

CHAPTER 3: TERMINAL AREA & SUPPORT FACILITIES

Introduction

This Chapter of the Airport Plan is focused on the Terminal Area and Support Facilities which includes the aprons, taxilanes, hangars, and access roads. This chapter addresses the existing and future facility needs at Dubois Municipal Airport (DUB).

This chapter builds upon the based aircraft and operations forecasting developed in the previous chapter, using the Planning Activity Levels (PALs) from the forecast analysis to identify the landside requirements necessary to support airport, aircraft and passenger operations. Alternative choices for the terminal area will be presented based on findings along with the decision on a preferred alternative layout. The following elements are assessed within this chapter:

- Planning Activity Levels
- Existing Terminal Area Uses
- Aircraft Storage
- Aircraft Parking & Movement
- Terminal Building
- Support Facilities
- Requirements Summary
- Alternatives
- Preferred Alternative

Planning Activity Levels (PALs)

There are various airport activity measures used to determine airport facility requirements, including annual operations, peak hour activity, and based aircraft. These measures are referred to as PALs, which are carried forward from the forecast calculations in [Chapter One](#) and applied later in this chapter to determine the facility and capacity needs through the planning period. It is important to note that while PALs are good indicators and guiding points for airport development, airport activity can be sensitive to industry changes as well as national and local economic conditions. This makes it difficult to identify a specific calendar year for associated development and so, actual development is based on true demand.

For this study, PALs are used to identify demand thresholds for many recommended facility improvements. If an activity level is approaching a PAL, then the airport should prepare to implement the improvements. Alternatively, activity levels that are not approaching a PAL can allow improvements to be deferred. The demand forecasts developed in this study correspond to an anticipated planning level calendar year (2030, 2035, 2040, 2045) from the preferred aviation forecasts as seen in **Table 3-1** and **Table 3-2**.

Table 3-1 – Planning Activity Levels (PALs)

Key Activity Metrics	Base	PAL 1	PAL 2	PAL 3	PAL 4
Forecast Year	2025	2030	2035	2040	2045
Operations	2,990	3,086	3,186	3,292	3,404
Based Aircraft	18	19	21	22	23

Source: KLJ Analysis

Table 3-2 – Peak Airport Operations Forecast

Metric	Base	PAL 1	PAL 2	PAL 3	PAL 4
Annual Operations	2,990	3,086	3,186	3,292	3,404
Peak Month (25%)	748	772	798	824	852
Busy Day (Design + 15%)	28.6	29.6	30.5	31.5	32.6
Design Hour Total	5.7	5.9	6.1	6.3	6.5

Source: KLJ Analysis

Existing Terminal Area Uses

Background

General Aviation (GA) includes all civil aviation activities except for commercial service. Providing necessary facilities and access for general aviation users at DUB will continue to be important for the vitality of the Fremont community. Based aircraft is projected to grow from 18 to 23 for an increase of 28 percent with operations growing from 2,990 to 3,404 for an increase of 14 percent through PAL 4. Facilities should be planned to provide flexibility for growth including any business operators such as a Fixed-Base Operator (FBO) or Specialized Aviation Service Operator (SASO) providing aeronautical services from DUB. General aviation facilities evaluated in this section include aircraft storage hangars, aircraft parking apron and arrival/departure terminal building.

It is important to note that the runway at DUB has previously undergone a rotation of Runway 11/29 which has impacted the layout and setbacks of the terminal area. The previous runway alignment was designated 10/28 until the west end was rotated slightly south and the east end slightly north, resulting in the current 11/29 designation. The runway was also shifted further north, reducing the distance between the centerline, situating it closer to the existing hangars. Hangars were previously set 550 feet from the centerline and now measure approximately 500 feet from the centerline.

BUSINESS OPERATORS

FBOs are commercial businesses providing multiple aviation services to the public, primarily for general aviation. SASOs are commercial aviation businesses providing one or a few services such as just aircraft maintenance. There is currently not an FBO located at the airport. The only SASOs are those providing wildlife observation and county for state and federal agencies. There is not currently a hangar suitable or situated for an FBO or a SASO providing aircraft maintenance services.

Aircraft Storage

Aircraft storage requirements are driven by operational requirements, aircraft size, local climate, and owner preferences. For based aircraft, the harsh winters drive all owners to seek aircraft storage facilities rather than outdoor parking on an aircraft parking apron. Owners prefer to have covered,

secure storage for their aircraft with space for other aeronautical facilities including an office or maintenance/storage areas. All based aircraft at DUB are stored in aircraft storage hangars. Transient aircraft travel to airports for up to a few days at a time. These aircraft typically park on aircraft aprons or seek temporary indoor aircraft storage, especially during adverse weather conditions. A visual depiction of the existing terminal and apron area at DUB is available in **Figure 3-1**.

Figure 3-1 – Terminal Area Facilities Map



AIRCRAFT STORAGE HANGARS

At DUB there are 13 conventional box hangars used for aircraft storage. Each is used for personal aircraft storage ranging from approximately 1,200 to 3,600 square feet. There are no hangars available for transient aircraft. All hangars are positioned opening to the runway and are aligned on the same taxilane, a little more than 500 feet from the centerline of the runway. Aircraft storage facilities are listed in **Table 3-3** and are shown in **Figure 3-1**.

Table 3-3 – Aircraft Storage Facilities

Facility Number	Location	Description	Approx. Size (SF)
2	Hangar Taxilane	Personal Hangar	1,200
3	Hangar Taxilane	Personal Hangar	1,300
4	Hangar Taxilane	Personal Hangar	1,300
5	Hangar Taxilane	Personal Hangar	1,300
6	Hangar Taxilane	Personal Hangar	1,600
7	Hangar Taxilane	Personal Hangar	2,200
8	Hangar Taxilane	Personal Hangar	2,400
9	Hangar Taxilane	Personal Hangar	2,000
10	East Taxilane	Personal Hangar	1,300
13	Hangar Taxilane	Personal Hangar	3,300
14	Hangar Taxilane	Personal Hangar	3,600
15	Hangar Taxilane	Personal Hangar	3,000
16	Hangar Taxilane	Personal Hangar	3,600
Total Hangar Space			28,100

Source: KLJ Analysis

BASED AIRCRAFT STORAGE

All 18 based aircraft (including 2 ultralights) are currently stored in the existing 28,100 square feet of available aircraft storage space. The following is used to determine aircraft storage space requirements:

- Single-Engine Piston/Ultralight: 1,600 SF
- Multi-Engine/Turboprop: 2,500 SF
- Turbojet: 3,600 SF
- Helicopter: 2,100 SF
- Additional 20 percent for general aeronautical storage and supplies

Using these factors with based aircraft forecasts, a projected need for based aircraft storage space is determined. It is important to understand that this projection provides a broad estimate of needed space into the future for facility planning. Actual space needs are demand-driven. For example, the presence of an FBO or SASO may require additional space for aircraft maintenance.

Table 3-4 – Based Aircraft Storage Requirements

Category	Existing	Base	PAL 1	PAL 2	PAL 3	PAL 4
Based Aircraft Storage Space (SF)						
Aircraft Storage Space	28,100	28,800	30,400	33,600	35,200	36,800
Capacity/Deficiency	-	700	2,300	5,500	7,100	8,700

Source: KLJ Analysis. Note: **RED** indicates a deficiency to existing capacity.

The above analysis suggests sufficient aircraft storage space exists to accommodate based aircraft needs only at PAL 1. Additional space would be required beyond this PAL, if the forecast based aircraft count is reached. All hangar space is currently dedicated for exclusive use and may not be available for all types of additional based aircraft storage. The recommended hangar types to accommodate aircraft storage depend on airport and aircraft owner preferences and financial position. There are two main hangar types:

- T-Hangar: Nested small aircraft storage units within a rectangular building.
- Conventional Hangar: Commonly known as “box” hangars are square/rectangular.

Hangars are constructed with public or private funds as demand warrants. This facility requirement analysis shows there is a need for approximately 31 percent more total hangar space at DUB to accommodate forecasted based aircraft through PAL 4.

TRANSIENT AIRCRAFT STORAGE

Transient aircraft storage is utilized on an as-needed basis as aircraft require temporary storage. Aircraft types that require this type of storage are typically larger and more expensive airplanes such as turboprop and turbojet aircraft. Storage timeframes vary but can be for a few hours to several days.

The mix of operations by aircraft not based at DUB was used and extrapolated as ten percent of the peak day operations to determine the need for transient hangar storage needs. Transient aircraft storage should plan to accommodate one turboprop and one helicopter through PAL 2 and one turbine and one turboprop through PAL 4. Total aircraft storage needs are summarized in **Table 3-5**.

Table 3-5 – Transient Aircraft Storage Requirements

Category	Existing	Base	PAL 1	PAL 2	PAL 3	PAL 4
Transient Aircraft Storage Space (SF)						
Transient Hangar Area	0	4,600	4,600	4,600	6,100	6,100
Capacity/Deficiency	-	4,600	4,600	4,600	6,100	6,100

Source: KLJ Analysis. Note: **RED** indicates a deficiency to existing capacity.

Table 3-6 – Total Aircraft Storage Requirements

Category	Existing	Base	PAL 1	PAL 2	PAL 3	PAL 4
Total Aircraft Storage Space (SF)						
Based Aircraft	28,100	28,800	30,400	33,600	35,200	36,800
Transient Hangar Area	0	4,600	4,600	4,600	6,100	6,100
	28,100	33,400	35,000	38,200	41,300	42,900
Capacity/Deficiency	-	5,300	6,900	10,100	13,200	14,800

Source: KLJ Analysis. Note: **RED** indicates a deficiency to existing capacity.

Aircraft Parking & Movement

GA aircraft parking is utilized by transient or based aircraft. With all the based aircraft at DUB stored in hangars, the aircraft parking necessary is primarily for transient aircraft requiring parking for a few minutes to a few days. Transient aircraft may also require covered aircraft storage in inclement weather.

APRONS & TAXILANES

Apron areas serve the loading, unloading, parking and maneuvering needs for general aviation operations. Locations are identified in **Figure 3-1**. The current configuration of the terminal area at DUB results in limited apron space. This is partly because the hangars, which all open directly toward the runway, require at least 79 feet of space for the taxilane object free area (TLOFA) in front of each hangar. The object free area for the runway is 250 feet from the centerline of the runway resulting in only about 170 feet of space for the apron in front of these hangars. **Table 3-7** provides a summary of the apron areas.

Table 3-7 – Apron Area Summary

Identifier	Primary Purpose	Area (Square Yards)
Terminal Apron	Aircraft Parking	670
Fuel Island	Fueling	850
North Apron	Aircraft Parking (2,700 S.Y. gravel)	3,900
TOTAL		3,420

Source: KLJ Analysis

AIRCRAFT DEMAND

General aviation (GA) aircraft parking is utilized by transient aircraft at DUB. Transient aircraft require parking for a period ranging from a few minutes to a few days. These aircraft will require either covered aircraft storage (based or transient) or apron parking space. The apron size is driven by the number and size of maneuvering and parked aircraft.

A general rule of thumb is to determine the number of tie-downs based on the peak day and peak hour operations. Since there can be a mixture of aircraft design groups in the operations it is important to calculate transient aircraft parking space using this information. Small aircraft use standard tie-downs while larger aircraft need additional space and can sometimes be accommodated with a nested tie-down configuration. In general an ADG-II aircraft will need approximately 2.5 times as an ADG-I aircraft and a Helicopter will need about 2.0 times the space as an ADG-I aircraft. The number of aircraft and types of parking positions required at DUB is calculated and identified in **Table 3-8**.

Table 3-8 – Aircraft Parking Requirements

Category	Existing	Base	PAL 1	PAL 2	PAL 3	PAL 4
Transient Aircraft Parking						
Total Operations	-	2,990	3,086	3,186	3,292	3,404
Peak Month	-	748	772	798	824	852
Busy Day Operations	-	28.6	29.6	30.5	31.5	32.6
Transient Operations (10%)		2.9	3.0	3.1	3.2	3.3
ADG-I (60%)		2	2	2	2	2
Helicopter (20%)		1	1	1	1	1
ADG-II (20%)		1	1	1	1	1
Tie-Downs	2*	4	4	4	4	4
Capacity/(Deficiency)	-	2	2	2	2	2

Source: KLJ Analysis. Note: **RED** indicates a deficiency to existing capacity.

*Not including gravel parking

There is currently a deficiency of two tie-down positions at DUB since there is only 1 tie-down position by the terminal and 1 other tie-down on a taxilane by the gravel area. Through the planning period a total of 4 aircraft tie-downs will be needed to meet demand. This includes two ADG-I, one Helicopter, and one ADG-II parking position. **The layout of the parking positions and any changes to the apron and taxilanes will be examined in the alternative analysis later in this chapter.**

Terminal Building

The size of the GA terminal building is based on the number of passengers and types of services. Although additional facilities can be provided, at a minimum the terminal building serving general aviation needs should include the following services:

- Passenger Waiting Area
- Restrooms
- Vending
- Pilots Lounge/Flight Planning
- Mechanical Room
- Storage Room
- Circulation

The terminal building should be located adjacent to the transient aircraft parking apron with good visibility to the airfield. It should also be close to automobile parking and access road. In most cases the terminal building is located within or near operators such as a Fixed Base Operator (FBO) providing aeronautical services. There are no aeronautical services provided at DUB and the current terminal is located on the main apron adjacent to the fueling area, parking area and access road. The access to the airport is from the east. It is estimated there is 400 SF of terminal space usable for passengers.



The estimated planning-level size of the terminal building is based on peak hour total airport operations, 2.5 passengers per peak hour operation and 100 square feet of space per passenger is used to determine space needs. Calculations are summarized in **Table 3-9**.

Table 3-9 – GA Terminal Building Size Requirements

Category	Existing	Base	PAL 1	PAL 2	PAL 3	PAL 4
GA Terminal Building Size (SF) base on Transient Operations						
Peak Day Operations		5.7	5.9	6.1	6.3	6.5
Peak Hour Operations	-	1.9	2.0	2.0	2.1	2.2
Number of Passengers	-	4.8	5.0	5.0	5.3	5.5
Total Building Size	400	480	500	500	530	550
Capacity/Deficiency	-	80	100	100	130	150

Source: KLJ Analysis

The existing GA terminal is slightly smaller than what is needed through the planning period. If the terminal were to be relocated, it would be recommended to increase the size.

COMMUNICATION FACILITIES

Communication facilities allow aircraft to transmit and receive clearances to air traffic control to navigate the national airspace system safely and effectively.

Local Area

DUB has a Common Traffic Advisory Frequency (CTAF) at 122.9 that aircraft in the vicinity of the airport use to self-announce their position to other traffic in the area. Pilots are also able to listen to the AWOS on 118.275 for wind and weather information but this frequency provides no other information other than weather.

Terminal Area

The terminal area generally describes the airspace within 40 nautical miles of an airport. The nearest contact with Air Traffic Control is using the Jackson Remote Communication Air-to-Ground (RCAG) on 133.25 to contact Salt Lake City ARTCC. Jackson Hole Airport (JAC) is 46 nautical miles from DUB and is also on the other side of the continental divide with 10,000 foot mountains separating the airports therefore, aircraft must be at a high altitude above the airport to communicate with ARTCC by radio.

Support Facilities

Support facilities are necessary to support a safe and efficiently run airport supporting airport operations and the travelling public.

Airport Administration

DUB is owned and operated by the Town of Dubois. Airport administration is handled by the Mayor and town staff located in off-airport offices. This arrangement is expected to continue and be sufficient.

Airport Maintenance & Snow Removal



DUB has a dedicated facility to store airport maintenance equipment. It is located immediately east of the hangars and entry gate. The equipment includes equipment to maintain the grounds and control snow and ice. The equipment is operated by staff from the Town of Dubois.

Snow and ice control equipment typically required includes a carrier vehicle (i.e. dump truck or tractor), snow plows,

spreaders, sweepers, and blowers. For non-winter operations, grass cutting is accomplished with a carrier vehicle (i.e. tractor) and mower attachment. Smaller equipment is also used to facilitate snow removal or grass cutting. Equipment should be stored in a dedicated heated building for timely access and protection from the weather. For DUB, there is a Truck with a 12-foot snow plow and a tractor with a loader bucket, 14-foot ramp snow plow, and 15-foot mower. **The existing building of approximately 45' x 40' is expected to be sufficient through the planning period for DUB.**

Fueling Facilities



The airport owns the airport fuel facility storing and dispensing 100 octane low lead (AVGAS) and jet fuel (JET-A). Each fuel tank is above-ground with a 10,000-gallon capacity. Self-service fuel dispensing units are available 24-hours a day with a credit card.

Fuel storage needs are driven by having sufficient supply to meet demand and by the size of the fuel delivery truck. An ideal fuel farm should provide a tank capacity of 10,000 gallons to accommodate a full tanker truck (8,000 gallons) to minimize the cost of deliveries.

The existing fuel system was installed in 2012 and should be maintained through the planning period. Since these tanks are above ground with a self-contained configuration with dispensing at the tank, it will be possible to relocate the tanks if it is necessary to reconfigure the layout of the apron and terminal area at the airport.

Fencing, Security & Wildlife

SECURITY & FENCING

Security is an important consideration when operating a safe airport. Transportation Security Administration (TSA) published a *Security Guidelines for General Aviation Airports and Operators* document in 2025 providing recommended airport design guidelines.

The first line of security protection infrastructure is a perimeter fence. Perimeter fencing is not a requirement for non-certificated airports such as DUB. Its installation would help prevent unauthorized persons from entering the airfield. A minimum 6-foot high fence with added barbed wire is generally recommended at a minimum for security. Airfield access points should be minimized, however those that are needed should be controlled. Ideally, automated controlled access gates would be installed at the apron, hangar area and east access entry points. Locked field gates would be installed at other airfield access points.

WILDLIFE CONTROL & MITIGATION

Controlling wildlife on or near the airport helps mitigate existing and prevent the creation of potential new hazards to aircraft. The airport has an 8-foot high woven wire fence to control wildlife. There are jump-out areas on two corners of the property for wildlife to escape. Details regarding wildlife can be found in the Wildlife Hazard Site Visit Report from October 2025 (see **Appendix xx**). The fence should be maintained through the planning period.

Utilities

The airport is not currently connected to public water, sanitary sewer, or natural gas utilities. Extension of public utilities from the Town to the airport would not be financially feasible and will continue to be an isolated system for water and sewer. The following utility infrastructure is available at the airport to serve facility demands:

- **Power:** High Plains Power
- **Water:** Small well near terminal (approximately volume of 11 gpm)
- **Sanitary:** Septic Tank
- **Telecommunications:** Dubois Telephone Exchange
- **Natural Gas:** Propane

DUB should plan to relocate the well water system and septic tank if the terminal is relocated. These should be located and sized to be compatible with long-term airport development. Future individual airport facility development may require the relocation, replacement and/or upgrading of portions of the airport utility infrastructure as needs warrant.

GROUND ACCESS & CIRCULATION

The overall design objective is to provide ground vehicles with access to and from the terminal building and hangar facilities using a primary access road. To achieve this, access points should be secured to the apron, hangar area and any field access points to reduce undesired automobile access. The number of hangar access points should be limited to reduce the possibility of vehicle/aircraft incidents which improves safety. If possible, fuel delivery trucks should have access to tanks without entering airside operations areas. Access roads should be paved to reduce the likelihood of foreign object debris (FOD) on the airside areas where it may become a hazard to aircraft.



Public airport access is provided from Warm Springs Road which is a gravel road that crossed the Wind River from U.S. Highway 26. There are steep grades since the road rises approximately 200 feet over a distance of one-half mile before the airport access road.

The airport access road goes directly to the terminal and an entry gate to the apron and hangar area. **All access points should be secured, with the higher activity access points secured with a controlled access gate.** Fuel tanks are currently accessed from the apron. The hangars are accessed primarily from the taxilane.

In addition, there is a Courtesy Car available at DUB for pilots and passengers on an honor system basis.

There are no dedicated internal access roadways located outside of runway and taxiway safety areas to access airport facilities. This is typical for a lower activity airport such as DUB.

AUTOMOBILE PARKING

Automobile parking at general aviation airports should accommodate landside access needed to serve aeronautical facilities. Facilities requiring automobile parking include the arrival/departure terminal building, aircraft storage hangars, administration, maintenance equipment storage buildings and FBOs. Vehicles should be discouraged from parking in airside areas. Both public and exclusive-use parking lots may be needed to serve all needs. Automobile parking lots should be sized for the demand and have appropriate number of handicapped accessible spaces. Circulation patterns and pick-up and drop-off points should also be considered. Lighting is recommended for night-time use and security.

Vehicles are able to park next to the terminal in a gravel lot. Hangar tenants are able to park adjacent to their hangars or inside the hangars. Since vehicles park even with the edge of the hangar the vehicles remain outside the taxilane object free area. **No changes to parking areas are needed through the planning period.**

Requirements Summary

This chapter identifies safety, capacity and development needs for the Dubois Municipal Airport based on forecasted activity levels. These recommendations provide the basis for formulating development alternatives to adequately address recommended improvements. The following summarizes the facility recommendations:

General Aviation Facilities

- XX
- XX

Support Facilities

- XX
- XX

Alternatives

A wide range of alternatives are evaluated to determine the best solution for the airport to meet facility needs. In many cases the process is iterative to react to new information and input. Please refer to the alternative analysis process in Chapter 1 for details on the factors considered.

A range of alternatives were prepared for consideration and those initial alternatives were reviewed by the Planning Advisory Committee to create a narrower slate of alternatives for further review. In the end a preferred alternative was selected and portrayed at the end of this chapter.

Four initial alternatives were drafted for the terminal area. Each layout presented offered the following components.

- xx
- xx

Advantage

- xx
- xx

Disadvantages

- xx
- xx

Further evaluation of the revised alternatives was discussed to develop the preferred alternative, as shown in **Figure 3-11**. The following items were decided for the terminal alternative.

- xx
- xx

The preferred alternative preserves space for future expansion revolving around the current airport layout. No structures will have to be removed or relocated.

Preferred Development

The preferred development strategy identified in **Table 3-14** below outlines the overall development sequence for the preferred alternatives based on airport sponsor priorities. These elements are shown graphically in **Table 3-15**. The implementation plan in **Chapter 4** will identify a realistic project sequencing based on available funding.

Figure 3-2 – Preferred Development