CHAPTER 4

Facility Requirements



Introduction

The evaluation of airport facility 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. The facility requirements evaluation identifies the adequacy of existing facilities and identifies what new facilities may be needed based on forecasted demand or conformance to FAA standards. Potential options for accommodating current and future facility needs will be evaluated in Chapter 5 – *Airport Development Alternatives*.

The aviation activity forecasts presented in Chapter 3 were used to identify the current and future critical aircraft 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 forecasted 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.

Critical Aircraft and Design Standards

The critical aircraft identified in Chapter 3 – *Aviation Activity Forecasts* establishes the basis for evaluating applicable FAA design standards at Lake County Airport. The following sections summarize the design classifications used to evaluate existing facilities and identify future facility requirements.

CRITICAL AIRCRAFT

The critical aircraft is the most demanding aircraft that regularly uses the Airport, defined by FAA as at least 500 annual operations. Aircraft are categorized into defined groups based on their performance and physical characteristics. Aircraft Approach Category (AAC) is based on aircraft approach speed, while Airplane Design Group (ADG) is based on aircraft wingspan and tail height. Together, the AAC and ADG define the aircraft design classification used to determine applicable FAA design standards. FAA also distinguishes between small and large aircraft based on maximum certificated takeoff weight; aircraft weighing 12,500 pounds or less are classified as small aircraft.

The 2013 Airport Master Plan identified the Beech King Air, an AAC B and ADG II (B-II) aircraft, as the existing and future critical aircraft for Runway 17/35. As part of this master plan update, recent and historical operations were re-evaluated to determine whether the previous critical aircraft designation remains appropriate. This review included federally contracted Single Engine Air Tanker (SEAT) activity associated with seasonal firefighting operations at the Airport. Because the Air Tractor AT-802 regularly operates at Lake County Airport in support of these missions and represents a more demanding aircraft than much of the Airport's general aviation fleet, its activity was considered in establishing the current and future design basis.

Based on this analysis, the Air Tractor AT-802 is identified as the existing and future critical aircraft for Runway 17/35. With an AAC of B and an ADG of II, the AT-802 establishes the B-II design basis used for the facility requirements evaluation in this chapter. For FAA grant-funding eligibility, Chapter 3 separately identifies the Beechcraft Baron 58 as a B-I small aircraft when federally contracted SEAT operations are excluded from the regular-use determination. This funding classification does not change the Airport's planned design basis; Lake County Airport will continue to plan and design facilities to accommodate B-II operations.

RUNWAY DESIGN CODE

The Runway Design Code (RDC) combines the AAC and ADG of the critical aircraft with the approach visibility minimums for a specific runway. The RDC establishes the FAA design standards used to evaluate the runway and associated facilities. It does not necessarily preclude larger aircraft from operating at the Airport.

Runway 17/35 has approach visibility minimums of not lower than 1 mile. Based on these visibility minimums and the B-II design classification established by the AT-802, the existing and future RDC for Runway 17/35 is B-II-5000.

TAXIWAY DESIGN GROUP

Taxiway Design Group (TDG) is based on aircraft landing gear dimensions, including cockpit to the main gear distance (CMG) and main gear width (MGW). These dimensions affect aircraft maneuverability and are used to establish taxiway pavement and fillet design standards. Taxiways and taxilanes may be designed to different TDGs based on the aircraft they are intended to serve.

The AT-802 is classified as TDG 1B. The primary taxiways at the Airport currently meet or exceed the dimensional standards required to accommodate the critical aircraft and generally reflect TDG 2A/2B geometry. Taxilanes serving hangars and apron areas may accommodate a range of aircraft within TDG 1A, 1B, 2A, and 2B. Applicable TDG standards for future taxiway and taxilane improvements will be based on the aircraft each facility is intended to serve and evaluated during the development alternatives process.

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FAA DESIGN STANDARDS

FAA Advisory Circular 150/5300-13B Change 1, Airport Design is the primary reference in establishing airfield geometry and dimensional standards. A comparison of existing conditions shown on the Airport Layout Plan (ALP) with the applicable FAA design standards based on the existing and future B-II design classification is summarized in **Table 4-1**.

Table 4-1: FAA Design Standards Summary

FAA Standard	Runway 17/35 Existing Conditions	Runway 17/35 AAC/ADG B-II Not Lower Than 1-Mile or Visual Existing/Future Standard
Runway Length	5,318'	See Runway Length Analysis Discussion
Runway Width	100'	75'
Runway Shoulder Width[1]	10'	10'
Runway Safety Area (RSA)		
• Width	150'	150'
• Beyond RWY End	300'	300'
• Prior to Landing Threshold	300'	300'
Runway Obstacle Free Zone (ROFZ)		
• Width	250'	400'
• Beyond RWY End	200'	200'
• Prior to Landing Threshold	200'	200'
Runway Object Free Area (ROFA)		
• Width	500'	500'
• Beyond RWY End	300'	300'
• Prior to Landing Threshold	300'	300'
Runway Protection Zone (RPZ)		
• Length	RWY 17: 1,000'	RWY 17: 1,000'
	RWY 35: 1,000'	RWY 35: 1,000'
• Inner Width	RWY 17: 500'	RWY 17: 500'
	RWY 35: 500'	RWY 35: 500'
• Outer Width	RWY 17: 700'	RWY 17: 700'
	RWY 35: 700'	RWY 35: 700'
Runway Centerline to:		
• Parallel Taxiway	N/A	240'
• Holding Position	192' [2]	200'

Notes:
1. Turf, aggregate-turf, soil cement, lime or bituminous stabilized soil as measured outwards from the runway edge are recommended adjacent to ADG I, II and III runways.
2. Existing hold line on Taxiway A is oriented 45° to Runway. The measurement provided is to the hold line at its nearest point to the runway. All other hold positions are 200' from the runway centerline.

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Airside Requirements

Airside facilities include the airspace around the Airport, approach procedures, runways, taxiways/ taxilanes, apron/aircraft parking areas, navigational aids, signage, and lighting systems.

14 CFR PART 77

Title 14 Code of Federal Regulation (CFR) Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace, establishes imaginary surfaces used to evaluate potential obstructions to navigable airspace surrounding airports. The Part 77 surfaces applicable to Lake County Airport are described in Chapter 2 – *Existing Conditions Analysis*.

The 2013 Airport Master Plan identified no obstructions to the existing Part 77 surfaces. Updated obstruction data collected as part of the 2024 Airport Geographic Information System (AGIS) survey will be evaluated and reflected in the ALP drawing set. Any identified obstructions will be assigned an appropriate disposition on the ALP, with mitigation measures evaluated separately where warranted.

INSTRUMENT FLIGHT PROCEDURES

Published instrument approach procedures are available for properly equipped aircraft operating at Lake County Airport. RNAV (GPS) approaches are available to Runways 17 and 35, with visibility minimums as low as 1 mile for Category A through D aircraft. Circling minimums are higher, with visibility minimums as low as 2 miles for Category C aircraft and 2½ miles for Category D aircraft.

Existing approach capabilities should be preserved by maintaining clear approach surfaces and protecting the airspace necessary to support the published procedures. If future runway geometry changes affect the existing procedures, coordination with the FAA Flight Procedures Team may be required to evaluate and update the procedures as appropriate.

FAA DESIGN STANDARDS

Runway Safety Area (RSA)
Existing/Future Standard: The B-II standard for a runway with not lower than 1-mile visibility minimums standard is 150 feet wide or 75 feet each side of the runway centerline and 300 feet beyond the runway ends with additional gradient standards.

Condition: The RSA for Runway 17/35 appears to meet existing/future FAA dimensional, object clearing, and grading standards.

Runway Object Free Area (ROFA)
Existing/Future Standard: The B-II runway with not lower than 1-mile visibility minimums standard is 500 feet wide or 250 feet each side of the runway centerline and 300 feet beyond the runway ends with additional gradient standards.

Condition: The OFA for Runway 17/35 appears to meet existing/future FAA dimensional and object clearing standards.

Runway Obstacle Free Zone (ROFZ)
Existing/Future Standards: OFZ standards are based on approach visibility minimums of the runway, and the size and approach speeds of the aircraft using the runway. Standards for operations on runways by large aircraft are 400 feet wide or 200 feet each side of the runway centerline and 200 feet beyond runway ends.

Condition: The OFZ for Runway 17/35 appears to meet existing/future FAA dimensional and obstacle clearing standards.

RUNWAY

Runway 17/35 was evaluated relative to orientation, length, width, pavement strength, and applicable FAA design standards. Runway clearance standards were also reviewed relative to the existing taxiway and taxilane system.

Runway Orientation and Crosswind Coverage

Wind speed and direction affect runway usability, particularly for smaller aircraft that are generally more susceptible to crosswind conditions. FAA guidance recommends that a primary runway orientation provide at least 95% wind coverage for the applicable crosswind component. If the primary runway provides less than 95% wind coverage, the need for a crosswind runway should be evaluated. The allowable crosswind component varies by aircraft design category, as summarized in **Table 4-2**.

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FAA guidance uses all-weather wind conditions to determine whether the 95% wind coverage recommendation is met and recommends using at least 10 consecutive years of wind observations. Wind coverage under instrument and visual conditions may also be evaluated to provide additional information regarding runway usability.

Ten years of wind data collected by the on-site Automated Weather Observing System (AWOS) were evaluated for Runway 17/35. As depicted in **Figure 4-1** and summarized in **Table 4-3**, Runway 17/35 provides 97.94% all-weather wind coverage at the 13-knot crosswind component applicable to B-II aircraft. Wind coverage under IFR and VFR conditions is also greater than 95%. Therefore, the existing orientation of Runway 17/35 meets FAA wind coverage recommendations.

Table 4-2: Allowable Crosswind Component by Runway Design Code

RDC	Allowable Crosswind Component
A-I and B-I	10.5 knots
A-II and B-II	13 knots
A-III, B-III C-I through D-III D-I through D-III	16 knots
A-IV and B-IV C-IV through C-VI D-IV through D-VI E-I through E-VI	20 knots

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

Figure 4-1: Runway 17-35 All Weather Wind Rose

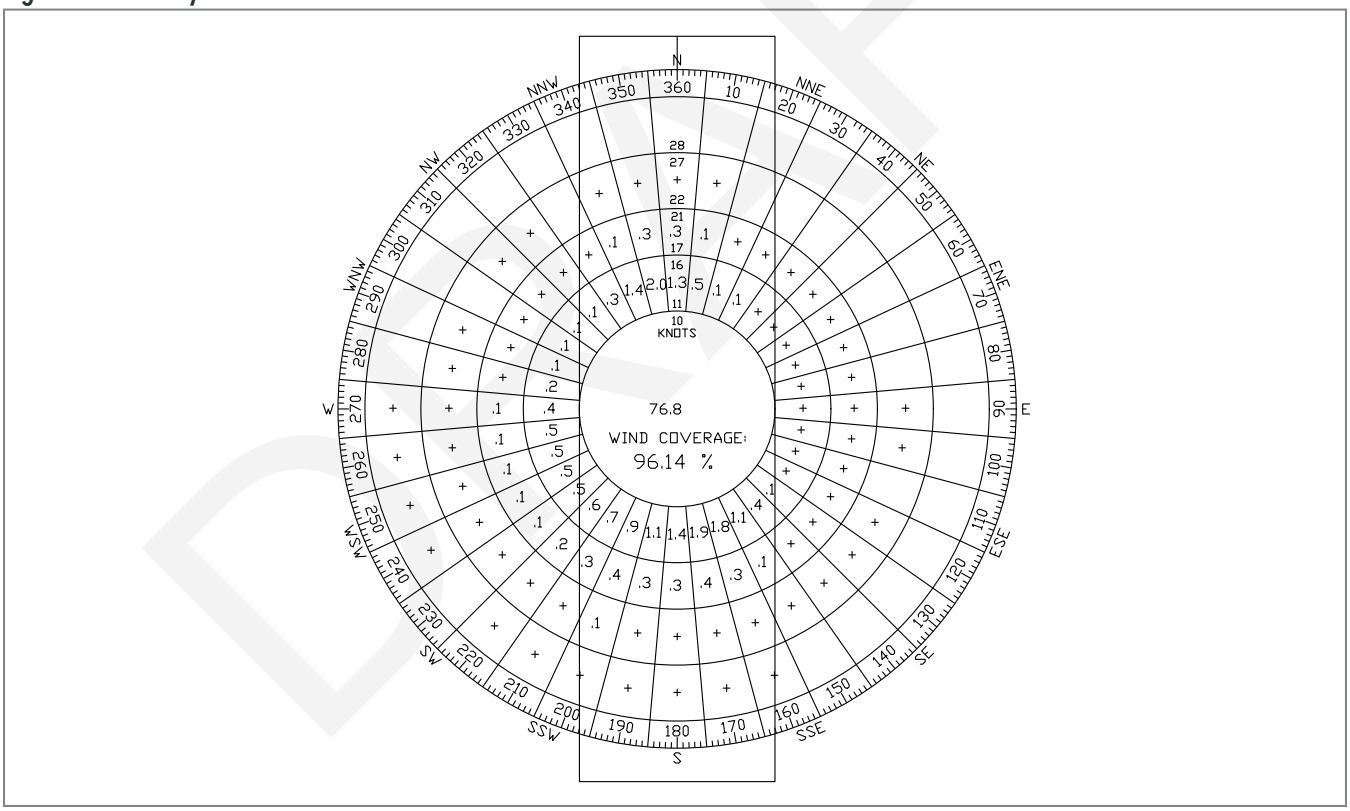


Table 4-3: Wind Coverage

Crosswind	Runway 17-35		
	All Weather	IFR	VFR
10.5 Knots	96.14%	95.84%	96.17%
13 Knots	97.94%	97.50%	97.98%
16 Knots	99.39%	98.75%	99.45%

Source: FAA Airport Data and Information Portal

Runway Length

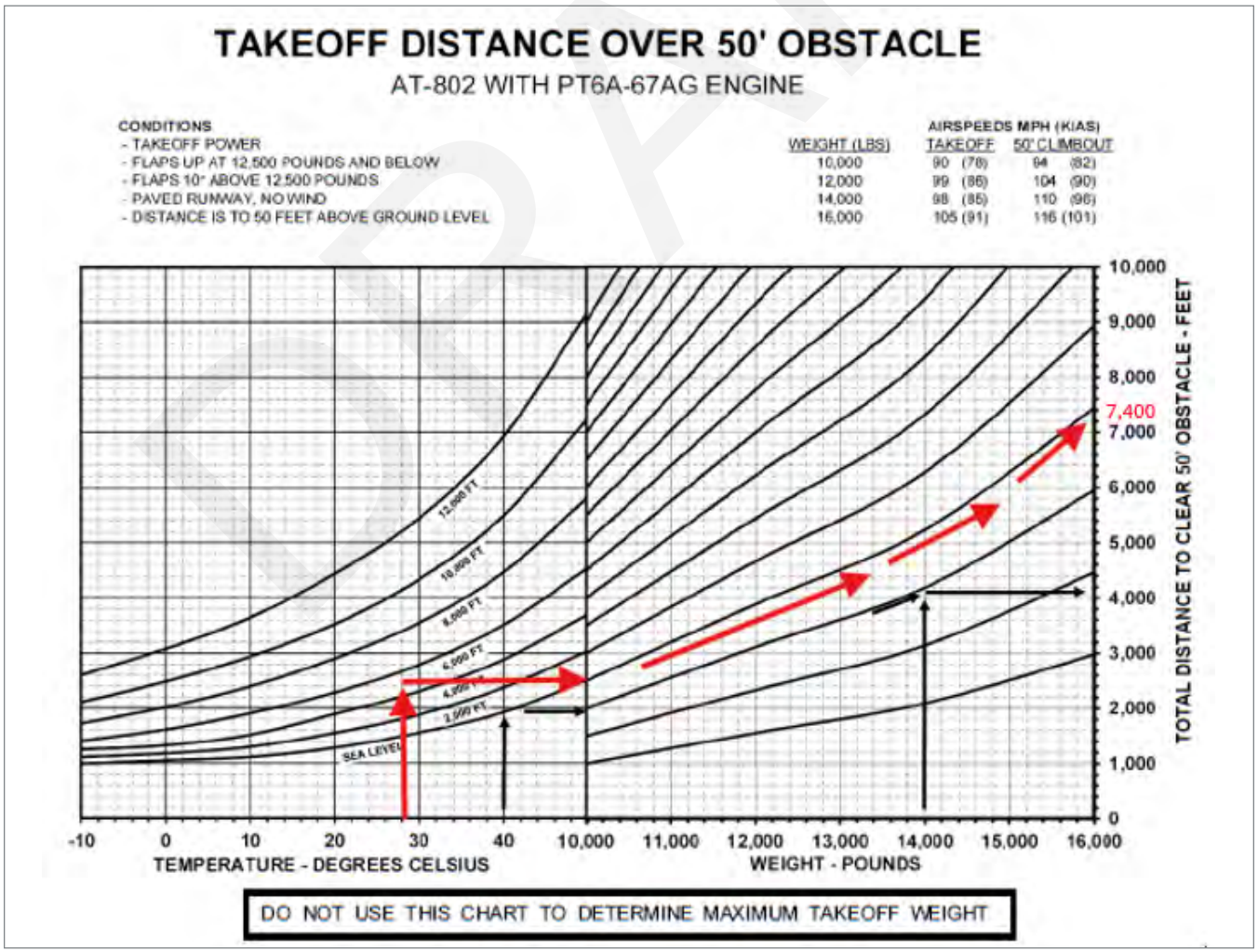
Runway length is a planning recommendation rather than an FAA design standard. Recommended runway length is influenced by aircraft performance and airport-specific conditions, including airport elevation, mean daily maximum temperature of the hottest month, runway gradient, and the aircraft expected to use the runway. *FAA AC 150/5325-4B,* Runway Length Requirements for Airport Design, provides the methodology used to evaluate recommended runway lengths for airport planning.

For airplanes weighing more than 12,500 pounds and up to 60,000 pounds, the FAA generally uses family groupings of aircraft with similar performance characteristics. The applicable FAA curves were developed primarily from turbojet and business jet performance data.

The Air Tractor AT-802 has a maximum takeoff weight of approximately 16,000 pounds and therefore falls within this large-aircraft weight category; however, as a turboprop firefighting aircraft, it is not representative of the business jet aircraft used to develop the FAA family curves. The AC also directs planners to use aircraft manufacturer performance data when it results in a longer runway length than the applicable fleet-based curves. Accordingly, manufacturer performance data were used to supplement the FAA fleet-based runway length analysis for the AT-802.

Manufacturer performance data indicate that an AT-802 operating at MTOW requires approximately 7,400 feet to take off and clear a 50-foot obstacle under the conditions depicted in **Figure 4-2**.

Figure 4-2: AT-802 Takeoff Distance at MTOW



Source: Air Tractor

To support the recommendations provided by FAA AC 150.5325-4B and manufacturer data, Bureau of Land Management (BLM) and United States Forest Service (USFS) were consulted. BLM and USFS provided runway length calculators to determine the maximum payload they can carry based on weather conditions and the runway currently available. The inputs included temperature, pressure altitude, and takeoff weight, which reflect the typical operating conditions at the Airport during firefighting operations. Specifically, the inputs and outputs from the operator-provided calculator are as follows:

- Temperature: 28 degrees Celsius (average summer high temperature)
- Pressure Altitude: 4,700 feet (reflecting airport elevation and average atmospheric pressure)
- Takeoff Weight: 15,994 pounds (representing an AT-802 fully loaded with fire retardant)

The output from the calculator indicated that the required takeoff distance over a 50-foot obstacle is approximately 7,095 feet under these conditions. This calculated distance aligns closely with the manufacturer's performance data, which estimates a takeoff distance of approximately 7,400 feet at MTOW. This reinforces the need for the previously recommended extension of Runway 17/35 to an ultimate length of 6,518 feet as depicted in the 2013 AMP. Although this length may limit AT-802 operations under the most demanding combinations of temperature, pressure altitude, and aircraft weight it would provide a substantial improvement over the existing runway length and enhance the airport's capability to support critical firefighting operations.

Runway Width and Shoulders

Runway and shoulder width standards are based on the AAC and ADG of the critical aircraft and are defined in *FAA AC 150/5300-13B Change 1, Airport Design*. For a B-II runway with visibility minimums not lower than 1 mile, Table G-4 specifies a runway width of 75 feet and shoulder width of 10 feet.

Runway 17/35 is currently 100 feet wide with 10-foot shoulders and therefore meets or exceeds the applicable FAA standards. At the time of future rehabilitation or reconstruction, the runway may be narrowed to the 75-foot B-II standard while maintaining 10-foot shoulders, or the Sponsor may elect to maintain the existing 100-foot runway width by locally funding the additional 25 feet of pavement beyond the FAA standard.

Runway Pavement Strength

Published pavement strength for Runway 17/35 is:

- 74,000 pounds (single wheel landing gear)
- 86,000 pounds (dual wheel landing gear)

These pavement strengths are adequate to accommodate the existing and future critical aircraft. The AT-802 has a maximum takeoff weight of approximately 16,000 pounds, which is well below the published runway pavement strength. Major taxiways and primary aircraft parking aprons should be maintained at pavement strengths appropriate for the aircraft they are intended to serve.

The existing runway pavement strength should be maintained through the remaining useful life of the pavement. At the time of future reconstruction, the pavement section should be designed based on the aircraft fleet and anticipated operational needs at that time.

Runway Protection Zone (RPZ)

Runway Protection Zones (RPZs) are established beyond runway ends to enhance the protection of people and property on the ground. FAA guidance for RPZ dimensions, land use compatibility, and airport control is provided in *FAA AC 150/5300-13B, Airport Design, Appendix I*. The FAA recommends that airports maintain control of RPZ property through ownership or other appropriate means and limit incompatible land uses within the RPZ.

The existing RPZs for Runway 17/35 are free of incompatible land uses and meet the applicable dimensional standards. These conditions should be maintained throughout the planning period. Any future changes to runway geometry or approach capabilities that modify the size or location of an RPZ should be evaluated for land use compatibility and airport control.

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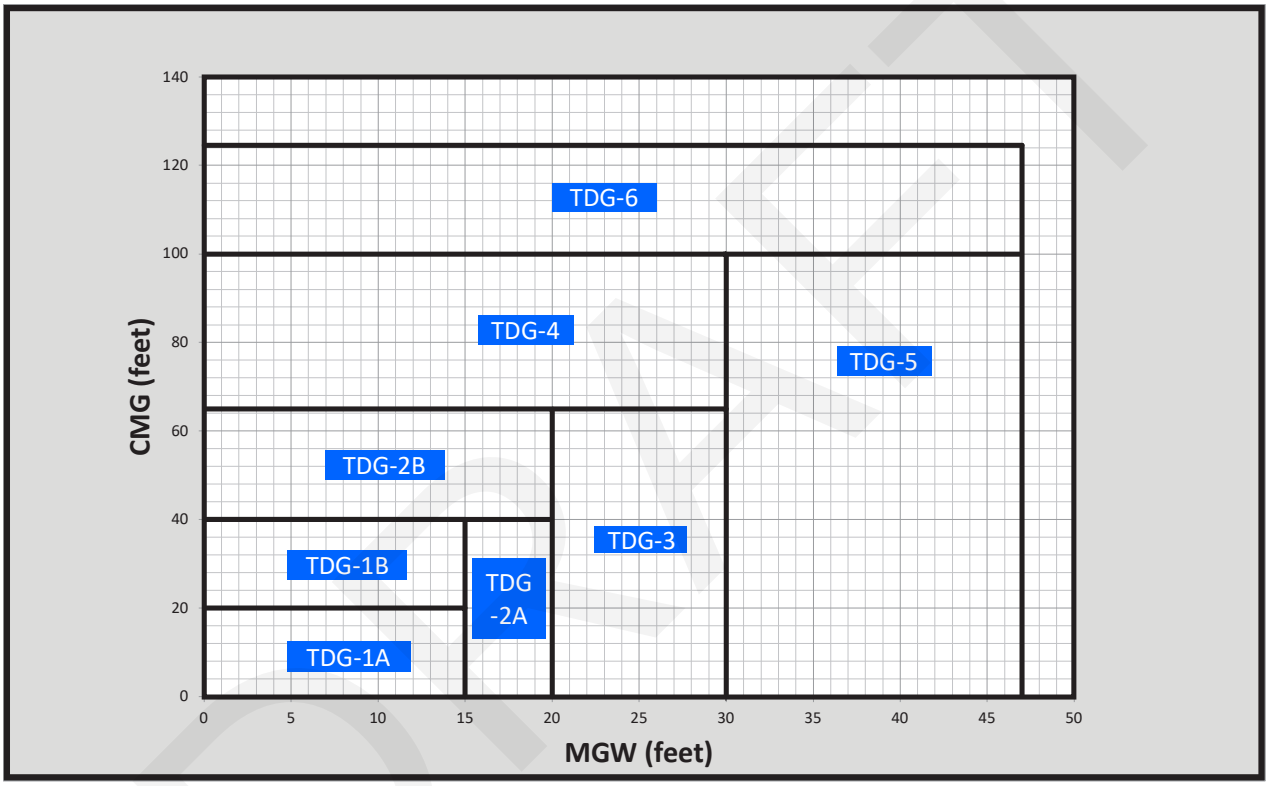
Taxiways & Taxilanes

Taxiway and taxilane design standards are established in *FAA AC 150/5300-13B, Airport Design*. Applicable standards are based on Airplane Design Group (ADG), which establishes lateral clearance requirements, and Taxiway Design Group (TDG), which establishes pavement geometry based on aircraft landing gear dimensions and maneuverability.

The AT-802, the existing and future critical aircraft, is classified as TDG 1B. Taxiways and taxilanes may be designed to different TDG standards based on the aircraft they are intended to serve. **Figure 4-3** depicts the applicable TDG classifications.

Figure 4-3: Taxiway Design



Source: FAA AC 150/5300-13B Change 1, Airport Design

TAXIWAYS

Taxiways A and B provide access between Runway 17/35 and the primary landside facilities. The existing taxiways meet or exceed the ADG II and TDG 1B dimensional standards applicable to the critical aircraft and provide adequate access to both runway ends and adjacent development areas.

The existing taxiway configuration also provides efficient access for BLM/USFS firefighting operations. The firefighting facilities are located near the connection of Taxiways A and B, allowing aircraft to access the facility from either runway end for refueling and reloading between firefighting missions.

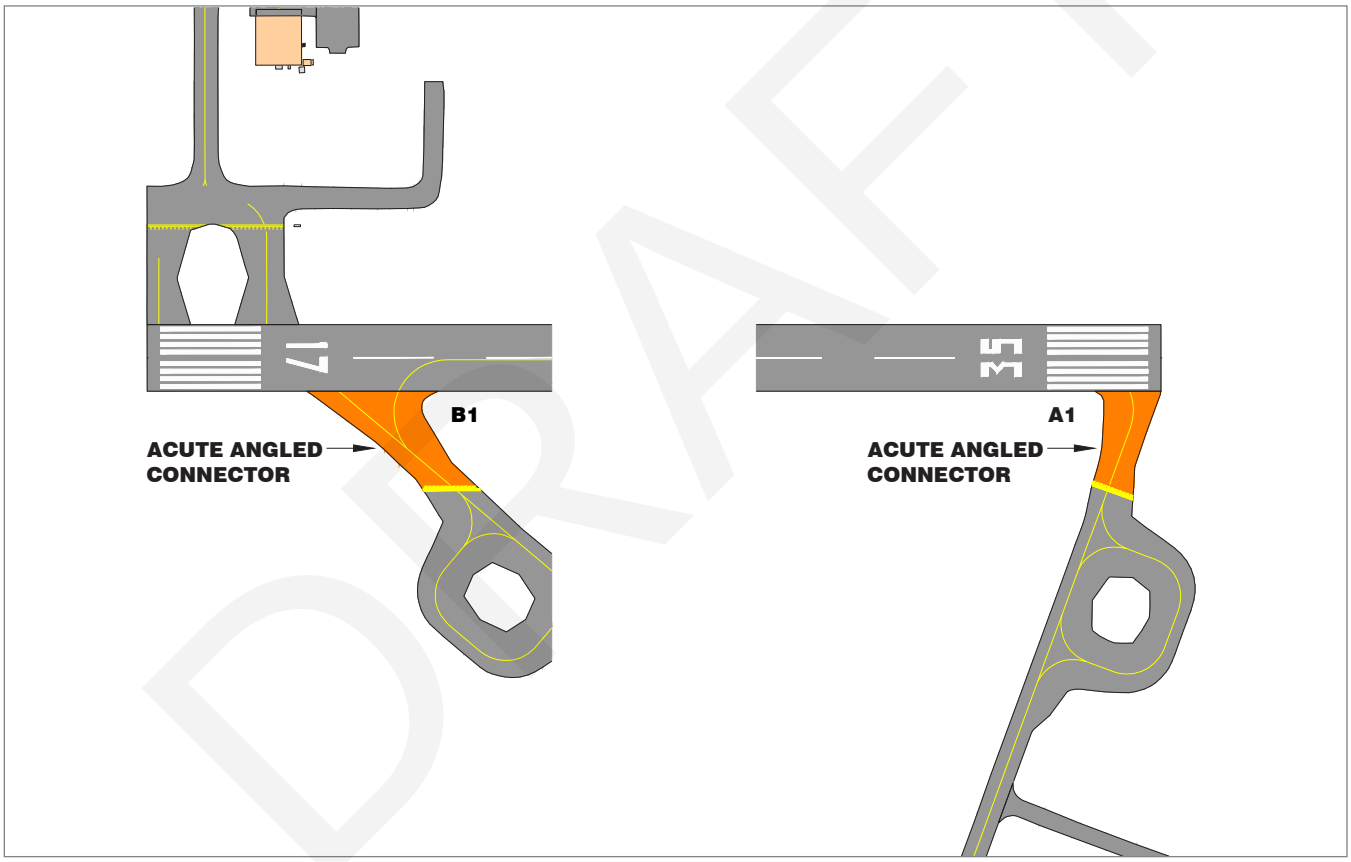
The need for a full-length parallel taxiway is generally driven by operational efficiency, particularly where increased traffic levels lead to delays due to frequent back-taxiing or other inefficient runway ground movements. Lake County Airport is forecast to increase from approximately 6,200 annual operations to 7,505 annual operations over the 20-year planning period. At these activity levels, the existing taxiway system is expected to continue providing adequate access to both runway ends without significant operational constraints associated with back-taxiing. Therefore, a full-length parallel taxiway is not recommended during the planning period.

Two existing conditions do not fully conform to current FAA taxiway design guidance and should be evaluated for correction:

- The Taxiway A and B connections with Runway 17/35 include acute-angle intersections. FAA guidance generally recommends 90-degree runway/taxiway intersections to improve pilot situational awareness and reduce the potential for runway incursions.
- The Taxiway A hold position is oriented at an angle to the runway, resulting in a minimum separation of approximately 192 feet from the runway centerline. The applicable B-II standard is 200 feet for runways with visibility minimums not lower than 1 mile.

Options to reconfigure the connector geometry and provide the required hold-position separation should be evaluated during development alternatives.

Figure 4-4: Acute Angle Connector Taxiways



Source: Century West Engineering

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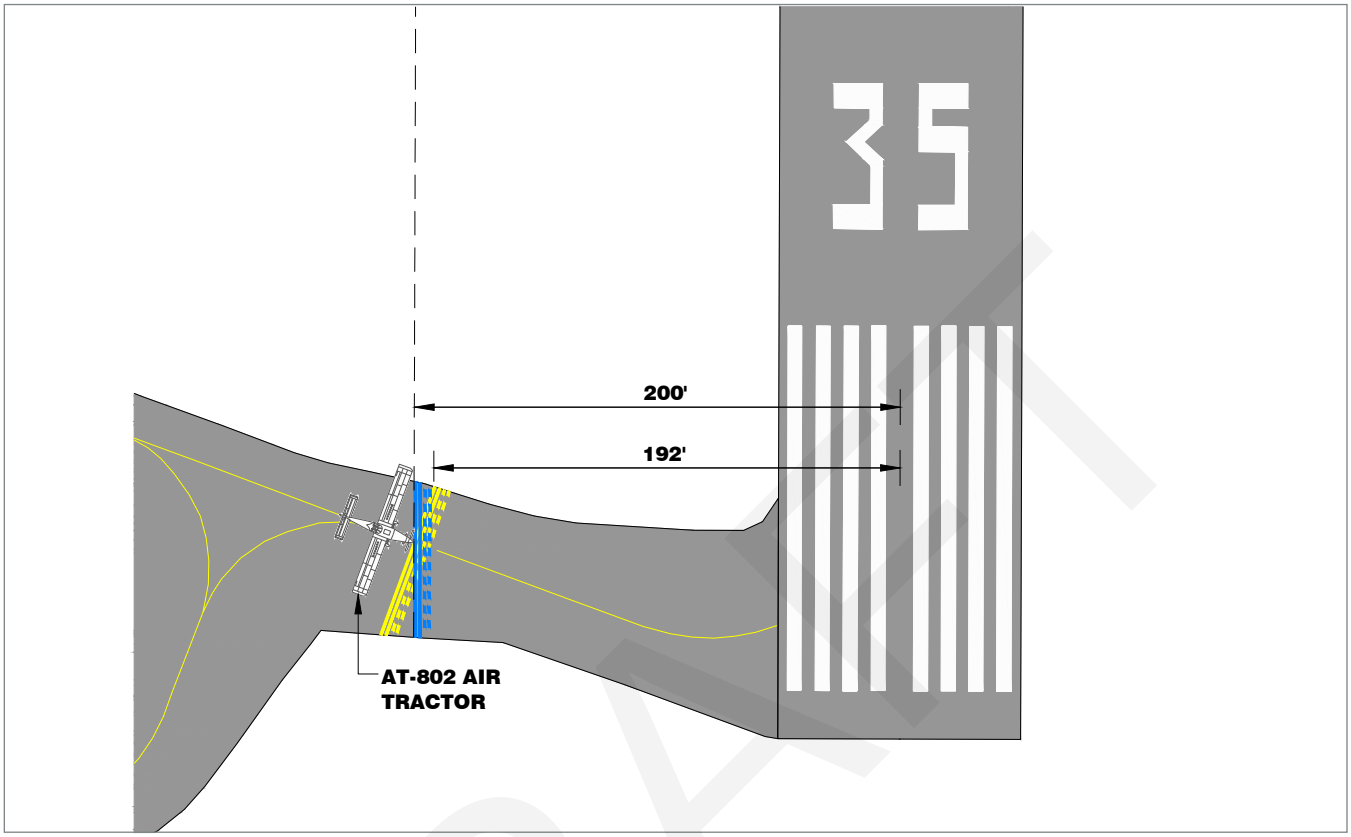
Figure 4-5: Non-Standard Hold Position



Source: Century West Engineering

TAXILANES

Taxilanes at Lake County Airport provide access to aircraft parking and hangar areas southwest of Runway 17/35. FAA taxilane design criteria include Taxilane Object Free Area (TLOFA) clearances, which are intended to remain free of objects that could interfere with aircraft movement. Taxilanes may be designed to different ADG standards based on the aircraft they are intended to serve.

As depicted in **Figure 4-6**, taxilanes within the main terminal area primarily serve small aircraft and are configured to ADG I standards. A taxilane on the east side of the apron is configured to accommodate ADG II aircraft and provides access to two larger aircraft parking positions and the fuel area.

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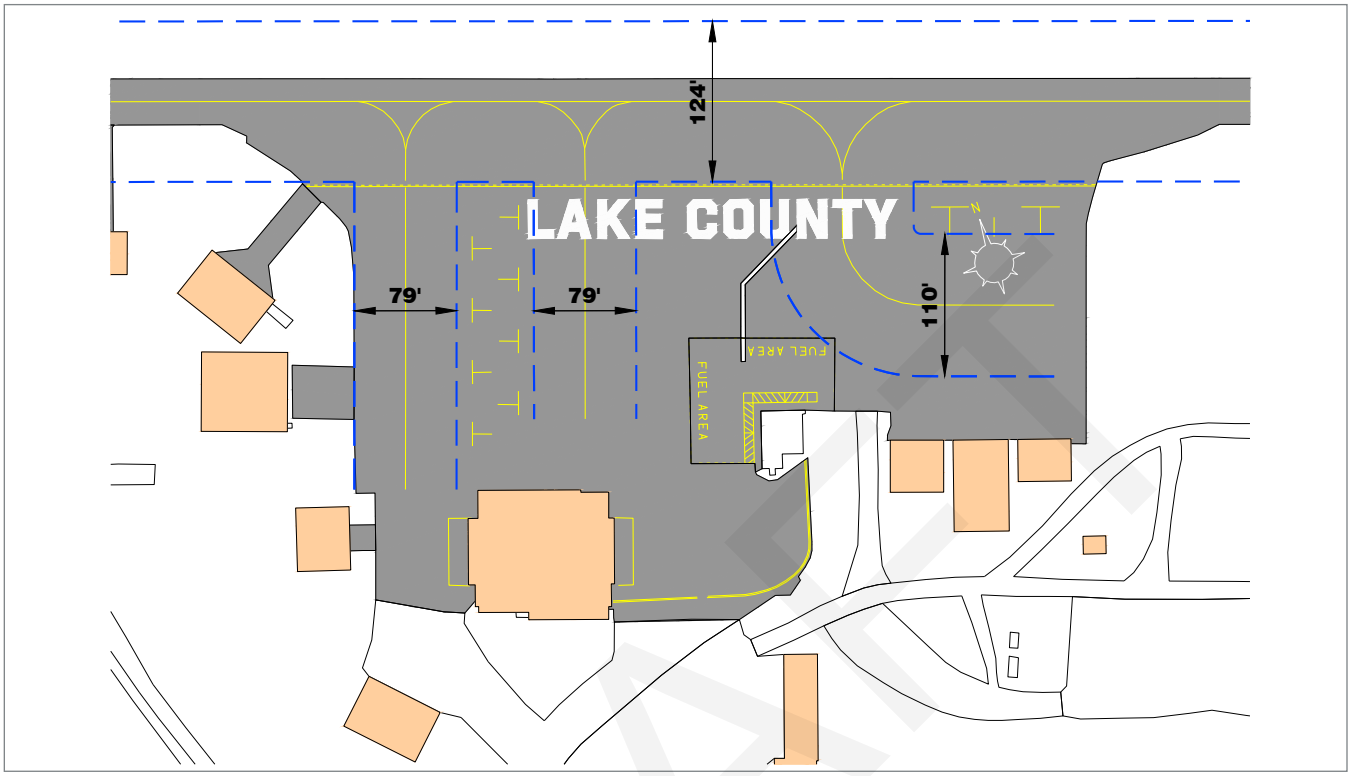
Figure 4-6: Main Apron Taxilanes



Source: Century West Engineering

AIRCRAFT PARKING APRON

Aircraft parking needs were evaluated based on existing parking capacity, applicable FAA design standards, and forecast based and transient aircraft activity. Due to uncertainty associated with long-term demand, development reserves should be incorporated into landside planning to preserve sufficient space for future aircraft parking and circulation.

Transient aircraft parking demand was estimated using the average busy-day activity presented in Chapter 3 – *Aviation Activity Forecasts*. Based on the projected itinerant activity, approximately 3 to 5 transient small-aircraft parking positions are anticipated to be needed during the 20-year planning period.

Lake County Airport currently provides 11 tiedown positions on the main apron. Based on current demand, the existing apron provides adequate capacity for locally based and transient small-aircraft parking; however, sufficient development reserve should be maintained to accommodate future demand.

Two existing parking positions are configured with ADG II clearances and can accommodate larger transient aircraft. These positions should be maintained for occasional business aircraft use. The existing nested tiedown layout should also be reviewed and reconfigured as necessary to provide applicable FAA clearances.

While the BLM lease area has two helicopter parking position for use by firefighting helicopters, the Airport currently does not provide a designated helicopter parking position for non-BLM transient helicopters. A suitable location for helicopter parking should be identified that provides appropriate separation from fixed-wing aircraft parking, taxilanes, and other facilities. Opportunities to improve apron circulation and accommodate future parking demand should be evaluated in the development alternatives.

AIRFIELD PAVEMENT CONDITION

An updated Pavement Evaluation Program (PEP) inspection was completed at Lake County Airport by the Oregon Department of Aviation (ODAV) in December 2022. The inspection reported an area-weighted Pavement Condition Index (PCI) of 74 for the Airport's pavement network, corresponding to an overall Satisfactory condition. Primary pavement distresses included weathering, raveling, longitudinal and transverse cracking, fatigue cracking, and block cracking.

The 2022 PEP reported the following area-weighted pavement conditions:

- Runway: 84 - Satisfactory
- Taxiway: 57 – Fair, with individual sections ranging from 3 to 79
- Apron: 83 - (Satisfactory) – with individual sections ranging from 49 to 100

The PEP identifies a range of pavement maintenance, rehabilitation, and reconstruction projects through 2027, as summarized in **Table 4-4**. Recommended work includes fog seals, slurry seals, overlays, and reconstruction of pavement sections with lower PCI values.

Table 4-4: 2022 PEP -Recommended LKV Pavement Projects (2022-2027)

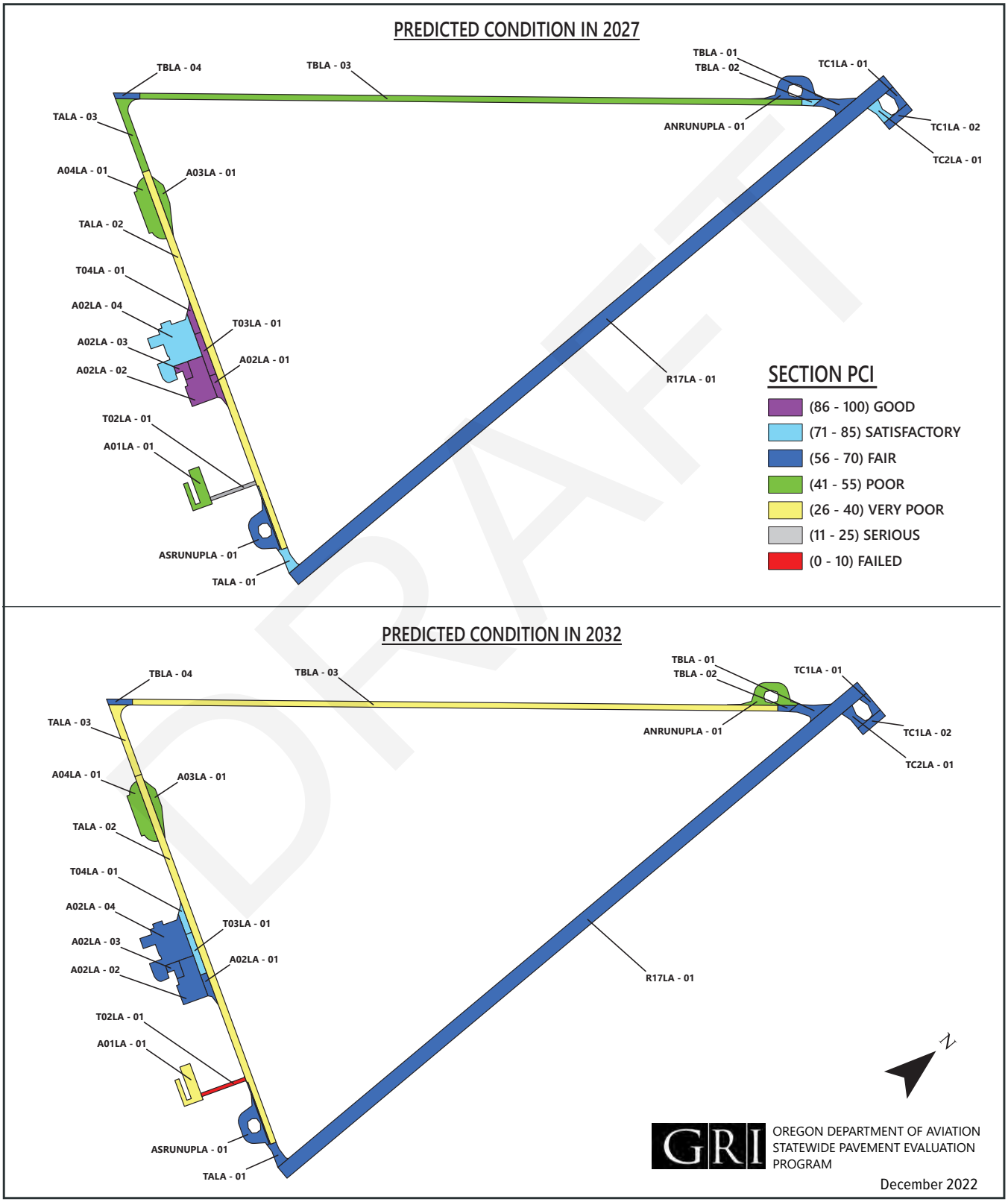
Action Year	Branch ID	Section ID	Branch Use	Surface Type	Current PCI	Action	Area, square feet	Unit Cost per square foot	Total Cost
2023	A03LA	01	APRON	AC	56	Fog Seal	15,538	$0.20	$3,108
	A04LA	01	APRON	AAC	51	Fog Seal	38,250	$0.20	$7,650
	T02LA	01	TAXIWAY	AC	18	Reconstruction	8,293	$11.10	$92,053
	TALA	03	TAXIWAY	AC	52	Overlay	29,092	$5.35	$155,530
2024	TBLA	03	TAXIWAY	AC	55	Overlay	180,741	$4.90	$885,578
2025	A01LA	01	APRON	AC	49	Overlay	27,485	$8.15	$224,137
	A02LA	01	APRON	AC	100	Fog Seal	8,609	$0.20	$1,722
	A02LA	02	APRON	AC	100	Fog Seal	45,414	$0.20	$9,083
	A02LA	03	APRON	AC	100	Fog Seal	8,645	$0.20	$1,729
	A02LA	04	APRON	AC	98	Fog Seal	83,132	$0.20	$16,627
	ANRUNUPLA	01	APRON	AC	87	Fog Seal	32,703	$0.20	$6,541
	ASRUNUPLA	01	APRON	AC	91	Fog Seal	29,857	$0.20	$5,971
	T03LA	01	TAXIWAY	AC	100	Fog Seal	13,939	$0.20	$2,788
	T04LA	01	TAXIWAY	AC	100	Fog Seal	8,534	$0.20	$1,707
2026	TALA	02	TAXIWAY	AC	43	Reconstruction	133,735	$11.10	$1,484,459
2027	R17LA	01	RUNWAY	AC	84	Slurry Seal	530,000	$0.33	$174,900
	TALA	01	TAXIWAY	AC	94	Slurry Seal	13,943	$0.33	$4,601
	TBLA	01	TAXIWAY	AC	86	Slurry Seal	16,002	$0.33	$5,281
	TBLA	02	TAXIWAY	AC	94	Slurry Seal	4,373	$0.33	$1,443
	TBLA	04	TAXIWAY	AC	59	Slurry Seal	7,000	$0.33	$2,310
	TC1LA	01	TAXIWAY	AC	78	Slurry Seal	8,558	$0.33	$2,824
	TC1LA	02	TAXIWAY	AC	63	Slurry Seal	11,444	$0.33	$3,777
	TC2LA	**01**	**TAXIWAY**	**AC**	**89**	**Slurry Seal**	**10,581**	**$0.33**	**$3,492**

Source: Oregon Department of Aviation – 2022 Pavement Evaluation/Maintenance Management Program; AC =Asphaltic Concrete (Asphalt)

Over the 20-year planning period, airfield pavements will require ongoing maintenance and periodic rehabilitation or reconstruction as conditions deteriorate. Routine maintenance, including crack sealing, surface treatments, vegetation control, and localized repairs, should continue in coordination with the ODAV PEP to extend pavement service life. Larger rehabilitation and reconstruction projects should be prioritized in the Airport Capital Improvement Program based on pavement condition, operational importance, and available funding.

The PEP-predicted pavement conditions for 2027 and 2032, assuming no intervening maintenance or rehabilitation, are depicted in **Figure 4-7**.

Figure 4-7: Airfield Pavement Conditions



Source: Oregon Department of Aviation – 2022 Pavement Evaluation/Maintenance Management Program – Lake County Airport

Airfield Support Facilities

Airfield support facilities include runway and taxiway lighting, airfield signage, weather reporting equipment, navigational aids (NAVAIDs), aircraft fueling facilities, and snow removal equipment. The following sections evaluate the condition and anticipated needs of these facilities during the planning period.

AIRFIELD LIGHTING

The service life of airfield lighting systems varies; however, it is anticipated that existing systems will require rehabilitation or replacement during the 20-year planning period as components reach the end of their useful life.

Runway 17/35 is equipped with Medium Intensity Runway Lights (MIRL). Taxiways are delineated with blue edge reflectors. The existing lighting systems are reported to be in good condition.

Existing lighting systems should be maintained through their useful life and rehabilitated or replaced as needed. Any future changes to runway or taxiway geometry should include corresponding modifications to lighting and signage.

AIRFIELD SIGNAGE

Internally illuminated mandatory instruction signs are provided at runway hold positions. No additional directional signage is currently provided within the taxiway system. The existing signage is reported to be in good condition.

Additional directional signage may be considered where needed to improve pilot wayfinding, particularly if future taxiway or landside development changes the existing circulation pattern.

WEATHER REPORTING

Lake County Airport is equipped with an AWOS-3PT that records and broadcasts altimeter setting, wind, temperature, precipitation, dew point, density altitude, visibility, and cloud/ceiling information. The AWOS is reported to be in good working condition.

The existing AWOS should be maintained through its useful life, with replacement anticipated as needed during the planning period.

NAVIGATION AIDS (NAVAIDS)

Runway 17/35 is served by RNAV (GPS) instrument approaches and visual NAVAIDs including a rotating beacon, REILs at both runway ends, and four-light PAPIs serving Runways 17 and 35. The existing visual NAVAIDs are reported to be in good condition.

Existing NAVAIDs should be maintained through their useful life and rehabilitated or replaced as necessary to preserve existing approach capabilities.

AIRCRAFT FUEL

Lake County Airport has a County-owned self-service fueling system located on the main apron. The system includes above-ground storage tanks and provides both 100LL and Jet A fuel. The system is reported to be in good working condition.

The existing fueling system should be maintained and upgraded or replaced as necessary to continue meeting Airport demand during the planning period.

SNOW REMOVAL EQUIPMENT

Lake County Airport currently maintains two truck-mounted snowplows and a skid steer equipped with blade and blower attachments for snow removal. The skid steer provides additional flexibility for clearing pavement and developed areas. The two truck-mounted snowplows are approaching the end of their useful life and should be replaced during the planning period to maintain reliable snow removal capability and support safe winter operations.

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Landside Facilities

Landside facilities include aircraft parking aprons, hangars, terminal and FBO facilities, vehicle access and parking, utilities, and other facilities that support aircraft and Airport users. Future landside needs were evaluated based on existing conditions, applicable FAA design standards, and the aviation activity forecasts presented in Chapter 3.

TERMINAL BUILDING

Lake County Airport has a terminal building that provides restrooms, a pilot lounge, a snooze room, Wi-Fi, and other resources for pre-flight planning. The existing terminal building is adequate to support current general aviation activity and should be maintained and upgraded as needed during the planning period.

The County has also identified a need to preserve a suitable development site for a future FBO or aviation support facility that could accommodate BLM/USFS and medivac operations. Potential locations for this facility should be evaluated as part of the landside development alternatives.

HANGARS

Lake County Airport currently has 11 existing hangars totaling approximately 31,900 square feet:

- 10 conventional hangars
- 1 multi-unit T-hangar, 8 units

Approximately 95% of the Airport's based aircraft are currently stored in hangars. For planning purposes, a similar hangar storage ratio is assumed for future based aircraft.

The aviation activity forecast projects an increase of approximately 5 based aircraft over the 20-year planning period. Applying the 95% hangar-storage assumption results in a need for approximately 5 additional hangar spaces. A 100% development reserve is recommended to provide flexibility for growth beyond the forecast, resulting in a long-term planning allowance for flexibility.

Future hangar development areas should provide sufficient space to accommodate this demand while maintaining flexibility for a range of hangar types and sizes, including larger conventional hangars capable of accommodating business aircraft or expanded commercial aviation activity. Appropriate areas for phased hangar development should be evaluated in the development alternatives.

AIRPORT FENCING

Airport perimeter fencing consists of a combination of chain-link security fencing and livestock fencing. Access points to operational areas are gated, including the access road serving the main terminal and apron area.

Existing fencing should be maintained, with upgrades to wildlife/security fencing evaluated where needed to improve perimeter control and reduce wildlife or unauthorized access to operational areas. Access gates should also be upgraded or automated where warranted by security and operational needs.

Airport Surface Roads

Airport Road provides primary vehicle access from Highway 140 to the terminal area and other developed portions of the Airport. Within the airfield, vehicles currently use a combination of access roads, aprons, and taxiways to reach Airport facilities.

Existing access is generally adequate for current development. Future hangars, apron, or other landside development should include dedicated vehicle access where practical to reduce unnecessary vehicle travel or crossings on aircraft movement and parking areas.

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VEHICLE PARKING

Vehicle parking is provided in unmarked gravel areas south of the terminal building, and Airport tenants commonly park adjacent to or inside their hangars. Existing parking areas generally provide adequate capacity for current Airport users.

No additional vehicle parking is currently required. Future terminal, FBO, hangar, or other landside development should provide parking appropriate to the anticipated use and demand.

UTILITIES

Existing Airport utilities are generally adequate to support facilities within the currently developed areas of the Airport. Utilities should be maintained and extended or upgraded as necessary to serve future aeronautical and non-aeronautical development during the planning period.

Land Use & Zoning

As discussed in Chapter 2 – *Existing Conditions Analysis*, Lake County Airport is situated in a primarily agricultural area dominated by open rangeland and cropland. The closest residential development is located within the City of Lakeview approximately three miles northeast of the Airport.

Airport property is currently zoned Exclusive Farm Use (A-1) under Article 2 of the Lake County Zoning Ordinance. The existing base zoning primarily accommodates agricultural uses and may not readily accommodate the range of industrial, commercial, aeronautical, and non-aeronautical uses that could be associated with future Airport development. Lake County should evaluate whether changes to the underlying zoning are needed to accommodate development identified through the Airport Master Plan.

Airport overlay zoning is established under Article 13 of the Lake County Zoning Ordinance. The overlay protects Airport approaches and airspace through imaginary surfaces that generally correspond to the requirements of 14 CFR Part 77. Article 13 also includes provisions addressing noise-sensitive land uses near the Airport.

The existing Airport overlay zoning should continue to be maintained to protect airspace and promote compatible development surrounding the Airport. Any changes to the underlying zoning needed to accommodate future on-Airport development should be coordinated with Lake County as development areas are identified.

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Summary of Airport Facility Needs

Table 4-5 provides a consolidated summary of the facility requirements and recommendations identified in this chapter. These items will inform subsequent master plan development, including alternatives analysis and implementation planning. Items identified for alternatives analysis will be evaluated in Chapter 5 – *Airport Development Alternatives*, while other recommendations will be carried forward through implementation planning and the Capital Improvement Program, as appropriate.

Table 4-5: Facility Requirements Summary

Element	Description of need and/or Recommendation	Alternatives Analysis
Runway		
Runway Length	Evaluate the previously planned extension of Runway 17/35 to an ultimate length of 6,518 feet to reduce operational constraints for firefighting aircraft.	Yes
Taxiways and Taxilanes		
Taxiway A/B Connection	Evaluate reconfiguration of the acute-angle runway/taxiway connections to provide 90-degree intersections consistent with current FAA guidance.	Yes
Taxiway A Hold Position	Reconfigure the Taxiway A hold position to provide the required 200-foot B-II separation from the runway centerline.	Yes
Pavement		
Airfield Pavement	Continue pavement maintenance and complete rehabilitation or reconstruction projects as pavement condition and the Airport CIP warrant.	No
Airfield Support Facilities		
Snow Removal Equipment	Replace the Airport's two truck-mounted snowplows during the planning period as they reach the end of their useful lives.	No
Landside Facilities		
FBO / Aviation Support Facility	Preserve and evaluate a suitable site for a future FBO or aviation support facility capable of supporting BLM/USFS and medevac operations.	Yes
Aircraft Parking Apron	Evaluate apron circulation and tiedown configuration and identify a suitable location for transient helicopter parking.	Yes
Hangars	Provide approximately 5 additional hangar spaces to accommodate forecast demand and preserve sufficient development reserve for flexibility.	Yes
Airport Fencing / Access Control	Evaluate wildlife/security fencing and access-gate improvements where warranted.	Yes
Airport Surface Roads	Provide dedicated vehicle access with future landside development where practical to reduce unnecessary vehicle travel or crossings on aircraft movement and parking areas.	Yes
Land Use		
Airport Zoning	Evaluate whether changes to the underlying A-1 zoning are needed to accommodate future aeronautical and non-aeronautical development.	Yes

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