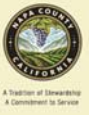


Chapter 1

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# INVENTORY



## Master Plan Feasibility and Alternate Site Selection Study Angwin Airport/Parrett Field

### CHAPTER ONE

# Inventory

The initial step in the preparation of the master plan feasibility and site selection study for Angwin Airport-Parrett Field was the collection of information pertaining to the airport and the area it serves. The information collected in this chapter was used in subsequent analyses in the study. The inventory of existing conditions at Angwin Airport provided an overview of the airport facilities, airspace, and air traffic control. Background information regarding the regional area was also collected. This included information regarding the airport's role in regional, state, and national aviation systems, surface transportation, and a socioeconomic profile.

The information was obtained from several sources, including on-site inspections, airport records, review of other planning studies, the Federal

Aviation Administration (FAA), various government agencies, a number of Internet sites which presently summarize most statistical information and facts about the airport, and interviews with airport staff, planning associations, and airport tenants. As with any airport planning study, an attempt has been made to utilize existing data or information provided in existing planning documents to the maximum extent possible.

### *REGIONAL SETTING*

Angwin Airport is a public-use airport owned by Pacific Union College (PUC) and located in the upper Napa Valley, one mile east of Angwin. Angwin is a census-designated place in Napa County and was named in 1874 for Edwin Angwin, who ran a resort on



the land the town now occupies. Access to the airport is provided via Howell Mountain Road. Regionally, the airport is located approximately 74 miles north of San Francisco and 76 miles west of Sacramento. **Exhibit 1A** depicts the location of the airport in its regional setting.

Napa County is located north of the San Francisco Bay Area and was one of the original counties of California, created in 1850 at the time of statehood. At the north end of the county, in the Mayacamas Mountains, lies Mount St. Helena, the Bay Area's second tallest peak at 4,344 feet and home to Robert Louis Stevenson State Park. At the west side of the Napa Valley is Hood Mountain, elevation 2,750 feet. The county, which was once the producer of many different crops, is most widely known for its wine industry. Today, more than 250 wineries call Napa Valley home, making this the most densely concentrated wine region in the world.

## **INFRASTRUCTURE**

**Highways:** Highway 29 is the major north/south highway running through Napa Valley. Highway 12 offers access from Fairfield to Santa Rosa and offers direct access between Napa County's airport and Interstate 80. Highway 37 offers a direct link between Interstate 80 and Highway 101.

**Rail Service:** The California Northern Railroad and Union Pacific Railroad provide freight service in Napa County. Rail service connects the county with important markets, ports

of entry, and key airports to expedite major national and international commerce transactions.

**Local Public Transportation:** A number of transit operators offer public transportation in Napa County.

## **CLIMATE**

Weather conditions are important to the planning and development of an airport. Temperature is an important factor in determining runway length requirements, while wind direction and speed are used to determine optimum runway orientation. The need for navigational aids and lighting is determined by the percentage of time that visibility is impaired due to cloud coverage or other conditions.

Napa County lies within the Mediterranean climate zone of Northern California. Climate characteristics in this region have moderate temperatures and changeable, rainy weather in the winter, while summers are hot and dry. In immediate coastal areas, summers are milder due to the nearby presence of cold ocean currents that may bring cooling fog, but rarely rain. Napa County is close enough to the ocean to experience summer cooling when winds are favorable.

Summer highs average over 90 degrees in the northernmost part of the valley and about 80 degrees in the southernmost part, while winter highs average in the 50s countywide. However, cooler temperatures occur in Angwin due to the elevation difference. Annual rainfall is 40 inches in

the north and 25 inches in the southern part of the valley. More precipitation occurs in the mountains. Winter snowfall is rare in Napa Valley, but occurs occasionally in Angwin. A

summary of climatic data for Angwin, which was obtained from the Western Regional Climate Center, is presented in **Table 1A**.

<b>Month</b>	<b>Average Max. Temperature</b>	<b>Average Min. Temperature</b>	<b>Average Precipitation</b>
January	53.0 °F	38.1 °F	8.12
February	55.2 °F	38.9 °F	8.29
March	59.1 °F	40.0 °F	6.01
April	65.4 °F	42.2 °F	2.46
May	73.2 °F	46.5 °F	1.10
June	80.9 °F	50.8 °F	0.32
July	86.3 °F	54.4 °F	0.08
August	85.5 °F	54.1 °F	0.12
September	80.9 °F	53.1 °F	0.60
October	72.3 °F	49.2 °F	2.04
November	57.1 °F	40.5 °F	5.82
December	52.8 °F	37.9 °F	6.40

Source: Western Regional Climate Center (Period of Record: 1940-2007).

## ***AIRPORT SYSTEM PLANNING ROLE***

Airport planning exists on many levels: national, state, and local. Each level has a different emphasis and purpose. An airport master plan is the primary local airport planning document.

At the state level, the airport is included in the *California Aviation System Plan (CASP)*. The purpose of the CASP is to ensure that the state has an adequate and efficient system of airports to serve its aviation needs. The CASP defines the specific role of each airport in the state's aviation system and establishes funding needs. The CASP is updated every five years,

with the most recent revision being completed in 2003. Angwin Airport is one of six airports in the Bay Area Region classified as a community general aviation airport by the CASP.

Angwin Airport is not included in the *National Plan of Integrated Airport Systems (NPIAS)*. The NPIAS includes a total of 3,411 airports which are significant to national air transportation. Of this total, 2,834 are general aviation or reliever airports. The NPIAS plan is used by the FAA in administering the Airport Improvement Program (AIP). The NPIAS supports the FAA's strategic goals for safety, system efficiency, and environmental compatibility by identifying specific airport improvements. An

airport must be included in the NPIAS to be eligible for federal funding assistance through the AIP program. Angwin Airport is one of 938 privately owned, public-use airports that are not included in the NPIAS because they are located at inadequate sites, are redundant to publicly owned airports, or have too little activity to qualify for inclusion.

**Exhibit 1B** depicts the location of based aircraft at Angwin Airport by the address of the registered aircraft. This data was compiled from the based aircraft N-Numbers, which were provided by Pacific Union College.

## ***AIRPORT HISTORY AND ADMINISTRATION***

Angwin Airport is a privately owned airport and has been open to the public since 1961. Angwin Airport is the second largest airport in Napa County and is important due to its elevation above fog that occasionally halts operations at Napa County Airport.

Pacific Union College (PUC), which is a fully accredited private liberal arts college affiliated with the Seventh Day Adventist Church, is the owner of the airport. PUC offers a four-year Bachelor of Science degree in aviation and is an FAA-approved 141 flight school. The PUC Flight Center, which is located at Angwin Airport, offers ground school and flight instruction to the students as well as community members who are not enrolled in the aviation program, but wish to earn their Private Pilot license.

## ***AIRPORT FACILITIES***

Airport facilities can be functionally classified into two broad categories: airside and landside. The airside category includes those facilities directly associated with aircraft operations. The landside category includes those facilities necessary to provide a safe transition from surface to air transportation and support aircraft servicing, storage, maintenance, and operational safety.

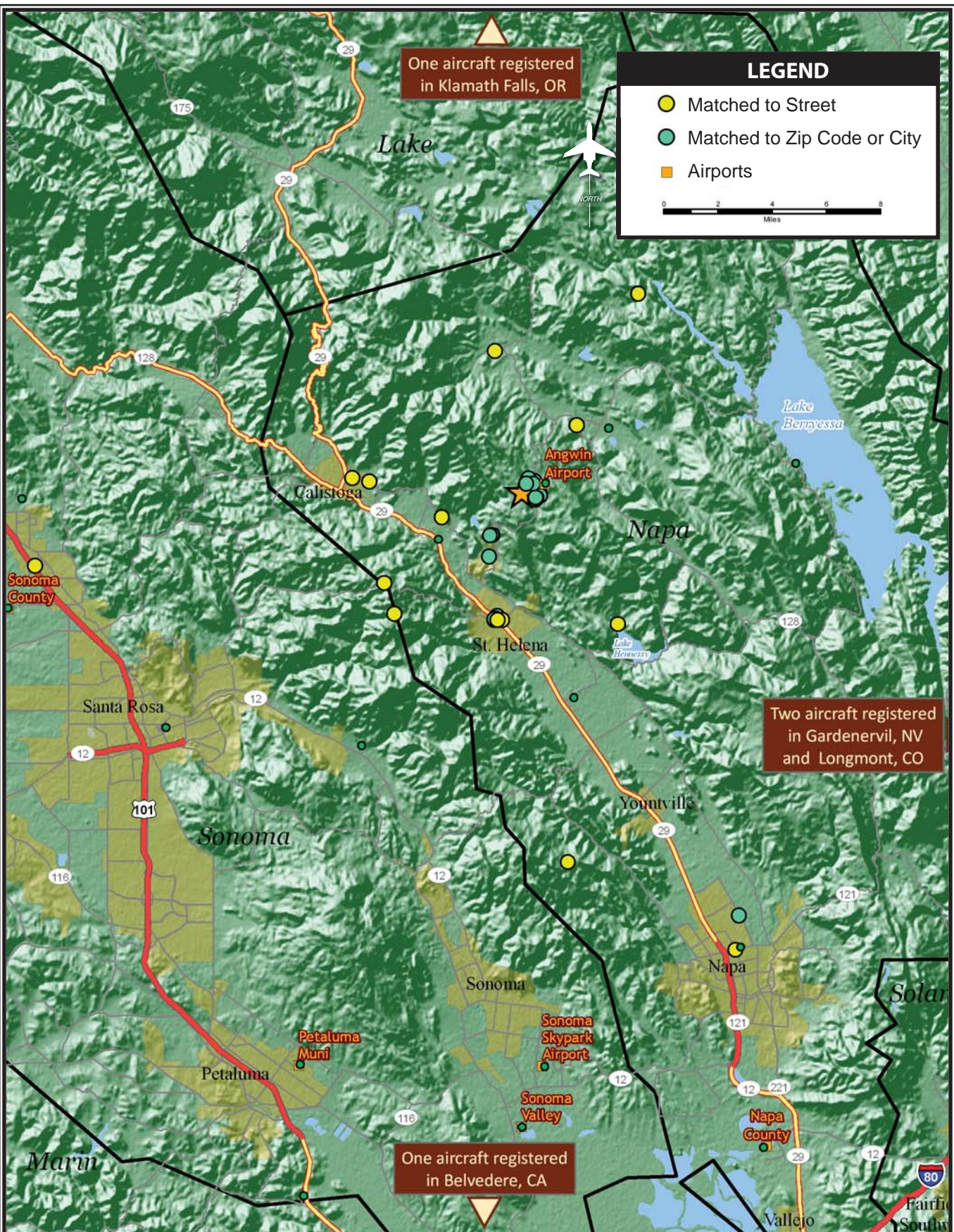
### **AIRSIDE FACILITIES**

Airside facilities include runways, taxiways, airfield lighting, and navigational aids. Airside facilities are identified on **Exhibit 1C**. **Table 1B** summarizes airside facility data at Angwin Airport.

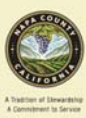
#### **Runway**

Angwin Airport is served by a single runway (Runway 16-34), which is oriented in a north-south direction and measures 3,217 feet in length by 50 feet in width. Runway 16-34 is constructed of asphalt and a 1,500-foot overrun is located at the south end of the runway. The runway has a load bearing strength of 12,500 pounds single wheel loading (SWL), which refers to the design of certain aircraft landing gear which has a single wheel on each main landing gear strut.

Runway 16-34 is not served by a parallel taxiway. A standard turnaround is located on the north end of the runway and a circular yellow taxi



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Exhibit 1B  
LOCATION OF  
BASED AIRCRAFT

line is located on the extended overrun on the south end of the runway. Immediately before takeoff, it is recom-

mended that pilots do a full circle in this area to verify that no one is on final.

<b>TABLE 1B Airside Facility Data Angwin Airport</b>	
	<b>Runway 16-34</b>
Runway Length (feet)	3,217
Runway Width (feet)	50
Runway Surface Material	Asphalt
Condition	Fair
Pavement Markings	Basic
Runway Load Bearing Strength (lbs.) Single Wheel Loading (SWL)	12,500
Runway Lighting	LIRL
Approach Lighting	Tri-Color VASI
Instrument Approach Procedures	None
Weather or Navigational Aids	Segmented Circle Lighted Wind Cone
LIRL – Low Intensity Runway Lighting VASI – Visual Approach Slope Indicator	
Source: <i>Airport / Facility Directory, Southwest U.S.</i> (November 20, 2008).	

### **Airfield Lighting**

Airfield lighting systems extend an airport's usefulness into periods of darkness and/or poor visibility. A variety of lighting systems are installed at the airport for this purpose. These lighting systems, categorized by function, are summarized as follows.

**Identification Lighting:** The location of the airport at night is universally identified by a rotating beacon. A rotating beacon projects two beams of light, one white and one green, 180 degrees apart. Angwin Airport is not equipped with a rotating beacon.

**Pavement Edge Lighting:** Pavement edge lighting utilizes light fixtures placed near the edge of the

pavement to define the lateral limits of the pavement. This lighting is essential for safe operations during night and/or times of low visibility in order to maintain safe and efficient access to and from the runway and aircraft parking areas. Runway 16-34 is equipped with low intensity runway lighting (LIRL).

**Visual Approach Lighting:** A tri-color visual approach slope indicator (VASI) is installed on both ends of the runway. A VASI consists of a system of lights located at various distances from the runway threshold. When interpreted by the pilot, these lights give him or her an indication of being above, below, or on the designed descent path to the runway.

**Pilot-Controlled Lighting:** A pilot-controlled lighting system (PCL) is available at Angwin Airport. The PCL operates from dusk to dawn and allows pilots to turn on and/or increase the intensity of the airfield lighting systems from the aircraft with the use of the aircraft's radio transmitter. The LIRL at Angwin Airport can be turned on and off by PCL.

### **Pavement Markings**

Pavement markings aid in the movement of aircraft along airport surfaces and identify closed or hazardous areas on the airport. The basic markings on Runway 16-34 identify the runway designation and centerline.

Taxiway and apron centerline markings are provided to assist aircraft using these airport surfaces. Taxiway centerline markings assist pilots in maintaining proper clearance from pavement edges and objects near the taxiway/taxilane edges.

### **Weather Facilities**

The airport is equipped with a lighted wind cone, which provides pilots with information about wind conditions, and a segmented circle, which provides traffic pattern information to pilots. The lighted wind cone and segmented circle are located on the west side of the runway at mid-field. Supplemental wind cones are also located near each end of the runway.

## **LANDSIDE FACILITIES**

Landside facilities are the ground-based facilities that support the aircraft and pilot/passenger handling functions. These facilities typically include the terminal building, aircraft storage/maintenance hangars, aircraft parking aprons, and support facilities such as fuel storage, automobile parking, roadway access, and aircraft rescue and firefighting. Landside facilities are identified on **Exhibit 1C**.

### **General Aviation Terminal Building**

The general aviation terminal building is located on the southeast corner of the aircraft parking apron. The terminal building totals approximately 2,000 square feet and provides fuel service and ground transportation. The terminal building also houses the Pacific Union College Flight Center, which conducts extensive flight training. Public bathrooms, as well as a shower, are also available in the terminal building.

### **Aircraft Storage Facilities**

Hangar space at Angwin Airport, which is identified on **Exhibit 1B**, is comprised of smaller executive/box hangars, T-hangars, and Port-A-Ports. Executive/box hangars provide a large, open space free from roof support structures and have the capability to

accommodate several aircraft simultaneously. These hangars are typically less than 10,000 square feet in size. T-hangars and Port-A-Ports provide individual aircraft storage within a large contiguous facility. There are 25 hangars at Angwin Airport, which provide a total of approximately 77,900 square feet. Most of the hangars on the east side of the airfield are owned by PUC, while those on the west side are privately owned.

### **Aircraft Parking Apron**

An aircraft parking apron is located adjacent to the south end of the runway. This apron totals approximately 11,000 square yards, with a portion of it (approximately 3,600 square yards) being turf. There are 17 asphalt tie-downs and 15 turf tiedowns available on this apron.

### **Fuel Storage Facilities**

Fuel storage facilities at Angwin Airport are located on the south end of the aircraft parking apron and include a 6,000-gallon underground tank for 100LL (Avgas) fuel.

### **Automobile Parking**

Automobile parking is provided east of the terminal building. Approximately 25 parking spaces are provided in this area, which totals approximately 10,200 square feet.

### **Fire Protection**

The airport is not equipped with a fire station.

## ***ENROUTE NAVIGATION AND AIRSPACE***

Navigational aids are electronic devices that transmit radio frequencies which pilots of properly equipped aircraft translate into point-to-point guidance and position information. The types of electronic navigational aids available for aircraft flying to or from Angwin Airport include the very high frequency omnidirectional range (VOR) facility, nondirectional beacon (NDB), Loran-C, and global positioning system (GPS).

The VOR, in general, provides azimuth readings to pilots of properly equipped aircraft by transmitting a radio signal at every degree to provide 360 individual navigational courses. Frequently, distance measuring equipment (DME) is combined with a VOR facility (VOR/DME) to provide distance as well as directional information to the pilot. In addition, military tactical air navigation (TACAN) and civil VORs are commonly combined to form a VORTAC. A VORTAC provides distance and directional information to civil and military pilots. Pilots flying to or from the airport can utilize the following navigational aids, which are depicted on **Exhibit 1D**.

- Santa Rosa VOR/DME (18 miles southwest)
- Scaggs Island VORTAC (24. miles south)
- Lampson NDB (33 miles west-southwest)
- Travis VOR (33 miles southeast)
- Williams VORTAC (35 miles northeast)
- Point Reyes VORTAC (36 miles southwest)
- Concord VOR/DME (37 miles southeast)

The NDB transmits nondirectional radio signals whereby the pilot of properly equipped aircraft can determine the bearing to or from the NDB facility and then “home” or track to or from the station.

GPS is an additional navigational aid for pilots enroute to the airport. GPS was initially developed by the United States Department of Defense for military navigation around the world. Increasingly, GPS has been utilized more in civilian aircraft. GPS uses satellites placed in orbit around the globe to transmit electronic signals, which properly equipped aircraft use to determine altitude, speed, and position information. GPS allows pilots to navigate to any airport in the country, and they are not required to navigate using a specific navigational facility.

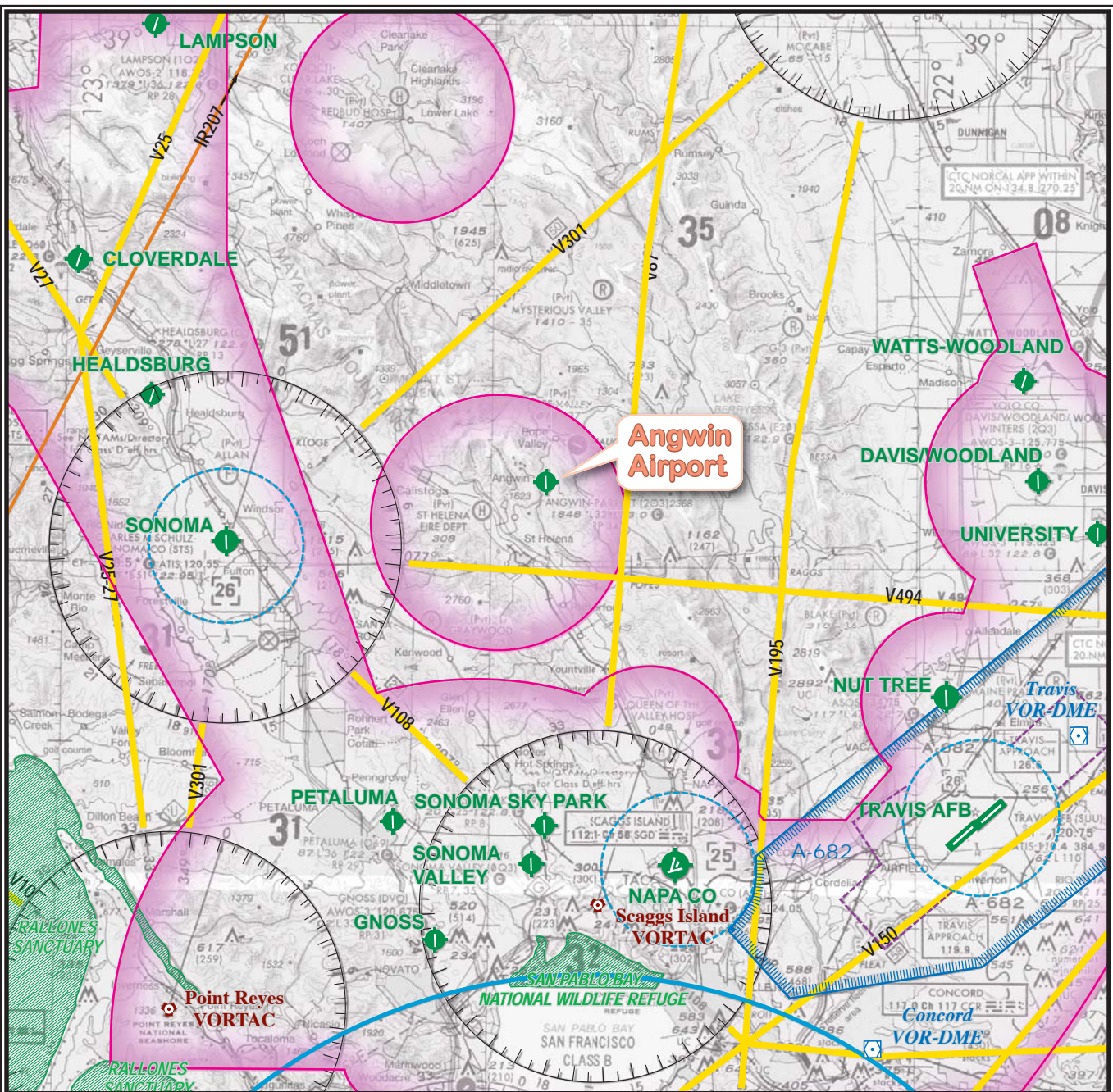
In July of 2003, the FAA commissioned a Wide Area Augmentation System (WAAS), which is a GPS-based navigation and landing system that provides guidance to aircraft at thousands of airports and airstrips where there is currently no precision landing capability. Systems such as WAAS














are known as satellite-based augmentation systems (SBAS). WAAS is designed to improve the accuracy and ensure the integrity of information coming from GPS satellites. The FAA is using WAAS to provide Lateral Navigation/Vertical Navigation (LNAV/VNAV) capability.

## VICINITY AIRSPACE

To ensure a safe and efficient airspace environment for all aspects of aviation, the FAA has established an airspace structure that regulates and establishes procedures for aircraft using the National Airspace System. The U.S. airspace structure provides two basic categories of airspace, controlled and uncontrolled, and identifies them as Classes A, B, C, D, E, and G.

Class A airspace is controlled airspace that includes all airspace from 18,000 feet mean sea level (MSL) to Flight Level 600 (approximately 60,000 feet MSL). Class B airspace is controlled airspace surrounding high-capacity commercial service airports. Class C airspace is controlled airspace surrounding lower activity commercial service airports and some military airports. Class D airspace is controlled airspace surrounding airports with an airport traffic control tower. All aircraft operating within Classes A, B, C, and D airspace must be in contact with the air traffic control facility responsible for that particular airspace. Class E airspace is controlled airspace that encompasses all instrument approach procedures and low-altitude federal airways. Only aircraft conducting instrument flights



-  Hard surface runways greater than 8,069 ft. or some multiple runways less than 8,069 ft.
-  Airport with hard-surfaced runways 1,500' to 8,069' in length
-  VOR-DME
-  VORTAC
-  Compass Rose
-  Prohibited, Restricted, Warning and Alert Areas
-  Class B Airspace
-  Class D Airspace
-  Class C Airspace (Mode C)
-  Class E Airspace with floor 700 ft. above surface
-  Victor Airways
-  Military Training Routes
-  Wilderness Area

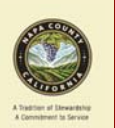
Source: San Francisco North Sectional Chart, Federal Aviation Administration, Sectional Raster Aeronautical Charts July 03, 2008

San Francisco South Sectional Chart, Federal Aviation Administration, Sectional Raster Aeronautical Charts July 03, 2008



NOT TO SCALE

Department of Public Works



## Master Plan Feasibility and Alternate Site Selection Study

### Angwin Airport/Parrett Field

are required to be in contact with air traffic control when operating in Class E airspace. Aircraft conducting visual flights in Class E airspace are not required to be in radio communications with air traffic control facilities. Visual flight can only be conducted if minimum visibility and cloud ceilings exist. Class G airspace is uncontrolled airspace that does not require contact with an air traffic control facility.

Airspace in the vicinity of Angwin Airport is depicted on **Exhibit 1D**. Class E airspace surrounds the airport, with the floor beginning at 700 feet above the surface. This Class E airspace also encompasses the low altitude Victor Airways in the vicinity of the airport. Victor Airways are corridors of airspace eight miles wide that extend upward from 1,200 feet above ground level (AGL) to 18,000 feet MSL and extend between VOR navigational facilities.

## **LOCAL OPERATING PROCEDURES**

Angwin Airport is situated at 1,848 feet MSL. The traffic pattern altitude for all aircraft at the airport is approximately 850 feet above airfield elevation (2,698 feet MSL). Runway 16 utilizes a left-hand traffic pattern. In doing so, the approach to landing is made using a series of left turns. Conversely, a right traffic pattern is used on Runway 34. In this manner, the approach to landing is made using a series of right turns.

Noise abatement procedures are in place for departures at Angwin Air-

port. Noise-sensitive areas exist to the north and south. Pilots are instructed to use the optimum rate of climb to traffic pattern altitude before departing the pattern.

## **SPECIAL USE AIRSPACE**

Airspace may be reserved for use by a specific agency, primarily the military, within which operations of other aircraft are restricted or prohibited. The special use airspace in the vicinity of Angwin Airport is defined in the following paragraphs and is identified on **Exhibit 1D**.

As shown on the exhibit, a military training route (MTR) is located northwest of Angwin Airport. This route is used by military training aircraft which commonly operate at speeds in excess of 250 knots and at altitudes to 10,000 feet MSL. While general aviation flights are not restricted within this area, pilots are strongly cautioned to be alert for high speed military jet training aircraft.

A restricted area (A-682) is located southeast of Angwin Airport and is depicted on the exhibit. Restricted areas denote the existence of unusual, often invisible, hazards to aircraft such as artillery firing, aerial gunnery, or guided missiles. Penetration of restricted areas without authorization from the using or controlling agency may be extremely hazardous to the aircraft and its occupants.

## **AIR TRAFFIC CONTROL**

There is no airport traffic control tower (ATCT) at Angwin Airport; therefore, no formal terminal air traffic control services are available for aircraft landing or departing the airport. Aircraft operating in the vicinity of the airport are not required to file any type of flight plan or to contact any air traffic control facility unless they are entering airspace where contact is mandatory. The common traffic advisory frequency (CTAF) is used by pilots to obtain airport information and advise other aircraft of their position in the traffic pattern and their intentions. The Oakland Flight Service Station (FSS) provides additional information to pilots operating in the vicinity of the airport.

## ***GENERALIZED LAND USE***

The environs in which the airport is located are defined by existing land uses as well as projected future land uses. Angwin Airport is located in the hills east of Napa Valley, 28 nautical miles (nm) northwest of Napa. PUC is the largest land holder in Angwin with the main campus, the airport, campus housing, and a large parcel of land used as open space.

The airport environs are mainly undeveloped on three sides. A cluster of residential uses are located west of the airfield, near the south end of the runway. Several small businesses, a fire station, and a school are also located in this village-like enclave.

Since 2005, PUC has pursued a 560-acre mixed-use development on land owned by the college: the Angwin Ecovillage. The Ecovillage proposal arises from PUC's need to build its endowment to ensure the long-term financial health and viability of the institution. The most recent proposal includes 275 housing units and a 105-unit retirement/assisted living center on 30.1 acres of development, which is less than two percent of PUC's 1,900 acres. Another 36.1 acres are planned for upgraded reuse of already developed land. Conditioned on project approval, PUC will permanently preserve nearly 1,500 acres of agricultural and forest land, thereby virtually eliminating the possibility of future housing development on its lands, with the exception of on-campus dormitories or faculty housing.

## ***SOCIOECONOMIC CHARACTERISTICS***

For an airport master plan, socioeconomic characteristics are collected and examined to derive an understanding of the dynamics of growth within the study area. This information is essential in determining aviation service level requirements, as well as forecasting the number of based aircraft and aircraft activity at the airport. Aviation forecasts are typically related to the population base, economic strength of the region, and the ability of the region to sustain a strong economic base over an extended period of time.

## POPULATION

The size and structure of the local communities and the service area that the airport supports are important factors to consider when planning airport facilities. These factors provide

an understanding of the economic base that is needed to determine future airport requirements. Historical population totals, which were obtained from the U.S. Census Bureau, are presented in **Table 1D**.

<b>TABLE 1D Historical Population</b>				
<b>Area</b>	<b>1990</b>	<b>2000</b>	<b>2008*</b>	<b>Average Annual Growth Rate (1990-2008)</b>
Napa County	110,800	124,300	136,700	1.2%
State of California	29,760,000	33,873,000	38,050,000	1.4%

Source: U.S. Census Bureau.  
\*Estimated on 1/1/2008 by the California Department of Finance.

According to the California Department of Finance, the State of California had an estimated population of over 38 million on January 1, 2008. This is an increase of more than 8.2 million residents since 1990, which represents an average annual increase of 1.4 percent. During this same time, Napa County experienced a 1.2 percent annual increase in population, gaining 259,000 residents. This slow growth pattern is typical of many Northern California counties. The current population of Napa County was estimated at 136,700 on January 1, 2008.

The current population for the Town of Angwin is estimated at 3,631, with PUC students accounting for nearly half the population. It should also be

noted that the second most highly populated area of Napa County is the unincorporated region, which accounts for 21 percent of the county's total population and includes the Town of Angwin.

Forecast population projections are presented in **Table 1E**. These projections were obtained from the *Napa County General Plan Update, Draft Environmental Impact Report* (February 2007). As shown in the table, the state's population is projected to reach more than 49.2 million by 2030, which is an annual growth rate of 1.2 percent. Population in Napa County is expected to grow at less than half this rate (0.5 percent) during this same time, totaling approximately 153,400 residents by 2030.

<b>TABLE 1E Forecast Population</b>				
<b>Area</b>	<b>2013</b>	<b>2018</b>	<b>2030</b>	<b>Average Annual Growth Rate (2008-2030)</b>
Napa County	140,300	144,100	153,400	0.5%
State of California	40,575,000	42,890,000	49,241,000	1.2%

Source: Napa County General Plan Update, Environmental Impact Report (February 2007).

## EMPLOYMENT

Analysis of a community's employment base can provide valuable insight to the overall well-being of the community. In most cases, the community make-up and health is signifi-

cantly impacted by the availability of jobs, variety of employment opportunities, and types of wages provided by local employers. Civilian labor force data, which was obtained from the California Labor Market Information (LMI), is presented in **Table 1F**.

	<b>1990</b>	<b>2000</b>	<b>2008<sup>1</sup></b>
<b>Napa County</b>			
Civilian Labor Force	56,400	66,600	76,500
Employment	54,100	64,200	72,600
Unemployment	2,300	2,400	4,000
Unemployment Rate	4.1%	3.6%	5.2%
<b>State of California</b>			
Civilian Labor Force	15,168,500	16,857,500	18,480,100
Employment	14,294,100	16,024,300	17,096,400
Unemployment	874,400	833,200	1,383,700
Unemployment Rate	5.8%	4.9%	7.5%
<b>United States</b>			
Civilian Labor Force	125,840,000	142,583,000	154,509,000
Employment	118,793,000	136,891,000	145,310,000
Unemployment	7,047,000	5,692,000	9,199,000
Unemployment Rate	5.6%	4.0%	6.0%

Source: California Labor Market Information (data is not seasonally adjusted).  
<sup>1</sup>As of September 2008.

As shown in the table, Napa County had a current unemployment rate of 5.2 percent (approximately 4,000 people) as of September 2008. This an increase from the low 3.6 percent rate the county experienced in 2000. Napa County's unemployment rate has been consistently lower than both the State of California and the United States, which have a current unemployment rate of 7.5 percent and 6.0 percent, respectively.

**Table 1G** presents the major employers in Napa County. This information was obtained from the California Labor Market Information. The stability

of a local economy is dependent upon a diverse mix of businesses, both in terms of size and industry sector. The principal sectors that are producing jobs in the county are business services, retail trade, and leisure and hospitality. As of October 2007, 41 percent of businesses in Napa County offered some type of service to their customers, making the service sector the most prominent industry in the county. Another 16 percent of businesses in the county were made up of retail trade companies, and both the construction companies and manufacturing companies made up 9 percent each.

**TABLE 1G**  
**Major Employers**  
**Napa County**

<b>Employer Name</b>	<b>City</b>	<b>Industry</b>
Auberge Du Soleil	Rutherford	Full-Service Restaurant
Beringer Blass Wine Estates	Saint Helena	Winery
Dey LP	Napa	Physicians Equipment & Suppliers
Domaine Chandon Winery	Yountville	Wineries
Health & Human Services	Napa	Public Health Programs
Marriott-Napa Valley	Napa	Hotels/Motels
Meadowood Napa Valley	Saint Helena	Resorts
Napa State Hospital	Napa	Hospitals
Napa Valley College	Napa	Schools/Universities
Pacific Union College	Angwin	Schools/Universities
Piner's Guest Home	Napa	Residential Care Homes
Queen of the Valley Hospital	Napa	Hospitals
Silverado Resort	Napa	Resorts
Solage Calistoga Resort	Calistoga	Resorts
St. Helena Hospital	Saint Helena	Hospitals
Stone Bridge Cellars Inc.	Saint Helena	Winery
Syar Industries Inc.	Napa	Sand & Gravel Wholesale
Trincherro Family Estates	Saint Helena	Winery
Universal Protection Service	Napa	Security Guard/Patrol Service
Veterans Home of California	Yountville	Specialty Hospital
Veterans of Foreign Wars	N/A	Veteran/Military Organization
Walmart	Napa	Department Store
Walmart	American Canyon	Department Store

Source: California Labor Market Information.

Napa County's demographic composition is more typical of a rural agricultural county than a county on the urban fringe. The economy experiences greater independence from the Bay Area than most neighboring counties with more employment in manufacturing and a thriving tourism economy. This is largely due to Napa County's worldwide importance as a wine-producing region.

According to the report "Economic Impact of Wine and Vineyards in Napa County," produced by MKF Research in 2005, premium wines and wine grapes are the primary economic base of Napa County. The county produces only four percent of California's wine

by volume, but represents 27 percent of wine sales in California. Wine and wine grapes provide significant employment and services to the county as a whole. Wine grapes represent 98 percent of Napa County's agricultural revenue and the full impact of wine on the Napa County economy is estimated at 9.5 billion dollars annually.

### **DOCUMENT SOURCES**

A variety of different sources and web sites were utilized in the inventory process. The following listing reflects a partial compilation of these sources. On-site inventories and interviews

with Pacific Union College (PUC) provided much of the information on the existing airport site.

Airport/Facility Directory, Southwest U.S., U.S. DOT/FAA, National Aeronautical Charting Office, November 20, 2008 Edition.

*Napa County General Plan Update*, Environmental Impact Report, February 2007.

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