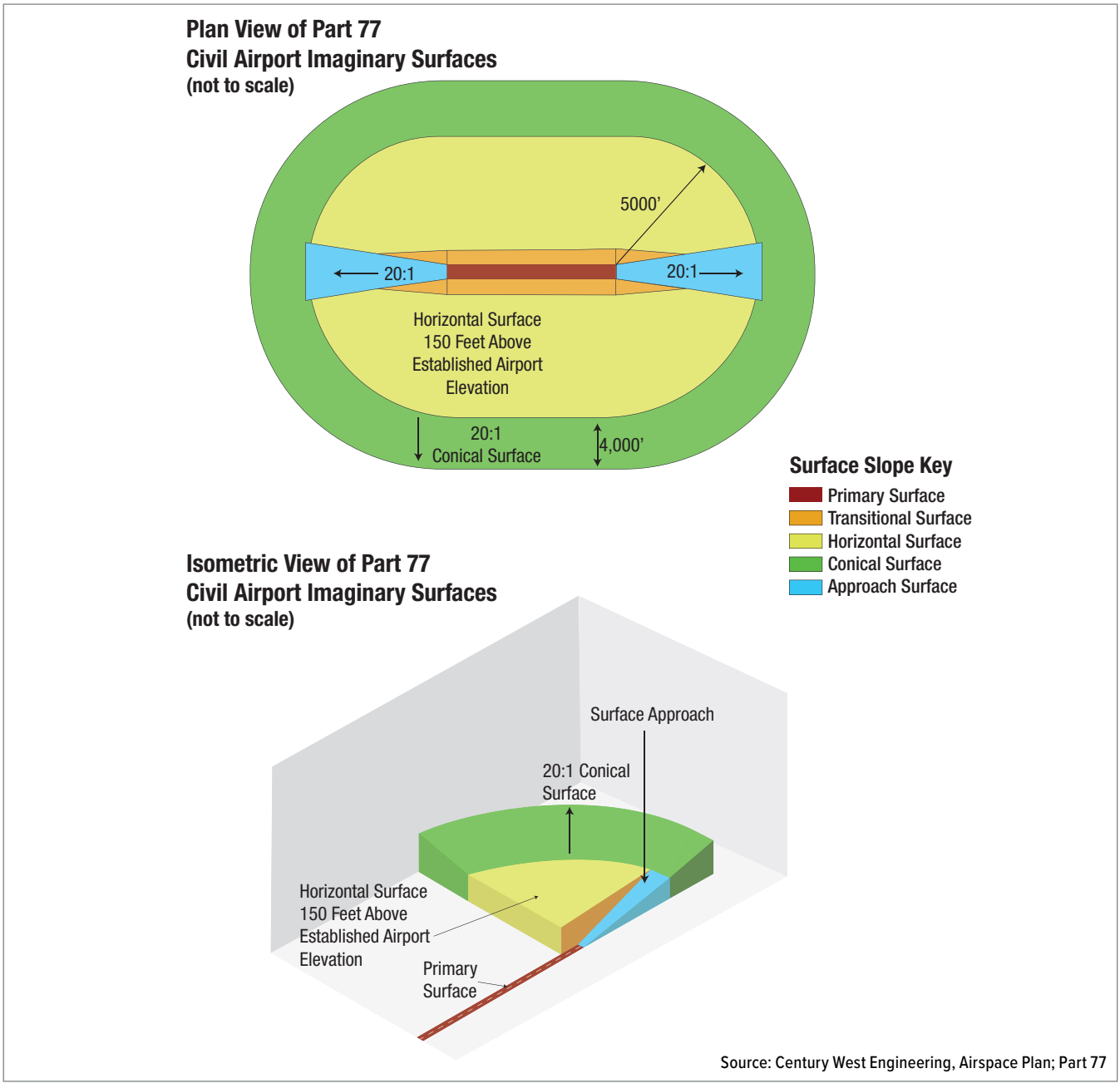
Source: Century West Engineering

Airside Facility Requirements

PART 77 AIRSPACE

U.S. airspace for airports is defined by Title 14, Code of Federal Regulations (CFR) Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace. Part 77 establishes standards for determining obstructions to air navigation, navigational aids, and facilities. Part 77 also defines imaginary surfaces (airspace surfaces) that are established to protect the areas immediately surrounding Civil and Department of Defense airports and heliports. These airspace surfaces should be free of obstructions (i.e., structures, parked aircraft, terrain, trees, etc.) to the maximum extent possible, to provide a safe aircraft operating environment. A generic Part 77 diagram depicting the five civil airport airspace surfaces is provided in **Figure 3-2**.

Figure 3-2: Part 77 Airspace (Generic)



Source: Century West Engineering, Airspace Plan; Part 77

The definition of Part 77 surfaces at an airport reflects a variety of factors, primarily runway category (visual, non-precision instrument, or precision instrument) and the size of aircraft accommodated (large or small). Runway 16/34 is designated as a non-precision instrument runway based on its RNAV GPS procedure to Runway 16. The current and future critical aircraft for Runway 16/34 is consistent with airspace planning standards for "small" aircraft (<12,500 pounds), defined by FAA as "utility."

The applicable Part 77 surfaces for Hobby Field are summarized in **Table 3-3**. The current Part 77 definitions for Runway 16/34 are the same as the "ultimate" airspace defined in the 2007 Airport Master Plan Update.

Table 3-3: Part 77 Airspace Summary (Hobby Field)

	Runway 16/34
Part 77 Runway Designation	**Utility Runway Non-Precision Instrument (NPI)**
Width of Primary Surface	500 feet
Approach Surface Length	5,000 feet (Rwy 16 – NPI) 5,000 feet (Rwy 34 – Visual)
Approach Surface Width (Outer End)	2,000 feet (Rwy 16 - NPI) 1,250 feet (Rwy 34 – Visual)
Approach Surface Slope	20:1 (Rwy 16 - NPI) 20:1 (Rwy 34 – Visual)
Transitional Surface	7:1 Slope to 150 feet above runway
Horizontal Surface Elevation	150 feet above airport elevation
Horizontal Surface Radius	5,000 feet
Conical Surface	20:1 for 4,000 feet

Source: Code of Federal Regulations (CFR), Title 14, Subpart E, Part 77

PART 77 AIRSPACE SURFACES AND OBSTRUCTIONS

This section provides descriptions of Part 77 airspace surfaces and obstructions for Runway 16/34 depicted on the airspace plan (Sheet 4) in the 2007 ALP drawing set, based on the ultimate runway configuration in place at the time. This information is provided for reference only, and will be updated with new AGIS obstruction survey data later in the master plan. All obstructions identified in the AGIS survey will be documented in the updated ALP drawing set. As noted earlier, there is no change in the Part 77 definitions for Runway 16/34 from the 2007 ALP, although the future runway length recommendation will be reviewed in this master plan update based on current FAA standards.

The 2007 Airspace Plan identifies 57 items in the obstruction tables. 18 items are noted "No Obstruction – Reference Only." The remaining 39 items penetrate various Part 77 surfaces. One listed item (parked aircraft) penetrated both the primary and transitional surfaces. The heights and penetration amounts for several of the items were estimated because they were not charted in a previous obstruction survey completed in 2003. The majority of the obstructions identified were individual trees or groups of trees (23 listings). Other items included power poles (4 listings); buildings (9 listings); parked aircraft (1 listing); terrain (1 listing); and lighted wind cone (1 listing). Part 77 terrain penetration was limited to one area in the conical surface, southwest of the runway.

Among the non-obstruction items noted for reference was the section of Dale Kuni Road that passes beneath the Runway 15 (now Runway 16) approach surface and the adjacent transitional surface, and several towers located northeast and southwest of the outer edge of the conical surface. The Runway 15 (16) approach surface clearance reflects the ultimate runway configuration that includes a 499-foot extension at the north end of the runway.

The recommended disposition for the obstructions included "clear trees," "relocation" (aircraft parking), and "light" (obstruction lights on buildings). As noted earlier, the inventory of obstructions and the recommended dispositions for those obstructions will be updated with data obtained through the airport master plan's Airports GIS (AGIS) survey.

Approach Surface

Approach Surfaces extend outward and upward from each end of the primary surface, along the extended runway centerline. The dimensions and slope of the approach surfaces are determined by the type of aircraft intended to use the runway, and the most demanding approach type planned for the runway (See **Table 3-3**).

The 2007 Airspace Plan identified two obstructions (tree groups) to the Runway 15 (now 16) approach surface and five obstructions (trees, tree groups) to the Runway 33 (now 34) approach surface, with the recommendation "clear trees."

Primary Surface

The Primary Surface is a rectangular plane longitudinally centered on the runway (at centerline elevation) extending 200 feet beyond each runway end. The outer ends of the primary surface connect to the inner portion of the runway approach surfaces. The width of the primary surface depends on runway category, approach capability, and in some cases, approach visibility minimums.

The 2007 Airspace Plan depicts a 500-foot wide primary surface, which was based on a future Non-Precision Instrument (NPI) approach for the utility runway. The primary surface should be free of any penetration, except items with locations fixed-by-function (e.g., PAPI, runway or taxiway edge lights, etc.). This dimension applies to Runway 16/34 based on the current NPI approach capabilities to Runway 16. Four primary surface obstructions were identified on the 2007 Airspace Plan (3 tree groups, parked aircraft). The recommended disposition for the obstructions included "clear trees" and "relocate parking" (aircraft parking).

Transitional Surface

The transitional surface is located along the lateral edges of the primary surface and is represented by a plane rising perpendicularly to the runway centerline at a slope of 7 to 1. The transitional surface extends outward and upward on both sides of the runway, to an elevation 150 feet above the airport elevation, where the outer edges of the transitional surface connect with the horizontal surface. The transitional surface should be free of obstructions (e.g., parked aircraft, structures, trees, terrain, etc.).

Although tree growth is often addressed through an ongoing program of removal or trimming, built items adjacent to runways are not uncommon, and are more difficult to eliminate. In these cases, a general recommendation is to mitigate obstructions (with obstruction lights) that cannot be immediately eliminated or relocated, such as aircraft hangars or other buildings. The number, location, and type of close-in obstacles often determine instrument approach procedure feasibility and approach descent or visibility minimums.

The 2007 Airspace Plan identified 28 transitional surface obstructions (14 trees/tree groups, 9 buildings, 4 power poles, 1 parked aircraft). The recommended disposition for the obstructions included "clear trees," "relocate parking" (aircraft parking), and "light" (power poles).

Horizontal Surface

The Horizontal Surface is a flat plane located 150 feet above the airport elevation. The horizontal surface boundaries are defined by the radii (5,000 feet for Runway 16/34) constructed from each runway end. The outer edges of the radii for each runway end are connected with tangent lines and when combined, define the horizontal surface.

One horizontal surface obstruction (tree group) was identified east of the Airport on the 2007 Airspace Plan. The surface penetration was estimated at 283 feet. The recommended disposition for the obstruction was "clear trees."

Conical Surface

The Conical Surface is an outer band of airspace that borders the horizontal surface. The conical surface begins at the outer edge of the horizontal surface and extends outward 4,000 feet and upward at a slope of 20:1. The top elevation of the conical surface is 350 feet above the airport elevation, which is defined as the high point on the airfield.

One conical surface obstruction (terrain; Creswell Butte, Elev. 985 feet MSL) was identified southwest of the Airport on the 2007 Airspace Plan. The surface penetration was estimated at 92 feet. The recommended disposition for the obstruction was "obstruction light."

AGIS Update

AGIS obstruction survey data will be acquired from a spring/summer 2026 aerial mapping flight conducted as part of the master plan. The AGIS data will be incorporated into the updated Part 77 Airspace Plan, and related drawings. The

AGIS survey will provide updated definitions and recommended dispositions for the Part 77 surface obstacles previously identified and new, or previously uncharted items. Updated tables will be provided for all identified obstructions, with location and elevation data, and the recommended disposition for each item. The updated ALP drawing set will serve as the primary reference for any future obstacle removal projects to be identified in the Airport Capital Improvement Plan (ACIP).

Airfield Pavement Strength and Condition

Airfield pavements are considered to be the single most important asset at an airport. Monitoring and planning for future improvements to the strength and condition of airfield pavements is critical to satisfying existing and future aeronautical demand.

AIRFIELD PAVEMENT STRENGTH

Runway 16/34 has a published pavement strength rating of 12,500 pounds (single wheel landing gear) (FAA Chart Supplement). The strength rating for the runway pavement is approximate and is typical for general aviation runways designed to accommodate predominantly small aircraft. For Hobby Field, the pavement sections for the runway, major taxiways, taxilanes, and aircraft parking aprons are based on the design requirements for aircraft weighing 12,500 pounds or less.

Runway 16/34 was rehabilitated/reconstructed in 2022 with a 4-inch surface course and a combined section thickness (surface, base, subbase) of approximately 17 inches. The main sections of Taxiway A (parallel taxiway) have a combined section thickness of approximately 18 inches, although the asphalt surface course is 2 inches rather than the 4 inches for the runway. The planned reconstruction Taxiway A will be designed to achieve the desired 12,500 pound strength, although the exact thickness of each section may vary.

Airfield pavements are typically capable of accommodating aircraft weights above published strength ratings on a limited basis. However, a significant volume of heavier aircraft use will normally reduce the useful life of pavements and require more frequent rehabilitation or reconstruction.

AIRFIELD PAVEMENT CONDITION

An updated airfield pavement inspection was performed at Hobby Field in August 2024, under the Oregon Department of Aviation (ODAV) Pavement Evaluation Program (PEP). Airfield pavement conditions documented in the February 2025 PEP report are summarized below.

"The area-weighted average PCI for all airport pavements at Creswell Hobby Field Airport is approximately 73. The section PCIs ranged from a low of 34 to a high of 94. The primary distresses observed during the inspection were weathering, longitudinal and transverse cracking, fatigue (alligator) cracking, depression, patching, and raveling on AC-surfaced pavements."

It is noted that the area weighted PCI value 73 corresponds to a PCI rating of "Satisfactory." The PEP report indicates that the overall (area weighted) condition of the runway, taxiway, and apron pavements at Hobby Field are consistent with project history and recent site visit observations:

- Runway 16/34: Good
- Parallel Taxiway: Poor, Satisfactory, Fair, Good (west section of B2: Poor)

- Exit Taxiways: (A1 - Good, Satisfactory/ A2 - Satisfactory/ A3 – Good, Fair)
- Aircraft Hold Areas: (Rwy 34 end – Satisfactory / Rwy 16 end – Fair)
- Main Apron/FBO Apron/Fueling Apron: Fair
- South T-Hangar Taxilanes: Very Poor (E/W main access stub); Poor, Fair, Satisfactory, Good (N/S hangar stubs)

A summary of the recommended projects in the 2025 PEP Five-Year Global Maintenance and Rehabilitation Plan (2024-2034) is provided in **Table 3-4**.

Table 3-4: Hobby Field 5-Year Pavement Management Plan (2024-2034)

Recommended Year	Pavement Section	Recommended Work
--	Runway, Portions of Taxiways A1 & A3, South Hangar Area Stub Taxilanes (5)	Routine Maintenance
2026	Taxiway A (main section)	Overlay
2027	South T-Hangar Area Taxilanes (430' main access taxilane & 1 stub)	Overlay
2027	North Hangar Area Taxilanes (N-S stub)	Overlay
2028	Taxiway A2	Slurry Seal
2028	South T-Hangar Area Taxilanes (3 stubs and 433' @ west end of main access taxilane)	Slurry Seal
2028	North Hangar Area Taxilanes (main E-W stub, 2 N-S taxilanes adjacent to T-hangar, 1 stub (north hangar)	Slurry Seal
2028	Aircraft Hold Areas (@ Taxiway A1 & A3); outboard sections.	Fog Seal
2029	Main Apron (Front Section and Tiedown Apron)	Fog Seal

Summary – Pavement

It is expected that all runway, taxiway, apron and taxilane pavements on the airfield will require rehabilitation or reconstruction during the current 20-year planning period. A prioritized list of pavement rehabilitation or reconstruction projects will be provided in the updated capital improvement program. It is recommended that ongoing maintenance, including vegetation removal, crack filling, sealcoats, and joint repairs be conducted on a regular basis and consistent with the ODAV PEP to maximize the longevity of airfield pavements through the planning period.

The PEP predicted 2029 and 2034 PCI ratings (assuming no intervening maintenance or rehabilitation is performed) for Hobby Field are presented graphically in **Figure 3-3**.

Figure 3-3: Predicted Pavement Conditions

Source: 2024 ODAV Pavement Evaluation Program Creswell Hobby Field Airport

Airfield Facilities

RUNWAYS

Runway 16/34 was analyzed relative to orientation, length and width, and conformance to FAA design standards.

Runway Orientation and Crosswind Coverage

The preferred orientation of a runway is a function of wind velocity, combined with the ability of aircraft to operate under given wind conditions. FAA has defined the maximum allowable direct crosswind (90-degrees to direction of travel) for small aircraft as 10.5 knots (13 mph) and 13 knots (15 mph) for larger general aviation aircraft. Aircraft can operate in incrementally higher wind speeds with corresponding reductions (<90 degrees) in crosswind angle. The FAA recommends that primary runways accommodate at least 95% of wind conditions. When this level of wind coverage is not provided, the FAA recommends consideration of a crosswind runway.

FAA guidance recommends the use of a minimum of ten years of historical onsite wind data to evaluate runway orientation and crosswind coverage. In cases where a full ten years of onsite data are not available, the FAA recommends using data from another nearby airport, or composite data from multiple nearby airports. At the time of this analysis, Hobby Field's onsite AWOS-3 provides seven years of wind data, spanning from 2019 through 2025, which is less than the FAA-recommended period. To supplement the limited onsite data, ten years of wind data from Eugene Airport - Mahlon Sweet Field (EUG) (14.6 NM NW) was acquired and analyzed. The EUG data (2015-2024) indicates wind coverage above 95% for all observation categories (All-Weather, IFR, VFR). A review of the seven years of Hobby Field all-weather observation data indicates similar coverage compared to EUG. It is also noted that the runways at EUG and Hobby Field share the same 160/340-degree ("16/34") magnetic alignment. **Table 3-5** summarizes the all-weather wind rose coverage for Runway 16/34 based on both Hobby Field and EUG wind data. Both datasets indicate coverage for a Runway 16/34 orientation is above 97%.

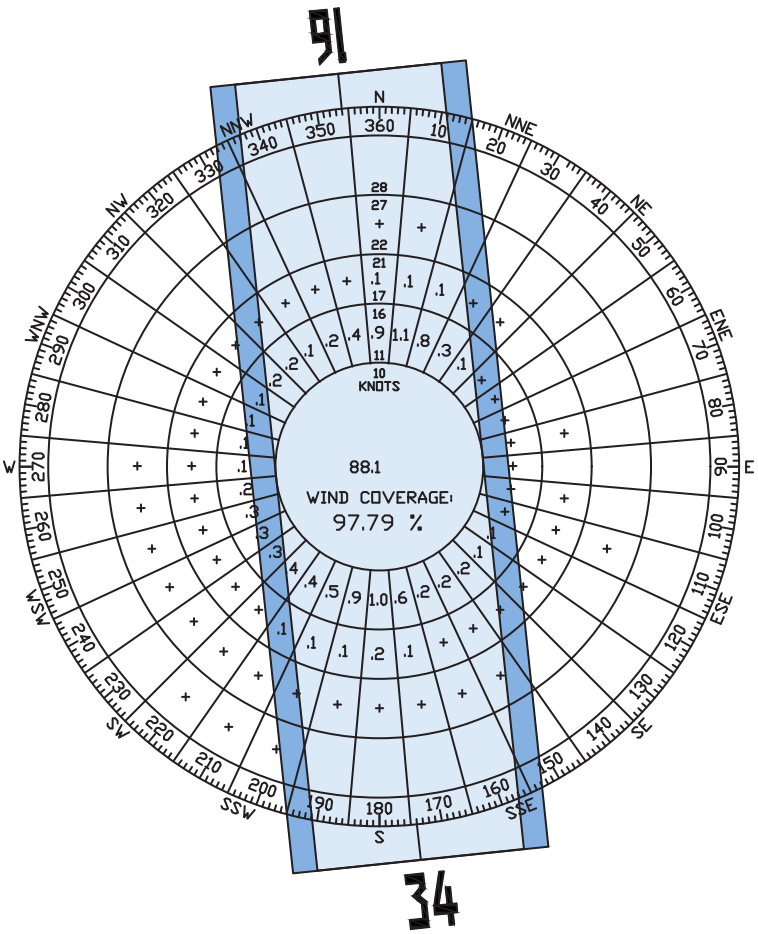
Table 3-5: Hobby Field All-Weather Wind Coverage – Runway 16/34

	EUG Data		77S Data	
	10.5 Knots	13 Knots	10.5 Knots	13 Knots
Runway 16	66.16%	67.02%	77.17%	77.04%
Runway 34	51.14%	51.49%	78.22%	78.33%
Combined	97.79%	98.99%	99.42%	99.75%

Source: EUG Data (ASOS) – 2015-2024; 77S Data (AWOS-3) – 2019-2025

Figure 3-4 depicts all-weather, VFR, and IFR wind roses created for Runway 16/34 using 10 years of EUG data. Consistent with current FAA guidance, these wind roses will be added to the updated ALP drawing set for Hobby Field. Future updates to the ALP may replace the wind roses with Hobby Field source data, although there are no significant differences in runway wind coverage. **Table 3-6** summarizes Runway 16/34 wind coverages for the wind speeds and weather conditions described above.

Figure 3-4: Wind Roses (All Weather, IFR, VFR) – Runway 16/34



Source: FAA Airport Data and Information Portal

Table 3-6: All-Weather, VFR, IFR Crosswind Coverage (EUG data) - Runway 16/34

Runway	Direct Crosswind Component (Knots)	All-Weather Wind Coverage	VFR Wind Coverage	IFR Wind Coverage
Runway 16/34	10.5	97.79%	97.37%	99.61%
	13	98.99 %	98.79%	99.84%

Source: FAA Airport Data and Information Portal (726930 Mahlon Sweet Field Airport Annual Period Record 2015-2024)

RUNWAY LENGTH

Runway length requirements are based primarily on airport elevation, mean maximum temperature of the hottest month, runway gradient, and the aircraft expected to use the runway. For general aviation airports, the FAA recommends using a "family of design aircraft" approach for defining runway length requirements. *FAA AC 150/5325-4B, Runway Length Requirements for Airport Design*, provides the length analysis requirements for different segments of large and small aircraft fleets. This methodology is consistent with FAA planning criteria that correlates the needs of the existing and future critical aircraft to approval of the Airport Layout Plan drawing and project eligibility for FAA funding. The specific design criteria applied to a runway does not preclude use by larger aircraft. However, airport management approval is typically required for use by heavier aircraft based on the operational limits of the airfield, particularly pavement strength.

2007 Airport Layout Plan Report

The 2007 Airport Master Plan runway length evaluation used a since-discontinued FAA micro computer program that produced results generally consistent with the runway length curves currently published in *FAA AC 150/5325-4B*. As noted earlier, the previous and updated critical aircraft designations for Runway 16/34 both fall into the *"small airplane with fewer than 10 seats"* fleet grouping. The result is the current and previous FAA runway length methodologies used for Hobby Field are based on the same category of small aircraft and provide similar runway lengths for planning purposes.

The master plan noted that at 3,102 feet, Runway 15/33 (since redesignated 16/34) was 29 feet less than the length required (3,130 feet) to accommodate 95% of the small airplane fleet (aircraft under 12,500 pounds). The FAA model indicated that a length of 3,740 feet was required to accommodate 100% of the small airplane fleet at Hobby Field.

Based on the master plan's alternatives analysis, a future runway length of 3,600 feet was recommended and depicted on the 2007 ALP. The future length represents a planned extension of 498 feet to the north that was limited by approach clearances over Dale Kuni Road. The evaluation indicates that a runway length of 3,600 feet at Hobby Field will accommodate approximately 98.9% of the small airplane fleet.

Updated Assessment of Runway Length Requirements

Using current FAA planning methodologies, the updated evaluation of Runway 16/34 length requirements is based on the operational requirements of the critical aircraft, or family of aircraft using the runway. As noted earlier, runway length curves contained in *FAA AC 150/5325-4B* are now used to determine applicable planning guidance.

The FAA recommends a length evaluation for runways serving small aircraft (12,500 pounds or less) based on the "family grouping of small airplanes." Two determinations are used to identify appropriate aircraft factors (approach speed and number of seats) and the applicable runway length curves. The curves were developed by FAA based on approved airplane flight manuals, and they are intended to represent the needs of the fleet, rather than a single aircraft or type. This approach provides a more effective indication of the requirements of overall aircraft rather than relying on the requirements for an individual aircraft.

The current length of Runway 16/34 is 3,102 feet. The runway accommodates predominantly small aircraft, which correspond to the runway length curves for small aircraft (≤12,500 pounds). The current and future critical aircraft for the runway is a small single-engine piston aircraft, with the Cessna 182 Skylane (C-182) identified as a representative aircraft. The Cessna 182 is a four-passenger aircraft, with an approach speed of 50 knots or more and a maximum takeoff weight (MTOW) of 2,600 to 3,100 pounds (depending on model). This aircraft is in the "family of aircraft" that fall under A/B-I (small aircraft) standards, weighing less than 12,500 pounds. It also aligns with the "fewer than 10 seats" runway length curves for small aircraft.

FAA AC 150/5325-4B provides two sets of runway curves for small airplanes with fewer than 10 seats to capture two segments (95% and 100%) of the small airplane fleet. The FAA provides the following guidance regarding the percentage of fleet options:

95% of Small Airplane Fleet

"This category applies to airports that are primarily intended to serve medium size population communities with a diversity of usage and a greater potential for increased aviation activities. Also included in this category are those airports that are primarily intended to serve low-activity locations, small population centers, and remote recreational areas."

100% of Small Airplane Fleet

The 100 percent of the fleet is *"This type of airport is primarily intended to serve communities located on the fringe of a metropolitan area or a relatively large population from a metropolitan area."*

Conclusion/Recommendation

The FAA's criteria for the 100% small airplane fleet segment appears to be appropriate for Creswell Municipal Airport – Hobby Field for long-term planning purposes. The Eugene-Springfield Metropolitan Statistical Area (MSA), which includes Creswell, has a population of approximately 381,000 (2025). The majority of this population is concentrated in Eugene and Springfield, and the outlying areas within 15 miles, which includes Creswell. There are two public use airports located in this area, including Hobby Field and Eugene Airport, which are located approximately 25 miles apart (driving distance). As Eugene Airport is the region's only commercial air service airport, the general aviation capacity and capabilities of Hobby Field provide valuable support to region's airport system.

Creswell Municipal Airport - Hobby Field - Runway Length Recommendation

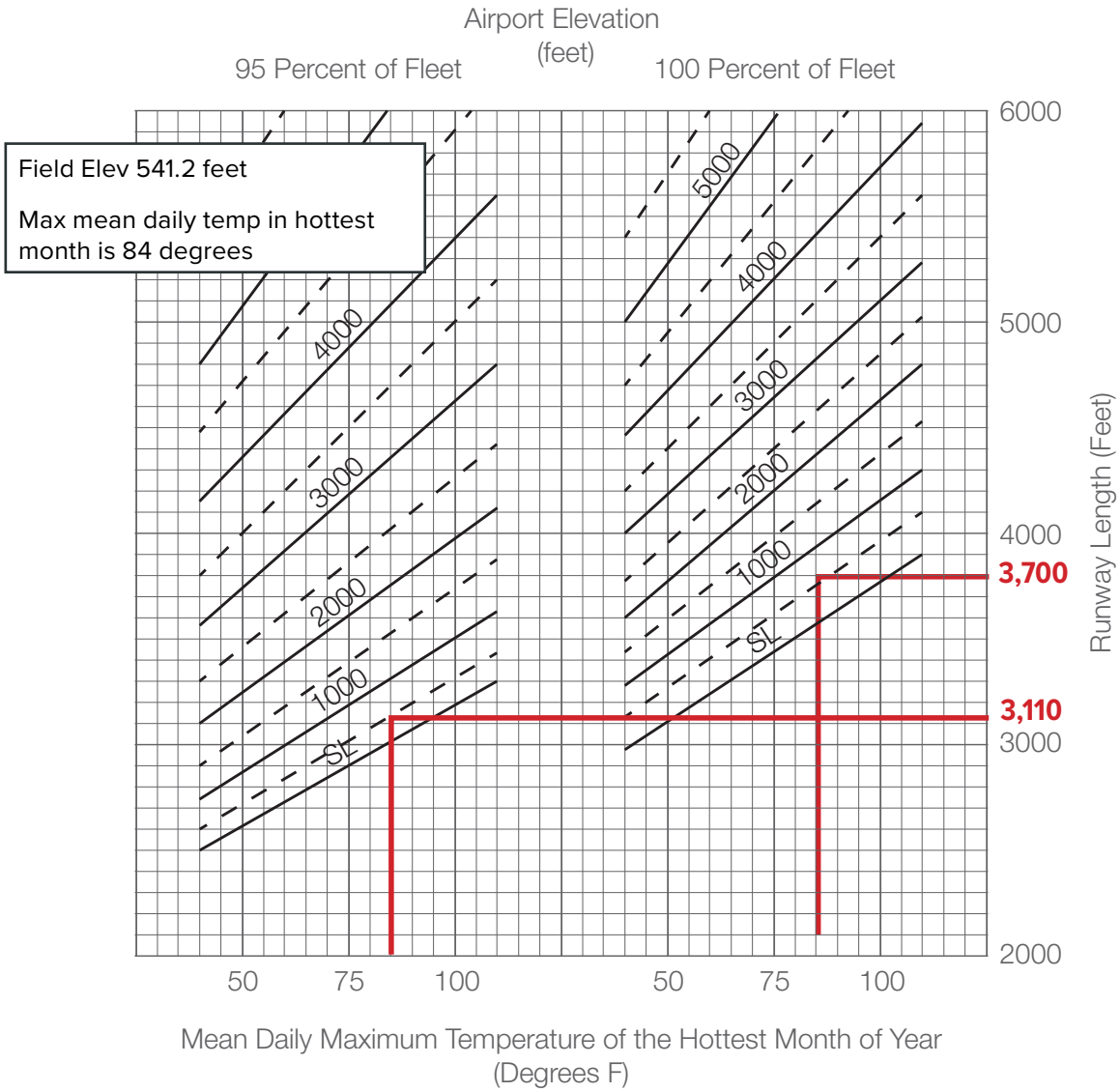
The current length of Runway 16/34 (3,102 feet) corresponds approximately to the requirements identified in the FAA runway length curves for 95% of the small airplane fleet. For long term planning purposes, a future length (3,700 feet) is required to accommodate 100% of the small airplane fleet.

For planning purposes maintaining the length that corresponds to accommodating 100 percent of the small airplane fleet is recommended, or the length determined feasible, through an evaluation of runway alternatives. Currently, that assessment results in a future length of 3,600 feet, as depicted on the 2007 FAA-approved ALP.

Figure 3-5 illustrates the Hobby Field runway length requirements for the 95% and 100% small airplane fleet segments. These runway length curves are aligned with the current and future critical aircraft for Runway 16/34. Runway lengths of 3,110 feet and 3,700 feet are needed to accommodate 95% and 100% of the small airplane fleet, based on local conditions. Runway 16/34 can currently accommodate approximately 95% of the small airplane fleet.

A review of a wide range of common piston and turboprop aircraft included in the Small Aircraft Runway Length Analysis Tool (SARLAT), was also performed for comparison. SARLET is a runway performance modeling tool currently being tested by the FAA. For Hobby Field, SARLET provides runway length requirements for various aircraft types that are generally consistent with those obtained using the FAA planning methodology in *AC 150/5325-4B*.

Figure 3-5 – Runway Length Graphs 95%/100% Small Airplane Fleet



Source: FAA AC 150/5325-4B Runway Length Requirements for Airport Design

UNPAVED LANDING AREA

Hobby Field pilots have expressed an interest in developing an unpaved landing area adjacent to the runway for use primarily by tailwheel aircraft. The existing airfield does not have sufficient lateral clearance to accommodate a parallel runway capable of meeting FAA standards for simultaneous operations in visual conditions. However, extending the east edge of the runway safety area (RSA) outward may be an option to accommodate an unpaved landing area within the Runway 16/34 environment. Simultaneous operations would not be permitted between the paved and unpaved surfaces, and all aircraft would use the same traffic pattern. A cleared distance of 1,500 to 2,000 feet would accommodate the majority of tailwheel aircraft typically operating at the Airport. Options for configuring the expanded RSA may be considered in the airside alternatives evaluation, if desired by the Airport. However, the cost of improving the RSA beyond FAA standards would not typically be eligible for FAA funding.

Airport Design Standards

Hobby Field's airside facilities include a single runway and a full length parallel taxiway. A variety of FAA design standards are assigned to these facilities based on the critical aircraft and the corresponding runway and taxiway design groups.

Runway 16/34 is constructed to Runway Design Code (RDC) A-I (small) standards. As noted earlier in the master plan, the FAA term previously used to define runway design categories was "Airport Reference Code (ARC)." Runway 16/34 (previously Runway 15/33) was ARC A/B-I (small). The runway is further classified by FAA as Utility, Non-Precision Instrument (NPI), under 14 CFR Part 77. Despite the change in terminology, the current design codes do not represent any change from the previous master plan definitions.

Runway 16/34 currently meets or exceeds the dimensional standards based on RDC A/B-I (small), with "not lower than 1-mile approach visibility minimums." The visibility standards correspond to the published non-precision instrument approach to Runway 16. The runway also conforms to most current FAA design guidance. FAA design guidance discourages common facility configurations that are no longer considered to represent best design practices, but have not yet been formally prohibited or otherwise incorporated into current airport design advisory circulars. Specific items that do not conform to current FAA design guidance will be noted in this chapter, with recommended actions evaluated in the alternatives chapter.

The FAA airport design advisory circular (AC 150/5300-13, Change 1) presents RDC in the following format: Aircraft Approach Category (AAC) - Airplane Design Group (ADG) - Runway Visual Range (RVR) [AAC-ADG-RVR]. For Runway 16/34, the RDC is **A-I-5000 (Small)**. The RVR value of 5,000 feet represents the approximate equivalent to 1-mile approach visibility minimums. The runway design tables contained in the AC (Appendix G) present visibility minimums in increments of a statute mile or simply "visual." The RDC A-I-5000 (Small) for Runway 16/34 corresponds to *"Table G-1. **Runway Design Standards Matrix, A/B-I Small Aircraft** with 'Visibility Minimums Not Lower than 1 mile.'"*

Figure 3-6 & 3-7 depicts existing non-conforming airside and landside facilities at Hobby Field based on these design standards.

FAA DESIGN STANDARDS - RDC A-I 5000 (SMALL AIRCRAFT)

Runway Safety Area (RSA)
Dimensional, gradient, surface compaction, and obstacle clearing standards apply.

Rwy 16/34
Existing and Future Standard: 120 feet wide (centered on runway), extending 240 feet beyond runway ends.

Existing Conditions: The RSA meets RDC A-I (small) 5000 dimensional standards and appears to meet standards for surface gradient, compaction, and obstacle clearance.

Runway Object Free Area (ROFA)
Dimensional, gradient, and obstacle clearing standards apply.

Rwy 16/34
Existing and Future Standard: 250 feet wide (centered on runway), extending 240 feet beyond runway ends.

Existing Conditions: The existing ROFA meets RDC A-I (small) 5000 dimensional standards and appears to meet standards for surface gradient and obstacle clearance.

Figure 3-6 – Non-Conforming Conditions - Airside Facilities

Figure 3-7 – Non-Conforming Conditions - Landside Facilities

Runway Safety Area (RSA)

The RSA is a flat surface surrounding a runway that is centered on the runway and is the same elevation as the runway at any given point. The RSA is subject to surface gradient and compaction standards. The surface is required to be cleared of objects and graded to eliminate variations and to prevent water accumulation. All taxiing and holding aircraft are required to be located outside the RSA. Objects that are located in the RSA with locations *"fixed-by-function"* (e.g., PAPI, edge lights, etc.) are required to have frangible (breakable) mounts not higher than 3 inches above the surrounding grade. The RSA is intended to enhance the safety of aircraft that overshoot, overrun, or veer off the runway without causing significant structural damage, and to support (under dry conditions) snow removal and emergency response equipment. The RSA for Runway 16/34 appears to meet all RDC A-I-5000 (Small) standards.

Runway Object Free Area (ROFA)

The ROFA is a flat surface that is centered on the runway and is the same elevation as the runway at any given point. The ROFA should be clear of terrain and above ground objects except for those required for air navigation or aircraft ground maneuvering purposes. The ROFA for Runway 16/34 appears to meet all RDC A-I-5000 (Small) standards.

Runway Obstacle Free Zone (OFZ)

The FAA defines four types of OFZs, including the Runway OFZ (ROFZ), a flat surface centered on the runway that is the same elevation as the runway at any given point. The other three OFZs are required for runways with approach lighting systems or precision approaches. Based on current and planned approach capabilities and runway lighting, only the ROFZ applies to Runway 16/34. The FAA defines the OFZ that surrounds a runway as *"a design surface kept clear during aircraft operations. This clearing standard does not allow aircraft and other object penetrations, except for locating frangible NAVAIDs in the OFZ because of their function. The FAA will not consider modification of the OFZ surface."* The ROFZ for Runway 16/34 appears to meet all RDC A-I-5000 (Small) standards.

Runway Width/Shoulders /Gradient

The FAA determines runway width standards based on the size and approach speed of the critical aircraft. Runway 16/34 meets the 60-foot width standard defined for RDC A-I-5000 (Small). The existing gradients for the runway meet the standards defined by FAA for Approach Category A & B aircraft. The effective gradient for Runway 16/34 (end to end) is less than 0.1%.

FAA DESIGN STANDARDS - RDC A-I 5000 (SMALL AIRCRAFT)

Runway Width / Shoulder / Gradient
Dimensional and surface gradient standards apply.

Rwy 16/34
Existing and Future Standard: 60 feet (width), with 10-foot shoulders. Maximum longitudinal grade and maximum allowable grade change is ±2%. Transverse slopes within 1.0% to 2.0% from center crown.

Existing Conditions: The runway meets RDC A-I (small) 5000 width and gradient standards. The runway does not have gravel or paved shoulders, although the turf surface appears to function as the runway shoulder.

Runway Obstacle Free Zone (ROFZ)
Dimensional and obstacle clearing standards apply.

Rwy 16/34
Existing and Future Standard: 250 feet wide (centered on runway), extending 200 feet beyond runway ends.

Existing Conditions: The existing ROFZ meets RDC A-I (small) 5000 dimensional standards and appears to meet standards for obstacle clearance.

Runway Protection Zones (RPZ)

By FAA definition *"The RPZ is a protection zone that serves to enhance the protection of people and property on the ground."* The RPZ shape and location often corresponds to the inner portion of the runway approach surface, although RPZs do not have vertical (slope) component. RPZ dimensions vary by runway design code (RDC), including approach visibility minimums. The FAA design standards define both approach and departure RPZs for runways. For Runway 16/34, the approach and departure RPZs share the same dimensions and locations, relative to the runway ends.

The FAA recommends airport control of RPZs through property ownership or acquisition of an avigation easement that limits specific conditions and defines vertical clearances for the corresponding inner approach surfaces. In general, proposed runway changes that reduce the presence of incompatible land uses in an RPZ are considered to provide incremental safety benefits.

The FAA airport design advisory circular *(AC 150/5300-13B, Change 1. Appendix I)* identifies several common conditions and facilities that are considered compatible with RPZs. An updated *Airport Land Use Compatibility Planning advisory circular (AC 150/5190-4B)*, issued by FAA in 2022, provides this guidance for RPZs.

FAA DESIGN STANDARDS – RDC A-I-5000 (SMALL AIRCRAFT); VISIBILITY MINIMUMS ≥ 1-MILE

Runway Protection Zone (RPZ)
RPZs should be owned by the Airport or under control by easement and should be clear of incompatible land uses such as roads and buildings. RPZs begin 200 feet beyond each runway end. and often coincide with the geometry of the inner approach surface for the runway.

Rwy 16/34
Existing Conditions: Portions of both RPZs for Runway 16/34 extend beyond the existing airport property boundary. The off-airport conditions include a public road and airport frontage road in the Runway 16 RPZ and an undeveloped area in the Runway 34 RPZ.

The 2007 ALP indicates that easements are in place for the portions of the RPZs that extend off airport property. Documentation to be verified as part of developing the Exhibit A drawing.

Current and Future Standard: Approach and Departure RPZ dimensions: 250 x 450 x 1,000 feet (inner width, outer width, length).

Recommendation: Maintain/acquire avigation easements; evaluate land use compatibility.

Although the FAA discourages roads in RPZs, they recognize that potential impacts vary, and in many cases the cost of realigning major roadways outside of RPZs, or reconfiguring runways to eliminate the RPZ conflict, may not be feasible. However, even in cases where roads pre-exist, or will continue to exist in an RPZ, maintaining a clear approach to the runway end is a high priority safety item for FAA. Since RPZs coincide with the inner portion of the Part 77 runway approach surface, vehicles traveling on these roads should not penetrate the runway approach, or if an obstruction does exist, it may be mitigated through a variety of actions.

Based on the current and future RDC for Runway 16/34, no changes to the existing RPZ dimensions are anticipated during the current 20-year planning period. The 2007 ALP depicts a future 499-foot north extension for Runway 15/33 (now 16/34), and a future Runway 15 (now 16) RPZ. The recommended future configuration of Runway 16/34 will be reviewed in the master plan's updated development alternatives evaluation.

The outer end of the existing Runway 16 RPZ extends 45 to 130 feet north of airport property, over and north of Dale Kuni Road. The 2007 ALP drawing (Sheet 2) depicts an easement totaling approximately 1.2 acres for this area that includes the area where Dale Kuni Road intersects the Runway 16 RPZ. Documentation for existing easements will be noted on the Exhibit A property plan being developed in the updated ALP drawing set.

It is noted that the proposed runway extension depicted on the 2007 ALP, and also depicted on earlier versions of the ALP, did not address the section of Dale Kuni Road located in the RPZ. The 2007 master plan evaluation maintained earlier recommendations that were based on providing a clear Part 77 approach, and standard RSA, ROFA, ROFZ surfaces at the Runway 15 (now Runway 16) end. As noted earlier in this chapter, the previously recommended future runway length (3,600 feet) was 140 feet less than the 3,740-foot length required to accommodate 100% of the small airplane fleet due to the road, and the decision not to pursue a south runway extension.

RPZs and Land Use Compatibility

In 2012, the FAA issued memorandum: Interim Guidance on Land Use Within a Runway Protection Zone. The memorandum addressed *"the introduction of new or modified land uses to an RPZ and proposed changes to the RPZ size or location."* The latter would include the proposed north extension of Runway 16/34 depicted on the 2007 ALP, since that would change the location of the Runway 16 RPZ. That project falls under the FAA definition of an airfield project (e.g., runway extension, runway shift) that would include a land use (public roads/highways) requiring FAA coordination. In 2022, the FAA issued *Advisory Circular (AC) 150/4190-4B, Airport Land Use Compatibility Planning*, to update and consolidate the agency's guidance for RPZs and other airfield elements. Although this guidance was not in effect during the last master plan, it now applies to the updated evaluation of proposed airside improvements.

Runway Heading

A review of magnetic variation (MAGVAR) data indicates that Runway 16/34 will not require a change in runway heading during the current 20-year planning period, based on the ongoing annual rate of changes.

TAXIWAY/TAXILANE NETWORK

Taxiways

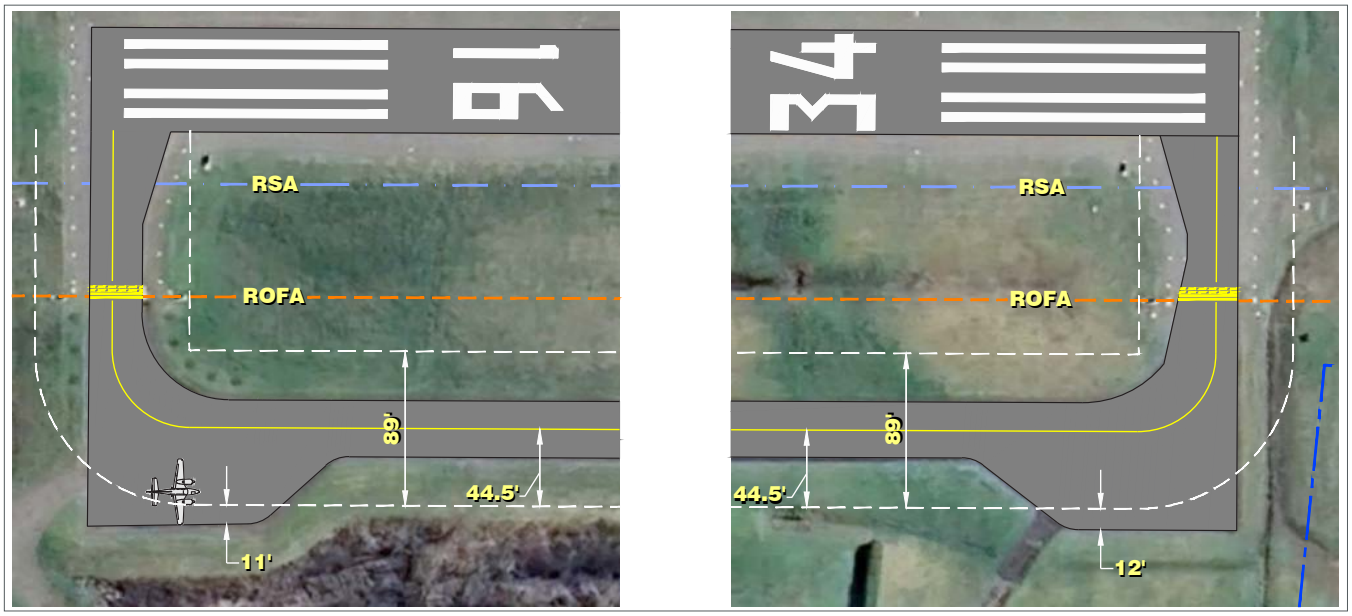
The major taxiways (A, A1-A3) for Runway 16/34 currently meet or exceed ADG I and TDG 1A/B standards (width, shoulders, safety area, etc.). The width (35') and the runway centerline-to-centerline separation (200') for Taxiway A, both exceed the RDC A-I 5000 (Small Aircraft) standard (25' and 150' respectively). These ADG I standards are based on the current/future approach visibility minimums (≥1-mile). Similar to the runway shoulders described earlier in the chapter, Taxiway A and its three exit taxiways do not have gravel or paved shoulders.

Several items related to Taxiway A are identified for further evaluation based on current FAA design guidance:

- **Taxiway A2 provides a direct taxiing path between the main apron and the runway.** The main apron directly abuts Taxiway A at the Taxiway A2 connection for Runway 16/34. Current FAA design guidance discourages direct (straight line) aircraft access between aircraft aprons/taxilanes and runways. The north taxilane on the main apron is closely aligned with the Taxiway A centerline, with only a nominal angle deflection where they meet. Relocating Taxiway A2 north or south of its current location is adequate to provide distinct changes in direction for taxiing aircraft between the main apron and the runway. Taxiway A2 is located north of the midpoint of the runway, approximately 1,650 feet from the end of Runway 34. Runway 34 is designated the calm wind runway at Hobby Field, which results in significant use of A2 as the exit taxiway for aircraft landings. Shifting Taxiway A2 north (100' +/-) of its existing location would maintain efficient aircraft movement in the runway-taxiway system and access to the terminal area. In contrast, shifting the exit taxiway south would reduce the distance available for Runway 34 landing roll out, prior to reaching the 90-degree exit.
- **Aircraft Tiedown and Taxiway Object Free Area (TOFA) Obstruction.** The easternmost small airplane tiedown, located north of the FBO building, creates an obstruction to the Taxiway A TOFA, when occupied. Aircraft parked in this position also penetrate the runway primary and transitional surfaces. Per FAA design guidance, the TOFA is intended to remain clear of parked aircraft, vehicles, equipment, and other fixed or movable objects that are not required for taxiway operations. Options to clear the TOFA should be evaluated in conjunction with other landside improvements.
- **Aircraft Hold Areas (@ Taxiways A1 and A3).** The majority of the aircraft hold area surface adjacent to Taxiway A1 and A3 is located within the Taxiway A TOFA. As a result, aircraft located in the hold areas are obstructing the TOFA for the parallel taxiway (see detail on following page). Options to modify the aircraft hold areas to allow aircraft to be fully clear of the TOFA should be evaluated in conjunction with other airside improvements.
- **Parallel Taxiway/Taxilane Centerline.** A portion of the north T-hangar taxilane located nearest to Taxiway A (on the east side of the hangar, facing the runway) has a centerline separation with Taxiway A that is less than the ADG I standard of 64 feet. Although the taxiway and taxilane centerlines are not parallel to each other, the variable taxilane centerline separation created by the angle indicate that the desired lateral clearance between Taxiway A and the north end of the hangar taxilane is not met.

These items are depicted on **Figures 3-6 and 3-7** , presented earlier in the chapter.

Aircraft Hold Area



Source: Century West Engineering

FAA DESIGN STANDARDS – RDC A-I-5000 (SMALL AIRCRAFT); ADG I / TDG 1A

Runway – Parallel Taxiway/Taxilane Separation

Runway 16/34 – Taxiway A
Existing and Future Standard: 150 feet (for runways with visibility minimums not lower than 1-mile).

Existing Conditions: The existing runway-to-taxiway separation is 200 feet, which exceeds the current and future standard.

Taxiway Safety Area (TSA)

Taxiway A; A1-A3
Existing and Future Standard: 49 feet wide (extends 24.5 feet from taxiway centerline, beyond the outer edges of the taxiway). Additional gradient and obstacle clearing standards apply.

Existing Conditions: The existing taxiways appear to meet dimensional, grading and obstruction clearing standards.

Taxiway Object Free Area (TOFA)

Taxiway A; A1-A3
Existing and Future Standard: 89 feet wide (extends 44.5 feet from taxiway centerline, beyond the sides the taxiway). Additional gradient standards apply.

Existing Conditions: The existing taxiways appear to meet dimensional and obstruction clearing standards, with the exception of one aircraft parking position located north of the FBO building.

Taxilane Object Free Area (TLOFA)

Existing/Future Standard: 79 feet wide, or 39.5 feet on each side of taxilane centerline (applies to ADG I apron taxilanes and taxilanes between hangar rows).

Existing Conditions: The main access taxilane for the south hangar area does not meet the standard ADG I TLOFA dimension (79'). The existing clearance between the ends of the hangars ranges from approximately 56 to 61 feet. The end walls for the southwest and northwest T-hangar are located approximately 30 feet from the center of the taxilane centerline. Several existing south hangar stub taxilanes do not meet the TLOFA standard.

Taxilanes

Taxilanes at Hobby Field provide access to aircraft hangars and aircraft parking aprons in the landside areas west of Taxiway A. Five individual paved taxilanes connect to Taxiway A, providing access to hangars. Four striped taxilane connections from the main apron also connect to Taxiway A. One additional (through-the-fence) taxilane connects to the aircraft hold area located adjacent to Taxiway A1, at the Runway 34 end. The taxilane is not currently in use.

By FAA standard, taxilane object free areas (TLOFA) are defined to provide adequate wingtip clearances for taxiing aircraft. TLOFAs should be free of fixed or moveable items that could create a hazard for taxiing aircraft, including parked aircraft, hangars, fences, other built items, and natural terrain. It is common for taxilanes serving aircraft parking aprons and hangar developments to be designed to meet the standards of a particular group of aircraft using the facilities. The main apron and adjacent aircraft aprons (fueling area, FBO) are designed to accommodate ADG I aircraft (wingspans up to 49 feet). Larger aircraft may be accommodated by the FBO/airport management on a case by case basis, which may require providing additional clearance on temporary basis. ADG I TLOFA dimensions are summarized in the adjacent text boxes.

Figure 3-7 depicts existing taxilanes in the west landside area. The taxilanes accessing hangars are generally designed for ADG I aircraft.

South Hangar Area

The main access taxilane for the hangar area does not meet the ADG I TLOFA standard dimension (79'), or the half-width dimension (39.5') measured from taxilane centerline to the nearest obstacle. The clearance between the nearest ends of the T-hangars located along the taxilane range from approximately 56 to 61 feet. The near ends of northwest and southeast T-hangars are located approximately 30 feet from the main taxilane centerline, which is less than the ½ TLOFA dimension measured from the taxilane centerline. The opposite side of the taxilane for these two hangar rows is clear - no building.

The south hangar area has 10 north-south stub taxilanes that connect to the east-west taxiway, providing access to eight T-hangars (86 units). The TLOFA for 6 of 10 of these stub taxilanes do not meet the ADG I standard. The clearances from the centerline of the taxilanes to the adjacent hangars range from 25 to 35 feet, rather than the standard 39.5 feet. The reduced TLOFA clearances are mitigated in some cases by size of the hangar door openings (36 to 45' typ.), which effectively limits the size (wingspan) of the aircraft using the taxilanes. Applying the standard ADG I TLOFA dimension to hangar rows that cannot accommodate the upper end of ADG I aircraft (<49' wingspan), increases the FAA's 10-foot TLOFA safety buffer assumed for this category of aircraft, beyond the FAA standard. Verifying the maximum size of aircraft that can be accommodated in each T-hangar is recommended to calculate a modified TLOFA dimension for each taxilane that provides the equivalent safety buffer intended by FAA. The overall TLOFA clearances between the hangar rows vary from approximately 67 to 79 feet.

Long term replacement of existing hangars with similar multi-unit hangars or individual conventional hangars should be reconfigured to meet the standard TLOFA dimension between all adjacent buildings.

North Hangar Area

The two north-south stub taxilanes serving the north T-hangar do not meet the ADG I TLOFA standard. The clearances from the taxilane centerlines to the adjacent hangar are approximately 25 and 35 feet. The main east-west access taxilane serving the north hangar row appear to meet the ADG I TLOFA standard (79'). The three other individual stub taxilanes also appear to meet the standard.

Main Apron

The dual east-west access taxilanes on the main apron connect directly with Taxiway A. The taxilanes are used to access aircraft tiedowns and future development in the main apron area. The taxilanes and tiedown rows were configured based on the ADG I TLOFA dimension (79'), which was used to determine the 39.5' spacing between the taxilane centerline and the top of the adjacent tail-in tiedown markings [T]. However, when the tiedowns are occupied, the nose of the parked aircraft will typically extend several feet forward of the top of the "T" marking,

into the TLOFA. Tiedown anchors located at the outer ends of the "T" are used with ropes or chains to secure aircraft underwing tiedown rings located aft of the aircraft nose. The apron layout was consistent with FAA design guidance in place at the time of construction. More recent FAA design guidance has corrected this issue and includes additional clearance between the top of the tiedown markings and the edge of the TLOFA.

Options for reconfiguring the apron layout to meet current TLOFA standards, and other potential changes in apron configuration/use, should be included in the landside alternatives evaluation. A 2026 project to construct new two hangar stub taxilanes extending from the north edge of the main apron will also require some reconfiguration of existing airplane tiedowns. The effect of these changes would typically be a loss of existing tiedowns in order to meet TLOFA clearance requirements. This should be considered when calculating Hobby Field's net change in future aircraft parking requirements.

AIRFIELD INSTRUMENTATION, SIGNAGE, LIGHTING, AND MARKINGS

As noted in the existing conditions chapter, the existing airfield lighting systems at Hobby Field are in good condition and function normally. All existing lighting systems are meet FAA standards for current approach capabilities. For planning purposes, it is assumed that all existing airfield lighting systems will reach the end of their service life and require replacement during the current planning period. All existing and future replacement airfield lighting systems are LED.

Weather Reporting

Hobby Field has an Automated Weather Observation System (AWOS-3), owned and operated by the City of Creswell, that provides 24-hour onsite weather information. As noted in the Existing Conditions summary, the existing AWOS components are currently more than 10 years old. End-of-useful-life replacement should be anticipated during the current planning period.

Navigational Aids

There are no existing ground based electronic navigational aids at Hobby Field.

Runway and Taxiway Markings

The runway and taxiway markings at Hobby Field are consistent with FAA standards for color (white/yellow), configuration, and approach type. The runway markings are in good or fair condition. However, portions of the Taxiway A markings were noted to be in poor (worn) condition on a recent site visit. Regular repainting is required and is typically coordinated with sealcoat projects. It is recommended that all runway and taxiway markings be maintained consistent with the ODAV Pavement Maintenance Program.

Runway 16/34

Runway 16/34 is designated as a non-precision instrument (NPI) runway, based on its highest level of approach capabilities. Both ends of Runway 16/34 have NPI markings, although only the Runway 16 end currently accommodates instrument approach capabilities. The existing RNAV GPS Runway 16 instrument approach also provides a circling procedure, which allows aircraft to proceed to the Runway 34 end for landing while maintaining visual contact with the runway after passing the missed approach point.

The existing runway markings are white paint, consistent with FAA standards, and include threshold markings (4 symmetrical longitudinal stripes), runway designation numbers, and centerline stripe. The runway markings are consistent with FAA dimensional standards that are determined by runway width (60 feet).

The runway is also marked with yellow taxiway lead-in lines (adjacent, parallel to the runway centerline stripe) that extend 200 feet north and south of the mid-runway exit Taxiway A2. The lead-in lines connect to the centerline stripe on Taxiway A2.

Taxiway A, A1-A3

The existing taxiway markings include yellow centerline stripes and aircraft hold lines (at A1, A2, A3), consistent with FAA requirements. The aircraft hold lines are located 125 feet from runway centerline, which coincides with the outer edges of the runway obstacle free zone (ROFZ) and runway object free area (ROFA).

Airfield Signs

The signage for Runway 16/34 and Taxiway A is internally illuminated (LED). The service life for airfield signs is similar to other lighting fixtures and or visual markings.

Landside Facility Requirements

Landside facilities include aircraft parking apron(s), hangars, terminal, fixed base operator (FBO) facilities, and related items. The landside facility requirements at Hobby Field were analyzed relative to hangar demand, apron and aircraft parking requirements, runway access, and conformance with FAA design standards. Future facility demand is estimated based on the projections included in the Airport Activity Overview memo (Appendix -). As noted earlier, a detailed aviation activity forecast was not submitted for FAA review and approval for this airport master plan, in accordance with current FAA policy for airports with less than 90,000 annual operations. The storage requirements by aircraft type are summarized in **Table 3-8** and described in the following sections.

The basic evaluation of aircraft parking needs during the current planning period includes an assessment of existing facility conformance with FAA standards. All designated aircraft parking in the terminal area consists of tiedown. Existing aircraft parking that does not meet all current FAA standards will be noted and identified for eventual replacement or modification. Some reduction in current aircraft parking capacity (e.g., the number of marked positions) may be expected as more restrictive development setbacks are applied to the apron areas currently used for aircraft parking.

BASED AND TRANSIENT AIRCRAFT PARKING

Aircraft parking aprons should be developed to avoid conflicts with adjacent runways, taxiways, and helicopter landing areas. Aircraft parking positions within an existing apron should also avoid conflicts with adjacent taxilanes, with setbacks based on TLOFA obstruction clearance.

Parking for small fixed-wing aircraft and small helicopters in close proximity, should be configured to avoid excessive exposure to rotor wash for fixed wing aircraft.

Parking for large heavy lift helicopters commonly used in seasonal wildfire aerial response should provide adequate separation from small aircraft parking areas. These parking areas would also be suitable to support emergency response scenarios.

The evaluation of apron and taxilane configurations in the Airport Development Alternatives (Chapter 4) will reflect the aircraft using each facility, consistent with FAA design guidance: *"Provide planning and design to accommodate varying aircraft types and sizes anticipated to use the airport." (AC 150/5300-13B, Change 1, Appendix E. E.1.3, General Aviation Facilities).*

As noted in an earlier section, the aircraft aprons at Hobby Field summarized below are designed to accommodate ADG I aircraft.

Existing Aircraft Tiedowns – Overview

The terminal area at Hobby Field has a continuous apron that includes separate sections for aircraft parking (main apron and south of the fuel apron), FBO access, and fueling. The overall apron area has a total of 36 marked airplane tiedowns:

- Main Apron - 28 small airplane tiedowns
- FBO Apron – 6 small airplane tiedowns
- Secondary FBO Apron (south of fueling area) – 2 larger airplane tiedowns

Existing Conditions Summary

A review of existing facilities indicates that all 36 tiedowns conflict with (obstruct) one or more taxiway, taxilane, or runway (Part 77 airspace) protected surface.

Airport pavement records indicate the terminal area apron is approximately 170,706 square feet (18,889 square yards), although some parts of the existing apron are too close to the runway-taxiway system to provide adequate obstacle clearance, per FAA standards.

For planning purposes, it is assumed that the non-conforming aircraft tiedowns will be reconfigured / modified / eliminated / replaced during the current planning period as part of future apron rehabilitation projects. Although most of the tiedowns will likely remain in use in the near future, they should not be assumed to be available in the same numbers to meet long-term demand.

The number of tiedowns remaining after apron reconfiguration will depend on the updated preferred alternative, which could also provide options for apron expansion and accommodating parking needs for transient helicopters and business class aircraft.

The evaluation of future landside facilities in the development alternatives chapter will focus on optimizing use of the existing apron in concert with addressing other terminal area facility needs including FBO access and aircraft fueling.

A common planning metric for small general aviation aircraft tiedowns is 300 to 360 square yards per based or transient aircraft tiedown. The metrics include the aircraft parking footprint and space for circulation within an apron (taxilanes, TLOFA, etc.). As noted earlier, the apron currently accommodates 36 aircraft tiedowns, aircraft loading/unloading area at the FBO, aircraft fueling, and defined taxilanes.

Main Apron Tiedowns

The main apron is configured with three rows of tail-in small airplane tiedowns that are accessed by two adjacent stub taxilanes.

As noted in the evaluation of taxilanes earlier in the chapter, the dual east-west access taxilanes on the main apron do not meet current FAA object free area (TLOFA) standards, based on the distance from the taxilane centerlines to the adjacent aircraft tiedowns, and the parked aircraft themselves. All of the 28 small airplane tiedowns on the main apron are affected.

In addition to the TLOFA issues, a 2026 project that will construct two north-south hangar taxilanes, extending from the north edge of the main apron, will eliminate the north tiedown row (7 tiedowns). The south setback for the future multi-unit hangars coincides with the north edge of the TLOFA for the existing north access taxilane (39.5 feet) in the conceptual layout.

The 2007 ALP depicts changes to the terminal area that were based on the planned decommissioning of the septic drain field, which has been completed. The ALP planned redevelopment of the area included a more efficient access road and vehicle parking area, relocation of the aircraft fuel storage and dispensing area, and the development of additional hangars and support facilities along the south side of the main apron. These planned changes will affect the south row of tiedowns on the main apron. The updated landside alternatives evaluation in the master plan will identify current needs and refine the redevelopment concept to optimize the space.

The TLOFA (tiedown) issues noted earlier will require some apron reconfiguration to increase taxilane clearances and meet FAA standards, which often results in fewer parking positions on the same apron footprint.

FBO Apron Tiedowns

The apron area adjacent to the FBO building has aircraft parking clustered in two groups. Two rows of airplane tiedowns (6 positions) located north of the existing FBO are accessed directly from the south access stub taxilane for the main apron. These tiedowns have the same non-conforming TLOFA clearance issue noted for the main apron.

In addition to the TLOFA, 5 of these 6 tiedowns penetrate the runway transitional surface, when occupied. The lateral distance required to clear a typical single engine aircraft tail (Cessna 172) beneath the Runway 16/34 transitional surface is approximately 310 feet from runway centerline. The tiedowns are located approximately 245 to 375 from runway centerline. A portion of the wing for an aircraft parked in the eastern-most tiedown also creates an obstacle in the runway primary surface, the adjacent transitional surface, and the TOFA for Taxiway A.

Secondary FBO Apron

Two larger aircraft tiedowns located south of the fueling area are located just outside of the runway primary surface, approximately 260 feet from runway centerline. Aircraft parked in these tiedowns penetrate the runway transitional surface. The configuration of the tiedowns will accommodate two large ADG I aircraft (up to 49' wingspan) simultaneously.

The aircraft fueling apron located south of the FBO building can accommodate one aircraft directly in front of the fuel pumps. Taxilane centerlines on this section of apron provide paths between the Taxiway A and fuel pumps. The taxilane centerline located directly adjacent to the fueling area is approximately 310 feet from runway centerline. Some aircraft located in the fueling position may penetrate the runway transitional surface, depending on their tail height. As noted earlier, the 2007 ALP depicts a future relocation of the fueling area to the main apron.

Summary (Aircraft Parking)

To assist in evaluating future aircraft parking requirements for the planning period, the existing inventory of tiedowns in the terminal area has been adjusted downward in **Table 3-7** to account for non-conforming conditions. The reductions are shown in three levels:

- First Level: Existing tiedowns that conflict with Part 77 airspace surface (FBO/ front section of apron)
- Second Level: Existing tiedowns to be eliminated with 2026 hangar taxilane project (main apron)
- Third Level: Existing tiedowns that conflict with ADG I TLOFA clearing standard (main apron)

This evaluation is intended to Illustrate the limits of the existing inventory of aircraft tiedowns based on various assumptions for planning purposes. The elimination or reconfiguration of existing tiedowns is not expected to occur immediately, but the adjusted capacity is useful when projecting demand during the planning period.

Table 3-7: Existing and Adjusted Aircraft Parking Capacity

Aircraft Type	Current Inventory	First Level Adjusted Inventory[1]	Second Level Adjusted Inventory[2]	Third Level Adjusted Inventory[3]
Small Airplane Tiedowns	34	29	22	<22 (TBD)
Large Airplane Tiedowns	2	0	0	0
Total Aircraft Parking Positions	**36**	**29**	**22**	**<22 (TBD)**

1. Tiedowns eliminated that conflict with FAA taxiway design standards or obstruct Part 77 airspace surfaces.
2. Tiedowns eliminated due to new hangar taxilane construction.
3. Tiedowns affected by future reconfiguration of existing taxilanes (TLOFA) on the main apron (# TBD); actual number to be determined by updated preferred alternative.

PROJECTED AIRCRAFT PARKING DEMAND

Locally-Based Aircraft

The challenge of accurately projecting activity at non-towered general aviation (GA) airports creates significant uncertainty in gauging facility demand at Hobby Field. When inherent data limitations are combined with the low growth rate assumptions reflected in the FAA Aerospace Forecast for many segments of GA activity, the ability to project even modest growth is constrained. To mitigate the risk of underestimating demand for locally-based aircraft storage (parking and hangars) for the current planning period, the use of a planning contingency is recommended.

As noted in the Airport Activity Overview (Appendix E), the based aircraft fleet at Hobby Field is projected to increase from 84 to 103 (+19 aircraft) between 2025 and 2045. This projection includes 6 inactive aircraft currently located at the Airport that are not included in its current validated count, but are assumed to return to active status early in the planning period. Airport management confirms that these aircraft have lapsed registrations with many undergoing extended major maintenance. The projection also includes a planning contingency of 10 additional aircraft over the 20-year planning period. Since the 6 inactive aircraft are currently stored at the Airport,

the projected net increase of 13 aircraft is recommended for planning locally-based aircraft parking and hangar requirements.

The based aircraft storage split of 90% hangar/10% apron used in the 2007 Airport Master Plan remains a reasonable planning guide. **The projected net increase of 13 based aircraft between 2025 and 2045 translates into demand for approximately 12 additional hangar spaces and 1 tiedown position above current levels. Table 3-8** distributes the projected apron and hangar demand for locally-based aircraft over the 20-year planning period.

The use of a 100% development reserve for hangar and aircraft parking should also be considered when evaluating long-term development needs beyond the 20-year planning period. The 20-year projection and reserve would be a net increase of 24 hangar units and 2 based aircraft tiedowns above current levels. It is recommended that the master plan's landside development options identify sufficient aeronautical development areas to accommodate the projected demand and the long term reserve.

Transient Aircraft

Transient aircraft parking needs at Hobby Field were calculated based on the projected volume of annual aircraft operations in the updated Airport Activity Overview. Transient parking demand was approximated through use of the Transient Parking equation contained in Airport Cooperative Research Program (ACRP) Report 113 – Guidebook on General Aviation Facility Planning.[1] The ARCP formula applies a percentage of total operations to transient aircraft to estimate overall transient operations. For this exercise, it is assumed that 30% of Hobby Field's total aircraft operations are generated by transient aircraft and 70% generated by aircraft based at the Airport. The transient operations total is divided by 2 to identify the number of aircraft generating the activity (assuming 2 operations per aircraft), and the total is then divided by 365 days to arrive at the typical daily transient activity level. For planning purposes, it is estimated that 50% of the aircraft generating daily transient operations would be parked on the apron at the same time.

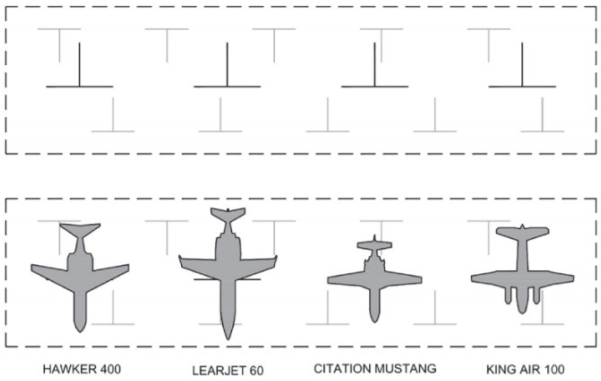
Using this formula, it is estimated that Hobby Field will need to provide parking for approximately 4 to 5 transient aircraft to accommodate normal busy day demand during the 20-year planning period. This transient activity may consist of small aircraft, business aircraft, and helicopters. **Table 3-8** distributes the projected transient demand among the different aircraft types typically operating at the Airport.

Small Airplanes

It is estimated that Hobby Field will need to provide 4 to 5 parking positions for transient small aircraft to accommodate normal demand during the 20-year planning period. As noted earlier, the existing 36 small aircraft tiedowns appear to provide adequate capacity to the projected demand, although the number of small airplane tiedowns provided in the revised terminal area apron layout may be reduced.

Business Class Airplanes

Hobby Field does not currently provide designated parking positions for ADG II aircraft, although larger aircraft are able to park in existing small airplane tiedown rows as needed (see example diagram). All locally based aircraft are currently in ADG I, and the majority of transient fixed-wing activity is also generated by ADG I aircraft. The growing popularity of small ADG II aircraft, typically single-engine turboprops such as the Cessna Caravan or the Pilatus PC-12, has contributed to activity at airports the size of Hobby Field with runways in the 3,000 to 4,000-foot length range. This type of aircraft typically has a wingspan between 50 and 60 feet. Although the level of activity generated by this type of aircraft is not expected to reach the critical aircraft threshold during the current planning period, it would be reasonable to provide limited aircraft parking for



Note: The lighter lines depict the nested tiedown positions available for small aircraft
Source: Delta Airport Consultants, Inc.

Typical parking layout for small AC tiedown positions marked for larger aircraft.

1 ACRP Report 113 – Appendix C

larger transient aircraft. It is recommended that options to provide 1 or 2 business class transient aircraft parking positions be considered in the master plan's landside development options.

Helicopters

There are no designated transient helicopter parking positions at Hobby Field. Transient helicopters normally park adjacent to the FBO, or on the main apron. For planning purposes, it appears that 1 small helicopter transient parking position in the terminal area will be adequate to accommodate demand during the current planning period.

Providing improved parking for large heavy lift helicopters used in wildfire aerial response has been identified by airport management as a current need. The size and configuration of these facilities would be defined by specific user requirements, including the need to accommodate ground support equipment. This activity would be ideally located with adequate separation from GA aircraft parking and hangars.

Aircraft Parking Summary

Based on the overall demand projections and existing/adjusted apron capacity, it appears that Hobby Field's future aircraft parking needs can be accommodated within the existing apron areas, well into the planning period. The introduction of electric aircraft charging facilities will depend on the pace of technological advancement and adoption. For planning purposes, 1 to 3 small aircraft charging/parking spaces are anticipated during the current planning period, although actual demand may vary greatly. Aircraft fueling apron space needs may increase based on demand during the planning period. Future planning for 2 aircraft fueling positions is recommended to accommodate potential demand.

Changes in aircraft parking needs beyond the projected demand may require apron expansion, reconfiguration, or the development of additional apron space. The planning contingency and the long term development reserve both provide a buffer to accommodate additional demand.

AIRCRAFT HANGARS

Hobby Field currently has 9 T-hangars (97 units) and 11 conventional hangars used primarily for aircraft storage. The larger conventional hangars may accommodate multiple aircraft. The EAA building and FBO maintenance hangar are used to support aviation related activities.

Approximately 90% of the current based aircraft fleet is stored in hangars. For planning purposes, this percentage is maintained for new based aircraft at Hobby Field. As noted in **Table 3-8**, demand for a total of 12 new hangar units is projected between 2025 and 2045. The 20-year projection and a 100% development reserve would be a net increase of 24 hangar units.

Long term space requirements are approximated based on a review of existing hangar square footage and based aircraft totals to provide a rough square footage per aircraft value. Tenant requirements will vary and the requirements for hangars capable of business aircraft or expanded commercial operations may affect hangar sizes.

In addition to aircraft storage requirements, adequate space should be reserved for future development of larger commercial hangars. The specific timing and scale of these facilities cannot be determined with certainty, as investment decisions are influenced by market conditions, tenant demand, and other business considerations. For planning purposes, expansion of FBO hangar facilities should be anticipated, and landside development areas should be reserved to accommodate a range of conventional hangars typically associated with commercial aviation tenants and aviation-related businesses.

Table 3-8: Apron And Hangar Facility Requirements Summary

Item	Base Year (2025) Existing Facilities	2030	2035	2040	2045
Based Aircraft Projection	84	91	91	92	93
Planning Contingency	-	3	6	9	10
Total Based Aircraft	**84**	**94**	**97**	**101**	**103**
Aircraft Parking Apron - Existing Aircraft Parking Type/Capacity					
Main Apron/FBO/Fueling Apron (Existing)	18,970 sq yd[1]				
Small ADG I Aircraft Parking[2]	34 Tiedowns				
Large ADG I Aircraft Parking[2]	2 Tiedowns				
Transient Helicopter Parking	0				
Aircraft Fueling Apron	500 sq yd[3]				
Total Fixed Wing Parking Positions	36 Tiedowns				
Projected Needs (Gross Demand)					
Locally Based Tiedowns (@ 300 sq yd each)	8 spaces / 2,400 sq yd	8 spaces / 2,400 sq yd	8 spaces / 2,400 sq yd	8 spaces / 2,400 sq yd	9 spaces / 2,700 sq yd
Small Airplane Itinerant Tiedowns (@ 360 sq yd each)	4 spaces / 1,440 sq yd	5 spaces / 1,800 sq yd	5 spaces / 1,800 sq yd	5 spaces / 1,800 sq yd	5 spaces / 1,800 sq yd
Business Aircraft Parking Positions (@ 1,000 sq yd each)	1 spaces / 1,000 sq yd	1 spaces / 1,000 sq yd	1 spaces / 1,000 sq yd	1 spaces / 1,000 sq yd	2 spaces / 2,000 sq yd
Small Transient Helicopter Parking Positions (@ 380 sq yd each)	1 space / 380 sq yd	1 space / 380 sq yd	1 space / 380 sq yd	1 space / 380 sq yd	1 space / 380 sq yd
Aircraft Fueling Apron (SEP @ 500 sq yd each)	1 spaces / 500 sq yd	1 spaces / 500 sq yd	2 spaces / 1,000 sq yd	2 spaces / 1,000 sq yd	2 spaces / 1,000 sq yd
Electric Aircraft Charging Stations (@ 400 sq yd each)	1 spaces / 400 sq yd	1 spaces / 400 sq yd	2 spaces / 800 sq yd	2 spaces / 800 sq yd	2 spaces / 800 sq yd
Total	**6 spaces / 6,120 sq yd**	**17 spaces / 6,480 sq yd**	**19 spaces / 7,380 sq yd**	**19 spaces / 7,380 sq yd**	**22 spaces / 9,080 sq yd**
Aircraft Hangars (Existing Facilities)					
Existing Hangar Units / Aircraft Storage Capacity (Approx. 80,000 sf)[4]	107+ Units[4,5]				
Projected Needs (Net Increase in Demand)[6]					
(New) Hangar Space Demand (@ 1,500 sq ft per space); (Cumulative 20-year projected demand: 12 Units/18,000 sq ft)		3 Unit / 4,500 sq ft	3 Unit / 4,500 sq ft	3 Unit / 4,500 sq ft	3 Unit / 4,500 sq ft

Source: Century West Engineering
Table 3-8 Notes:
1. Apron A01CE approximate area (2025 Pavement Evaluation Program, ODAV).
2. Includes existing non-conforming parking positions.
3. Existing fueling area defined within overall apron
4. Existing hangars include 11 conventional hangars and 9 T-hangars (97 units).
5. Not all aircraft on stored at Hobby Field (hangars/aprons) are included in the current FAA validated based aircraft count.
6. Aircraft hangar demand levels identified for each forecast year represent forecast cumulative demand, assuming 90% of new based aircraft will be stored in hangars.

GA Terminal/Pilot Lounge

The existing FBO building at Hobby Field provides basic amenities for pilots and passengers. The building is approximately 5,000 square feet and includes hangar, office, classroom space, restrooms, and a waiting area for pilots and passengers. The last two ALP updates have depicted an expanded FBO hangar/building in the terminal area to accommodate future FBO needs. Future FBO facility needs will be influenced by market conditions, which makes estimating space requirements challenging. For planning purposes, it is recommended that development space is identified in the terminal area to accommodate future expansion, renovation, or replacement of the existing FBO building. Reserving an area capable of supporting approximately 3,000 to 6,000 square feet support space would provide flexibility to meet future operational needs, enhance pilot and passenger amenities, and support potential growth in aviation services at Hobby Field. Additional space in the terminal area should also be reserved for future FBO maintenance hangar needs.

East City-Owned Parcel

The City of Creswell acquired a parcel of land directly abutting the east side of the airport that currently is most undeveloped. The Airport's AWOS and a designated skydiving landing area lease are current uses. A basic evaluation of other potential aviation uses for this parcel will be included in the landside development alternatives discussion. The AWOS has a 500-foot radius protection zone that limits development that could interfere with weather observations. The parcel has existing surface access via Dale Kuni Road.

SUPPORT FACILITIES

Support facilities such as security/perimeter fencing and gates and utilities may also require upgrades during the planning period. Development or expansion of new hangar areas may require extensions of existing utility service lines.

Surface Access and Vehicle Parking

All existing landside airport facilities are located on the west side of the runway with access provided by Melton Road. The recent decommissioning of the septic drain field adjacent to the FBO and terminal area facilities will allow a reconfiguration of surface access, vehicle parking and building development in the terminal area. The 2007 ALP depicted a reconfiguration in this area, replacing the existing access loop roadway with a single road. Vehicle parking and new hangar/FBO development were planned adjacent to the south side of the main apron. The updated landside development alternatives will review the previous development plan in conjunction with a potential reconfiguration of the main apron to meet FAA TLOFA standards.

The 2007 ALP depicts a future north extension of Melton Road to connect with Dale Kuni Road. This proposed improvement and development of new hangars north of the terminal area will be reviewed in the landside alternatives evaluation. A portion of the proposed development area is forested and contains areas of wetlands that may require significant mitigation.

Designated vehicle parking areas are located adjacent to the FBO building, along the terminal area loop roadway and adjacent to individual hangars. Vehicle parking requirements are generally modest, although some congestion reportedly occurs in the north hangar area during busy skydiving days.

FUEL FACILITIES

The existing aviation fuel storage capacity at Hobby Field: 2 10,000-gallon underground tanks (100LL AVGAS and Jet A) appears to be adequate to meet fueling demand during the current planning period. The 2007 ALP depicts a proposed relocation of the fueling facilities to the main apron to address space limitations and Part 77 airspace obstructions created by fueling aircraft. The updated landside development alternatives will review the previous development plan in conjunction with a potential reconfiguration of the main apron.

Demand for electric aircraft charging systems is anticipated during the current 20-year planning period.

UTILITIES

The 2007 master plan identified utility limitations in areas planned for hangar development as a constraint to future expansion. Subsequently, several projects have extended and improved water and other utility infrastructure serving designated development areas. In 2024, an 8-inch water service line was extended to serve eight hangars in the north hangar area. In 2025, utilities including power, sanitary sewer, and water were extended to potential hangar development sites located north of and adjacent to the main tiedown apron.

As a result of recent utility improvements, the existing utilities at Hobby Field appear to be adequate to support future development in the terminal area and north development areas of the Airport. It is recommended the existing utilities be maintained and extended, as required to accommodate new development during the planning period.

AIRPORT FIREFIGHTING

Hobby Field has no on-site Airport Rescue and Fire Fighting (ARFF) facilities, equipment, or dedicated personnel, and none are required under current FAA regulations. South Lane County Fire and Rescue Station 3 provides local fire/emergency response and is located approximately 2 miles from the Airport. The station accesses the airport via Cloverdale Road and Emerald Parkway, which connect directly to the Airport's primary access route along Melton Road.

PERIMETER FENCING/GATES

A 2005 fencing project extended new chain link fencing from the south side of the main tiedown apron along the northwest and northern sections of the airport property boundary to the Airport's AWOS. The existing fencing generally consists of 7-foot chain link with a 1-foot barbed wire top section. Controlled vehicle access to the north hangar area, main tiedown apron, and the north end of the airport from Dale Kuni Road is provided by sliding vehicle access gates located at each respective entry point. A metal swing gate controls vehicle access to the airport service road leading to the EAA hangar.

Other portions of the airport perimeter are fenced with three or four strand wire fencing, and some small areas of the airport perimeter are not currently fenced. It is recommended that the unfenced areas identified be fenced to control access to all operational areas of the Airport.

LAND USE

On-Airport Land Use

Hobby Field is located within the City of Creswell with X (Public Facilities District) zoning. The existing zoning accommodates all airport related development and provides adequate protection from potential incompatible land uses.

Off-Airport Land Use

Portions of the Part 77 surfaces established for Runway 16/34 extend into unincorporated Lane County. The review of off-airport land use provided in Chapter 2 identified no land use compatibility issues. The current City and County airport overlay zoning should be reviewed for consistency with the airport master plan and the updated airport layout plan (ALP) and Part 77 airspace plan. See chapter 2 for information on existing land use and zoning.

Summary

The forward-looking projections of aviation activity anticipate modest growth during the current planning period. This results in moderate airside and landside demands beyond current capabilities. Future hangar development will be needed to meet aircraft storage needs during the 20-year planning period. The non-conforming aircraft tiedowns noted earlier can be addressed as part of the overall development/redevelopment of landside facilities. The summary of facility needs is provided in **Table 3-9**.

Preliminary airport development alternatives will be presented in Chapter 4 to evaluate different options capable of meeting potential growth and airport design requirements. The Planning Advisory Committee (PAC) review of the preliminary alternatives will allow the City of Creswell to define and refine the preferred alternative for the master plan and develop a viable implementation strategy for future improvements.

Table 3-10: Facility Requirements Summary

Facility	Short Term (0-10 years)	Long Term (10-20 years)
Runway 16/34	RDC: A-I (Small) 5000 Pavement maintenance & repaint markings	RDC: A-I (Small) 5000 Extend Runway to 100% Small Fleet Length Pavement maintenance & repaint markings
Taxiway A, A1-A3	TDG 1A Relocate Taxiway A2 to prevent a direct apron to runway connection Pavement maintenance & repaint markings	TDG 1A Expand aircraft hold areas (@A1, A3) to meet TOFA clearance standard for Taxiway A Pavement maintenance & repaint markings
Navigational Aids and Lighting	none	End of Service Life Replacements (LED): • Rwy 16/34 MIRL • Rwy 16/34 PAPIs • Rwy 16/34 REILs • Airport Rotating Beacon
Weather Systems	None	Replace AWOS at end of useful life
Landside Facilities	Hangar development • Terminal area • South and North GA development areas • Replace/Reconfigure existing T-hangars at end of useful life Apron and Taxilane pavement maintenance & repaint markings Locate electric aircraft charging station(s)	Main Apron (parking reconfiguration) Apron and Taxilane reconfiguration (efficiency and clearance standards) Transient helicopter parking Pavement maintenance & repaint markings Locate electric aircraft charging station(s)
Terminal Building/ FBO	None	Expansion reserve and vehicle parking
Aircraft Fueling	Maintain existing systems	Relocate fueling area
Surface Access	Maintain existing surface access	Upgrade terminal area access and vehicle parking
Security	Extend fencing to secure the full perimeter of the operational areas	Upgrade/replace existing fencing and gates as needed
Utilities	Maintain existing utilities and fire flow for structures	Extend electrical and water service to new hangar sites