

Airport Role and Activity Forecasts

AIRPORT ROLE

Present



Napa County Airport is one of two public use airports in Napa County. As a general aviation facility, the airport provides a base of operations for local pilots, a point of air access to Napa and the communities surrounding the airport, a place to conduct business, a center for flight training and related activities, and a point of emergency access for the community. These airport functions are discussed below:

- ▶ **A Base for Napa Area Pilots**—Napa County Airport is the most convenient general aviation airport for the majority of pilots who live or work in Napa and nearby communities.
- ▶ **A Point of Air Access for Visitors to the Community**—The airport is an entrance to Napa and communities surrounding the airport for both recreation and business. The location of the airport draws visitors to Napa County's world-renowned wineries, restaurants, various Professional Golf Association (PGA) tournaments, and periodic NASCAR events at nearby Sears Point Infirion Raceway. Other attractions include Marine World Africa USA and the COPIA cultural museum and education center.

Personal/recreational flying: the use of aircraft by individuals (in their own, rented, or borrowed aircraft) for pleasure, recreational, or personal transportation not in furtherance of their occupation or company business.

Business flying: the use of aircraft by pilots (not receiving direct salary or compensation for piloting) in connection with their occupation, their employer's business, or in the furtherance of private business.

Corporate flying: the use of aircraft, owned or leased, and operated by a corporation or business firm, for the transportation of personnel or cargo in furtherance of the corporation's or firm's business, and which are flown by professional pilots receiving a direct salary or compensation for piloting.

The horrific events of September 11, 2001 seriously impacted the nation's air transportation system. For the first time in U.S. history the entire civil aviation fleet, other than some law enforcement aircraft, was grounded for a period of several days. Over the months, and perhaps years ahead we will see changes in the country's airport and air transportation systems that could not even have been imagined in the past. What these changes will entail can only be speculated on at this time, but it can be assumed that more restrictions, not fewer, will be imposed on all sectors of the aviation industry.

- ▶ **A Place to Conduct Business**—There are six aviation and non-aviation businesses on airport property, including three fixed base operators (FBOs), a state agency (California Highway Patrol), a federal agency (Federal Aviation Administration air traffic control tower), pilot shop and restaurant. These businesses contribute to the local economy through their payrolls and purchases of goods and services.
- ▶ **A Center for Flight Training and Related Activities**—Napa County Airport supports significant amounts of flight training activity. Two fixed base operators offer flight instruction. The Japan Airline (JAL) facility is a training center for commercial pilots operated by IASCO. As a Cessna Pilot Center, Bridgeford Flying Services offers flight instruction to private pilots in both single-engine and multi-engine fixed-wing aircraft.
- ▶ **A Site for Emergency Community Access**—Airports also serve as marshalling points for the distribution of emergency aid and supplies from one community to another. The California Highway Patrol (CHP) is based at Napa County Airport. One of the primary functions of CHP is to provide search and rescue, and emergency medical services to nine Bay Area Counties. For this reason, Napa County Airport is well positioned in this regard, making this operational role an important one.

Future

Flight training and recreational use will continue to account for a significant proportion of total aircraft operations at the airport. At the same time operations by business and corporate (including charter) aircraft are expected to increase. It is also anticipated that Napa County Airport will become the home base for more high performance corporate and business aircraft over the planning period.

No scheduled air carrier (passenger) or commuter airline service is anticipated at this time. The potential exists that an airline may propose serving Napa County Airport in the immediate future. However, given the current structure of the airline industry, it appears unlikely that this will occur within the lifespan of this plan (nominally 20 years). Therefore, no provision for airline service has been made in this plan.

HISTORICAL AIRPORT ACTIVITY

Based Aircraft

Fixed Base Operator (FBO) - A business operating at an airport that provides aircraft services to the general public, including fuel and oil, aircraft sales, rental, maintenance and repairs; parking and tiedown or storage of aircraft; flight training, air taxi/charter operations; and specialty services (e.g., instrument and avionics maintenance and aerial photography).

There are 224-based aircraft at Napa County Airport. These aircraft are stored in hangars provided by FBOs, on private leaseholds, in hangars (including shade hangars) developed by Napa County, or parked at FBOs, or on County-owned tiedown aprons. Data on based aircraft is available from 1966. As can be seen in Figure 2A, the general trend has been one of slow continuing growth. There have been periods when there has been decline. The most recent decline started in the mid 1990s. Lack of data prohibits documenting the path of the decline. For the last two years, the number of based aircraft has rebounded, showing a slight increase.

Transient Aircraft Parking

Information on the demand for transient aircraft parking is limited to data from tiedown fees, and observations from FBO and County employees. Transient aircraft utilize both parking apron areas provided by the major FBO and the County. The demand for transient parking varies significantly on a day-to-day basis. On peak days, up to 27 aircraft may be on the major FBO and County apron areas. During normal operations, transient parking is adequate. However, transient parking demand is significantly increased during major events such as NASCAR races at Sears Point and PGA tournaments. Historical data on changes in transient demand are not available. However, anecdotal data from County and FBO staff indicate that peak volumes have increased in recent years.

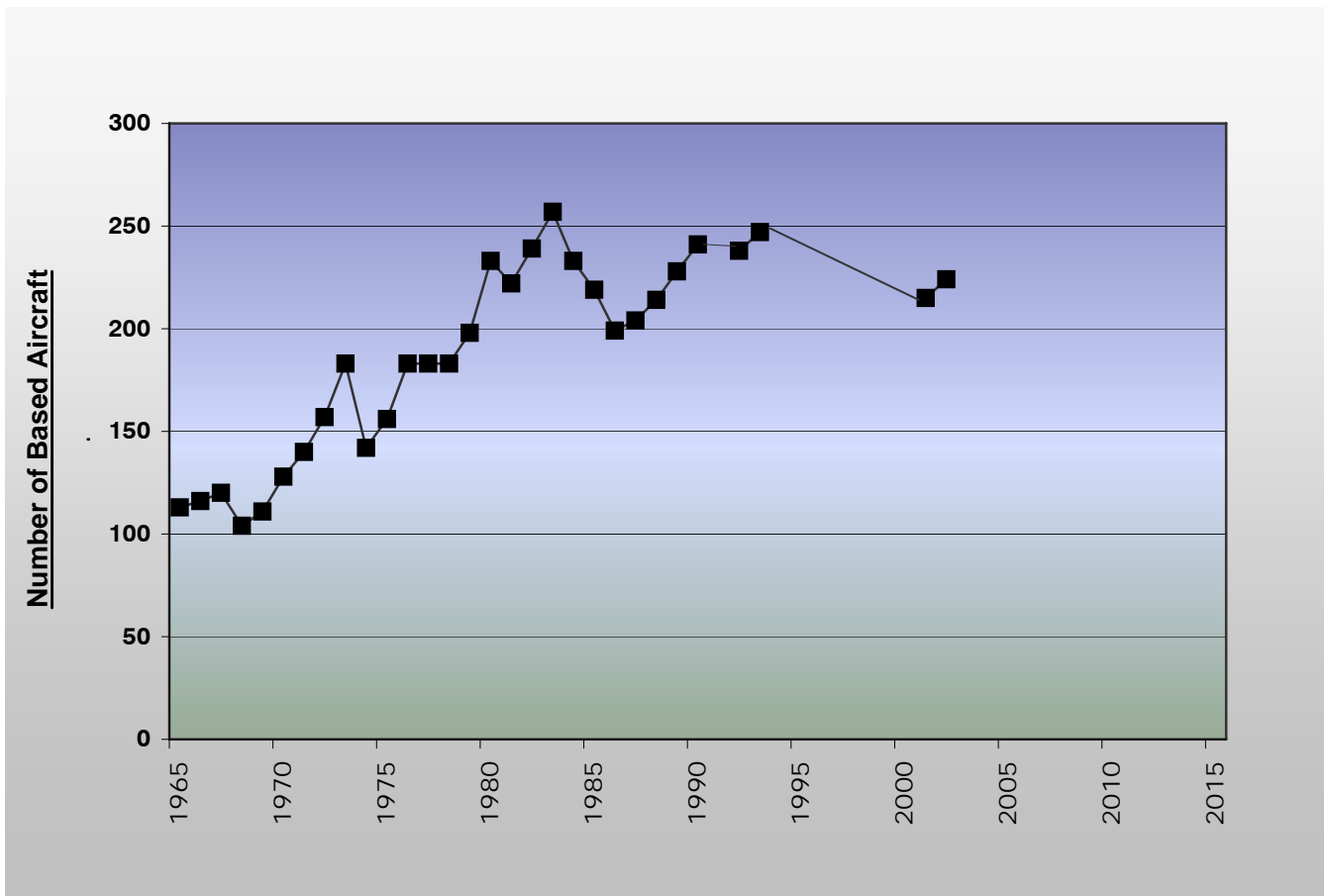
Except during major NASCAR races at Sears Point, use by private helicopters is infrequent. During such events, Taxiway A from the intersection of Taxiway E to the south apron area is closed and utilized for helicopter parking.

Operations

The Napa County Airport FAA Air Traffic Control Tower (ATCT) documents the number and type of aircraft operations conducted during the hours that the tower is open. The tower is operational from 7:00 a.m. to 8:00 p.m.

For purposes of reporting airport activity, an "operation" is considered to be a takeoff or a landing. A "touch-and-go" is counted as two operations, i.e., a takeoff and a landing.

In this plan, aircraft counts made by air traffic control staff are used to document operations. As the tower is staffed only 13 hours each day, actual operations are slightly higher.



Source: Data compiled by Mead & Hunt, Inc. (December 2002)

Figure 2A

Based Aircraft - Historical
Napa County Airport

The historical distribution of operational activity (i.e., day/night, VFR/IFR, local/itinerant) can be derived in part from airport records, and in part from discussions with those familiar with the airport (e.g., tower staff, airport users, etc.). Information from these sources indicates that the vast majority of operations at Napa County Airport are conducted during daylight hours. Such distribution of activity is consistent with day/night activity indices for comparable general aviation airports. This issue is further discussed in Chapter 5.

Figure 2B illustrates aircraft operations for the period 1966-2001. The general pattern has been one of peaks and valleys of varying duration. Distinct peaks in activity occurred in 1973, 1979, and 1994. The highest historical peak occurred in 1979 with about 250,000 operations. The most recent peak, in 1994, totaled about 230,000 annual operations. From 1994 through 1997 there was a succession of declines in operation. Since 1997, annual operations have leveled off, although there has been significant year-to-year variation.

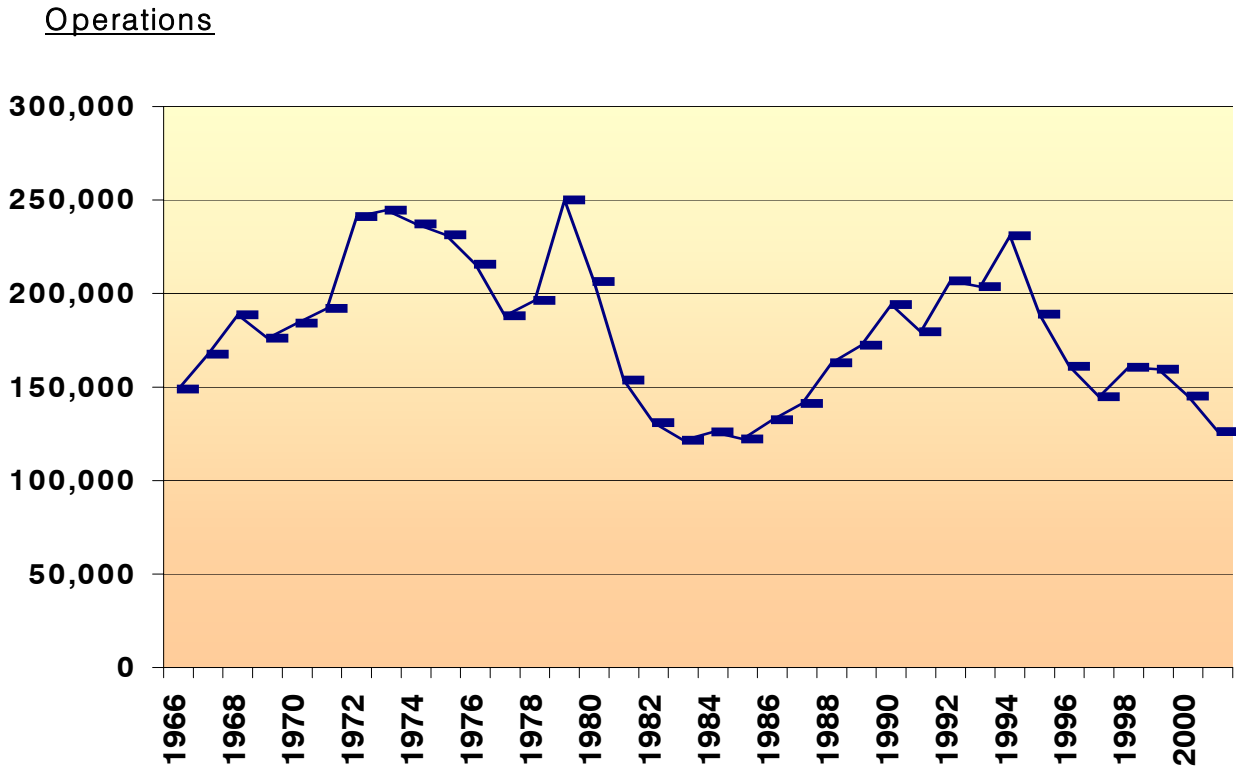
The sharp decline of operations after 1994 is largely due to a reduction of flight training by JAL, a helicopter training FBO based at Buchanan field, and flight schools based at other airports.

In calendar year 2001, there were a total of 126,080 aircraft operations recorded at Napa County Airport. Of these operations, 48 percent were itinerant operations (i.e., flights that originated or terminated at an airport other than Napa County Airport) and 52 percent were local operations (i.e., flights that began and ended at Napa County Airport, including touch-and-go and other similar training operations).

AVIATION ACTIVITY FORECASTS

In accordance with FAA guidelines, the time horizon of the forecasts in this *Airport Master Plan* is 20 years. There will always be uncertainties in forecasting future events. In the past, these uncertainties made the forecasting of general aviation airport activity an inexact science at best. Today general aviation faces even more uncertainties than ever before.

The Master Plan forecasts of future aviation activities at Napa County Airport are summarized in Table 2A. Projections have been developed for based aircraft and annual aircraft operations.



Source: Data compiled by Mead & Hunt, Inc. (December 2002)

Figure 2B

Aircraft Operations — Years 1966 - 2001

Napa County Airport

	Current	Projected 2021	
	2001	Low	High
BASED AIRCRAFT			
<i>Aircraft Types</i>			
Single-Engine	183	230	260
Twin-Engine	19	20	24
Turboprop	13	22	30
Jets	7	12	20
Helicopters	2	6	6
Total Aircraft	224	290	340
<i>Storage Demand</i>			
Apron	87		
Hangar Space (includes shade hangars)	137	270	320
Total Aircraft	224	290	340
TRANSIENT AIRCRAFT			
Peak Parking Demand	27	44	44
ANNUAL AIRCRAFT OPERATIONS			
<i>Aircraft Mix</i>			
Single-Engine Piston	86,040	137,500	175,000
Twin-Engine Piston	15,640	21,000	33,500
Twin-Engine Turboprop	13,140	27,000	27,000
Small Jet (e.g., Citation)	5,630	12,500	12,500
Medium Jet (e.g., Falcon 900)	1,250	4,500	4,500
Large Jet (e.g., Gulfstream)	1,880	3,500	3,500
Helicopters	2,500	4,000	4,000
Total	126,080	210,000	260,000
<i>Type of Operation</i>			
Local (Touch-and-Go's)	65,080	110,000	160,000
Itinerant	61,000	100,000	100,000
Total	126,080	210,000	260,000
<i>Average Operations per Based Aircraft</i>			
Total	563	724	765

Source: Data compiled by Mead & Hunt, Inc. (May 2002)

Table 2A

Master Plan Activity Forecasts
Napa County Airport

As outlined in the following sections, these forecasts have been developed by:

- ▶ Considering the previously described historical activity levels at Napa airport;
- ▶ Assessing national, state, and local trends and other factors which influence the airport's activity; and then
- ▶ Drawing conclusions from this data.

BASED AIRCRAFT

National Demand Factors

The Federal Aviation Administration (FAA) uses numerous demand factors in forecasting aviation trends. These demand factors are part of what determines the growth rates of general aviation at a national level. The following national demand factors for general aviation operations were taken from *FAA Aviation Forecasts, 2000 to 2011*:

- ▶ Total active general aviation aircraft fleet
- ▶ Passage of product liability reform legislation in 1994
- ▶ Issuance of student pilot certificates
- ▶ Resurgence of piston-engine aircraft manufacturing
- ▶ Manufacture of new turbine-powered business aircraft

All factors listed above have shown some growth since 1994. The active general aviation fleet is forecast to experience an annual increase of 0.9 percent or 24,000 aircraft over the forecast period. This means by the year 2011 the general aviation fleet will total nearly 231,000 aircraft.

The majority of the general aviation fleet will be piston-powered aircraft, representing 76.7 percent of the overall fleet. Yet, the turbine-powered fleet is expected to change the composition of the active fleet by the year 2011, increasing at four times the rate of the piston-powered fleet. Over 60 percent of these aircraft will be turbojet aircraft and 39 percent will be turboprop aircraft; 11,295 turbojets and 7,240 turboprops added to the general aviation fleet over the forecast period.

The increase in jet activity is attributed to a shift from commercial air travel to corporate/business air travel. The success of fractional

GENERAL AVIATION (GA)

- ▶ General Aviation is all flying except military and scheduled airline flights.
- ▶ There are 221,000 general aviation aircraft in the U.S., approximately 92% of the total civilian fleet.
- ▶ Some 78% of all GA aircraft have fewer than six seats and weigh less than a compact car.
- ▶ General Aviation generates about \$65 billion in U.S. economic activity each year.
- ▶ More than 65% of all GA flights are conducted for business, commercial, and public service purposes.
- ▶ Under normal circumstances, there are approximately 132,000 GA flights per day.
- ▶ GA connects the majority of communities with the nation's air transportation system.
- ▶ GA serves more than 5,300 public-use airports in communities both large and small, while scheduled airlines serve only 660 U.S. airports and 75% of major airline flights operate out of only 66 big-city airports (half of these flights only serve 29 hub airports).

ownership of jet aircraft is a major contributor to the growth in jet use.

General aviation hours flown is forecast to increase by 2.2 percent annually, from 28.1 million in 1999 to 38.8 million in 2011. Growth in the number of active pilots is also anticipated to increase annually by 2.1 percent. The greatest increase expected to occur over the forecast period is in the student pilot population, 3.4 percent annually. Growth in this category suggests growth in both pilot training and flight training schools, which points toward industry-wide growth in instructional as well as personal/recreational flying.

A Reliever Airport is an airport serving general aviation aircraft that might otherwise have to use a congested air carrier airport (e.g., San Francisco and Oakland International airports).

The Federal Aviation Administration (FAA) classifies Napa County Airport as a reliever airport. There are 334 designated reliever airports in the United States and each of these airports is included in the *Federal Aviation Administration's National Plan of Integrated Airport Systems (NPIAS)*. General aviation airports account for 74 percent of NPIAS airports, reliever airports represent 10 percent of the national airport system.

The FAA's *Terminal Area Forecast* for the Napa County Airport anticipates growth in based aircraft. The FAA forecasts that the Airport will have 316 based aircraft by 2015.

State and Local Demand Factors

The most recent California State Airport System Plan (CASP) was published in 1999. The system plan included all public-use airports in California. The CASP projected registered single-engine and multi-engine aircraft from 1995 to 2020. CASP estimated that both single-engine and multi-engine aircraft at Napa County Airport would grow at the same rate; by 35 percent or 1.2 percent annually over the forecast period.

The following airport-specific demand influences partially overlap the above national and state demand factors, but are more reflective of the conditions existing at Napa County Airport:

- ▶ **Airport Role** — The current role of Napa County Airport includes significant use by personal general aviation aircraft and flight training activities. As noted above, the national growth potential of one of Napa County Airport's primary user is projected to represent a limited, but still significant component of aviation activity. While the majority of aircraft using Napa County Airport is expected to remain in smaller aircraft, moderate growth in business aviation and high performance aircraft

is also anticipated. This is important to Napa County Airport because of the links between the local economy and business use of the airport.

- ▶ **Facilities and Services Available**—Existing general aviation facilities and services at Napa County Airport provide the majority of services necessary to support current operations. These services include flight training, fixed wing, major and minor maintenance for piston aircraft, minor turbine maintenance, fuel, charter, and sales. None of the airport's FBOs currently provides major maintenance for turbine-powered aircraft.
- ▶ **Demand for Hangar Space**—Increasingly, aircraft owners are seeking hangar space to store their aircraft. This is due to the fact that aircraft are increasing in value. Napa County Airport has land area available to develop a sufficient number of hangars to accommodate demand. Any increase in the number of based aircraft will be driven in part by the availability of additional, suitably priced, aircraft storage hangars. Future aircraft hangar sites are shown on the building area plan.
- ▶ **Surrounding Airspace**—Napa County Airport is located on the outer edge of the complex San Francisco Bay Area Class B airspace environment. Aircraft operating within the airspace of Napa County Airport and in the vicinity of the airport are constrained by aircraft operating to and from other Bay Area general aviation, military and air carrier airports.
- ▶ **Nearby Airports**—Seven public-use airports are located within 25 nautical miles of Napa County Airport. Of these airports, Buchanan Field, Gness Field, Nut Tree, and Petaluma Municipal airports have similar characteristics as Napa County Airport, providing comparable services to the majority of aircraft operating at Napa County Airport.
- ▶ **Proximity to Nearby Industry**—Napa Valley Gateway Business Park is a 386-acre mixed-use development located adjacent of Napa County Airport. This industrial park serves various businesses including light industrial, office, and research and development. Growth in major industrial and commercial businesses in surrounding areas has resulted in increased airport use by transient corporate and charter aircraft. This trend is expected to continue.

- ▶ **Demographics**—Population growth alone does not typically generate a corresponding increase in based general aviation aircraft demand. However, increased interest in flying and projected growth in pilot certificates suggests industry-wide growth in flight training and personal and/or recreational flying. The appeal of Napa County, an increasing population, and economic growth in the region should result in an increase in based aircraft at Napa County Airport.

Based Aircraft Forecast

At Napa County Airport, increases in the number of based aircraft will be dependent on decisions by individuals and businesses on where to base their aircraft. The availability of both reasonably priced hangar units, as well as their high-end counterparts, will largely determine whether growth in based aircraft matches demand.

The *Master Plan* forecast provides a high and low number for based aircraft. These numbers are based on variations in student enrollment of JAL's flight training program, the number of existing based aircraft and the potential for development of new hangar and/or tiedown at the airport. Accordingly, the total number of based aircraft is estimated to increase from its present level of 224 in 2001 to a low of 290 and a high of 340 by 2021. The majority of this growth is expected to take place in piston-powered aircraft. Moderate growth in based high corporate aircraft (e.g., turbojet and turbofan) is also anticipated.

Factors Affecting Operations Forecast

Various circumstances specific to Napa County Airport are relevant in determining future airport operational levels:

- ▶ **Number and Type of Based Aircraft**—The shift toward proportionately more high performance aircraft at Napa County Airport will tend to push operation counts upward more rapidly than the rate of based aircraft growth.
- ▶ **Availability of Facilities and Services**—It is anticipated that at least one new fixed base operation will be established or major expansion of an existing FBO will take place within the next five years.

- ▶ **Flight Training**—A large portion of the airport’s total annual operations currently involves flight training. By all indices flight training activity is expected to increase at Napa County Airport. The amount of such activity will be dependent upon the attractiveness of Napa County Airport as a place for training activity by student pilots, as well as the future plans of two primary FBOs currently offering flight training instruction.
- ▶ **Extent of Transient Aircraft Use**—Increased business, corporate, and industrial development within the communities surrounding Napa County Airport is expected to generate increased activity by both based and transient aircraft.

Operations Forecast

Aircraft **charter** provides scheduled air service for a specific fee, generally based on hours of operation.

Typically, **fractional ownership** allows individuals partial ownership or “fractional ownership” and accessibility of desired aircraft. The terms and conditions of fractional ownership vary. Primarily, fractional ownership is based on the cost of a desired aircraft, desired fraction of ownership (e.g., 1/4, 1/8, 1/16 etc.) and the number of hours flown.

Modest growth in annual aircraft operations at Napa County Airport is anticipated over the 20-year planning period. This growth will be generated by the increase in based and transient aircraft and greater utilization of aircraft by Napa County Airport-based active aircraft users. The upward trend in local operations will continue as a result of flight training operations by Bridgeford Flying Service and JAL. Transient activity is anticipated to increase over the next several years due in part to increased interest in flying, affordability of business aircraft (due to fractional ownership of corporate aircraft and the new line of small jets), and demand for charter services.

Table 2A summarizes the *Master Plan* 20-year forecast of future annual aircraft operations for Napa County Airport. The *Master Plan Activity Forecast* projects a low and a high number for operations over the planning period. Given that JAL’s flight training activity represents the majority of local operations at the airport, *Master Plan* projections are based on anticipated fluctuations of student enrollment in JAL’s flight training program. Accordingly, total annual aircraft operations are estimated to increase from 126,080 in 2001 to a low 210,000 operations or a high of 260,000 operations by the year 2021.