

## **Chapter Three**

*Airport Layout Plan Update*

# **AIRPORT FACILITY REQUIREMENTS**

*Illinois Valley Airport*

In this chapter, existing airport facilities are evaluated to identify their functionality, condition, compliance with design standards, and capacity to accommodate demand projected in Chapter Two.

The objective of this effort is to identify, in general terms, what facilities are needed and the adequacy of the existing airport facilities in meeting those needs. Where differences between existing and needed facilities are noted, this chapter identifies when those additional facilities may be needed. Once the facility requirements have been established, alternatives for providing these facilities will be created.

## **BACKGROUND**

### **Airport Planning and Development Criteria**

Airport planning and development criteria are often defined by both federal and state agencies. The FAA provides specific guidance concerning dimensional standards and many state agencies provide generalized guidance based on facilities offered and aircraft activity levels. Both sets of planning criteria are discussed below.

The Oregon Department of Aviation (ODA) has created general guidelines in the Oregon Aviation Plan (OAP) for airport planning and development based on the roles, or categories, of airports within the statewide system. The OAP identified five airport categories, each with its

own set of performance criteria. The categories are based on factors such as the Airport's function, the type and level of activity at the Airport, and the facilities and services available. The categories are:

- Category I – Commercial Service Airports
- Category II – Urban General Aviation Airports
- Category III – Regional General Aviation Airports
- Category IV – Local General Aviation Airports
- Category V – RAES (Remote Access/Emergency Service) Airports

The Illinois Valley Airport (Airport) is classified as Category IV – Local General Aviation Airport. The function of this category is to support primarily single engine aircraft, but airports in this category are capable of accommodating smaller multi-engine general aviation (GA) aircraft. The OAP identified two deficiencies at the Airport for meeting Category IV minimum and desired criteria, which are the lack of a parallel taxiway and 100LL fuel service.

The FAA specifies design standards by Airport Reference Code (ARC) and instrument approach visibility minimums. In the previous chapter, it was determined that the ARC at the Airport is B-I (small), which is exemplified by the Beech Baron 58P, which has an approach speed of 101 knots, wingspan of 37.8 feet, tail height of 9.1 feet, and maximum takeoff weight of 6,200 pounds.

The ARC is a coding system used to relate airport design criteria to the operational (Aircraft Approach Category – AAC) and the physical characteristics (Airplane Design Group – ADG) of the airplanes intended to operate at an airport. An AAC of B represents aircraft with an approach speed between 91 and 121 knots. An ADG of I represents aircraft with tail heights less than 20 feet and wingspans less than 49 feet. The ARC of B-I (small) indicates the aircraft's maximum takeoff weight is 12,500 lbs or less.

The Airport does not have an instrument approach and the runway is classified as visual. For determining airport design criteria, instrument approach visibility minimums are divided into three categories:

- Visual and not lower than one-mile
- Not lower than  $\frac{3}{4}$ -mile
- Lower than  $\frac{3}{4}$ -mile

Josephine County (County) and several airport users have indicated that an instrument approach procedure at the Airport would be desirable. New technology allows instrument approaches using the Global Positioning System (GPS) to be implemented at a minimal cost, in terms of navigational aids and cockpit equipment. For many small general aviation airports, however, the cost of upgrading facilities (*e.g.*, larger safety area, installing lights) to the minimum requirements for the different approach visibility categories is a significant constraint to establishing an instrument approach. This chapter presents the requirements of meeting all the instrument approach visibility minimums listed above, to aid in assessing the feasibility of an instrument approach. The actual minimums achievable will depend on FAA evaluation of the

obstructions, including high terrain, around the Airport.

## **AIRFIELD REQUIREMENTS**

As discussed in Chapter One, airfield facilities are those that are related to the arrival, departure and ground movement of aircraft. Airfield facility requirements are addressed for the following areas:

- Airfield Capacity
- Airfield Design Standards
- Runway Orientation, Length, Width, and Pavement Strength
- Taxiways
- Airport Visual Aids
- Airport Lighting
- Radio Navigational Aids & Instrument Approach Procedures
- Other Airfield Recommendations

### **Airfield Capacity**

A demand/capacity analysis measures the capacity of the airfield configuration by determining its Annual Service Volume (ASV). This measure is an estimate of an airport's maximum annual capacity based on factors such as aircraft mix and weather conditions, among others. FAA Advisory Circular (AC) 150/5060-5, *Airport Capacity and Delay*, provides guidance on determining an airport's ASV. The annual capacity of a single runway configuration, without a parallel taxiway, is approximately 205,000 operations (takeoffs, landings and training operations). The forecast projects annual operations of 5,250 by 2029 – well below the maximum capacity of the existing airfield system.

In addition to ASV, *Airport Capacity and Delay* also provides guidance on determining peak hour capacity. For the Airport, the peak hourly capacity during VFR conditions is 63 operations. The forecast projects six peak hour operations by 2029 (only 9.5% of the VFR hourly capacity). Therefore, the Airport is expected to have sufficient hourly capacity throughout the 20-year planning period.

### **Airfield Design Standards**

FAA AC 150/5300-13, *Airport Design*, sets forth the FAA's recommended standards for airport design. A few of the more critical design standards are those for runways and the areas surrounding runways, including:

- Runway Safety Area (RSA)
- Object Free Area (OFA)
- Obstacle Free Zone (OFZ)
- Runway Protection Zone (RPZ)

The RSA is a defined surface surrounding the runway that is prepared or suitable for reducing the risk of damage to airplanes in the event of an airplane undershoot, overshoot, or an excursion

from the runway.

The OFA is an area on the ground centered on the runway or taxiway centerline that is provided to enhance the safety of aircraft operations. No above ground objects are allowed except for those that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

The OFZ is a volume of airspace that is required to be clear of objects, except for frangible items required for the navigation of aircraft. It is centered along the runway and extended runway centerline.

The RPZ is defined as an area off each runway end intended to enhance the protection of people and property on the ground. The RPZ is trapezoidal in shape and centered about the extended runway centerline. The dimensions of an RPZ are a function of the runway ARC and approach visibility minimums. The FAA recommends that RPZs be clear of all residences and places of public assembly (churches, schools, hospitals, etc.) and that airports own the land within the RPZs.

In addition to these design standards, the FAA provides recommended dimensions for runway width, taxiway width, taxiway safety areas and others. It is important to note that while these are FAA recommendations, ODA generally follows the same criteria. **Table 3A** compares the Airport's existing dimensions to the recommended design standards for Airplane Design Group (ADG) I (small) based on a specific approach category. One column reflects dimensions based on visual approaches and another column reflects dimensions based on approach visibility minimums lower than  $\frac{3}{4}$  statute mile.

As shown in Table 3A, the existing dimensions (except for blast pads and RPZs) meet the minimum standard for approaches with visibility minima of visual and not lower than  $\frac{3}{4}$  statute mile. If an approach with minima lower than  $\frac{3}{4}$  statute mile were to be installed, the Airport would be deficient in many design standards. The County should strive to acquire aviation easements in the RPZ areas to protect the approaches from incompatible land uses.

## **Runway Orientation**

For the operational safety and efficiency of an airport, it is desirable for the primary runway to be oriented as close as possible to the direction of the prevailing wind. This reduces the impact of crosswind components during landing or takeoff.

The FAA recommends providing a crosswind runway when the primary runway configuration provides less than 95 percent wind coverage at specific crosswind components. The 95 percent wind coverage is computed on the basis of crosswinds not exceeding 10.5 knots for aircraft in ADG I.

The Airport has a single runway oriented north-south (Runway 18/36). Wind coverage at 10.5 knots of cross wind is 99.3%, according to data recorded over a period from 1985 to 1990. The runway meets the FAA's recommendation for wind coverage.

**Table 3A. Airfield Design Standards**

	<b>Existing Dimensions</b>	<b>ADG I (small) Visual and Not lower than <math>\frac{3}{4}</math> statute mile</b>	<b>ADG I (small) Lower than <math>\frac{3}{4}</math> statute mile</b>
Runway Width	75'	60'	<b>75'</b>
Runway Centerline to Parallel Taxiway Centerline Separation	N/A	150'	200'
RSA Width	150'	120'	300'
Length beyond runway end (18/36)	400'/315'	240'	600'
OFA Width	250'	250'	800'
Length beyond runway end (18/36)	400'/315'	240'	600'
OFZ Width	250'/250'	250'	300'
Length beyond runway end (18/36)	200'	200'	200'
Precision OFZ <sup>1/</sup> Width	N/A	N/A	800'
Length	N/A	N/A	200'
RPZ Inner Width x Outer Width x Length	500' x 700' x 1,000'	250' x 450' x 1,000' <sup>2/</sup>	1,000' x 1,750' x 2,500'
Runway Blast Pads Length	0'	60'	60'
Width	0'	80'	95'
Runway Shoulder Width	10'	10'	10'
Taxiway Width	N/A	25'	25'
Taxiway Safety Area Width	N/A	49'	49'
<b>Taxiway Object Free Area Width</b>	<b>N/A</b>	<b>89'</b>	<b>89'</b>

Source: FAA Advisory Circular 150/5300-13

Notes: <sup>1/</sup> A Precision OFZ (POFZ) is a volume of airspace above an area beginning at the runway threshold, at the threshold elevation and is in effect only when the following three conditions are met: Vertically guided approach, reported ceiling below 250' and/or visibility less than  $\frac{3}{4}$  mile, an aircraft on final approach within two miles of runway threshold.

<sup>2/</sup> If an instrument approach with visibility minimums between  $\frac{3}{4}$  mile and 1 mile is implemented, the recommended RPZ size is 1,000' x 1,510' x 1,700.

## Runway Length

Runway length requirements for an airport are based on several factors such as airport elevation, mean maximum temperature of the hottest month, runway gradient, airplane operating weights, runway surface conditions (*i.e.*, wet or dry), and others. FAA Advisory Circular 150/5325-4B, *Runway Length Requirements for Airport Design*, and the FAA's Airport Design Computer Program were consulted for guidance on recommended runway length at the Airport.

Both the Advisory Circular and the computer program classify aircraft based on weight. For "small" airplanes (those with maximum takeoff weights 12,500 pounds), the classifications are

further divided into two additional categories - small airplanes with fewer than 10 passenger seats and small airplanes with 10 or more passenger seats. The computer program, using site-specific data, reflects runway length recommendations by grouping general aviation aircraft into several categories, reflecting the percentage of the fleet within each category. **Table 3B** summarizes the FAA’s generalized recommended runway lengths for the Airport.

**Table 3B. Runway Length Requirements**

<b>Airport and Runway Data</b>	
Airport elevation .....	1,394 feet
Mean daily maximum temperature of the hottest month .....	92° F
Maximum difference in runway centerline elevation .....	40 feet
Wet and slippery runways	
<b>Runway Lengths Recommended for Airport Design</b>	
Small airplanes with less than 10 passenger seats	
To accommodate 75 percent of these small airplanes .....	3,000 feet
To accommodate 95 percent of these small airplanes .....	3,570 feet
To accommodate 100 percent of these small airplanes .....	4,210 feet
Small airplanes with 10 or more passenger seats.....	4,570 feet

*Source: FAA’s Airport Design Computer Program, Version 4.2D, AC 150/5325-4B, Runway Length Requirements for Airport Design.*

The current runway length of 5,200 feet accommodates 100% of the small aircraft fleet. The runway length is forecast to be adequate for the remainder of the planning period.

### **Runway Width**

The current runway width of 75 feet exceeds the FAA’s recommended standard of 60 feet for ADG I (small) aircraft and runways with visual approaches. It is recommended that the 75-foot width be maintained, in the event of an instrument approach with minimums lower than ¾ statute mile visibility.

### **Runway Pavement Strength**

The most important feature of airfield pavement is its ability to withstand repeated use by the most weight-demanding aircraft that operates at an airport. The pavement strength rating of Runway 18/36 is 20,000 pounds single wheel gear (SWG). This strength rating will be adequate through the planning period, although occasional maintenance will be needed to preserve this strength.

### **Taxiways**

The Airport does not currently have a full-length parallel taxiway. A full-length parallel taxiway provides a safe, efficient traffic flow and eliminates the need for aircraft to back taxi before take-off or after landing. The FAA recommends a parallel taxiway for nonprecision instrument approaches with visibility minimums of one mile or more and requires a parallel taxiway for

instrument approaches with visibility minimums lower than one mile.

Similar to runway width, taxiway width is determined by the ADG of the most demanding aircraft to use the taxiway. ADG I recommendation for taxiway width is 25 feet.

Runway centerline to parallel taxiway centerline separation distance is another important criterion to examine. The recommended distance is based on satisfying the requirement that no part of an aircraft on a taxiway or taxilane centerline is within the runway safety area or penetrates the runway OFZ. For the Airport, the recommended separations is 150 feet for ADG I visual runways and 200 feet for ADG I runways with lower than  $\frac{3}{4}$  mile visibility minimums.

There are three connector taxiways between the runway and aircraft parking and storage. Connectors to the runway ends will be required if a parallel taxiway is built. More taxiway connectors may be required in the future to provide access to new hangar and apron development.

## **Airport Visual Aids**

Airports commonly include a variety of visual aids, such as pavement markings and signage to assist pilots using the airport.

**Pavement Markings.** Runway markings are designed according to the type of instrument approach available on the runway. FAA Advisory Circular 150/5340-1J, *Standards for Airport Markings*, provides the guidance for airport markings. Basic (visual) markings are currently in place on Runway 18/36. If a nonprecision approach were to be implemented, the runway markings would need to be upgraded to nonprecision markings.

There are hold markings on all taxilanes adjoining the runway. The purpose of hold markings is to ensure that aircraft waiting for arriving or departing aircraft to clear the runway are not in the RSA. Existing hold lines at the Airport are adequate if the Airport only has a visual or nonprecision approach. If a precision approach were pursued, the separation would need to increase by 50 feet to 175 feet.

**Airfield Signage.** The Airport currently has hold signs on taxilanes adjoining the runway. The existing signage is adequate for the existing airfield layout. Future additional taxiways and aprons will require additional signs.

## **Airport Lighting**

**Beacon.** The Airport's rotating beacon is adequate for the planning period.

**Visual Glide Slope Indicators.** As discussed in Chapter One, the Airport has two-box VASIs on both runway ends. The VASI system is out of service indefinitely, as they need to be relocated to meet FAA siting criteria. It is recommended that the County relocate the VASI system.

**Runway and Taxiway Lighting.** Airport lighting systems provide critical guidance to pilots at night and during low visibility conditions. Runway 18/36 is equipped with direct bury, low intensity runway lighting (LIRL). It is recommended that this system be upgraded to a medium intensity runway lighting system (MIRL) during the planning period to accommodate an instrument approach.

Runway identification lighting provides the pilot with a rapid and positive identification of the runway end. The most basic system involves runway end identifier lights (REILs). Currently, there are no REILs installed at the Airport. If a nighttime instrument approach procedure were implemented, REILs would aid pilots in locating the runway ends quickly. It is recommended that REILs be installed at both runway ends.

If an instrument approach with visibility minimums lower than 1 mile were implemented, an instrument approach lighting system would be required.

Effective ground movement of aircraft at night is enhanced by the availability of taxiway/taxilane lighting. Airport taxiways and taxilanes are lined with edge reflectors, which will be adequate until medium intensity taxiway lights are needed to aid pilots at night and during low visibility.

The Airport is equipped with pilot-controlled lighting (PCL). PCL allows pilots to turn runway lighting on and control its intensity using the radio transmitter in their aircraft. The PCL system is energy-efficient and should be maintained throughout the planning period.

## **Radio Navigational Aids & Instrument Approach Procedures**

**Radio Navigational Aids.** There are no radio navigational aids at the Airport; however, the Rogue Valley International Airport (Medford) has a VOR/DME (Very High Frequency Omni-Directional Range/Distance Measuring Equipment), which can be used to guide a pilot to the Airport.

**Instrument Approach Procedures.** There are currently no instrument approach aids available at the Airport. Visual approaches are used on both runway ends.

Global Positioning System (GPS) technology provides the Airport with the capability of establishing new instrument approaches at minimal cost since there is no requirement for the installation and maintenance of costly ground-based transmission equipment. The FAA is proceeding with a program to transition from existing ground-based navigational aids to a satellite-based navigation system utilizing GPS technology. The FAA commissioned the Wide Area Augmentation System (WAAS) in July 2003. WAAS refines GPS guidance for enroute navigation and approaches. General aviation, corporate, air taxi, and regional airline operators are expected to benefit from this augmentation to GPS signals. The FAA is certifying new approaches at the current rate of about 300 per year, nationally.

Lower than  $\frac{3}{4}$  mile visibility minimums are now possible with GPS. To be eligible for an instrument approach, the airport landing surface must meet specific standards as outlined in FAA

AC 150/5300-13, *Airport Design*. *Airport Design* states that airports having runways as short as 2,400 feet could support an instrument approach if the lowest Height Above Touchdown (HAT) is based on clearing a 200-foot obstacle within the final approach segment. However, runways less than 3,200 feet are protected to a lesser extent by Title 14 of the Code of Federal Regulations (CFR), Part 77, *Objects Affecting Navigable Airspace*. Part 77 surfaces are further defined in Chapter Five. It is noted there are several penetrations to the surfaces including trees, power lines, buildings and terrain. If these penetrations are not removed, there will be constraints on the type of approach the Airport could get.

The County should identify and remove obstructions as necessary to provide clear airspace and make way for a nonprecision GPS approach to the Airport. The existing runway length meets the minimum 3,200-foot length requirement for this type of approach and therefore would not require an adjustment to the lowest Height Above Touchdown elevation as described above. A straight-in nonprecision approach requires a cleared threshold siting surface slope of 34:1 (versus the 20:1 slope required for a visual approach). Initial examination indicates that the threshold siting surface dimensions required by this type of approach would not be clear of penetrations due to trees near the Airport.

Final determination of feasibility of implementing an instrument approach procedure would need an expensive survey meeting rigorous FAA standards and then an evaluation by the FAA Flight Procedures Office. A cursory evaluation by the FAA in 2000 concluded straight-in, WAAS-aided procedures were probably feasible to both runway ends.

### **Other Airfield Recommendations**

**Traffic Pattern.** The current traffic pattern requires left hand traffic for Runways 18 and 36. The existing traffic pattern procedure is adequate.

**Wind Indicators/Segmented Circle.** The existing lighted windcone and segmented circle are located on the west side of the runway at about midfield. These facilities are adequate and should be maintained throughout the planning period. There are also two supplemental windcones, one near each runway end.

**Weather Reporting.** Real-time weather reporting at the Airport is supplied via Automated Weather Observation System (AWOS). The information transmitted from the Super-AWOS is available through the Internet and phone line, and only to pilots flying within radio range, as the data does not currently transmit to the FAA. It is recommended the Super-AWOS be upgraded to transmit data to the FAA.

### **LANDSIDE REQUIREMENTS**

Landside facilities are those facilities necessary for handling aircraft on the ground, and those facilities that provide an interface between the air and ground transportation modes. Landside requirements are addressed for the following facilities:

- Hangars

- Aprons and Aircraft Parking
- Airport Access & Vehicle Parking
- Aviation Services

## Hangars

The utilization of hangars varies as a function of local climate, security, and owner preferences. The trend in general aviation aircraft is toward higher performance, higher value aircraft. Therefore, many aircraft owners prefer enclosed hangar space to outside tiedowns. In planning for hangar development, the number and type of aircraft to be based at an airport is analyzed. Hangar development should be based upon actual demand trends and financial investment conditions, not solely on forecasts.

At the Airport, all of the 16 based aircraft are currently stored in hangars. Consequently, it is assumed all future based aircraft will need hangar storage, creating a need for five additional hangar spaces by 2029.

Hangar facilities at an airport typically consist of some combination of T-hangars and conventional hangars. T-hangars typically store one aircraft in one unit, while conventional hangars can store more than one aircraft in one large enclosed structure. In order to determine the number of T-hangars versus conventional hangars, the following assumptions were made:

- All multi-engine aircraft will be stored in conventional hangars.
- 5% of all single engine aircraft stored in hangars will be stored in conventional hangars, while the remaining single engine aircraft will be stored in T-hangars.

Applying these assumptions, three additional T-hangars will be needed and two additional conventional hangars will be needed by 2029. For space planning purposes, a ratio of 1,200 square feet per aircraft is used for T-hangar development, resulting in a total of 3,600 square feet of building area. Conventional hangar sizes generally range between 1,400 to 3,600 square feet per aircraft. For planning purposes at the Airport, a ratio of 2,500 square feet will be used, resulting in a need for 5,000 square feet of conventional hangar building area. **Table 3C** summarizes the hangar development needs for each milestone year.

## Aprons and Aircraft Parking

Currently, there are 16 tiedown positions at the Airport. No based aircraft are presently stored in tiedowns. As noted earlier, due to the desire for aircraft owners to store their aircraft in hangars, it has been assumed that no based aircraft will be stored at tiedowns throughout the planning period. Transient aircraft typically use tiedowns during the short time they visit an airport, although hangar storage for transient aircraft is a service many FBOs provide.

The FAA has developed an approach for determining the number of tiedowns needed for transient aircraft operating at an airport. The following general methodology was taken from *Airport Design*, Appendix 5, Change 10 and is based on peak operations calculations:

1. Peak Day Operations (from Chapter Two)
2. Divide by 2 (50% of operations are departures)
3. Multiply by 50% (assumes 50% of the transient airplanes will be on the apron during the peak day)

Using this methodology, the Airport will need to have transient tiedown space for eight aircraft by 2029, meaning the Airport has adequate tiedown space for the planning period.

**Table 3C. Landside Facility Needs**

	<b>Existing Conditions 2009</b>	<b>2014</b>	<b>2019</b>	<b>2029</b>
<b>Based Aircraft</b>	16	17	18	21
<b>Total Hangar Units</b>	16	17	18	21
Total T-Hangars (units)	12	13	13	15
Total Square Feet		15,600	15,600	18,000
Total Conventional Hangars	4	4	5	6
Total Square Feet		10,000	12,500	15,000
<b>Tiedown Positions</b>	16	16	16	16
Transient Aircraft Tiedown Requirements	6	6	6	8

Source: WHPacific, Inc., 2009

Note: Square footages for hangars are building area only and do not include areas needed for taxilanes between hangars.

### **Airport Access**

Access to the Airport is via US 199 and Airport Drive. Access to the Airport is sufficient for the planning period. Approximately 30 unmarked gravel automobile parking spaces are available at the Airport.

### **Aviation Services**

As discussed in Chapter One, there are no Fixed Base Operators (FBOs) currently operating at the Airport. As aviation activity grows, an FBO business may be attracted to the Airport. The FBO may lease existing building(s) or prefer to lease land and construct a new facility. In the planning of the Airport's landside area, it is recommended that at least one acre be designated for a FBO facility. The FBO site should be located with easy access and visibility from the airfield and should have adjacent land available for future expansion.

### **SUPPORT FACILITY REQUIREMENTS**

Facilities that are not classified as airfield or landside are known as Support Facilities. The following support facilities were evaluated:

- Emergency Services
- Airport Maintenance
- Airport Fencing
- Utilities
- Storm Drainage
- Aviation Fueling Facilities

## **Emergency Services**

There are no Aircraft Rescue and Firefighting (ARFF) facilities available at the Airport, nor does FAA require them. The Cave Junction Rural Fire Protection District provides emergency services. The Josephine County Sheriff's department provides law enforcement services.

## **Airport Maintenance**

Airport maintenance is adequately provided by the County with equipment stored off-airport. No changes are recommended.

## **Airport Fencing**

The County is undertaking a fencing project in 2009 to complete the perimeter fence, with vehicle gates. This fencing should be adequate throughout the planning period.

## **Utilities**

Utilities available at the Airport include electricity, water, telephone and septic. Extensions of electricity, water and telephone to future facilities will be required, as needed. New septic systems will be required for buildings with sanitary facilities.

## **Storm Drainage**

The need for additional hangars and taxiways has been identified. These facilities will increase the Airport's existing impervious surfaces. These additional surfaces must be evaluated to ensure that the requirements of the 1200-Z<sup>1</sup> stormwater discharge permit are met. Because a specific layout for future development has not been defined yet, the exact amount of increased impervious surface is to be determined. The alternatives analysis will provide additional details regarding stormwater impacts of each alternative. The analysis will also include Department of Environmental Quality (DEQ) requirements, water treatment and detention.

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<sup>1</sup> The federal Clean Water Act mandates jurisdictional control of the quality of stormwater runoff. This mandated program is found in the Code of Federal Regulation part 122.26. The Airport may fall under the scope of these regulations and may need to apply for a National Pollution Discharge Elimination Permit (NPDES) for the discharge of rain water to the surface water system. In Oregon, this is typically referred to as a 1200-Z General Permit.

## **Aviation Fueling Facilities**

Fuel is not available for sale at the Airport. Airport users have indicated that one of the most important improvements that could be made to the Airport is the installation of a fueling facility.

For some GA airport sponsors, the major source of revenue at an airport is profit from selling fuel. The first entry into fuel sales for a small general aviation airport is usually a self-service facility, wherein revenues gained from fuel sales can be used toward facility operation and improvement. In the event that an FBO begins operating at the Airport, fee structuring will be needed. It is important to note that even when airport sponsors are not the fuel vendor, airport sponsors still derive revenue from fuel flowage fees imposed on vendors.

## **LAND USE PLANNING & ZONING RECOMMENDATIONS**

In general, the Airport meets all State and County land use requirements. Even so, there are several items the County should work towards with regard to land use and zoning around the Airport. Recommendations are provided below.

### **Zoning Code:**

- Consider rezoning the underlying designations within the Airport property as “Airport” to ensure that only compatible uses occur within the Airport property boundary. The rezoning would be based on Oregon Administrative Rules Division 13, *Airport Planning*, which provides guidelines for local government land use compatibility to encourage and support the continued operation and vitality of Oregon’s airports.

### **Comprehensive Plan:**

- Adopt the final Airport Layout Plan, by reference, into Josephine County’s Comprehensive Plan.
- Adopt a title notice or similar requirement to inform purchasers of property within one mile of the Airport that their property is located adjacent to or in close proximity to the Airport and their property may be impacted by a variety of aviation activities. Note that such activities may include but are not limited to noise, vibration, chemical odors, hours of operations, low overhead flights, and other associated activities.