



T.O ENGINEERS

BEAR LAKE COUNTY AIRPORT MASTER PLAN

INVENTORY
DRAFT



2.0 INVENTORY OF EXISTING CONDITIONS

2.1 INTRODUCTION AND PLANNING CONTEXT

2.1.1 GENERAL

The purpose of the inventory section of the Airport Master Plan is to summarize existing conditions of all the facilities at Bear Lake County Airport (1U7); as well as summarize other pertinent information relating to the community, the airport background, airport role, surrounding environment and various operational and other significant characteristics.

The information in this chapter describes the current status of Bear Lake County Airport and provides the baseline for determining future facility needs. Information was obtained through various sources including: consultant research, review of existing documents, interviews and conversations with airport stakeholders including the airport sponsor (Bear Lake County), City of Montpelier, City of Paris, airport tenants, Idaho Transportation Department - Division of Aeronautics (ITD) and other knowledgeable sources.

2.1.2 FAA NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS (NPIAS) AND ASSET STUDY

The United States has developed a national airport system. Known as the National Plan of Integrated Airport Systems (NPIAS), this system identifies public-use airports considered by the FAA, state aviation agencies, and local planning organizations to be in the national interest and essential for the U.S air transportation system. Per the 2013-2017 NPIAS Report to Congress, guiding principles of the NPIAS include:

- ✈ The NPIAS will provide a safe, efficient and integrated system of airports;
- ✈ The NPIAS will ensure an airport system that is in a state of good repair, remains safe and is extensive, providing as many people as possible with convenient access to air transportation
- ✈ The NPIAS will support a variety of critical national objectives such as defense, emergency readiness, law enforcement, and postal delivery.

In addition, this system plan helps promoting airport permanence, to ensure the airports will remain open for aeronautical use over the long term; as well as compatible development with the surrounding communities, to maintain a balance between the needs of aviation, the environment and the requirements of the residents.

Only airports in the NPIAS are eligible for financial assistance and Federal Grants under the Airport Improvement Program (AIP). The NPIAS is updated and published biennially by the FAA. The updated NPIAS report is submitted to Congress and both identifies and reaffirms airports in the system and the amounts and types of airport development eligible for AIP funds over the next 5 year period.

Currently there are 5,171 public-use airports included in the NPIAS. The airports included in the NPIAS are classified into different categories: Primary Commercial Service Airports (further divided into large-, medium-, small- and non-hub), Non Primary Commercial Service Airports and General Aviation Airports. General Aviation airports are usually classified as Basic Utility, designed to handle single-engine and small twin-engine propeller aircraft and General Utility, designed to accommodate larger aircraft. Small aircraft are aircraft of 12,500 lbs or less maximum certificated take-off weight, while large aircraft are those of more than 12,500 lbs maximum certificated take-off weight. All primary and commercial service airports and selected general aviation airports are included in the NPIAS.

The FAA also released a study providing a deeper classification of the General Aviation airports included in the NPIAS. In this study, known as General Aviation Airports: A National Asset (Asset Study), the FAA further classifies the General Aviation airports into the following categories: National Airports, Regional Airports, Local Airports and Basic Airports.

Bear Lake County Airport is part of the FAA's NPIAS and is recognized as a General Aviation airport. In addition, in the FAA study General Aviation Airports: A National Asset, Bear Lake County Airport is classified as a Basic Airport, which are the airports often serving critical aeronautical functions within local and regional markets.

2.1.3 IDAHO AIRPORT SYSTEM PLAN (IASP)

The Idaho Airport System Plan (IASP) was initiated by the Idaho Transportation Department (ITD) Division of Aeronautics, to ensure that the state's airport system is developed to meet all of the transportation safety and economic needs. During this comprehensive study each airport in the system was evaluated to gauge its role, activity and needs for infrastructures. The IASP analyzed 75 of the 119 public use airports in Idaho.

The airports included in the IASP are divided according to their role in the state system. Five different functional roles are identified: Commercial Service, Regional Business, Community Business, Local Recreational and Basic Service.

The ITD State Aviation System Plan identifies the role for Bear Lake County Airport to be Community Business. Community Business airports serve a limited role in regional economies, primarily supporting community economies. They accommodate a variety of general aviation activities such as business, recreational, and personal flying. (Idaho Airport System Plan, 2010).

2.2 AIRPORT AND COMMUNITY BACKGROUND

2.2.1 GENERAL

Bear Lake County Airport is located in Bear Lake County, in southeastern Idaho, approximately three miles east of the city of Paris and six miles southwest of the town of Montpelier. The airport is located in the Bear River Valley, north of Bear Lake, and covers an area of approximately 1,180 acres. It serves the Bear Lake County region and adjacent areas. Nearby attractions includes Bear Lake, Bear Lake State Park and Bear Lake National Wildlife Refuge as well as the National Oregon – California Trail Museum and the Oregon Trail – Bear Lake Scenic Byway.

2.2.2 AIRPORT LOCATION

The airport is located in southern Idaho at 42° 14' 59.10" north latitude and 111° 20' 29.90" west longitude. The true orientation of the runways are 115°06'04.20" (Runway 10/28) and 175°06'02.98" (Runway 16/34). The airport elevation is 5,932.6 feet (surveyed).

Bear Lake County Airport is situated halfway between the U.S Route 89 and the U.S Route 30. U.S Route 89 is a north-south highway, which extends from Arizona to the Canadian border and provides access, from Bear Lake County, to north Utah and south Wyoming. U.S Route 30 is an east-west highway, which cross the United States from Astoria, Oregon to Atlantic City, New Jersey. From Bear Lake County, U.S Route 30 provides access to south Wyoming and north Idaho.

The airport is situated in a valley floor, surrounded by mountainous terrain including the high mountains of the Bear River Range on the west side of the valley. Wetland areas surround the airport and both Bear Lake and the Bear Lake National Wildlife Refuge are located to the south of the airport. Further, the Bear River is situated to the east of the airport and the outlet canal which adjoins Bear Lake and the Bear River is to the west.

Figure 2-1 depicts a vicinity map for reference and **Figure 2-2** illustrates the location of the wildlife refuge in relation to the airport's location.

FIGURE 2-1 – VICINITY MAP

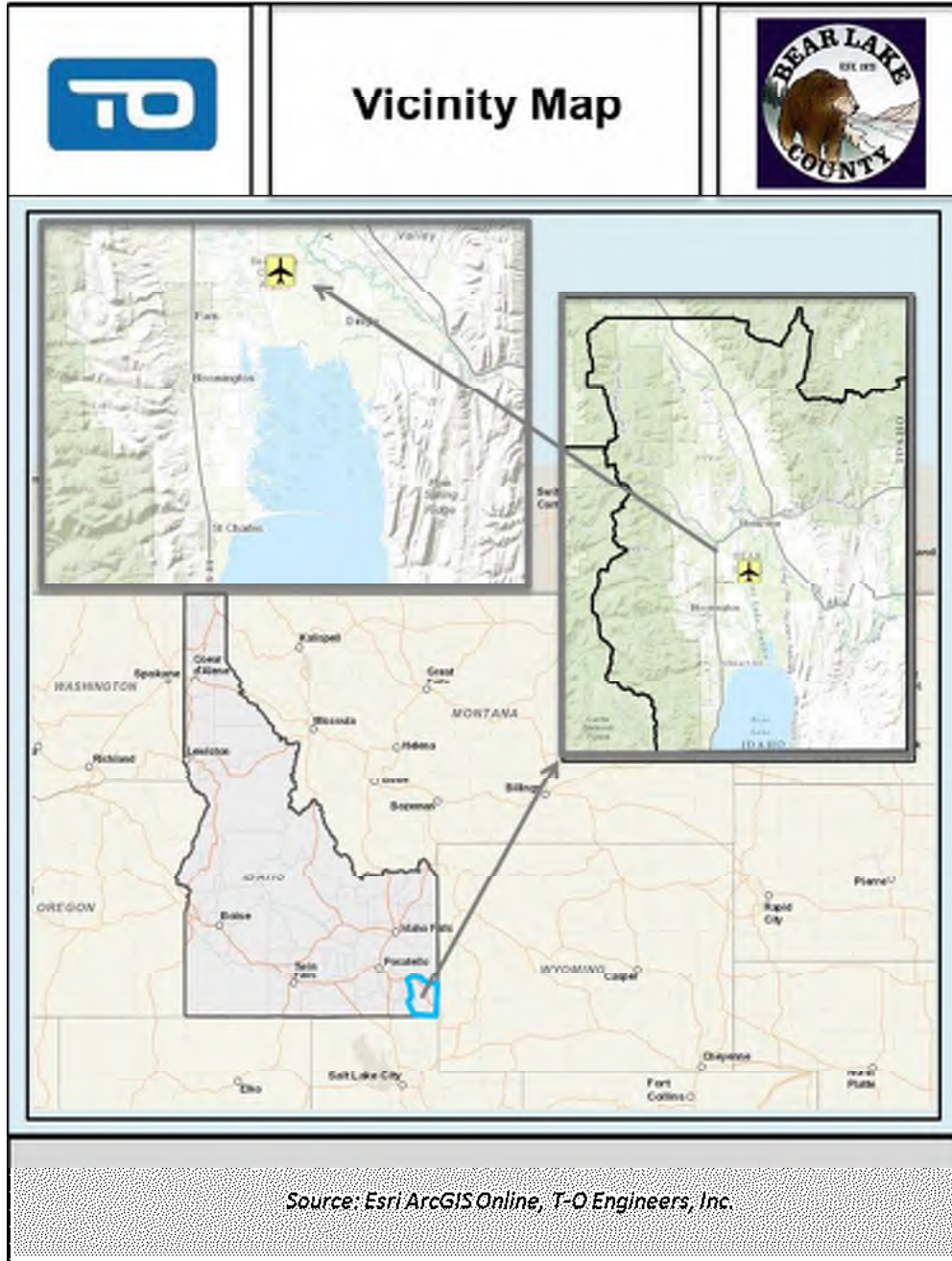
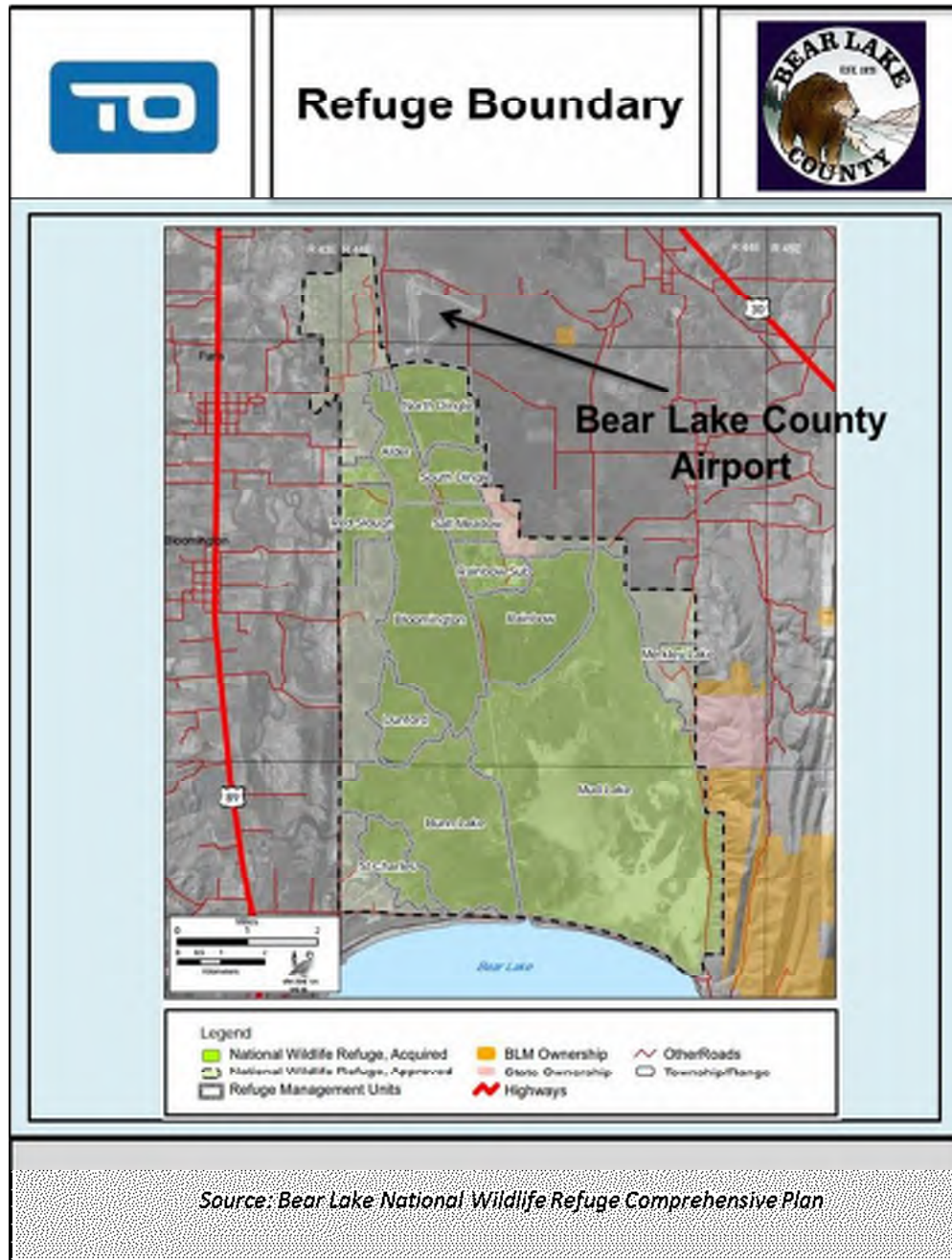


FIGURE 2-2 – REFUGE BOUNDARY



2.2.3 AIRPORT OWNERSHIP AND MANAGEMENT

The airport is currently owned, operated, and managed by Bear Lake County. A full-time airport manager is located on site and oversees day-to-day operations at the airport. A six member airport board oversees administrative functions of the airport and formulates recommendations regarding airport policy and direction. The board transmits their recommendations to the County Commissioners for final action.

2.2.4 AIRPORT HISTORY, PROJECTS AND MILESTONES

The land on which Bear Lake County Airport is located was acquired by Bear Lake County in 1942 under guidance from the United States Government. Bear Lake County Airport was constructed in 1943 and it became operational in February 1944 as a military training base. The airport consisted of three paved runways in a triangular configuration, typical of military airports built during World War II. It has been developed over time to the present two paved runways configuration. The third runway, originally orientated along a northeast southwest axis, was converted and used as a taxiway until it was abandoned in the late 1970s to early 1980s.

Some recently completed projects include building construction, fuel farm improvement as well as apron, taxiway and runways rehabilitation. In addition, a partial parallel taxiway was under construction in 2013 and was completed during the summer of 2014.

2.2.5 SOCIOECONOMIC CONDITIONS

According to sources including the U.S. Bureau of Economic Analysis, University of Idaho and the Idaho Department of Commerce, the total population of Bear Lake County was approximately 5,943 in 2013. Bear Lake County's per capita personal income was reported to be approximately \$33,647 in 2012 and the median household income was reported to be approximately \$42,751.

The City of Paris is inhabited by approximately 538 people (9.1% total County population) in 205 households, with a reported median household income of \$46,363. The City of Montpelier has approximately 2,725 inhabitants (46.1% total County population) in 1,045 households with a reported median household income of \$37,723.00. The City of Soda Springs, in Caribou County, contains approximately 3,095 people with a reported median household income of \$49,852. The City of Preston, in Franklin County, is inhabited by approximately 5,373 people with a reported median household income of \$46,015.

Bear Lake County currently ranks 36th among the 44 Idaho counties in population, 24th in median household income and 32nd in area (approximately 628,000 acres).

The county consists of approximately 305,000 acres (or 48.6 percent) of private land, with the remaining land under public ownership. The federal government owns approximately 303,931 acres (or 48.4 percent) divided between the Bureau of Land Management, the U.S Fish and Wildlife Service and the National Forests. The remaining area is divided between State Land, County Land and Municipal Land.

Government, agriculture, retail trade and accommodation as well as food services provide the foundation for the local economy. Additional economic contributors include real estate, rental

and leasing, health care and social assistance, other services, finance and insurance, manufacturing and arts entertainment and recreation. In 2012, government accounted for 20.9 percent of total employment in Bear Lake County, agriculture accounted for 14.90 percent, retail trade for 12.10 percent and accommodation and food services for 6.70 percent.

The tourism sector in Bear Lake County is an important part of the local economy and much of the County's economic base is tied to seasonal industry. Therefore, unemployment rates vary seasonally. Major employers in the region include Alco Discount Store, Bear Lake County, Bear Lake County School District #33, Bear Lake Memorial Hospital, Broulims Foodtown, IVI Hotel Management, U.S Forest Service and Walton Feed, Inc.

Rich County, Utah borders Bear Lake County to the south and is in the immediate vicinity of the airport. Bear Lake and the surrounding areas are a popular tourist destination during the summer months. Several marinas, beaches and the tourist towns of Garden City and Laketown are located in Rich County, Utah. Therefore, developments in the northern portions of Rich County have current and potential impacts on demand at the airport. Rich County seat is Randolph, and the largest town is Garden City, which is located on the shores of Bear Lake, approximately 30 minutes from Bear Lake County Airport. According to the Utah Department of Workforce, the population of Rich County was approximately 2,255 in 2012. Rich County's per capita personal income was reported to be approximately \$25,376 in 2010 and the median household income was reported to be approximately \$49,803. Lastly, there were approximately 805 households.

Table 2-1 summarizes the population, households and median household income of the major cities in Bear Lake County and Rich County, Utah.

TABLE 2-1: SOCIOECONOMIC CONDITIONS

City	Population	Percentage of County	Number of Households	Median Household Income
Bear Lake County	5,943	-	2,281	\$42,751
Paris	538	9.1%	205	\$46,363
Montpelier	2,725	45.6%	1,045	\$49,852
Bloomington	216	3.6%	84	\$49,791
Georgetown	499	8.4%	182	\$55,666
St. Charles	138	2.3%	53	\$49,374
Rich County	2,255	-	805	\$49,803
Laketown	248	11.0%	86	\$68,250
Garden	181	8.0%	78	\$52,708
Garden City	562	24.9%	215	\$36,625
Randolph	464	20.6%	156	\$52,083
Woodruff	180	8.0%	56	\$66,875

Source: T-O Engineers, Idaho Department of Commerce, University of Idaho, Utah Department of Workforce, United States Census Bureau

2.3 AVIATION ACTIVITY

2.3.1 EXISTING AIRPORT ACTIVITIES AND USERS

Bear Lake County Airport provides for a variety of aviation uses and activities. The airport predominantly serves single-engine aircraft, with occasional use by small multi-engine aircraft, turboprop as well as some small jet traffic. Principal aviation activities occurring at this airport include recreational, corporate/business, medical related transport, search and rescue, and government firefighting (Idaho Department of Lands, Bureau of Land Management and/or U.S. Forest Service) as well as extensive use by U.S. Fish and Wildlife Service and Idaho Fish and Game for various wildlife related purposes between December and February. The airport is often used as a refueling stop for cross-country flights and it is also used by summer home owners and for recreational purposes.

Most of the aircraft using the airport are single-engine aircraft, such as Piper Malibu PA-46, Piper Cherokee PA-28, Cessna 182 and 172 as well as Aviat Husky. In addition, Cessna 525 Citation Jet, Cessna 510 Citation Mustang, Beechcraft Super King Air B200, Pilatus PC-12 and other turboprop aircraft and light jets occasionally use the airport for business purposes.

Per the ITD Individual Airport Summary (2009), developed as part of the IASP, airport activities include student pilots' training, recreational flights into the backcountry for hunting, fishing, backpacking and site-seeing. The airport is also used for agriculture purposes, wildlife counts by the Idaho Fish and Game, mosquito control operations around Bear Lake, and by government agencies during the fire season. Lastly, medical evacuation and supplies are sometimes transported to and from larger urban areas, using both helicopters and fixed wing at the airport.

2.3.2 EXISTING ACTIVITY LEVELS

Airport activity levels include the number of aircraft operations and based aircraft. The FAA's 5010-1 Airport Master Record is the official record kept by the FAA for public-use airport activities and facility conditions. The 5010 activity data is populated by the reporting actions taken by the airport management and ITD. The activity is reported in operations where a single aircraft operation is defined as either an aircraft take-off or landing; therefore, a "touch-and-go" counts as two operations.

The airport's most recent FAA 5010 (05/29/2014) and airport records identifies a total of six single-engine aircraft based at Bear Lake County Airport. The FAA's National Based Aircraft Inventory Program was also reviewed and it too reports 6 based aircraft. It should be noted that the Based Aircraft Inventory has not been updated since February, 2012. The six based aircraft

are all single-engine and include one Cessna 150, one Cessna 182, two Cessna 172, one Piper PA-46, and one Cessna 205.

Based on current records, an estimated 2,400 operations occur annually at the airport: approximately 85% of all the operations are itinerant and 15% are local. According to the FAA, local operations are performed by aircraft which:

- ✦ Operate in the local traffic pattern or within sight of the airport, or
- ✦ Are known to be departing for, or arriving from, flight in local practice areas located within a 20-mile radius of the airport, or
- ✦ Execute simulated instrument approaches or low passes at the airport.

Itinerant operations are all aircraft operations, other than local operations. Bear Lake County Airport is not used by air taxi, air carrier or military aircraft. With the absence of an Air Traffic Control Tower, or other regular means of counting operations, it is important to recognize that current usage is an estimate. More detailed analysis of airport based aircraft and activity is included in Chapter 3, Aviation Activity Forecasts.

2.4 EXISTING AIRSIDE FACILITIES

2.4.1 RUNWAY

The existing airfield configuration at Bear Lake County Airport consists of two active runways. These runways are identified as Runway 10/28 and Runway 16/34 and are depicted in **Figure 2-3**.

Runway 10/28 is the primary runway and is oriented northwest/southeast. It is 5,728 feet long by 75 feet wide. This runway is a visual only runway with basic markings in good condition. Runway 10/28 is constructed out of asphalt, in good condition, to support aircraft with a weight-bearing capacity no greater than 12,500 pounds for Single Wheel Gear (SWG) equipped aircraft.

Runway 16/34 is oriented north/south and is 4,590 feet long by 60 feet wide. This runway is also a visual only runway with basic markings in good condition. Runway 16/34 has runway side stripe markings, which delineate the usable portion of the pavement. It is constructed out of asphalt, in good condition, and based on the FAA 5010, it supports aircraft with a weight-bearing capacity no greater than 50,000 pounds for Single Wheel Gear (SWG) equipped aircraft, 64,000 pounds for Double Wheel Gear (DWG) equipped aircraft and 102,000 pounds for Double Tandem Gear (DTG) equipped aircraft. It appears that the pavement strength data published on the FAA 5010 for Runway 16/34 has been obtained from mid-1980's pavement strength survey. To our knowledge, no new pavement strength survey has since been

completed and the pavement strength has not been updated since. However, we do not believe that the actual pavement strength for Runway 16/34 is this high nor is it intended to be for the current fleet using the airport. Additional analysis and future requirements of pavement strength will be discussed in later portions of this planning study. Further, the differences of pavement strength between the various facilities of the airport will be addressed in Chapter 4, Facility Requirements.

Runway 10/28 is the primary runway and accommodates approximately 90 percent of the aircraft operations (Runway 10 accommodates 10 percent, while Runway 28 accommodates 80 percent). Runway 16/34 is the secondary runway and accommodates the remaining 10% (each runway ends accommodates approximately 5 percent) of aircraft operations.

2.4.2 TAXIWAY SYSTEM

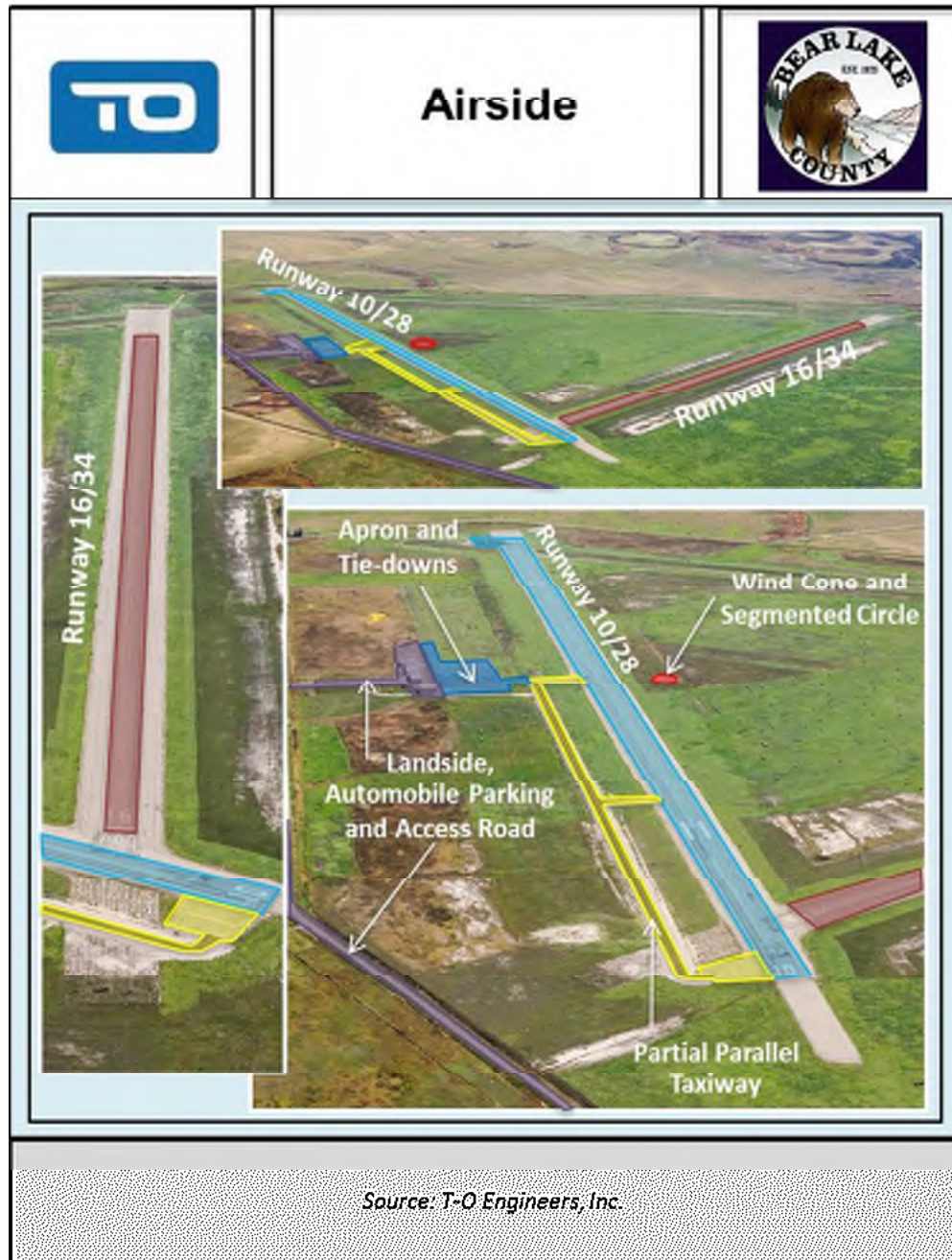
Taxiways are a crucial element of the airport because they allow the traffic to move to and from the runway safely and efficiently by decreasing the time aircraft are on the runway. They are also an important link providing access to the runway from aircraft aprons and parking areas.

Bear Lake County Airport is currently equipped with a partial parallel taxiway and a connector taxiway. The partial parallel taxiway is parallel to Runway 10/28 and allows access from the apron to the thresholds of Runway 10 and 16. This parallel taxiway is 25 foot wide and constructed out of asphalt; it is not lit, but it is equipped with reflective markers.

The connector taxiway enters Runway 10/28 directly from the apron, approximately 3,025 feet from the threshold of Runway 10 and 2,705 feet from the threshold of Runway 28. This access taxiway is constructed out of asphalt and is approximately 450 feet long by 40 foot wide. It is not lit, but equipped with reflective markers.

Figure 2-3 provides an aerial view of existing airport airside facilities.

FIGURE 2-3: AIRPORT AIRSIDE FACILITIES

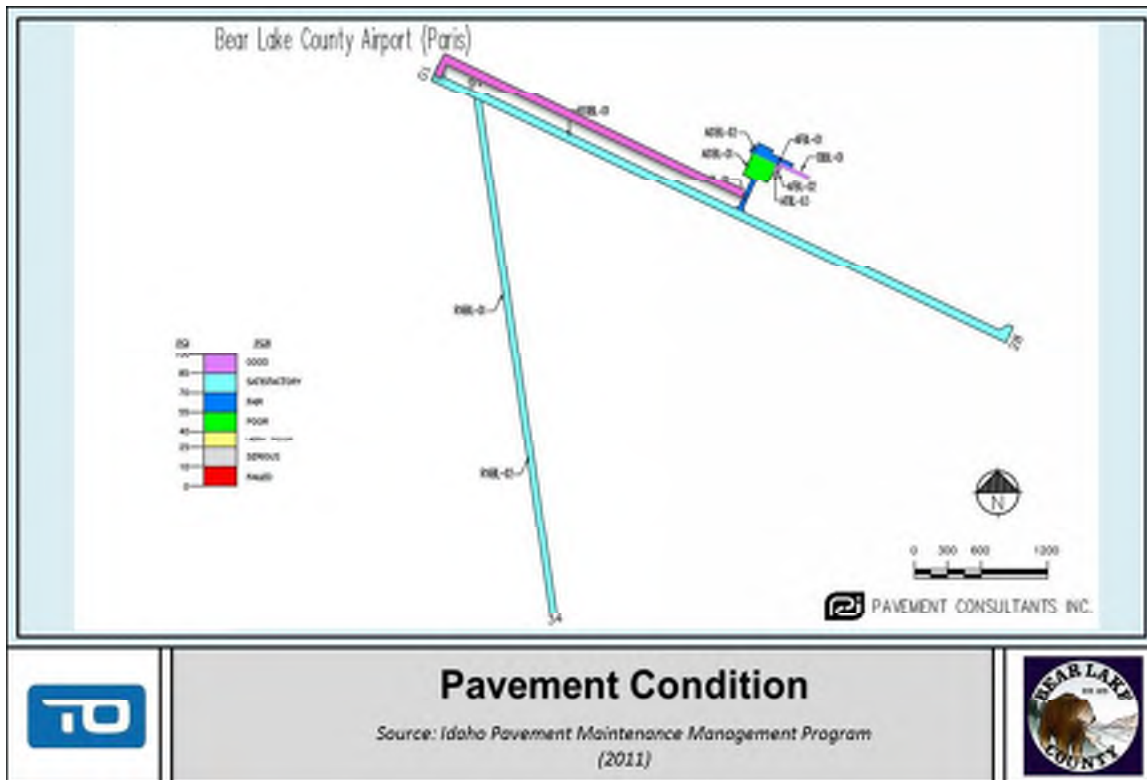


2.4.3 AIRPORT PAVEMENT CONDITION

The Pavement Condition Index (PCI) and Pavement Condition Rating (PCR) are based on a visual inspection of pavement condition only. ITD completes a full PCI inspection of airport pavements on a statewide basis every three years. The last PCI inspection conducted at the Bear Lake County Airport by ITD was in 2011. **Figure 2-4** depicts the pavement condition for various areas of the airport.

In 2011, ITD established that the pavement condition for Runway 10/28 had a PCI of 75, which is considered as satisfactory. Runway 16/34 also had a satisfactory pavement condition; one section had a PCI of 75 and the other section had a PCI of 72. The pavement on the connector taxiway was considered in fair condition, with a PCI of 64 and the pavement of the apron was in fair or poor condition, with a PCI of 59 and 55, depending on the location. The area-weighted average PCI of all airport pavements is 73, corresponding to an overall PCR of satisfactory. The pavement of the new parallel taxiway has been installed during the summer 2014 and is in good condition.

FIGURE 2-4: PAVEMENT CONDITION



2.4.4 AIRFIELD LIGHTING, VISUAL AIDS AND NAVAIDS

A NAVAID is defined by the FAA as any facility used in the aid of air navigation, including landing areas, lights, any apparatus or equipment for disseminating weather information, for signaling, for radio direction-finding, or for radio or other electronic communication, and any other structure or mechanism having similar purpose and controlling flight in the air or the landing or takeoff of aircraft.

Runway 10/28 is equipped with a Medium Intensity Runway Lighting (MIRL) system. The existing runway edge light system is currently non-standard due to light post height (+/- 40 inches high) and because numerous light stakes do not meet the Runway Safety Area (RSA) requirements - numerous light bases exceed the RSA grade by greater than three inches.

The lighting can be controlled through a Pilot Controlled Lighting (PCL) system, activated via the Common Traffic Advisory Frequency (CTAF) – 122.8. Runway 16/34 is not equipped with any runway edge lights.

None of the runways are equipped with a Precision Approach Path Indicator (PAPI), or a Runway End Identifier Light (REIL) system.

A segmented circle with a lighted wind cone exists on the south side of Runway 10/28 across from the taxiway and the apron area. Bear Lake County airport is also equipped with a white-green beacon, which indicates a light landed airport and operates sunset to sunrise.

Table 2-2 summarizes the existing visual aids and NAVAIDs available at Bear Lake County Airport.

TABLE 2-2: BEAR LAKE COUNTY AIRPORT VISUAL AND NAVIGATION AIDS (NAVAIDS)

GENERAL
UNICOM - 122.8
Rotating Beacon
Lighted Wind Cone and Segmented Circle
RUNWAY 10/28
Non-Standard Medium Intensity Runway Lighting (MIRL)

Source: T-O Engineers, 5010

Nearby Navigation Aids are summarized in **Table 2-3**.

TABLE 2-3: NEARBY NAVIGATION AIDS

ID	Type	Name	Frequency	Range	Radial/Bearing
LHO	VOR/DME	Brigham City	112.9	40.5 nm	033°
MLD	VOR/DME	Malad City	117.4	49.6 nm	069°
BPI	VOR/DME	Big Piney	116.5	58.2 nm	234°
EVW	VOR/DME	Evanston	109.6	60.1 nm	334°
BMC	NDB	Brigham City	294	55 nm	202°
PI	NDB	Tyhee	383	67.4 nm	294°
PNA	NDB	Wenz	392	75.5 nm	048°

Source: SkyVector.com, T-O Engineers

2.4.5 INSTRUMENT APPROACH CAPABILITIES

Bear Lake County Airport is currently a VFR only airport, with no instrument approach capabilities. Nearby airports in the vicinity of Bear Lake County Airport equipped with instrument approach procedures include Afton Municipal Airport, Logan-Cache Airport and Kemmerer Municipal Airport. **Table 2-4** lists the nearby airports equipped with instrument approaches.

TABLE 2-4: NEARBY AIRPORTS EQUIPPED WITH INSTRUMENT APPROACHES

ID	Name (State)	Distance	Direction	Type of Approach	Height Above Touchdown (HAT)	Visibility AAC A (AAC B)*
KAFO	Afton Municipal Airport (WY)	33 nm	northeast	RNAV (GPS) RWY 16	952	1¼ (1½)
				RNAV (GPS) RWY 34	1399	1¼ (1½)
KLGU	Logan-Cache Airport (UT)	36 nm	southwest	ILS RWY 17	200	¾
				RNAV (GPS) RWY 17	683	½
				RNAV (GPS) RWY 35	289	1
KEMM	Kemmerer Municipal Airport (WY)	43 nm	southeast	RNAV (GPS) RWY 16	435	1
				RNAV (GPS) RWY 34	264	1
KBMC	Brigham City Airport (UT)	53 nm	southwest	RNAV (GPS) RWY 35	430	1
				NDB-A	411 (451)	1
KBPI	Miley Memorial Field (WY)	58 nm	east	GPS RWY 31	475	1
				VOR RWY 31	715	1

* Visibility in Statute Miles. Aircraft Approach Category A (Aircraft Approach Category B if different)

Source: Airnav.com, T-O Engineers

2.4.6 AIR TRAFFIC CONTROL

Bear Lake County airport is not equipped with an Air Traffic Control Tower (ATCT). The airport is located in the service area of Boise Flight Service Station (FSS) and in the jurisdiction of the Salt Lake City's Air Route Traffic Control Center (ARTCC).

2.4.7 OBSTRUCTIONS TO AIR NAVIGATION

The airport being located near the center of a wide valley, there are no major obstructions to air navigation. The few existing obstructions include a power line. The only other impact to air navigation in the area is related to birds on and in the vicinity of the airport. Bear Lake County Airport is located immediately north of a National Wildlife Refuge; this area and the associated waterbodies and wetlands in the vicinity of the airport draw significant numbers of waterfowls and other birds.

Additional information regarding airspace and Part 77 is included in Section 2.9, Airspace. **Table 2-5** lists the obstructions to Air Navigation in the vicinity of the runways of Bear Lake County Airport.

TABLE 2-5: PART 77 OBSTRUCTION DATA FOR RUNWAY 7-25

Runway End	Obstructions	Obstruction Height Above RW end	Obstruction Distance from RW end	Clearance Slope	Recommended Slope	Close In Obstruction?
10	Power line	60'	2,500' from runway	38:1	20:1	No
28	Road	12'	500' from runway	25:1	20:1	No
16	Road	19'	1,000 from runway	42:1	20:1	No
34	None	None	None	None	20:1	N/A

Source: FAA Form 5010, T-O Engineers

2.4.8 HELIPAD

Although Bear Lake County occasionally accommodates helicopter operations, the airport is not equipped with a helipad.

2.4.9 SUMMARY OF AIRSIDE FACILITIES

Table 2-6 summarizes the existing airside facilities at Bear Lake County Airport. The differences of pavement strength between the various facilities of the airport will be addressed in Chapter 4, Facility Requirements.

TABLE 2-6: SUMMARY OF EXISTING AIRSIDE FACILITIES

ITEM		CURRENT DATA
Airport Role		GA/Basic (FAA)/Community Service (ITD)
Airport Elevation		5,932.6' MSL
Airport Property (acres)		1,180
Highest Average of Monthly Maximum Temperature		85.5°F
Airport Reference Point Coordinates (NAD 83)	Latitude	42° 14' 59.10" N
	Longitude	111° 20' 29.60" W
Magnetic Declination (Year 2015)		11° 43' 48" E
Annual Magnetic Variation (Year 2014)		0° 8.3' W per year
Instrument Approaches		None
Primary Runway (10/28)		
Runway Length		5,728'
Runway Width		75'
Runway Pavement Type		Asphalt
Runway Pavement Strength - SW		12,500 lbs.
Runway Pavement Strength - DW		---
% Effective Runway Gradient		0.05%
Runway Lighting Type		Non-standard MIRL
Runway Marking Type		Visual
Secondary Runway (16/34)		
Runway Length		4,590'
Runway Width		60'
Runway Pavement Type		Asphalt
Runway Pavement Strength - SW*		50,000 lbs*
Runway Pavement Strength - DW*		64,000 lbs*
Runway Pavement Strength - DTW*		102,000 lbs*
% Effective Runway Gradient		0%
Runway Lighting Type		None
Runway Marking Type		Visual with Runway Side Stripe Marking (Delineate usable pavement)
Taxiways		
Partial Parallel Taxiway		
Taxiway Pavement Type		Asphalt
Taxiway Pavement Strength - SW		16,000 lbs.
Taxiway Width		25'
Taxiway Lighting Type		Reflector
Connector Taxiway		
Taxiway Pavement Type		Asphalt
Taxiway Pavement Strength - SW		16,000 lbs.
Taxiway Width		40'
Taxiway Lighting Type		Reflector

* Obtained from mid-1980's pavement strength survey and currently published on FAA 5010. This pavement strength is not intended to be for the current fleet using the airport and actual pavement strength is likely to be lower. Additional discussion in later chapters of this study.

Source: 1998 ALP and Narrative, T-O Engineers, NOAA, FAA Form 5010

2.5 AIRPORT DESIGN STANDARDS

Airport design criteria and dimensional standards for airport facilities are determined by the Runway Design Code (RDC). The RDC is a code signifying the design standards to which the runway is to be built. Runway design standards are related not only to operational and physical characteristics of the critical aircraft intended to operate at the airport, such as aircraft approach speed, wingspan and tail height, but also to the approach visibility minimum associated with the runway. Typically, the FAA determination of a critical aircraft is based on a substantial use threshold of 500 operations per year, or more, of the most demanding aircraft.

Design standards associated with the RDC provide for the runway width and proper ground based “set-backs” or safety related areas around the runway environment. The RDC has three components related to the airport design aircraft; (a) approach speed, (b) wingspan and tail height, and (c) designated or planned approach visibility minimums.

The first component of the RDC is depicted by a letter and is based on the aircraft approach speed. The second component, depicted by a Roman numeral, is the airplane "Design Group" and is based on either the aircraft wingspan or the tail height. The third component, depicted by a numeric value or “VIS” (visual approach only), is the visibility minimums expressed by Runway Visual Range (RVR) values in feet. A summary of the FAA approach categories, design groups, and visibility minimums that result in the RDC is included below:

Aircraft Approach Category (AAC): Grouping of aircraft based on 1.3 times their stall speed in their landing configuration at their maximum certificated landing weight. The categories are as follows:

- ✦ Category A: Speed less than 91 knots.
- ✦ **Category B: Speed 91 knots or more but less than 121 knots.**
- ✦ Category C: Speed 121 knots or more but less than 141 knots.
- ✦ Category D: Speed 141 knots or more but less than 166 knots.
- ✦ Category E: Speed 166 knots or more.

Airplane Design Group (ADG): A classification of airplanes based on their wingspan or tail height. The groups are depicted in **Table 2-7** below:

TABLE 2-7: AIRPLANE DESIGN GROUP (ADG)

Group	Tail Height	Wingspan
I	< 20'	< 49'
II	20' - < 30'	49' - < 79'
III	30' - < 45'	79' - < 118'
IV	45' - < 60'	118' - < 171'
V	60' - < 66'	171' - < 214'
VI	66' - < 80'	214' - < 262'

Source: FAA AC 150/5300-13A Change 1

Visibility Minimums: A grouping of RVR values based on flight visibility category (statute mile). The RVR's are as follows:

- ✦ 4000: Lower than 1 mile but not lower than $\frac{3}{4}$ mile (Approach Procedure with Vertical Guidance (APV) $\geq \frac{3}{4}$ but < 1 mile).
- ✦ 2400: Lower than $\frac{3}{4}$ mile but not lower than $\frac{1}{2}$ mile (CAT-I PA).
- ✦ 1600: Lower than $\frac{1}{2}$ mile but not lower than $\frac{1}{4}$ mile (CAT-II PA).
- ✦ 1200: Lower than $\frac{1}{4}$ mile (CAT-III PA).
- ✦ **VIS: Visual approach only**

Bear Lake County Airport's runways (Runways 16/34 and 10/28) are currently classified as RDC B-I Small-VIS. The airport primarily serves small single-engine aircraft weighing 12,500 pounds or less, with approach speeds of 91 knots or more but less than 121 knots, wingspans less than 49 feet and tail height less than 20'. As previously mentioned, the airport is currently visual only with no instrument approach capabilities.

Further, the Airport Reference Code (ARC) is an airport designation that signifies the airport's highest RDC, minus the third (visibility) component of the RDC. The ARC is used for planning and design only and does not limit the aircraft that may be able to operate safely on the airport. The ARC and RDC are used during the airport planning process to design and determine the dimensions of most airfield pavements. As both the runways have the same RDC, the ARC at Bear Lake County Airport is currently B-I Small. This designation is a reflection of the types of aircraft that predominately use the airport.

While the RDC relates to the design standards the runway is planning to meet, the Runway Reference Code (RRC) identifies the current standards met by the runway. In this case, RDC and RRC are the same.

2.5.1 RUNWAY PROTECTION STANDARDS

FAA design standards help promote an acceptable level of safety at the airport. Runway protection standards include the Runway Safety Area (RSA), the Runway Object Free Area (ROFA), the Runway Obstacle Free Zone (OFZ), and the Runway Protection Zone (RPZ).

Runway Safety Area (RSA)

The RSA is a defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway. It is designed to minimize damages in case of aircraft missing or leaving the runway, but also to provide greater accessibility for emergency equipment. The RSA should be cleared and graded and not have potentially hazardous ruts, humps, depressions, or other surface variations. It should be free of objects, except for objects that need to be there because of their function.

The design standard for B-I Small-VIS is 120 feet wide and 240 feet beyond each runway end. The RSA of Runway 16/34 at Bear Lake County Airport meets design standards. The RSA of

Runway 10/28 at Bear Lake County Airport does not meet design standards beyond Runway 28 end and it needs to be widened to meet design standards.

Runway Object Free Area (ROFA)

The ROFA is a defined surface surrounding the runway that is required in order to keep above ground objects from protruding above the RSA edge area. Objects can be located in the OFA for air navigation or aircraft ground maneuvering purposes including taxiing or holding aircraft. Parked aircraft are not allowed in the OFA.

The design standards for a B-I Small-VIS ROFA is 250 feet wide and 240 feet beyond each runway end. The ROFA for Runway 10/28 and Runway 16/34 at Bear Lake County Airport meets design standards. However, it was noted by the FAA during the compliance inspection that upon completion of harvest this year, some of the hay bales had been harvested in the ROFA, which prevented the airport to meet ROFA design standards. Further, a Wildlife Hazard Site Visit has been conducted at Bear Lake County Airport and is included in Appendix to this Airport Master Plan.

The Wildlife Hazard Site Visit noted that the hay bales were in the ROFA and pointed that the current FAA guidance (FAA AC 150/5200-33) recommends against agricultural production on airport property but does not prohibit such activity if certain economic and wildlife mitigation conditions are met. However, agricultural activity should be conducted in accordance with both FAA AC 150/5200-33 and AC 150/5300-13A (as amended). The airport must meet design standards, including ROFA design standards, and it is recommended to remove hay bales from the ROFA, RSA, RPZ and Primary Surface.

Runway Obstacle Free Zone (OFZ)

The Runway Obstacle Free Zone (OFZ) is a three-dimensional volume of airspace reserved for the exclusive use of one aircraft landing or taking off from the runway. It is centered above the runway centerline, extends 200 feet beyond each end of the runway and is 250 feet wide for operations by small aircraft for runways with approach visibility minimums not lower than $\frac{3}{4}$ statute miles or 400 feet wide for use by large airplanes. When an aircraft is taking-off or landing nothing can protrude into the OFZ such as signs or other tails or wingtips of aircraft.

The OFZ for Runway 10/28 and Runway 16/34 at Bear Lake County Airport meets design standards.

Runway Protection Zones (RPZ)

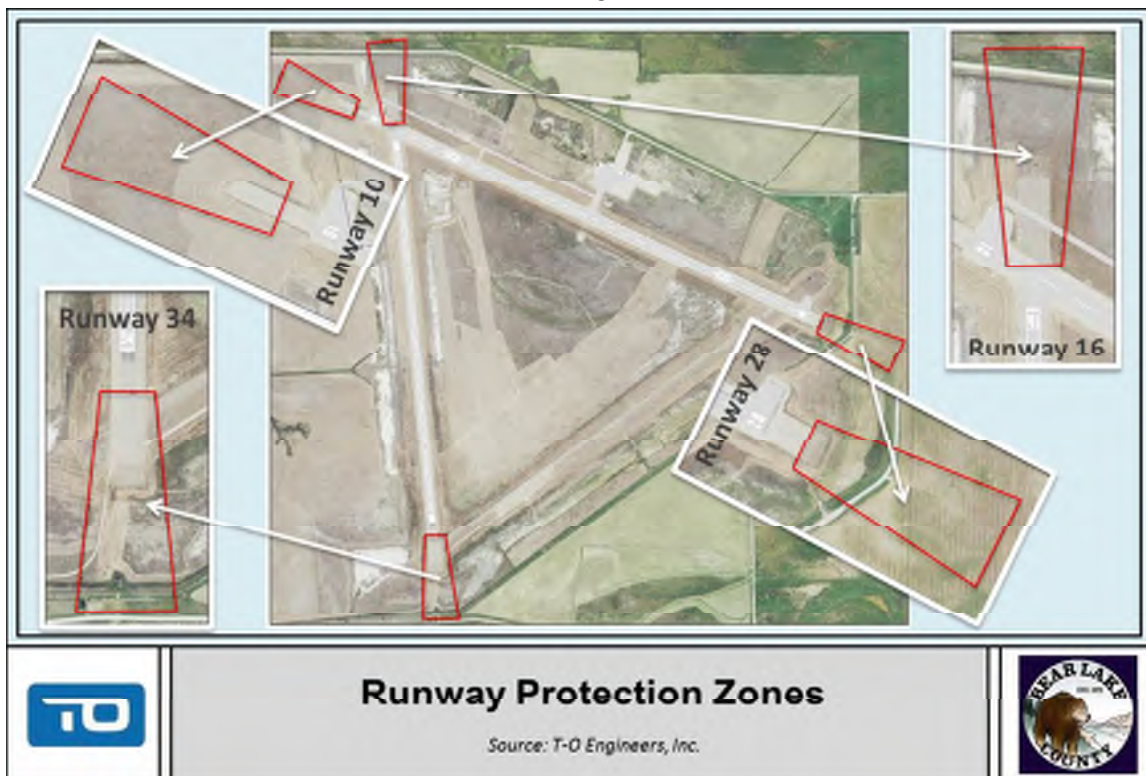
RPZ's are defined areas at ground level beyond the runway end or prior to the threshold that are maintained clear of incompatible objects and activity in order to enhance the safety and protection of people and property on the ground. The FAA recommends airport sponsors control the RPZs, preferably exercised through the acquisition of sufficient property interest in the RPZ and clearing RPZ areas (and maintaining them clear) of incompatible uses or objects.

The RPZ is trapezoidal in shape, centered about the extended runway centerline and it usually begins 200 feet beyond the runway end. The RPZs associated with Runways 10/28 and 16/34 are sized to accommodate FAA design standards for “visual approach only visibility minimums”.

The design standard for B-I Small-VIS is 1,000 feet long, an inner width of 250 feet, an outer width of 450 feet and an area of 8.035 acres. Gravel roads are located east of the airport in Runway 28 RPZ and north of the airport in Runway 16 RPZ.

Figure 2-5 depicts the RPZs at Bear Lake County Airport.

FIGURE 2-5: RPZS



2.5.2 RUNWAY SEPARATION STANDARDS

Runway separation standards ensure operational safety at the airport. They are based on the Aircraft Approach Category (AAC), the Airplane Design Group (ADG) and Visibility minimum. The runway separation standards include the runway centerline to parallel taxiway centerline separation, the runway centerline to holdline separation and the runway centerline to edge of parking distance.

Runway/Taxiway Separation

The required separation distance between a runway centerline and a parallel taxiway centerline is 150 feet for ARC B-I Small airports, with visual runways.

The partial parallel taxiway is located 240 feet from the runway centerline, which meets design standards B-II (and therefore B-I Small).

Runway/Holding Position Separation

The required separation distance between a runway centerline and a holding point position is 125 feet for B-I Small airports, with visual runways.

The current runway/holding position separations at Bear Lake County Airport are 125 feet, which meet design standards for a B-I Small airport.

Runway/Aircraft Parking Area Separation

The required separation distance between a runway centerline and an aircraft parking area is 125 feet for ARC B-I Small airports, with visual runways.

The existing runway/aircraft parking area separation at Bear Lake County Airport is 440 feet and meets design standards.

2.5.3 TAXIWAY DESIGN STANDARDS

The required distance between a taxiway/taxilane centerline and other objects is based on the required wingtip clearance, which is a function of the wingspan, and thus determined by the Airplane Design Group (ADG) the second component of the Airport Reference Code (ARC). The design of pavement fillets must consider aircraft undercarriage dimensions and is based on the Taxiway Design Group (TDG), a coding system according to the Main Gear Width (MGW) and the Cockpit to Main Gear Distance (CMG). The existing taxiway fillets at the airport are designed based on TDG-I however design criteria changed after the project was constructed. The existing pavement fillets do not meet the current design criteria however they meet the design criteria at the time of design.

Taxiway Safety Area (TSA)

The Taxiway Safety Area (TSA) is a defined surface centered on a taxiway centerline. This surface should be cleared and graded, free of objects, capable under dry conditions of supporting aircraft, snow removal equipment and aircraft rescue and firefighting equipment. The TSA is designed to reduce the risk of damage to an airplane unintentionally departing the taxiway and to provide room for rescue and fire-fighting operations.

The design standard for Airplane Design Group (ADG) I is 49 feet wide. The TSA at Bear Lake County Airport meets design standards.

Taxiway Object Free Area (TOFA)

The taxiway Object Free Area (TOFA) is a defined surface centered on a taxiway centerline. This area prohibits roads, service vehicle, parked aircrafts and other objects except for those objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. Vehicles may operate in the OFA provided they give right of way to oncoming aircraft by either maintaining a safe distance ahead or behind the aircraft or by exiting the OFA to let the aircraft pass.

The design standard for ADG I is 89 feet wide. The TOFA at Bear Lake County Airport meets design standards.

2.5.4 DESIGN STANDARD SUMMARY

Table 2-8 summarizes the different FAA design standards (runway protection standards and runway separation standards) as well as the existing conditions at Bear Lake County Airport.

TABLE 2-8: AIRPORT DIMENSIONAL CRITERIA (FEET)

FAA DESIGN STANDARD	FAA STANDARD (B-I Small)	EXISTING (RWY 10/28)	EXISTING (RWY 16/34)
Runway Design Code (RDC)	-	B-I Small-VIS	
Approach and Departure Reference Codes	-	Approach: B-I Small-VIS Departure: B-I Small	
Runway Width	60	75	60
Runway Protection Standards			
Runway Safety Area Length beyond each runway end (RSA)	240	240*	240
Runway Safety Area Width (RSA)	120	120*	120
Runway Object Free Area (ROFA) Length beyond each runway end	240	240**	240**
Runway Object Free Area (ROFA) Width	250	250**	250**
Runway Protection Zone (RPZ) Length	1000	1000	1000
Runway Protection Zone (RPZ) Inner and Outer Width	250 / 450	250 / 450	250 / 450
Runway Obstacle Free Zone (OFZ)	250 (Small aircraft) 400 (Large aircraft)	250	250
Runway Separation Standards			
Runway Centerline to Partial Parallel Taxiway Centerline	150	240	
Runway Centerline to Holding position	125	125	
Runway Centerline to Edge of Aircraft Parking	125	440	
Taxiway Design Standards			
Taxiway Width	25	25	
Taxiway Safety Area (TSA)	49	49	
Taxiway Object Free Area (TOFA)	89	89	

* The RSA does not meet design standards beyond Runway 28 end and needs to be widened to meet design standards.

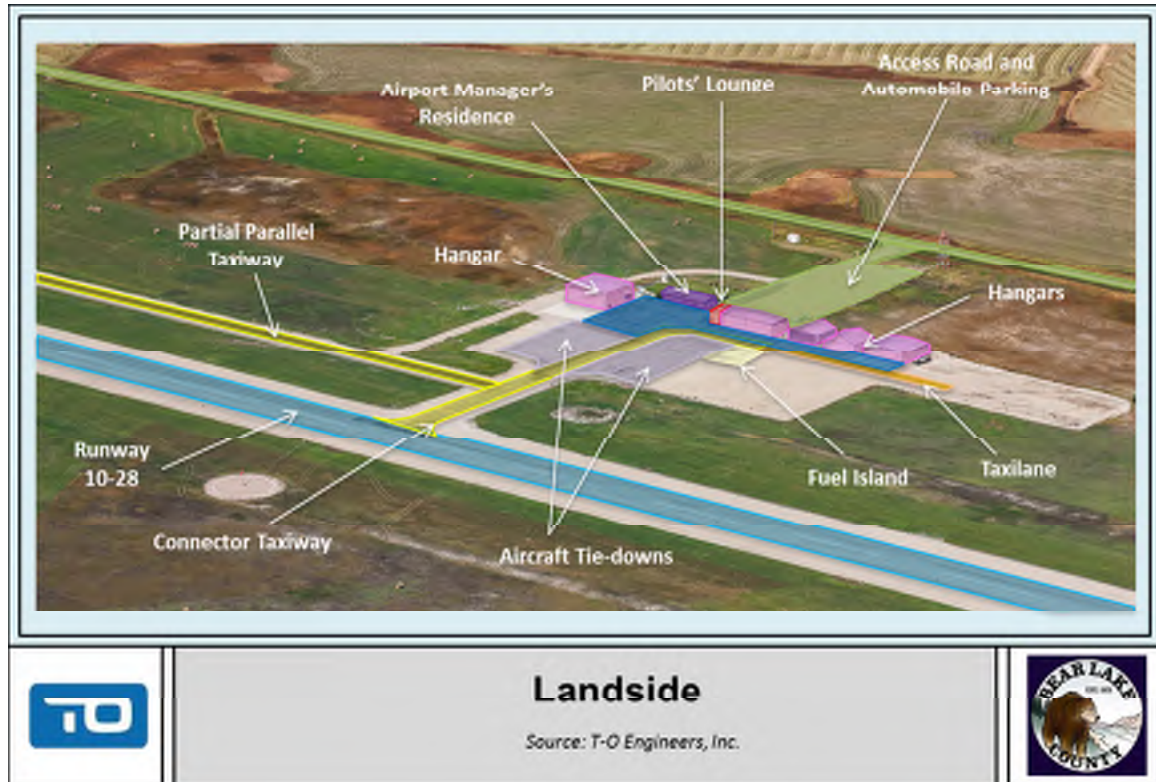
** During the compliance inspection, the FAA noted Hay bales in the ROFA, which prevented the airport to meet ROFA design standards. Recommendations are included in the Wildlife Hazard Site Visit Report included in Appendix to this Plan and in Section 2.5.1.

Source: 1998 ALP and Narrative, T-O Engineers

2.6 EXISTING LANDSIDE FACILITIES

Figure 2-6 hereafter provides an aerial view of existing airport landside facilities.

FIGURE 2-6 – AIRPORT LANDSIDE FACILITIES



2.6.1 GENERAL AVIATION TERMINAL

The public terminal facility is a small pilot/passenger lounge adjoining one of the hangars. It includes restroom facilities, a lounge area, telephone and Internet (wifi), a computer and printer for the pilots as well as a microwave and fridge. A soft-drink machine is also available on the airport.

2.6.2 AIRCRAFT APRON AND TIE-DOWNS

The aircraft parking apron is located on the north east side of the airport, approximately halfway between the two thresholds of Runway 10/28. The parking apron consists of 14 tiedowns available for based or itinerant users. These tie-downs are organized in two distinct areas of 7 tie-downs, on each side of the access taxiway. They are designed for Airport Design Group I aircraft. Airport management advises that additional aircraft parking can be accommodated in

the grass west of the current apron with space to accommodate approximately four additional aircraft.

2.6.3 HANGARS

There are 6 hangars located on the airport property, all box hangar styles; one 3,900 square feet hangar, one 3,600 square feet hangar and four 2,000 square-foot hangars. Currently, there is a 100% utilization rate for hangar capacity.

2.6.4 AIRPORT ROADSIDE ACCESS

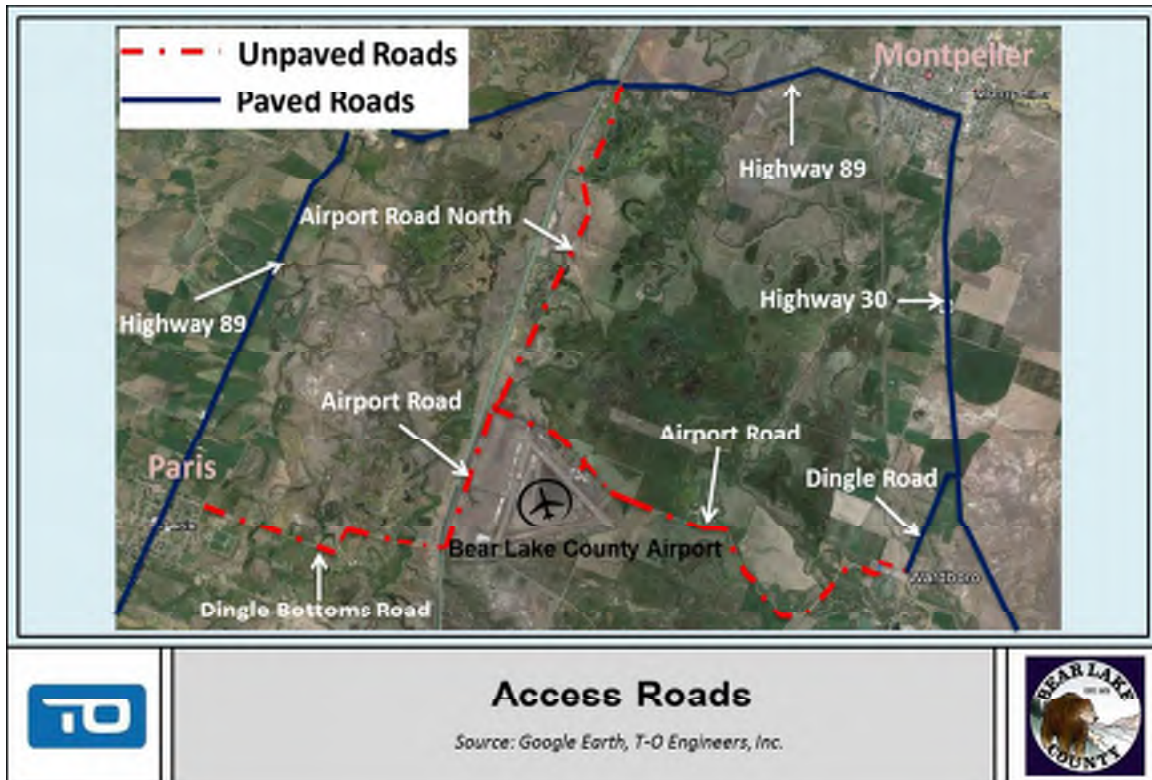
The primary mode of transportation in Bear Lake County is private automobile. The county does not offer public transportation, such as bus or train. There is no paved access to Bear Lake County airport. The nearest paved road is Highway 89, located approximately 4.5 miles from the terminal area. Access to Bear Lake County Airport is possible via three single lane gravel roadways, Airport Road East, Airport Road North and Dingle Road. As only gravel roads serve Bear Lake County Airport, accessing the airport can be time consuming, especially during the winter months or after rain when the roads are muddy and slippery.

It is possible to access Paris to the west using Airport Road and the Dingle Bottoms Road, which covers approximately 6 miles. Dingle Bottoms Road is a dirt road located near wetland areas and can be very muddy in the spring or after rain.

Further, it is possible to join Highway 30 to the east, using Airport Road and Dingle Road, for approximately 5 miles. Airport Road is an unpaved road, while Dingle Road is paved between Wardboro and the Highway 30.

Lastly, it is possible to reach Montpelier using Airport Road North and then Highway 89. **Figure 2-7** depicts the existing access roads.

FIGURE 2-7 – ACCESS ROADS



2.6.5 PERIMETER FENCING

Bear Lake County Airport has a barbed-wire cattle fence surrounding the airport property. However, no full perimeter wildlife fence is installed at the airport.

2.6.6 AUTOMOBILE PARKING AND GROUND TRANSPORTATION

No dedicated paved parking spaces are available at the airport, but a gravel surface near the airport office and hangars can accommodate automobile parking. This area is approximately 25,000 square feet. Two courtesy vehicles are stored at the airport and are available for public use with a nominal use fee.

2.7 WEATHER AND CLIMATE

2.7.1 LOCAL WEATHER AND CLIMATE

According to the National Weather Service (NWS), the climate in southeast Idaho is characterized by a variety of weather. Although there is a NWS site located on the airport, this particular station does not have a formal climate narrative on the NWS website. As climate information for Paris or Montpelier was not available, Pocatello climate information was used. Pocatello is located approximately 70 miles northwest of Bear Lake County Airport and the elevation difference between the airport and Pocatello is approximately 1,500 feet. However, this was deemed to be the best climate information available.

According to the National Weather Service (NWS), Pocatello's climate is semi-arid. Summers are warm and dry, with showers and thunderstorms common from late spring through summer. Autumn are cool with generally dry conditions. The first cold wave with highs below 20° F and low around 0° F may arrive anytime between late November and Christmas. There are usually a number of days each winter when temperature remain below freezing. Cloudy and unsettled weather is common during winters with measurable precipitation occurring on about one-third of the days. Snowfall may accumulate to a depth of a foot or more. Spring months are normally wet and windy. High elevation snow pack can persist into late June.

According to the Bear Lake Comprehensive Plan, the climate of Bear Lake County is very comfortable in the summer with high temperatures averaging in the 80's and low temperatures near 50. Extreme highs can reach into the 90's and lows into the 30's. Winters are cold with low temperatures in the 30's or lower most of the time. The average annual precipitation ranges from 9.5 inches at Bear Lake to 13.5 inches near Montpelier in the center of the county.

2.7.2 TEMPERATURE AND PRECIPITATION

On the National Climatic Data Center, from the National Oceanographic and Atmospheric Administration (NOAA), data was available from a weather station in Lifton Pumping Station, ID, located approximately 8 miles south of the airport, near the Bear Lake National Wildlife Refuge and another station located in Bern, ID, approximately 6 miles north of the airport.

Although there is a NWS site located on the airport, no formal report summarizing parameters of interest, such as temperature and precipitation, over the last 30 years was available. Therefore, data for the stations located in Lifton and Bern were obtained and analyzed.

In Lifton, between 1981 and 2010, the average annual temperature was 41.7° F while the average annual maximum temperature was 54.9° F. The highest average of monthly maximum temperature was 82.5° F and occurred in July. The lowest average of monthly average

temperature was 18.2° F and occurred in January. In Bern, between 1981 and 2010, the average annual temperature was 41.4° F while the average annual maximum temperature was 56.1° F. The highest average of monthly maximum temperature was 85.5° F and also occurred in July. The lowest average of monthly average temperature was 17.8° F and occurred in January.

The area around Bear Lake County Airport typically receives the majority of the yearly precipitation during the winter and spring months (specifically November to May), but still receives moderate precipitation throughout the year. The average annual precipitation for Lifton Pumping Station is 11.26 inches and the average annual snowfall is 3.81 inches. The month of May typically accumulates the most precipitation (1.59 inches) and the month of July typically accumulates the least (0.73 inches). Snowfall is most likely to occur between November and April, with the heaviest snowfall usually recorded in January (0.97 inches). The average annual precipitation for Bern is 17.18 inches and the average annual snowfall is 9.45 inches. The month of May typically accumulates the most precipitation (2.07 inches) and the month of July typically accumulates the least (0.72 inches). Snowfall is most likely to occur between November and April, with the heaviest snowfall usually recorded in January (2.45 inches).

The difference in the level of precipitations recorded, and especially in snowfall, can be explained by the location of Lifton Pumping Station, at the north tip of Bear Lake. It is likely that the lake moderates the weather. As Bear Lake County Airport is located between these two stations, the influence of Bear Lake is probably less present.

2.7.3 AUTOMATED WEATHER AND ALTIMETER

Bear Lake County Airport is currently not equipped with a FAA certified automated weather reporting system. However, the airport is equipped with a National Weather Service (NWS) automated weather system reporting the wind, precipitation, temperature and dew point. Data from this automated system is made available on the MesoWest website. Additional information on this station and on MesoWest is provided in Section 2.7.4, Wind Data and Wind Rose.

The airport is equipped with a certified altimeter. This altimeter was installed by the County in anticipation of future instrument approach procedures at the airport. It is located in the on-site airport manager's house and is certified by the FAA. Currently the altimeter setting is provided by the airport manager via pilot request.

Certified weather data in the general vicinity is available 24 hours a day from an automated system at Afton Municipal, WY located 33 nautical miles (NM) northeast of Bear Lake County Airport, or at Logan Cache Airport, UT located 36 nautical miles (NM) southwest of the airport.

Other automatic stations in the vicinity include Kemmerer Municipal Airport, in Wyoming (43 NM to the southeast of the airport), Miley Memorial Field Airport, WY (58 NM to the northeast of the airport) and Pocatello Regional Airport (68 NM to the northwest of the airport).

2.7.4 WIND DATA AND WIND ROSE

Bear Lake County Airport does not have an on-site certified weather station. Available data from the National Climatic Data Center (NCDC) was reviewed; however no NCDC site was in reasonable proximity to the airport. The MesoWest weather station summary website, made available from the University of Utah, was reviewed to determine if any other weather stations were located in a reasonable proximity to the airport. MesoWest is an ongoing cooperative project between University of Utah and different educational institutions, public agencies and commercial firms. The project started in 1996 and its goal is to provide access to current and archived weather observations across the United States.

The MesoWest website showed that one station was located on the airport, and several other weather stations were located within 25 miles of the airport. Data available from these stations was reviewed for use in evaluating weather conditions at the airport.

Station K1U7 is located on the airport. It is a station from the NWS and has only five full years of data available. In addition, the wind sensor is located in the immediate vicinity of hangars, which could potentially lead to slightly flawed information. Station E3600 is the closest weather station after K1U7 and it is located approximately 5 miles north of the airport. It has less than one year of data available. Station ITD35 is located approximately 12 miles east of the airport and has nine full years of data available.

Wind data from weather station K1U7 was obtained from December 2008 to July 2014. Wind data from weather station ITD35 was obtained from October 2004 to July 2014 and wind data from weather station E3600 was obtained from October 2013 to July 2014.

Weather station ITD35 and E3600 are located near terrain and relief slightly different than the one near the airport. Bear Lake County airport is located in a valley floor, while the two other stations are located near relief and higher elevations. Despite some differences, due to the specificities of each location, the prevailing winds are comparative and the directions and speeds are consistent between the three stations.

Wind direction and speed observations were obtained from K1U7 station from the MesoWest website with weather observations recorded every hour. This data was summarized in FAA format, counting the number of observations in 10-degree increments by standard wind speed increments. The observations from the 5-year period were then entered into the FAA's Wind Analysis design tool on the FAA Airport GIS Program website to produce the wind rose. The wind rose utilizing data from K1U7 station indicates 94.13 percent wind coverage for Runway

16/34, 93.99 percent wind coverage for Runway 10/28 and 98.97 percent wind coverage for both runways, with a crosswind component of 10.5 kts.

Windroses for Runway 10/28, Runway 16/34 and both runways are depicted in **Figures 2-8, 2-9** and **2-10**.

FIGURE 2-8 – RUNWAY 10/28 WINDROSE

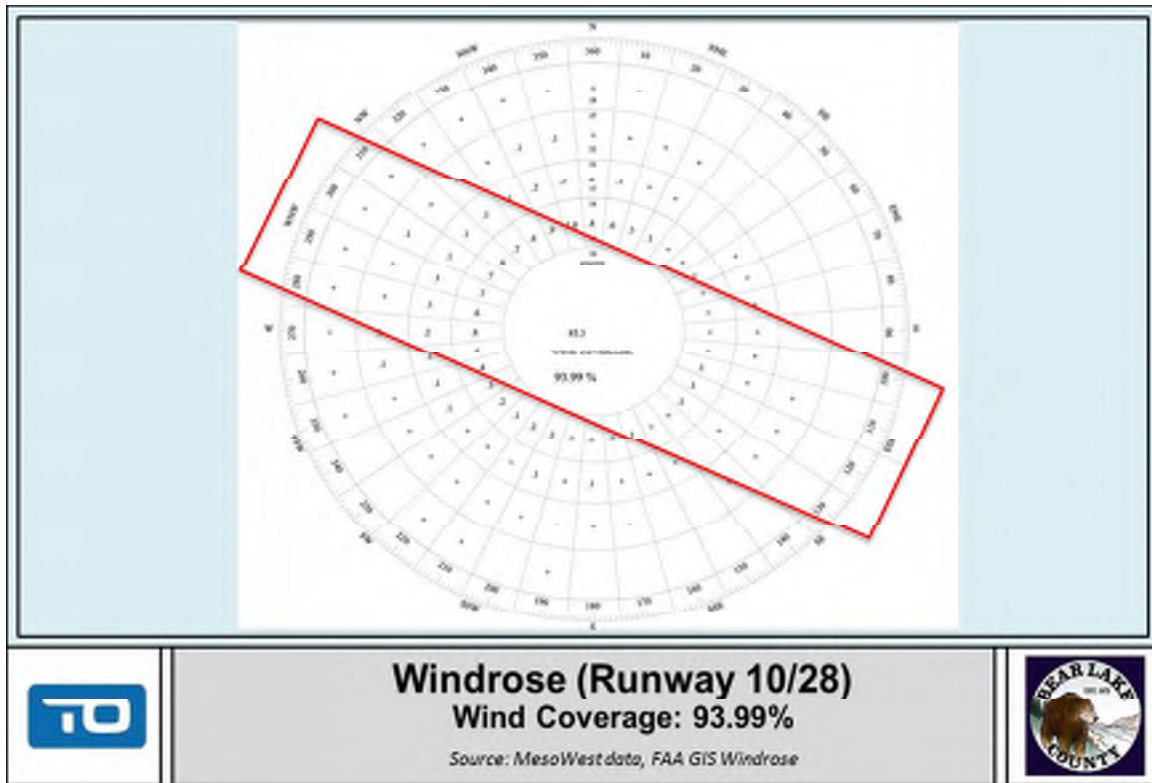


FIGURE 2-9 – RUNWAY 16/34 WINDROSE

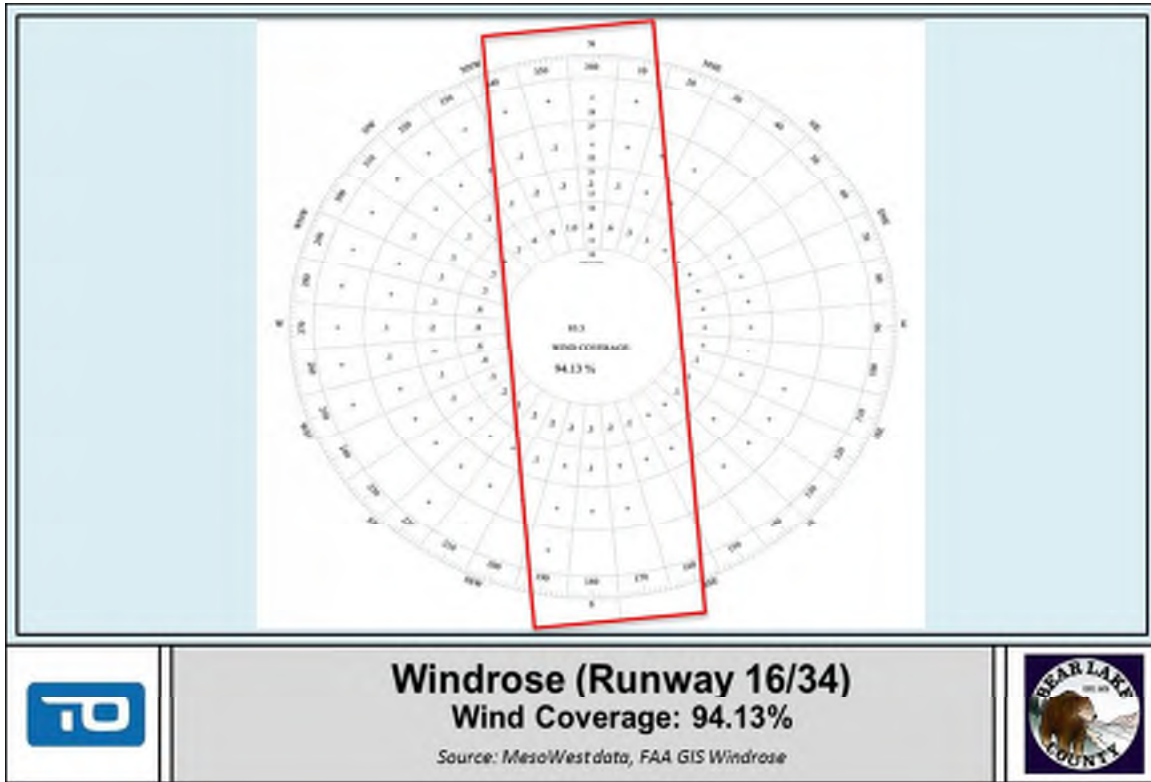
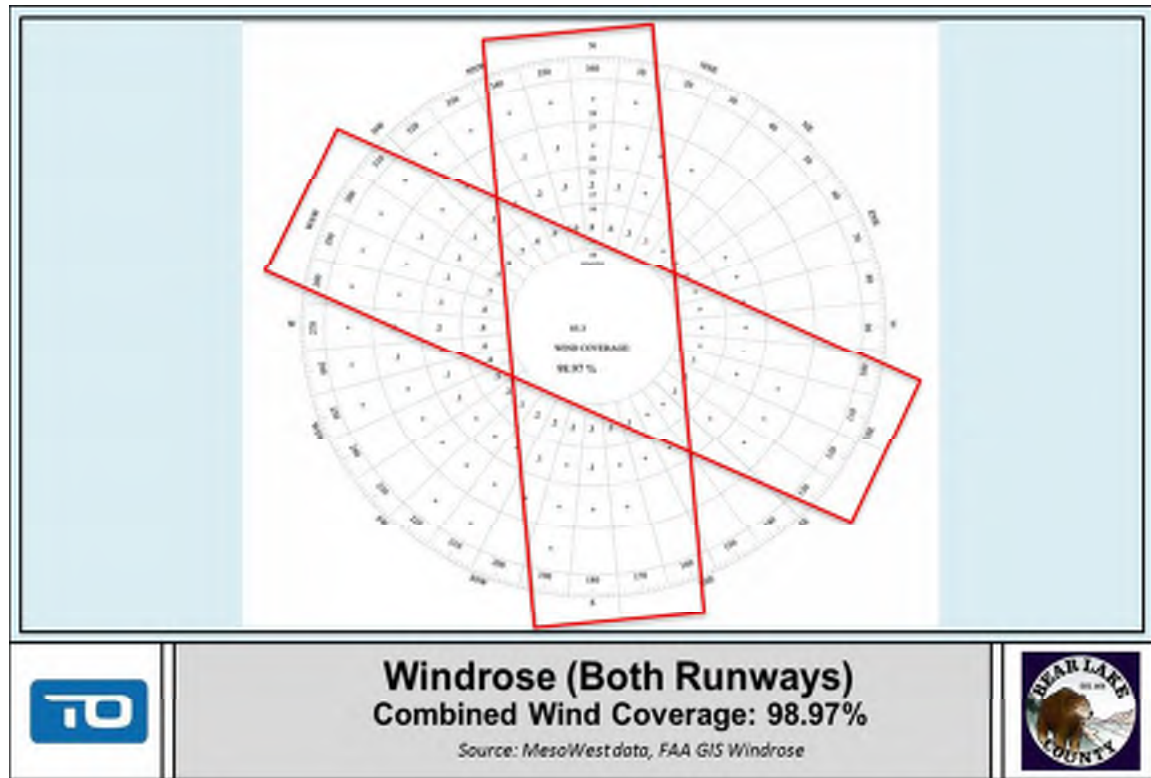


FIGURE 2-10 – BOTH RUNWAY WINDROSE



2.8 SUPPORT FACILITIES

The airport sponsor, Bear Lake County, and the airport manager provide most maintenance activities and support functions, for the airport, including snow removal, weed abatement, landscape maintenance and emergency response. All pavement maintenance is completed on a contract basis. Additional details about maintenance and support activities are provided in subsequent sections.

2.8.1 FUEL FACILITIES

The airport currently provides Avgas (100LL) only. Avgas fuel is stored in a 4,000 gallon underground tank and self-service fuel is available 24 hours a day. At the moment, no Jet A fuel is available at the airport. Some users of Bear Lake County airport, such as agricultural sprayers, truck in their own Jet A for their personal use.

2.8.2 AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF)

Currently emergency response and security efforts are conducted by Bear Lake County Sheriff Office in Bear Lake as well as volunteers. Emergency Medical Service and Search and Rescue is provided by approximately 40 volunteers, which serves at least 24 hours per month in 4 hour shifts. Fire Protection in the Bear Lake County Fire District is provided by 100 volunteers. Ten stations, including one in Paris, are operated by the district. Each station has a pumper truck. Dispatch is provided through the Bear Lake County Dispatch center in Montpelier and the estimated response time is 15 minutes. Bear Lake County airport does not have any dedicated ARFF equipment at the airport as general aviation airports are not required to provide this service onsite.

2.8.3 SNOW REMOVAL

Bear Lake County Airport Manager provides primary snow removal at the airport on an as-needed basis, using snow removal equipment based on the airport. Bear Lake County road and bridge crew provides back up as needed. The snow removal is only provided for Runway 10/28 and there is no snow removal on Runway 16/34.

The airport is equipped with two trucks: a 1991 Ford L8000 Snow Plow and a 1998 Chevrolet ¾ ton pick-up. The 1991 Ford is dedicated for snow removal operations. The 1998 Chevy pick-up is equipped with a plow attachment and is used for both snow removal operations and general airport maintenance purposes. Both vehicles are considered to be in fair condition though nearing the end of their useful life.

2.8.4 AIRPORT MAINTENANCE

The airport sponsor, Bear Lake County, and the Bear Lake County Airport Manager provide most maintenance activities for the airport, such as limited mowing and weed spraying, on an as-needed basis. As previously mentioned, the airport is equipped with two trucks in fair condition used for general airport maintenance and business. All pavement maintenance, including pavement crack sealing and seal coats, is completed on a contract basis.

2.8.5 UTILITIES

The airport is not served by a water distribution system. The existing water service is provided by a untreated well, suitable for drinking. Sewer service is provided through the use of septic tanks. Electricity is available at the airport and provided by Pacificorp (Utah Power & Light). The solid waste pick up service is owned and operated by the county. Lastly, phone and Internet service is available at the airport.

Table 2-9 depicts the current utilities and service providers at Bear Lake County Airport.

TABLE 2-9: AIRPORT UTILITIES AND SERVICE PROVIDERS

Utility	Source and Provider
Water	Well
Sewer	Septic System
Electricity	Yes (Pacificorp - Utah Power & Light)
Phone	Yes
Internet	Digis
Natural Gas	Not Available
Refuse	Offsite dumpster Available (Bear Lake County)
Emergency Response	Bear Lake County Sheriff Department and Fire Department Volunteer

Source: T-O Engineers

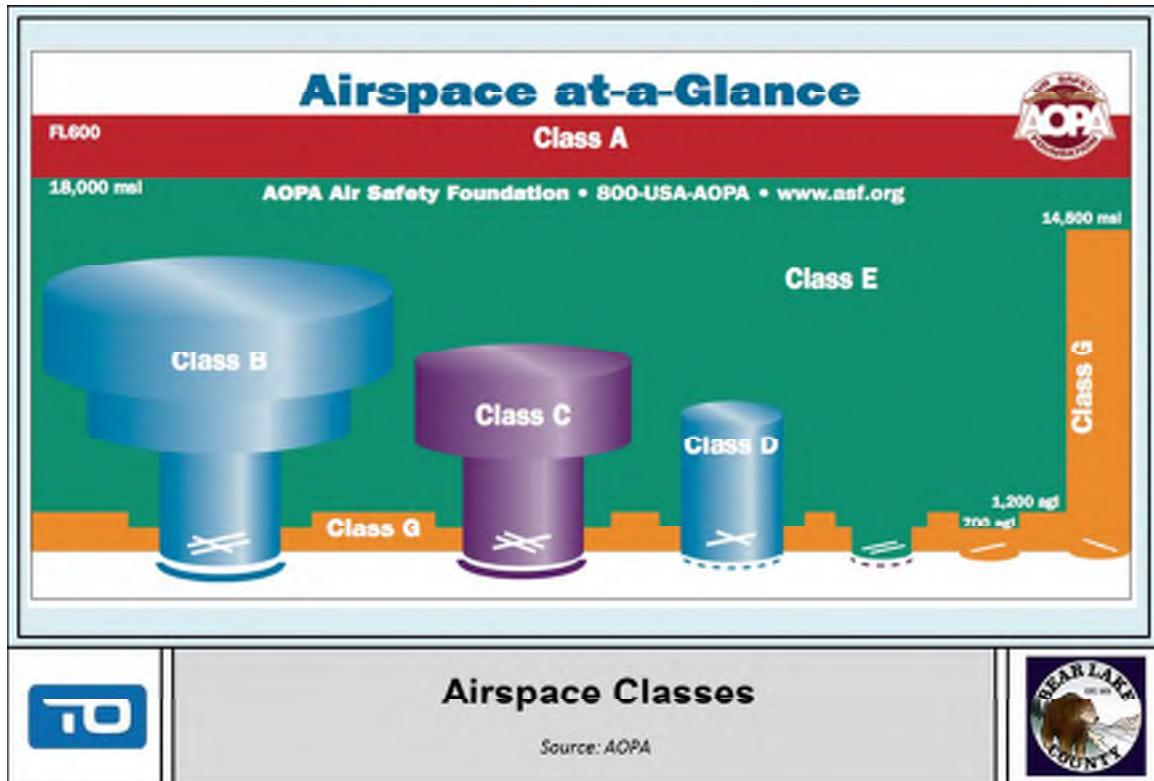
2.9 AIRSPACE

2.9.1 SURROUNDING AIRSPACE

The National Airspace System (NAS) is configured based on areas of controlled and uncontrolled airspace. There are established operating procedures and requirements in both controlled and uncontrolled airspace. Controlled airspace includes more stringent requirements in terms of Air Traffic Control (ATC) procedures, aircraft equipment and pilot certification. Typically, the busier the airport and airspace, the more restrictive the airspace is and the more

stringent the operating requirements. **Figure 2-11** below depicts the current U.S. airspace classifications.

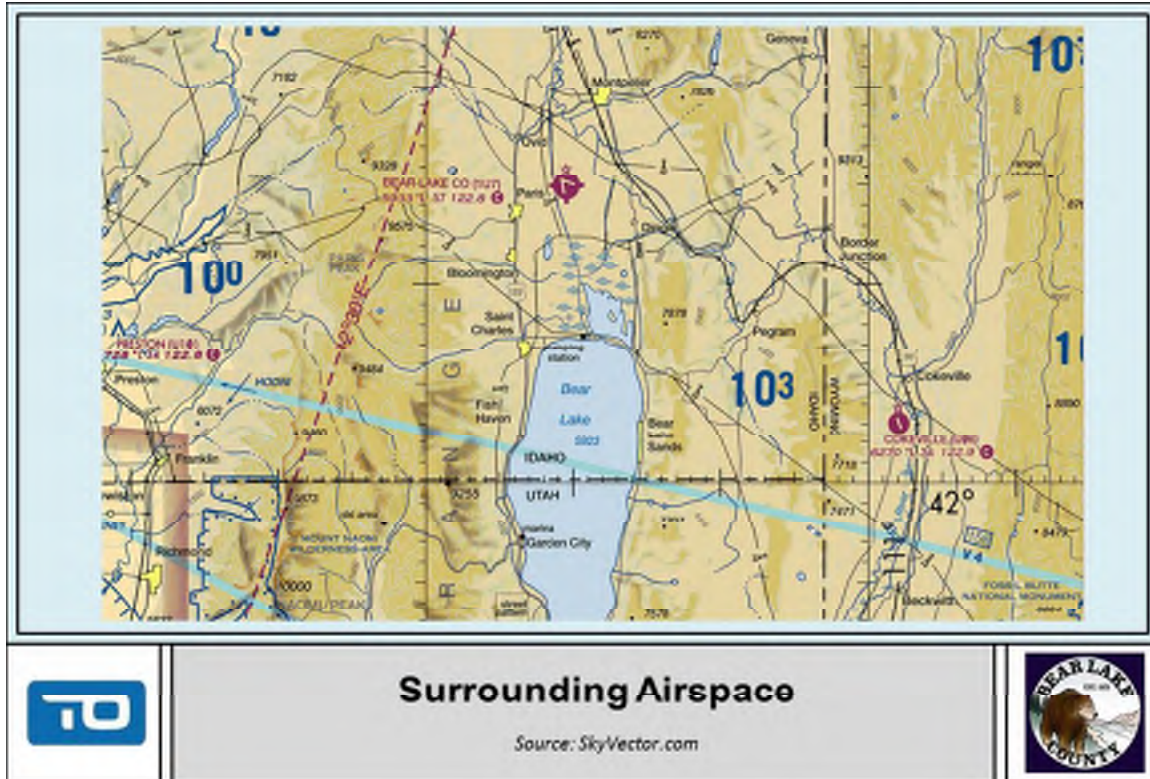
FIGURE 2-11: AIRSPACE CLASSES



Bear Lake County Airport is currently in Class G uncontrolled airspace. VFR minimums for Class G airspace are 1 mile flight visibility and clear of clouds. Pilots using Bear Lake County Airport should be diligent and understand the airspace environment before operating in the vicinity of the airport. No special use airspaces, such as restricted areas, prohibited areas, warning area, military operation areas or alert areas exist in the immediate vicinity of the airport.

Figure 2-12 depicts the airspace sectional in the immediate vicinity of the airport.

FIGURE 2-12: BEAR LAKE COUNTY AIRPORT SURROUNDING AIRSPACE



2.9.2 CODE OF FEDERAL REGULATIONS PART 77 IMAGINARY SURFACES

Code of Federal Regulations (14 CFR) Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace, provides airspace protection requirements at public-use airports. Airspace requirements are determined by the weight of the aircraft that predominantly operates at an airport and the type of instrument approach, if any, that exists or is planned at this airport.

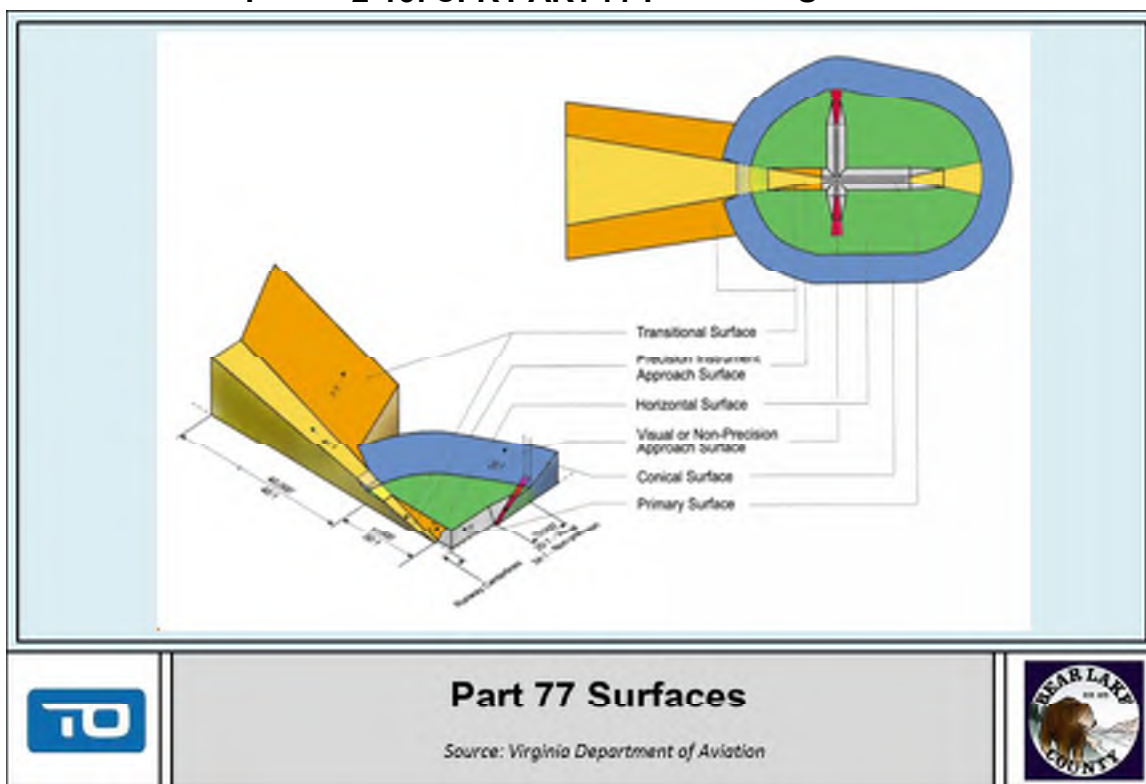
Airport runways which predominantly accommodate aircraft of less than or equal to 12,500 pounds maximum gross takeoff weight (MGTOW) are known as “Utility” runways. Runways accommodating aircraft of greater than 12,500 pounds MGTOW are known as “Other Than Utility Runways”. Either “Utility” or “Other Than Utility” CFR Part 77 runway designations can include visual only runways, runways with a precision instrument approach or runways with a non-precision instrument approach. Once a runway has been designated as either ‘Utility or “Other Than Utility” and the type of approach identified, specific airspace dimensions can be determined.

For public-use civilian airports, CFR Part 77 identifies the following “imaginary” airport airspace surfaces:

- ✦ Primary Surface
- ✦ Approach Surface
- ✦ Transitional Surface
- ✦ Horizontal Surface
- ✦ Conical Surface

For purposes of CFR Part 77, Runways 10/28 and 16/34 at Bear Lake County Airport are considered Utility runways. Both runways have only visual approaches. A description of each CFR Part 77 airspace surface and specific dimensions for Bear Lake County Airport are included below. **Figure 2-13** generally depicts the airspace surfaces as defined in CFR Part 77.

FIGURE 2-13: CFR PART 77 IMAGINARY SURFACES



Primary Surface

A rectangular surface longitudinally centered on the runway. For hard surfaced runways, the surface extends a distance of 200 feet beyond each runway end. Its elevation is the same as that of the runway at any given point perpendicular to the runway at that point. The width of the Primary Surface is set by the most demanding type of approach, existing or planned, for either end of the runway. Widths can be 250 feet, 500 feet or 1,000 feet if the existing or planned approach has approach visibility minimums as low as ¾ statute mile or a precision instrument approach.

The width of the Primary Surface for Utility runways with visual approach is 250 feet, or 125 feet either side of centerline and extending 200 feet beyond each runway end.

Approach Surface

The Approach Surface is trapezoidal in shape. It begins at the ends of the Primary Surface and slopes upward and outward. An Approach Surface is applied to each runway end and is based upon the type of approach planned for that runway end. For utility and visual "Other Than Utility" runways, the Approach Surface slope extends for a distance of 5,000 feet at a slope of 20:1. For all non-precision instrument runways "Other Than Utility" the distance is 10,000 feet at a slope of 34:1. For all precision instrument runways the slope is 50:1 for 10,000 feet then 40:1 for additional 40,000 feet. The ultimate width of the Approach Surface is dependent upon the specific approach minimum to that runway end.

As "Utility" visual runways, the current Approach Surfaces for Runways 10, 28, 16 and 34 are 5,000 feet in length with a slope of 20:1. The ultimate width of the Approach Slope is 1,250 feet.

Transitional Surface

The Transitional Surface is a sloping area that begins at the edge of the primary surface and slopes upward at a ratio of 7:1 until it intersects the horizontal surface.

Horizontal Surface

The Horizontal Surface is an oval-shaped, level area situated 150 feet above the airport elevation, the perimeter of which is established by swinging arcs of specified radii from the center of each end of the Primary Surface of each runway and connecting the adjacent arcs by lines tangent to those arcs. The arcs at either end will have the same value. The radius of each arc is:

- ✧ 5,000 feet for all runways designated as "Utility" or "Visual"
- ✧ 10,000 feet for all other runways.

The elevation of the Horizontal Surface at Bear Lake County Airport is 6,082.6 feet MSL and the radius of the arcs of the Horizontal Surface are 5,000 feet.

Conical Surface

The Conical Surface is a sloping area whose inner perimeter conforms to the shape of the Horizontal Surface. It extends outward for a distance of 4,000 feet measured horizontally, while sloping upward at a 20:1 ratio resulting in an additional 200 feet of height around the Horizontal Surface.

The elevation at the outer edge of the conical surface at Bear Lake County Airport is 6,282.6 ft. MSL.

2.10 LAND USE COMPATIBILITY

Effective compatible land use planning serves to protect the public health of both aircraft operators and the surrounding communities from safety related concerns as a result of airport operations. Such planning also serves to preserve the quality of life of surrounding neighborhoods from the by-products of airport/aircraft operations, which include such things as aircraft noise, dust and fumes. Effective land use planning via mechanisms such as zoning protects airspace, defines use of land and considers aircraft noise impacts. Currently the FAA and the State of Idaho consider airport compatible land use planning to be a top priority for airport sponsors to be aware of, concerned with, and prepared to address through local planning and the airport planning process.

Following is a summary of the land use planning related to the airport per Bear Lake County and surrounding jurisdictions in close proximity to the airport.

2.10.1 BEAR LAKE COUNTY COMPREHENSIVE PLAN AND ZONING ORDINANCE

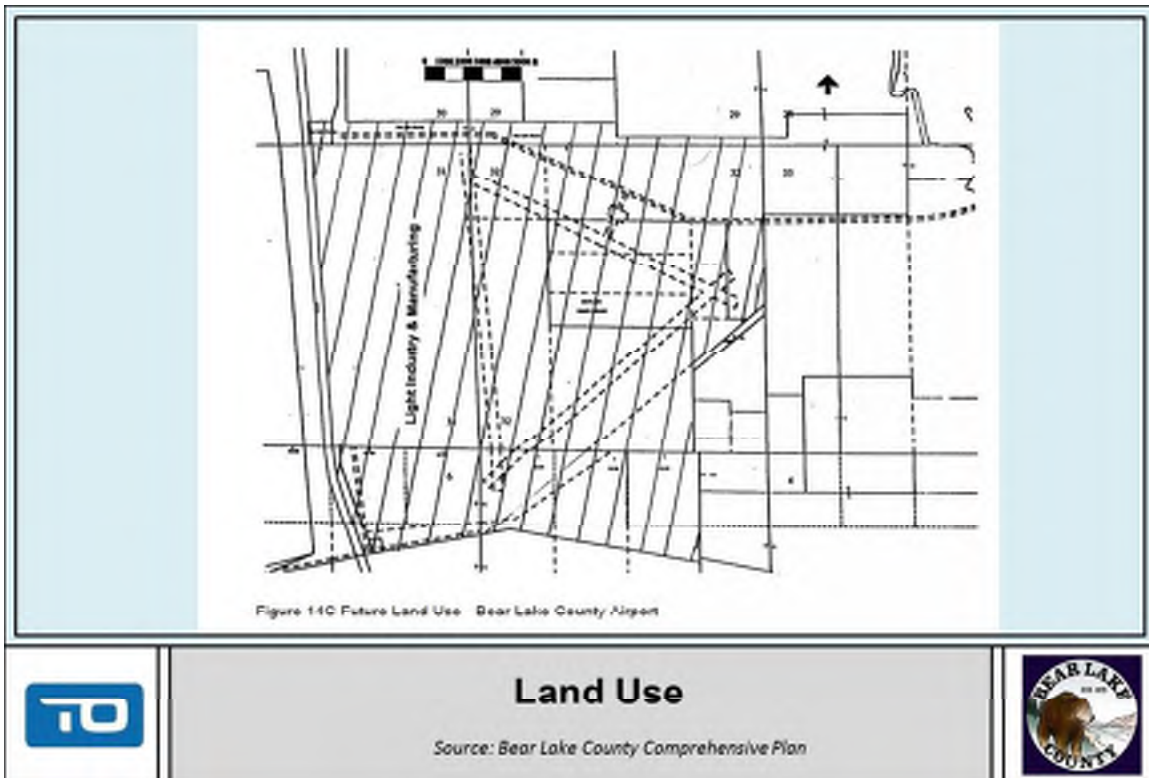
Bear Lake County Airport is located within the jurisdiction of Bear Lake County and is owned and operated by the County. The County's current Comprehensive Plan was adopted in March 2002. Air Transportation (page 23), briefly discusses and describes Bear Lake County Airport. Under the County's transportation goals and objectives of the plan (page 72), it is stated that the County will "protect the public investment in the county airport and the safety of air travelers by enforcing the Bear Lake County Airport Hazards Ordinance."

The predominant activity around the airport consists of agricultural and grazing lands; there are a few scattered ranches in the airport vicinity. Bear Lake County Airport is bordered on all sides by gravel roads as well as by the Bear Lake National Wildlife Refuge on the south side.

In the Bear Lake County Comprehensive Plan, the airport and surrounding areas were outlined as Light Industry & Manufacturing land use, which are lands providing a location for light manufacturing that is clean, quiet and free of objectionable level of noise, odors or smoke. These lands were further described as providing for wholesale business and warehouse to supply the business sector. Access to transportation routes and airports is important. This category is not a specific land use zone for the county zoning ordinance, but serve as guidance for zones and their included uses.

Figure 2-14 generally depicts the land use as outlined in the Bear Lake County Comprehensive Plan.

FIGURE 2-14: LAND USE – BEAR LAKE COUNTY AIRPORT



Zoning Ordinances

The zoning districts established by Bear Lake County are: Agricultural, Rural Community, Community Expansion, Multiple Use (Public Lands), Recreation, Rural Conservation, Lakeshore (Beach Development), Commercial and Industrial.

The zoning ordinance does not include zoning restrictions or land use restrictions related to the airport.

2.10.2 SURROUNDING JURISDICTIONS

Communities in close proximity to the airport include Paris, Montpelier, St Charles and Bloomington. A review of the comprehensive plans from Montpelier, St Charles and Bloomington was conducted. Of the three comprehensive plans reviewed, only Montpelier and St Charles' plans mention the airport.

The current comprehensive plan for the City of Montpelier was developed in 2002. The airport is described in general terms in the Transportation section on page 34. The current comprehensive plan for the City of St. Charles was developed in 2010. Bear Lake County

Airport is briefly mentioned in the Transportation section on page 20. Further, mention of the closest airports for passenger service (Logan, UT and Pocatello, ID) is also made page 20.

Zoning Ordinance

Zoning ordinances for Montpelier, St Charles and Bloomington do not include zoning restrictions related to the airport.

2.10.3 FUTURE LAND USE PLANNING

Per Idaho Statewide Land Use Legislation, effective July 1, 2014, all local jurisdictions with a public-use airport in or near their jurisdiction are required to include a separate Airport section in their Comprehensive Plans. This section must consider current and future needs of the airport, as well as impacts on the communities in the vicinity of the airport. In addition, the local planning and zoning commissions must adopt standards and zoning mechanisms to protect lands around airports from incompatible land use or incompatible development.

Additional information and recommendations regarding land use and airport zoning around the airport can be found in **Chapter X**.

2.10.4 THROUGH-THE-FENCE (TTF)

Through-the-fence activities are those which reside on property outside of the airport property boundary that have an access directly onto airport property. Currently no TTF activities exist at the airport.

2.11 FLOODWAY/FLOODPLAIN IMPACTS ON THE AIRPORT

An examination of the Flood Insurance Rate Maps (FIRM) shows that Bear Lake County Airport is in an unmapped area and that there is no FEMA Floods Maps for this area. The only flowing water in close proximity to the airport is the Bear Lake Outlet Canal, which is a controlled channel. The closest mapped area is the city of Paris, Idaho, located approximately three miles east of the airport.

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