Forecasts

An important factor in facility planning involves a definition of demand that may reasonably be expected to occur during the useful life of the facility's key components. For Eloy Municipal Airport, this involves projecting potential aviation demand for a 20-year timeframe. In this Master Plan, forecasts of based aircraft, based aircraft fleet mix, aircraft operations, peaking characteristics, and instrument approaches will be considered which will serve as the basis for facility planning.

The aviation demand forecasts presented in this chapter have been prepared using airport-specific data provided by airport management, as well as data compiled by the Federal Aviation Administration (FAA). Updated national forecasts in the publication *FAA Aerospace Forecast - Fiscal Years 2009-2025* were also referenced for industry trends.

The FAA has oversight responsibility to review and approve aviation forecasts that are submitted to the agency in conjunction with airport planning, including Master Plans. The FAA reviews such forecasts with the objective of including them in its *Terminal Area Forecasts* (TAF) and the *National Plan of Integrated Airport Systems* (NPIAS). In addition, aviation activity forecasts are an important input to the benefit-cost analyses associated with airport development, and the FAA reviews these analyses when federal funding requests are submitted.

As stated in FAA Order 5090.3C, *Field Formulation of the National Plan of Integrated Airport Systems*, dated December 4, 2004, forecasts should be:

- Realistic.
- Based on the latest available data.
- Reflective of current conditions at the airport.
- Supported by information in the study.
- Capable of providing adequate justification for airport planning and development.

Recognizing this, it is intended to develop a Master Plan for Eloy Municipal Airport that will be demand-based rather than time-based. As a result, the reasonable levels of activity potential that are derived from this forecasting effort will be related to the planning horizon levels rather than dates in time. These planning levels will be established as levels of activity from which specific actions for the airport to consider will be presented.

The demand-based manner in which this Master Plan is being prepared is intended to accommodate variations in demand at the airport. Demand-based planning relates capital improvements to demand factors such as based aircraft operations, instead of points in time. This allows the airport to address capital improvement needs according to actual demand occurring at the airport. Therefore, should growth in aircraft operations or based aircraft slow or decline, it may not be necessary to implement some improvement projects. However, should the airport experience accelerated growth, the plan will have accounted for that growth and will be flexible enough to respond accordingly.

In order to fully assess current and future aviation demand for Eloy Municipal Airport, an examination of several key factors is needed. These include national and regional aviation trends, historical and forecast socioeconomic and demographic information of the area, and competing transportation modes and facilities. Consideration and analysis of these factors will ensure a comprehensive outlook for future aviation demand at Eloy Municipal Airport.

NATIONAL AVIATION TRENDS

Each year, the FAA updates and publishes a national aviation forecast. Included in this publication are forecasts for passengers, airlines, air cargo, general aviation, and FAA workload measures. The forecasts are prepared to meet the budget and planning needs of the constituent units of the FAA and to provide information that can be used by state and local authorities, the aviation industry, and the general public.

The current edition when this chapter was prepared was FAA *Aerospace Forecast - Fiscal Years 2010-2030*, published in March 2010. The forecasts use the economic performance of the United States as an indicator of future aviation industry growth. Similar economic analyses are applied to the outlook for aviation growth in international markets.

Following more than a decade of decline, the general aviation industry was revitalized with the passage of the *General Aviation Revitalization Act* in 1994, which limits the liability on gen-

eral aviation aircraft to 18 years from the date of manufacture. This legislation sparked an interest to renew the manufacture of general aviation aircraft due to the reduction in product liability, as well as renewed optimism for the industry. The high cost of product liability insurance had been a major factor in the decision by many American aircraft manufacturers to slow or discontinue the production of general aviation aircraft.

In the seven years prior to the events of September 11, 2001, the U.S. civil aviation industry experienced unprecedented growth in demand and profits. The impacts to the economy and aviation industry from the events of 9/11 were immediate and significant. The economic climate and aviation industry had been recovering until early 2008 when it became clear that an economic downturn was underway. High oil prices and an economic recession caused general aviation activity at FAA air traffic facilities to fall sharply in 2008, declining by 5.6 percent. The downturn in the economy has dampened the near-term prospects for the general aviation industry. As the U.S. and world economy recovers, general aviation demand is anticipated to rebound and grow.

The National Bureau of Economic Research announced that the U.S. economy entered into recession in December 2007. As the economic downturn gathered momentum, the new Administration and Congress passed the American Recovery and Reinvestment Act (ARRA) in February, 2009 which was estimated to have a total fiscal impact of $787 billion. Data shows that the bottom of the recession was hit in June 2009 and the freefall in economic activity tempered during the 3Q of 2009. The U.S. economy grew for the first time in 4Q 2009 with output increasing by 2.2 percent. Economic growth is expected to be slow and not strong enough to halt the decline in jobs until later in 2010. Sustained economic growth above three percent is not expected until 2011. Beyond 2015 U.S. real GDP growth slows to around 2.6 percent annually through the forecast period.

In 2009, there were an estimated 229,149 active general aviation aircraft in the United States. **Exhibit 2A** depicts the FAA forecast for active general aviation aircraft. The FAA projects an average annual increase of 0.9 percent through 2030, resulting in 278,723 active aircraft. Active piston-powered aircraft are expected to decline through 2017, then gradually increase to 172,613 by 2030 for an overall average annual increase of 0.2 percent. This is driven primarily by a 3.4 percent annual increase in piston-powered rotorcraft and growth in experimental and sport aircraft, as single engine fixed-wing piston aircraft are projected to increase at just 0.2 percent annually and multi-engine fixed-wing piston aircraft are projected to decrease by 0.8 percent per year. This is due, in part, to declining numbers of multi-engine piston aircraft and the expectation that the new, light sport aircraft and the relatively inexpensive microjets will dilute or weaken the replacement market for piston aircraft.

New models of business jets are also stimulating interest for the high-end market. The FAA expects the busi-

ness segment to expand at a faster rate than personal/sport flying. Safety and security concerns combined with increased processing time at commercial terminals make business/corporate flying an attractive alternative. Turbine-powered aircraft (turboprop and jet) are expected to grow at an average annual rate of 3.1 percent over the forecast period. Even more significantly, the jet portion of this fleet is expected to grow at an average annual growth rate of 4.2 percent. The total number of jets in the general aviation fleet is projected to grow from 11,418 in 2009, to 27,035 by 2030.

With the advent of a relatively inexpensive twin-engine very light jet (VLJ), many questions have arisen as to the future impact they may have. The lower acquisition and operating costs of the VLJs were believed to have the potential to revolutionize the business jet market, particularly by being able to sustain a true on-demand air-taxi service. While initial forecasts called for over 400 aircraft to be delivered a year, events such as the recession along with the bankruptcy of Eclipse and DayJet have led the FAA to temper more recent forecasts. The introduction of the Embraer's Phenom 100 to the market has helped boost the turbine market. Despite that, the impacts of the recession have led to dampened expectations. VLJs are forecast to grow by 440 aircraft through 2013 then average 216 aircraft per year through the remainder of the forecast period.

Owners of ultralight aircraft began registering their aircraft as "light sport" aircraft in 2005. At the end of 2008, a total of 6,811 aircraft were estimated to be in this category. The FAA estimates this fleet will increase by approximately 825 aircraft per year until 2013, and then taper off to about 335 per year. By 2030, a total of 16,311 light sport aircraft are projected to be in the fleet.

Aircraft utilization rates are projected to increase through the forecast period. The number of general aviation hours flown is projected to increase at 2.5 percent annually. Similar to active aircraft projections, there is projected disparity between piston and turbine aircraft hours flown. Hours flown in turbine aircraft are expected to increase at 4.1 percent annually, compared with 1.1 percent for piston-powered aircraft. Jet aircraft hours flown are projected to increase at 6.1 percent annually over the next 20 years. The sport aircraft fleet is anticipated to experience a 5.9 percent average annual growth rate in hours flown through 2030.

The total general aviation pilot population is projected to increase by 52,000 in the next 20 years reaching 501,875 in 2030, which represents an average annual growth rate of 0.5 percent. The student pilot population is forecast to increase at an annual rate of 0.8 percent, reaching a total of 86,050 in 2030. Growth rates for other pilot categories over the forecast period are as follows: recreational pilots remaining constant; private pilots increasing by 0.2 percent; commercial pilots increasing 0.5 percent; airline transport pilots increasing 0.6 percent; rotorcraft-only pilots increasing 1.6 percent; and glider-only pilots increasing 0.2 percent. The sport pilot is ex-

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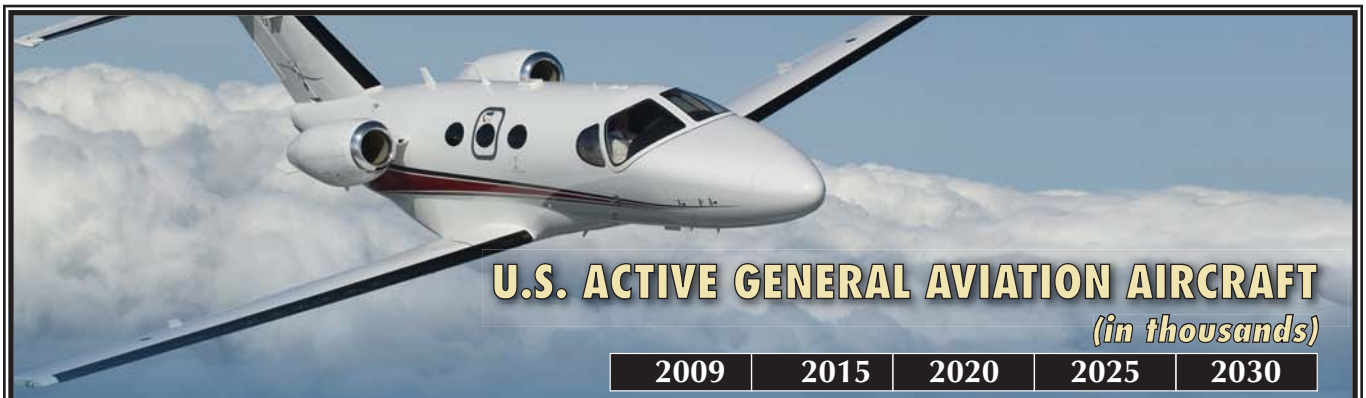
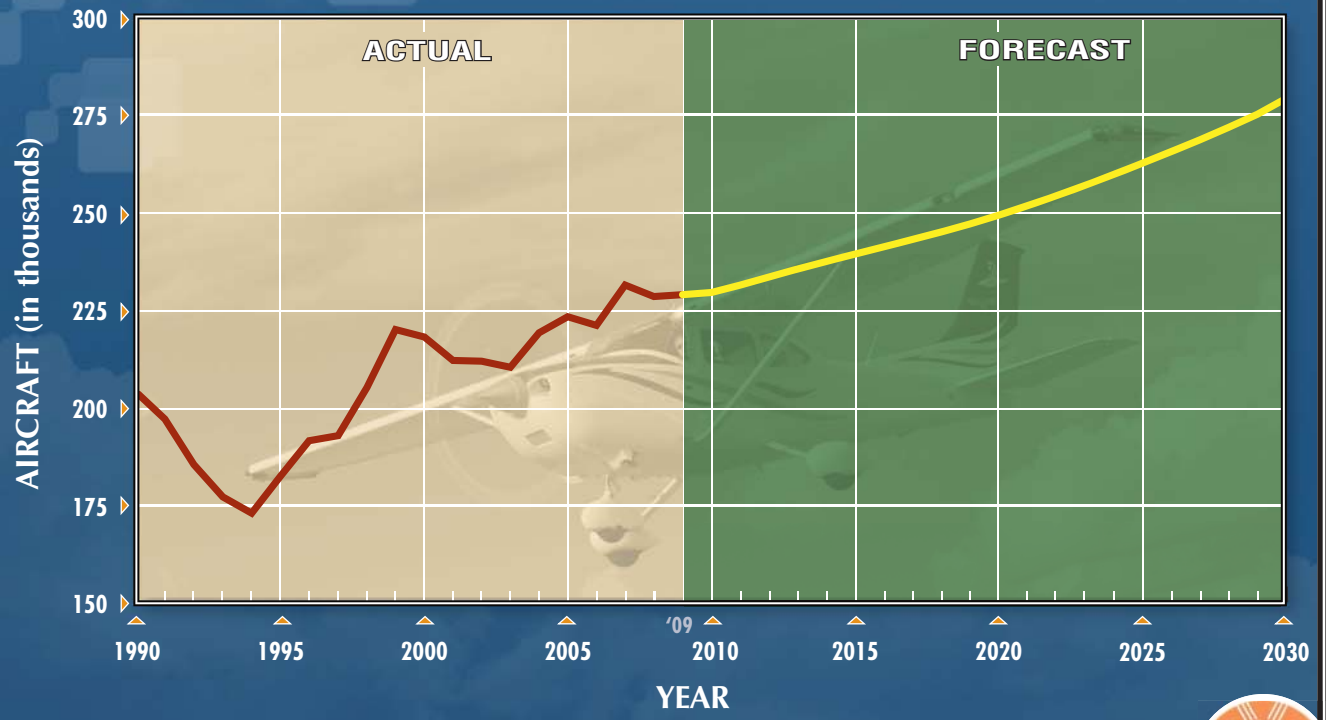


U.S. ACTIVE GENERAL AVIATION AIRCRAFT

(in thousands)

	2009	2015	2020	2025	2030
FIXED WING					
PISTON					
Single Engine	144.7	141.9	142.1	145.3	150.6
Multi-Engine	17.4	16.5	15.8	15.2	14.6
TURBINE					
Turboprop	9.0	9.8	10.5	11.3	12.0
Turbojet	11.4	14.5	17.9	22.1	27.0
ROTORCRAFT					
Piston	3.7	4.7	5.6	6.5	7.4
Turbine	6.5	7.8	8.8	9.8	10.8
EXPERIMENTAL	23.4	27.0	29.8	32.2	34.4
SPORT AIRCRAFT	7.3	11.6	13.3	14.8	16.3
OTHER	5.7	5.7	5.6	5.6	5.6
TOTAL	229.1	239.5	249.4	262.8	278.7



Source: FAA Aerospace Forecasts, Fiscal Years 2010-2030.

Notes: An active aircraft is one that has a current registration and was flown at least one hour during the calendar year.

Exhibit 2A
U.S. ACTIVE GENERAL AVIATION
AIRCRAFT FORECASTS

pected to grow significantly through 2030 at 7.2 percent annually.

Over the past several years, the general aviation industry has launched a series of programs and initiatives whose main goals are to promote and assure future growth within the industry. Several programs are intended to promote growth in new pilot starts and introduce people to general aviation. "Project Pilot," sponsored by the Aircraft Owners and Pilots Association (AOPA), promotes the training of new pilots in order to increase and maintain the size of the pilot population. The Experimental Aircraft Association (EAA) promotes the "Young Eagles" program which introduces young children to aviation by offering them a free airplane ride courtesy of aircraft owners who are part of the association. Over the years, programs such as these have played an important role in the success of general aviation and will continue to be vital to its growth in the future.

AIRPORT SERVICE AREA

In determining the aviation demand for an airport, it is necessary to identify the role of that airport. Eloy Municipal Airport is classified as a general aviation airport in the NPIAS. As such, the primary role of Eloy Municipal Airport is to serve the needs of general aviation in the area. General aviation is a term used to describe a diverse range of aviation activities, which includes all segments of the aviation industry except commercial air carriers and military. General aviation is the largest component of the national aviation system and includes activities such as pilot training, recreational flying, and the use of sophisticated turboprop and jet aircraft for business and corporate use. The airport does not currently serve nor is it expected to serve scheduled commercial activity in the future.

The initial step in determining the general aviation demand for an airport is to define its generalized service area. The airport service area is a generalized geographical area where there is a potential market for airport services, in particular based aircraft. Access to general aviation airports and transportation networks enter into the equation to determine the size of a service area, as well as the quality of aviation facilities, distance, and other subjective criteria.

Typically, the service area for a general aviation airport can extend up to 30 miles. The proximity and level of general aviation services are largely the defining factors when describing the general aviation service area. A description of nearby airports was previously provided in Chapter One. Eloy Municipal Airport is one of several airports in the region, and one of seven public-use airports in Pinal County. Five airports are located within 30 miles of Eloy Municipal Airport including Coolidge Municipal Airport, Casa Grande Municipal Airport, Phoenix Regional Airport, Pinal Airpark, and Chandler Municipal Airport. Several other airports are located within 50 miles of Eloy including Phoenix Sky Harbor International Airport.

Most of the above-mentioned airports present competitive services for aviation demand in the immediate region by providing aircraft fuel, hangars, and maintenance. Coolidge Municipal Airport and Casa Grande Municipal Airport, both located within 15 miles of Eloy Municipal Airport, present the most competitive facilities in terms of aviation services and facilities in respect to their close proximity. 100LL Avgas and Jet A fuel, aircraft maintenance, storage hangars, and tie-downs are among several types of aviation services offered at these airports. Coolidge Municipal Airport and Casa Grande Municipal Airport, as well as the other airports in the region, will limit the reaches of the Eloy Municipal Airport general aviation service area.

When discussing the general aviation service area, two primary demand segments need to be addressed. The first component is the airport's ability to attract based aircraft. Almost universally, aircraft owners choose to base at an airport nearer their home or business. Convenience is the most common reason for basing in close proximity. Therefore, it can be assumed that the majority of based aircraft owners reside in Eloy or the immediately surrounding rural area. The second segment is itinerant aircraft operations. In most cases, transient aircraft operators will also elect to utilize airports nearer their intended destination. This is highly dependent on the airport's capabilities to accommodate the aircraft operator. As a result, the more attractive the facility, the more likely an airport will be to attract a larger portion of the region's itinerant aircraft operations.

Given these considerations, the primary general aviation service area for Eloy Municipal Airport includes the City of Eloy. The secondary service area extends into the surrounding areas, especially those with limited general aviation services and/or for areas nearer to Eloy Municipal Airport. Casa Grande Municipal Airport and Coolidge Municipal Airport are located within 15 miles, northwest and northeast of Eloy Municipal Airport, respectively. The nearest public-use airport south of Eloy is Pinal Airpark approximately 22 miles away. Therefore, Eloy Municipal Airport's service area would extend further to the south rural areas than to the north.

The potential for increased aviation demand for Eloy Municipal Airport lies in the growing population and promising service and business growth within the City of Eloy and surrounding areas. The forecast analyses conducted in the following sections take into consideration the expected local and regional growth.

FORECASTING APPROACH

The development of aviation forecasts proceeds through both analytical and judgmental processes. A series of mathematical relationships is tested to establish statistical logic and rationale for projected growth. However, the judgment of the forecast analyst, based upon professional experience, knowledge of the aviation industry, and assessment of the local situation, is important in the final determination of the preferred forecast.

The most reliable approach to estimating aviation demand is through the utilization of more than one analytical technique. Methodologies frequently considered include trend line projections, correlation/regression analysis, and market share analysis.

Trend line projections are probably the simplest and most familiar of the forecasting techniques. By fitting growth curves to historical demand data, then extending them into the future, a basic trend line projection is produced. A basic assumption of this technique is that outside factors will continue to affect aviation demand in much the same manner as in the past. As broad as this assumption may be, the trend line projection does serve as a reliable benchmark for comparing other projections.

Correlation analysis provides a measure of direct relationship between two separate sets of historic data. Should there be a reasonable correlation between the data sets, further evaluation using regression analysis may be employed.

Regression analysis measures the statistical relationship between dependent and independent variables yielding a correlation coefficient. The correlation coefficient (Pearson's "r") measures association between the changes in a dependent variable and independent variable(s). If the r-squared (r^2) value (coefficient determination) is greater than 0.90, it indicates good predictive reliability. A value below 0.90 may be used with the understanding that the predictive reliability is lower.

Market share analysis involves a historical review of airport activity as a percentage, or share, of a larger regional, state, or national aviation market. A historical market share trend is determined providing an expected market share for the future. These shares are then multiplied by the forecasts of the larger geographical area to produce a market share projection. This method has the same limitations as trend line projections, but can provide a useful check on the validity of other forecasting techniques.

It is important to note that one should not assume a high level of confidence in forecasts that extend beyond five years. Facility and financial planning usually require at least a ten-year view, since it often takes more than five years to complete a major facility development program. However, it is important to use forecasts which do not overestimate revenue-generating capabilities or understate demand for facilities needed to meet public (user) needs.

A wide range of factors is known to influence the aviation industry and can have significant impacts on the extent and nature of air service provided in both the local and national markets. Technological advances in aviation have historically altered, and will continue to change, the growth rates in aviation demand over time. The most obvious example is the impact of jet aircraft on the aviation industry, which resulted in a growth rate that far exceeded expectations. Such changes are difficult, if not impossible, to predict, and there is simply no mathematical way to estimate their im-

pacts. Using a broad spectrum of local, regional, and national socio-economic and aviation information, and analyzing the most current aviation trends, forecasts are presented in the following sections.

The following forecast analysis examines each of the aviation demand categories expected at Eloy Municipal Airport through 2029. Each segment will be examined individually, and then collectively, to provide an understanding of the overall aviation activity at Eloy Municipal Airport during the next 20 years.

GENERAL AVIATION FORECASTS

To determine the types and sizes of facilities that should be planned to accommodate general aviation activity, certain elements of this activity must be forecast. Indicators of general aviation demand include:

- Based Aircraft
- Based Aircraft Fleet Mix
- Annual Operations
- Peaking Characteristics
- Annual Instrument Approaches

The remainder of this chapter will examine historical trends with regard to these areas of general aviation and project future demand for these segments of general aviation activity at Eloy Municipal Airport.

BASED AIRCRAFT

The number of based aircraft is the most basic indicator of general aviation demand. By first developing a forecast of based aircraft, other demand elements can be projected based upon this trend. An effective method of forecasting based aircraft at an airport is to first examine aircraft ownership in the surrounding area. The forecasting effort will begin by analyzing historical trends and projecting future demand for registered aircraft in Pinal County. As a result, this information can then be related to the historical trends at Eloy Municipal Airport and future based aircraft projections can be made.

Registered Aircraft Forecasts

Historical records of aircraft ownership in Pinal County, presented on **Table 2A**, were obtained from the U.S. Census of Civil Aircraft for the years 1989 through 1992; Aviation Goldmine for the years 1993 through 2000; Avantext, Inc., Aircraft & Airmen for the years 2001 to 2007; and the FAA for years 2008 and 2009. Since 1989, registered general aviation aircraft in the county has grown from 236 to 429, for an annual average growth rate of 3.0 percent.

TABLE 2A
Registered Aircraft and Independent Variables
Pinal County

Year	Registered Aircraft	U.S. Active Aircraft	% of U.S. Market	Population	PCPI (2004 $)	AC Per 1,000 Residents
1989	236	N/A	N/A	112,200	18,503	2.10
1990	245	N/A	N/A	116,379	17,621	2.10
1991	228	N/A	N/A	119,650	17,849	1.91
1992	235	185,650	0.127%	122,600	17,601	1.92
1993	231	177,120	0.130%	127,225	17,739	1.82
1994	243	172,935	0.141%	132,225	17,659	1.84
1995	251	182,605	0.137%	139,050	17,488	1.81
1996	259	187,312	0.138%	144,150	17,739	1.80
1997	277	189,328	0.146%	150,375	17,962	1.84
1998	268	205,700	0.130%	157,675	18,706	1.70
1999	293	219,500	0.133%	165,400	19,198	1.77
2000	310	217,533	0.143%	179,727	19,153	1.72
2001	305	211,446	0.144%	184,853	20,259	1.65
2002	307	211,244	0.145%	193,978	20,147	1.58
2003	305	209,606	0.146%	204,807	20,294	1.49
2004	327	219,319	0.149%	227,213	20,769	1.44
2005	335	224,350	0.149%	253,617	22,095	1.32
2006	356	221,939	0.160%	291,714	21,812	1.22
2007	407	231,606	0.176%	325,693	21,165	1.25
2008	416	228,668	0.182%	344,110	19,774	1.21
2009	429	229,149	0.187%	361,398*	19,558	1.21
Constant Market Share of U.S. Active Aircraft						
2014	444	237,577	0.187%	346,177*	20,135	1.28
2019	462	247,206	0.187%	420,836*	21,497	1.10
2024	486	259,812	0.187%	570,020*	23,202	0.85
2029	515	275,210	0.187%	776,908*	25,217	0.66
Decreasing Aircraft Registrations Per 1,000 Population						
2014	439	237,577	0.175%	346,177*	20,135	1.20
2019	474	247,206	0.196%	420,836*	21,497	1.15
2024	513	259,812	0.219%	570,020*	23,202	1.00
2029	622	275,210	0.254%	776,908*	25,217	0.90

Sources:
Registered Aircraft – U.S. Census of Civil Aircraft (1989-1992), Aviation Goldmine (1993-2000), Avantext, Inc., Aircraft & Airmen (2001-2007), FAA (2008-2009).
U.S. Active Aircraft – FAA *Aerospace Forecast – Fiscal Years 2010-2030*
Population – Arizona Department of Commerce (1989, 1991-1999,) CAAG Pinal Projection Study, 2009 [Adjusted "Most Likely" scenario] (2001-2009, 2014-2029); Census Bureau (1990, 2000)
PCPI – U.S. Department of Commerce, Bureau of Economic Analysis (1987-1999), Woods & Poole *CEDDS*, 2010 (2000-2009, 2014-2029).
* - Interpolation/Extrapolation

Table 2A also compares registered aircraft to active general aviation aircraft in the United States. The method used by the FAA to tabulate ac-

tive general aviation aircraft changed in 1992, which is why annual counts before this time were not included in this study. The Pinal County share of the U.S. market of general aviation aircraft has grown from 0.127 percent in 1992 to 0.187 percent in 2009.

Socioeconomic Trends

Pinal County historical trends for key socioeconomic variables provide an indicator of the potential for creating growth in aviation activities at an airport. Typical variables used in evaluating potential for traffic growth include population and per capita personal income (PCPI). This data is readily available on an annual historic basis at the county level.

Table 2A presents historical population data for Pinal County from 1989 to 2009. Population growth has been strong over the past several years with an increase of 242,645 residents from 1989 to 2009 equating to an average annual percentage increase of 5.9 percent. Much of the recent growth can be attributed to the urban sprawl of the Phoenix metropolitan area. Coffman Associates coordinated with the Central Arizona Association of Governments (CAAG) to adjust published population projections for both Pinal County and the City of Eloy presented in *Pinal Projection Study*, 2009. Due to recent economic conditions it was determined that the published "Most Likely" scenario projections needed to be adjusted to reflect current trends. Due to struggling economic conditions in the region, the adjusted population figures project the county population to contract slightly through 2015 then return to growth after 2015 through the planning period of this master plan.

Historical and projected PCPI for the County is also presented on **Table 2A** and are inflation-adjusted to year 2004 dollars. Inflation-adjusted PCPI for the County has been growing slowly at an annual average of 0.3 percent over the last 20 years and has actually declined each year since 2005. Projected numbers through 2029 show PCPI growing at an increased average annual rate of 1.3 percent.

Registered Aircraft Projections

Based on the historical registered aircraft, U.S. active aircraft, county population, and PCPI data, projections of registered aircraft in Pinal County have been prepared and are shown in **Table 2A**. Several analytical techniques were examined for their applicability to projecting registered aircraft in Pinal County. These included market share analysis, time-series extrapolation, and regression analyses.

First, a market share analysis was developed, which keeps Pinal County's share of U.S. active aircraft constant through 2029 at 0.187 percent, resulting in a 0.9 percent annual growth rate. This constant market share projection yields 515 registered aircraft in Pinal County by 2029.

The population of Pinal County was also used as a comparison with registered aircraft in the county. The forecast examines the history of registered

aircraft as a ratio of residents in Pinal County. The 2009 population for the county was 354,845, resulting in a ratio of 1.21 registered aircraft per 1,000 residents. Maintaining the current ratio would yield a projection of 940 registered aircraft in Pinal County by 2029. It should be noted that the ratio of county registered aircraft per 1,000 residents has gradually declined since 1989, as depicted on **Table 2A**. A decreasing ratio projects 699 registered aircraft in Pinal County by 2029.

A time-series extrapolation of registered aircraft was developed based upon the period from 1989 to 2009. The correlation coefficient, (r^2), was determined to be 0.88 for this trend line projection, which yields 581 registrations by 2029. As previously discussed, the correlation coefficient (Pearson's "r") measures the association between changes in the dependent variable (registered aircraft) and the independent variable(s). An "r^2" greater than 0.90 generally indicates good predictive reliability. A lower value may be used with the understanding that the predictive reliability is lower.

Several other regression analyses were also prepared to determine the association between U.S. active aircraft, socioeconomic indicators (population and PCPI), and registered aircraft growth. This association is represented by the correlation coefficient. The separate regression analyses project registered aircraft in Pinal County to increase to between 714 and 757 aircraft through 2029. **Table 2B** presents the resulting regression projections for comparison with the market share and ratio projections previously discussed.

The results of the regression analysis indicate that the socioeconomic factor that associates closest with registered aircraft change is population. The time-series analysis resulted in a projection that was considerably lower than the other four regressions and projects a 1.5 percent annual increase through 2029. The multiple regressions that analyzed the independent variables of population, U.S. active aircraft, and PCPI since 1992 produced the highest "r^2" values at 0.98 that equated to a 2.6 percent annual growth rate for registered aircraft.

TABLE 2B
Registered Aircraft Projections
Pinal County

	r^2	2009	2014	2019	2024	2029	Avg. Annual Growth Rate
Market Share Projection							
Constant Market Share of U.S. Active Aircraft		429	444	462	486	515	0.9%
Decreasing Aircraft Registrations Per 1,000 Population		429	415	484	570	699	2.5%
Regression Analysis Projections							
Time-Series 1989-2009	0.88	429	439	487	534	581	1.5%
U.S. Active Aircraft & Population 1992-2009	0.98	429	419	473	578	722	2.6%
Population 1989-2009	0.97	429	419	477	594	757	2.9%
Population & PCPI 1989-2009	0.97	429	417	477	594	756	2.9%
Population, U.S. Active Aircraft & PCPI 1992-2009	0.98	429	427	477	576	714	2.6%
Selected Forecast		**429**	**439**	**475**	**575**	**715**	**2.6%**

Registered Aircraft Summary

Table 2B and the top half of **Exhibit 2B** provide a summary of all registered aircraft forecasts previously discussed. It is determined that the constant market share of U.S. active aircraft and the time-series extrapolation understate growth potential, as the historical trend in registered aircraft indicates the larger growth rate projections are more feasible. The selected registered aircraft forecast closely mirrors the regression analysis comparing county population, U.S. active aircraft, and PCPI to registered aircraft, which yielded the highest "r^2" value of 0.98. The selected forecast has registered aircraft reaching 715 by 2029 at an average annual growth rate of 2.6 percent. This is a slightly slower pace than the previous 20 years due to current economic conditions and their anticipated impact on aircraft ownership in the short-term horizon.

Based Aircraft Forecasts

Determining the number of based aircraft at an airport can be a challenging task. It can be especially difficult at Eloy Municipal Airport since several based aircraft are located in hangars off-airport property. City of Eloy records indicate that the airport has 41 based aircraft currently, which includes those stored on airport property and those associated with off-airport businesses. Unfortunately, an exact count does not exist for previous years. Thus, historical based aircraft data was retrieved from previous master plan studies.

Before preparing new forecasts for based aircraft, previous based aircraft projections were reviewed for current validity. These included the 2008 FAA TAF, 2008 *Arizona State Airports System Plan* (SASP), and the previous *Eloy Municipal Airport Master Plan* from 2001. Each of the previous forecasts use different base years as well as projection years. For comparison, these forecasts were interpolated and extrapolated to correlate with this Master Plan's projection years. Each of these previous based aircraft forecasts are presented in **Table 2C**.

TABLE 2C
Previous Based Aircraft Projections
Eloy Municipal Airport

	Current	Base Year	2014	2019	2024	2029
Airport Records	41					
2008 FAA TAF		19	19	19	19	19**
2008 Arizona SASP – High		41	54*	66*	81*	99*
2008 Arizona SASP – Medium		41	54*	66*	80*	98*
2008 Arizona SASP – Low		41	47*	52*	58*	64*
2001 Airport Master Plan		26	41**	47**	N/A	N/A

*Interpolated; **Extrapolated

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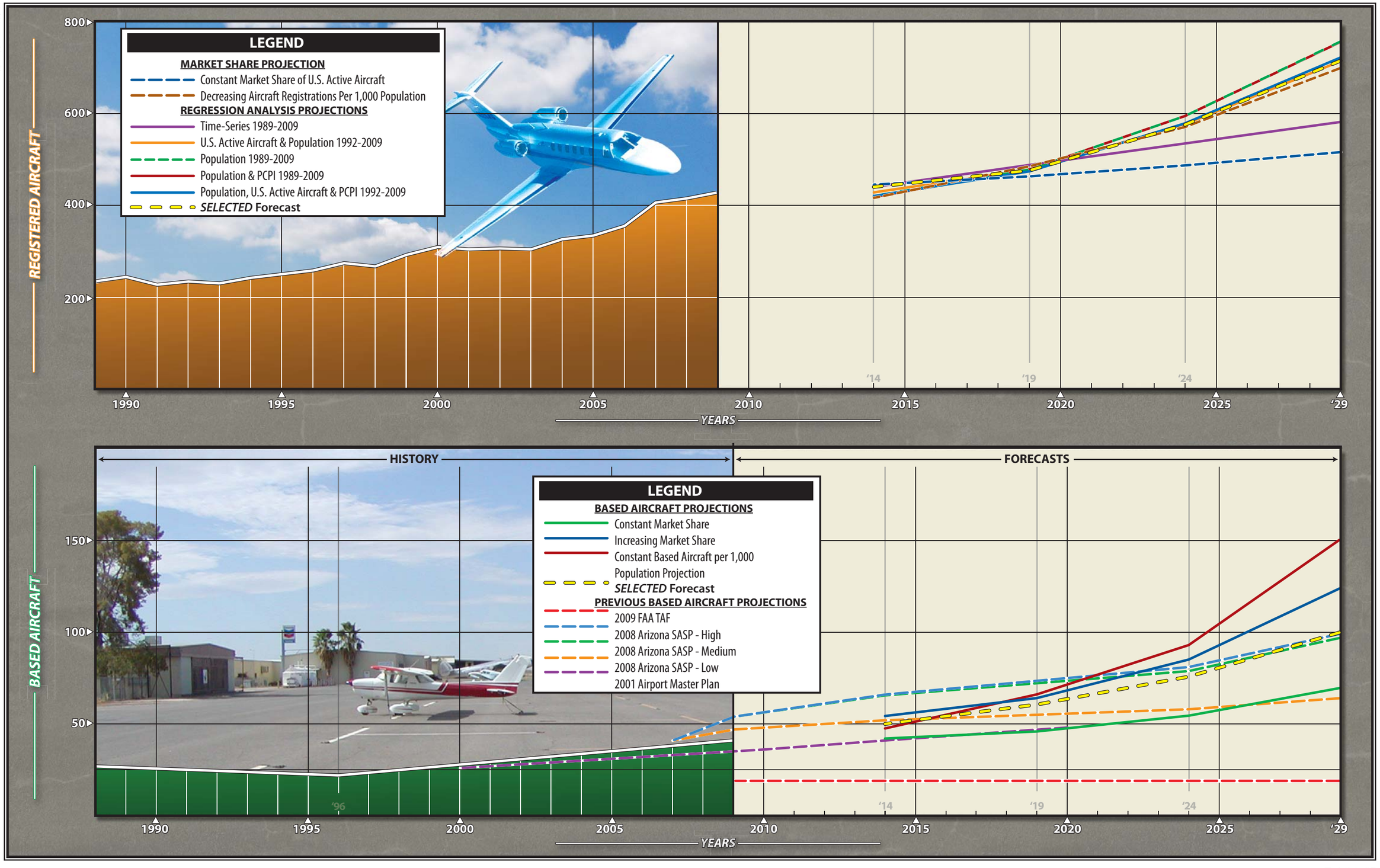

Exhibit 2B
REGISTERED AND BASED
AIRCRAFT PROJECTIONS

Since each of these comparative studies was prepared at different times, it is expected that they will be different from each other and may not match recent historical counts. According to airport records, the current based aircraft count is 41. The 2008 SASP also considered 41 aircraft for its base year. The FAA TAF projection has based aircraft at Eloy Municipal Airport remaining constant at 19 through the planning period. Finally, the previous Master Plan Update identified 26 based aircraft at the airport during its base year of 2000. Extrapolated figures from the previous Master Plan Update forecasted based aircraft to reach 41 in 2014. This indicates the previous Master Plan forecast underestimated based aircraft growth.

Having forecast the aircraft ownership demand in Pinal County, the historic based aircraft figures at Eloy Municipal Airport were reviewed to examine the change in market share over the years. **Table 2D** examines Eloy Municipal Airport's historical share of county registered aircraft.

TABLE 2D
Updated Based Aircraft Projections
Eloy Municipal Airport

Year	County Registered Aircraft	Eloy Based Aircraft	% of Registered Aircraft	Eloy Population	AC per 1,000 Residents
1988	228	27	11.8%	6,100	4.43
1996	259	22	8.5%	9,045	2.43
2009	429	41	9.6%	19,005	2.16
Average Annual Increase		2.0%		5.6%	
Constant Market Share Projection					
2014	439	42	9.6%	22,272	1.89
2019	475	46	9.6%	29,204	1.56
2024	575	55	9.6%	42,511	1.30
2029	715	69	9.6%	69,299	0.99
Average Annual Increase		2.6%		6.7%	
Increasing Market Share Projection					
2014	439	53	12.0%	22,272	2.37
2019	475	62	13.0%	29,204	2.11
2024	575	86	15.0%	42,511	2.03
2029	715	122	17.0%	69,299	1.75
Average Annual Increase		5.6%		6.7%	
Constant Based Aircraft Per 1,000 Population Projection					
2014	439	48	11.0%	22,272	2.16
2019	475	63	13.9%	29,204	2.16
2024	575	92	13.9%	42,511	2.16
2029	715	150	13.7%	69,299	2.16
Average Annual Increase		6.7%		6.7%	
Selected Forecast					
2014	439	50	11.4%	22,272	1.71
2019	475	60	12.6%	29,204	1.53
2024	575	75	13.0%	42,511	1.44
2029	715	100	14.0%	69,299	1.37
Average Annual Increase		4.6%		6.7%	

Source: Based Aircraft –Eloy Municipal Airport Master Plan, 1988 (1988); Eloy Municipal Airport Master Plan, 2001 (1996), Airport Records, (2009).
Eloy Population – Arizona Department of Commerce (1988, 1996, 2009); CAAG *Pinal Projections Study*, 2009 [Adjusted "Most Likely" scenario] (2014-2029).

Between 1988 and 2009, Eloy Municipal Airport's based aircraft grew from 27 to 41, at a rate of 2.0 percent annually. As presented in the table, however, the increase in based aircraft did not follow a gradual increasing trend, since between 1988 and 1996 based aircraft declined to 22. During that time period, Eloy Municipal Airport's share of registered aircraft in the county declined from 11.8 percent in 1988 to 8.5 percent in 1996. Since 1996, Eloy Municipal Airport's market share has grown to 9.6 percent. Three market share projections were generated based from historical trends. The first projection keeps the current market share static at 9.6 percent, resulting in 69 based aircraft by 2029 and an annual average growth rate of 2.6 percent.

A second forecast was prepared, which maintains the trend of an increasing market share. This forecast represents a projection based on the large population growth anticipated in the local Eloy area. This forecast results in 122 based aircraft by 2029.

A third forecast was prepared which maintains Eloy Municipal Airport's ratio of based aircraft per 1,000 residents. This results in a very aggressive 6.7 percent annual growth rate which yields 150 based aircraft by 2029.

Based Aircraft Summary

Future based aircraft at Eloy Municipal Airport will depend on several factors, including the state of the economy, fuel costs, available airport facilities, and competing airports. The adjusted CAAG population forecasts for the City of Eloy project significant population and economic growth in the City of Eloy through 2029. This socioeconomic growth will bring aircraft owners into Eloy Municipal Airport's direct service area. Assuming the city develops the airport's facilities as necessary to accommodate the demand, based aircraft growth could be substantial.

Deciding which forecast or combination of forecasts to use to arrive at a final based aircraft forecast involves more than just statistical analysis. Consideration must be given to the current and future aviation conditions at the airport in the short term. For example, Eloy Municipal Airport is heavily used for skydiving with parachute landing areas immediately adjacent to the airfield. This kind of activity can result in some operators utilizing neighboring airports to avoid conflict with parachuters in the airport's airspace. Conversely, this kind of activity can also draw aircraft owners to the airport.

The city has indicated that it plans to continue strong support of its airport and, as such, the constant market share projection appears to be too conservative given that the market share of registered aircraft has increased over the previous 13 years. Considering the City of Eloy's historical and projected population growth, the airport should be fully capable of maintaining at least an increasing market share trend. The constant ratio of based aircraft per 1,000 residents' projection appears to be too aggressive given existing economic conditions and

resultant strong market share return when compared to the historical trend.

The selected based aircraft forecast is presented in **Table 2D** and depicted on the bottom half of **Exhibit 2B**. The projection remains fairly conservative through 2019 growing by 19 in the next ten years. Assuming improved economic conditions, the latter half of the projection anticipates larger growth in based aircraft with the addition of 40 aircraft. As detailed, the forecast considers 50 aircraft by 2014, 60 aircraft by 2019, 75 aircraft by 2024, and 100 aircraft by 2029. This equates to a 4.6 percent average annual growth rate in based aircraft.

BASED AIRCRAFT FLEET MIX

Knowing the aircraft fleet mix expected to utilize the airport is necessary to properly plan for facilities that will best serve the level of activity and the type of activities occurring at the airport. The existing based aircraft fleet mix is comprised of 29 single engine aircraft, four multi-engine piston aircraft, and eight turboprop aircraft.

As detailed previously, the national trend is toward a larger percentage of sophisticated turboprop aircraft, jet aircraft, and helicopters in the national fleet. Active multi-engine piston aircraft are expected to be the only category of aircraft which shows a decrease in annual growth. Growth within each based aircraft category at the airport has been determined by comparison with national projections (which reflect current aircraft production) and consideration of local economic conditions.

The based aircraft fleet mix at Eloy Municipal Airport, as shown on **Table 2E**, was compared to the existing and forecast U.S. general aviation fleet mix trends as presented in FAA *Aerospace Forecast - Fiscal Years 2010-2030*. The FAA expects business jets will continue to be the fastest growing general aviation aircraft type in the future. Single engine piston aircraft (including sport aviation and experimental aircraft), helicopter, and turboprop aircraft are expected to grow at slower rates. The number of multi-engine piston aircraft in the U.S. will actually decline slightly as older aircraft are retired, according to FAA forecasts.

ANNUAL OPERATIONS

General aviation operations are classified as either local or itinerant. A local operation is a take-off or landing performed by an aircraft that operates within sight of the airport, or which executes simulated approaches or touch-and-go operations at the airport. Generally, local operations are characterized by training operations. Eloy Municipal Airport experiences a significant amount of skydiving operations which are considered local operations. Itinerant operations are those performed by aircraft with a specific origin or destination away from the airport.

TABLE 2E
Based Aircraft Mix Forecast
Eloy Municipal Airport

	2009		2014		2019		2024		2029*	
	#	%	#	%	#	%	#	%	#	%
Eloy Municipal Airport Based Aircraft										
Single Engine Piston	29	70.7%	35	70.0%	40	66.7%	49	65.3%	65	65.0%
Multi-Engine Piston	4	9.8%	4	8.0%	5	8.3%	5	6.7%	6	6.0%
Turboprop	8	19.5%	9	18.0%	11	18.3%	14	18.7%	18	18.0%
Jet	0	0.0%	1	2.0%	2	3.3%	4	5.3%	6	6.0%
Rotorcraft	0	0.0%	1	2.0%	2	3.3%	3	4.0%	5	5.0%
Totals	**41**	**100.0%**	**50**	**100.0%**	**60**	**100.0%**	**75**	**100.0%**	**100**	**100.0%**
U.S. Active Aircraft (from FAA Aerospace Fiscal Years [2010-2030])										
Single Engine Piston	175,491	76.6%	179,676	75.6%	183,999	74.4%	190,710	73.4%	199,264	72.4%
Multi-Engine Piston	17,351	7.6%	16,656	7.0%	15,955	6.5%	15,299	5.9%	14,711	5.3%
Turboprop	9,010	3.9%	9,650	4.1%	10,370	4.2%	11,108	4.3%	11,870	4.3%
Jet	11,418	5.0%	13,827	5.8%	17,191	7.0%	21,175	8.2%	25,979	9.4%
Rotorcraft	10,206	4.5%	12,105	5.1%	14,060	5.7%	15,920	6.1%	17,815	6.5%
Other	5,673	2.5%	5,663	2.4%	5,631	2.3%	5,600	2.2%	5,571	2.0%
Totals	**229,149**	**100.0%**	**237,577**	**100.0%**	**247,206**	**100.0%**	**259,812**	**100.0%**	**275,210**	**100.0%**

Note: Experimental and sport aircraft are included under single engine piston.
Total percentages may not equal 100.0 due to rounding.

Eloy Municipal Airport operations are comprised mainly of general aviation operations. Since Eloy Municipal Airport is not a towered airport, precise operations records are not available. Sources for estimated operational activity at Eloy Municipal Airport such as the FAA Form 5010, Airport Master Record, the FAA TAF, and the SASP have largely varying accounts of operational traffic. Therefore, for this study, an FAA-approved statistical methodology for estimating general aviation operations using local variables was utilized to update the operations count.

This method, the *Model for Estimating General Aviation Operations at Non-Towered Airports*, was prepared for the FAA Statistics and Forecast Branch in July 2001. This report develops and presents a regression model for estimating general aviation operations at non-towered airports. The model was derived using a combined data set for small towered and non-towered general aviation airports and incorporates a dummy variable to distinguish the two airport types. In addition, the report applies the model to estimate activity at 2,789 non-towered general aviation airports contained in the FAA *Terminal Area Forecast*. The estimate of annual operations at Eloy Municipal Airport was computed using the recommended equation (#15) for non-towered airports. Independent variables used in the equation include airport characteristics (i.e., number of based aircraft, number of flight schools), population totals, and geographic location. This equation yields an annual general aviation operations estimate of approximately 17,500 for 2009. This estimate does not take into account an estimated 10,950 annual local general aviation operations conducted by Skydive Arizona. With these estimated specialty operations included, a baseline general aviation operations count of 28,450 can be established. Local and itinerant operation percentages for 2009 were derived

from the Arizona SASP estimates (65 percent and 35 percent, respectively).

Itinerant Operations

Table 2F depicts estimated general aviation itinerant operations at Eloy Municipal Airport for 2009. This data shows a market share of 0.064 percent of all general aviation itinerant operations reported at airports with an airport traffic control tower. This also equates to 241 itinerant operations per based aircraft.

In FAA *Aerospace Forecast - Fiscal Years 2010-2030*, the FAA projects itinerant general aviation operations at towered airports. **Table 2F** presents this forecast, as well as a projection for Eloy Municipal Airport, based upon maintaining its current share of the itinerant general aviation operations market. This forecast has itinerant operations reaching 12,268 by 2029.

The table also displays the findings of an analysis that examined the relationship of annual operations to based aircraft. The second projection in **Table 2F** reflects the itinerant operational levels that could be expected if the operations per based aircraft ratio were to remain constant into the future. This forecast results in 24,100 itinerant general aviation operations by 2029.

The 2008 SASP produced three scenarios for operational growth at Eloy Municipal Airport based on low, medium, and high range operations envelopes. The SASP "Low Range" forecast projects itinerant general aviation operations to be lower in 2014 than the estimated current activity level, which indicates the SASP baseline operational estimates may be underestimated. The SASP annual itinerant operations are projected to range from a low of 10,649 to a high of 18,653 by 2029. For comparison, the FAA TAF projections are also presented and keep annual itinerant operations static at 1,200 through 2029.

The selected Master Plan itinerant general aviation operations forecast takes into account the existing airport activities as well as growth potential associated with the Eloy community and surrounding areas. Eloy Municipal Airport's heavy use for sky diving and parachuting activities may dampen its attractiveness to itinerant aircraft operators. However, as the area's population and economy grow, Eloy Municipal Airport's market share of itinerant general aviation operations should also grow. As the airport facilities and services improve over the planning period, it can be expected that more itinerant general aviation aircraft will choose to utilize Eloy Municipal Airport over other airports in the region. The selected Master Plan forecast, shown at the bottom of **Table 2F**, has itinerant general aviation operations at Eloy Municipal Airport growing to 10,500 by 2014; 12,200 by 2019; 13,400 by 2024; and 16,400 by 2029. This equates to a 2.6 percent average annual growth rate.

TABLE 2F
General Aviation Itinerant Operations Forecast
Eloy Municipal Airport

Year	Itinerant Operations	U.S. ATCT GA Itinerant (millions)	Eloy Market Share	Eloy Based Aircraft	Itinerant Ops Per Based Aircraft
2009	9,900	15.6	0.064%	41	241
Constant Market Share Projection					
2014	10,075	15.74	0.064%	50	201
2019	10,752	16.80	0.064%	60	179
2024	11,481	17.94	0.064%	75	153
2029	12,268	19.17	0.064%	100	123
Constant Operations Per Based Aircraft Projection					
2014	12,050	15.74	0.077%	50	241
2019	14,460	16.80	0.086%	60	241
2024	18,075	17.94	0.101%	75	241
2029	24,100	19.17	0.126%	100	241
2008 Arizona State Airports System Plan – High Range					
2014	10,484	15.74	0.067%	54	194
2019	12,702	16.80	0.076%	66	192
2024	15,392	17.94	0.086%	81	190
2029	18,653	19.17	0.097%	99	188
2008 Arizona State Airports System Plan – Medium Range					
2014	9,204	15.74	0.058%	54	170
2019	10,180	16.80	0.061%	66	154
2024	11,258	17.94	0.063%	80	141
2029	12,449	19.17	0.065%	98	127
2008 Arizona State Airports System Plan – Low Range					
2014	8,758	15.74	0.056%	47	186
2019	9,357	16.80	0.056%	52	180
2024	9,982	17.94	0.056%	58	172
2029	10,649	19.17	0.056%	64	166
FAA Terminal Area Forecast					
2014	1,200	15.74	0.008%	19	63
2019	1,200	16.80	0.007%	19	63
2024	1,200	17.94	0.007%	19	63
2029	1,200	19.17	0.006%	19	63
Master Plan Forecast					
2014	10,500	15.74	0.067%	50	210
2019	12,200	16.80	0.073%	60	203
2024	13,400	17.94	0.075%	75	179
2029	16,400	19.17	0.086%	100	164

Note: The 2008 SASP figures were interpolated by Coffman Associates.

Local Operations

A similar methodology was utilized to forecast local general aviation operations. **Table 2G** depicts estimated local operations at Eloy Municipal Airport in 2009 and examines its market share of general aviation local operations at towered airports in the United States. In 2009, Eloy Municipal Airport experienced 0.149 percent of all local general aviation operations at towered airports. This also equates to 452 local general aviation operations per based aircraft. Typically, airports with active flight training schools can

average up to 500 local operations per based aircraft. Eloy Municipal Airport does not have an active flight school located on the field; however, the number of local aircraft operations conducted by Skydive Arizona, related to its sky diving operations, plays a direct role in maintaining a rather high number of local operations per based aircraft.

TABLE 2G
General Aviation Local Operations Forecast
Eloy Municipal Airport

Year	Local Operations	U.S. ATCT GA Local (millions)	Eloy Market Share	Eloy Based Aircraft	Local Ops Per Based Aircraft
2009	18,550	12.42	0.149%	41	452
Constant Market Share Projection					
2014	18,964	12.73	0.149%	50	379
2019	20,173	13.54	0.149%	60	336
2024	21,504	14.43	0.149%	75	287
2029	22,990	15.43	0.149%	100	230
Constant Operations Per Based Aircraft Projection					
2014	22,660	12.73	0.178%	50	452
2019	27,120	13.54	0.200%	60	452
2024	21,504	14.43	0.235%	75	452
2029	45,200	15.43	0.293%	100	452
2008 Arizona State Airports System Plan – High Range					
2014	19,642	12.73	0.154%	54	319
2019	23,798	13.54	0.176%	66	289
2024	28,839	14.43	0.200%	81	264
2029	34,947	15.43	0.226%	99	238
2008 Arizona State Airports System Plan – Medium Range					
2014	17,244	12.73	0.135%	54	319
2019	19,073	13.54	0.141%	66	289
2024	21,092	14.43	0.146%	80	264
2029	23,324	15.43	0.151%	98	238
2008 Arizona State Airports System Plan – Low Range					
2014	16,408	12.73	0.129%	47	349
2019	17,530	13.54	0.129%	52	337
2024	18,702	14.43	0.130%	58	322
2029	19,952	15.43	0.129%	64	312
FAA Terminal Area Forecast					
2014	14,100	12.73	0.111%	19	742
2019	14,100	13.54	0.104%	19	742
2024	14,100	14.43	0.098%	19	742
2029	14,100	15.43	0.091%	19	742
Master Plan Forecast					
2014	20,300	12.73	0.159%	50	406
2019	22,300	13.54	0.165%	60	372
2024	25,000	14.43	0.173%	75	333
2029	29,000	15.43	0.188%	100	290

Note: The 2008 SASP figures were interpolated by Coffman Associates.

Table 2G presents a market share projection based upon carrying forward a constant share of 0.149 percent. This projection results in 22,990 local general aviation operations by 2029.

The second projection in **Table 2G** examines local operations based on the operations per based aircraft remaining static at 452 through the planning period. This projection results in 45,200 local operations by 2029.

The 2008 SASP was again used for comparison purposes. The interpolated 2029 projections for local general aviation operations ranged between 19,952 and 34,947. The FAA TAF also projects annual local operations. As with forecast itinerant operations, the TAF shows no growth in local operations through 2029.

It is anticipated that Skydive Arizona will continue to be the primary operator at Eloy Municipal Airport, contributing the majority of the local general aviation operations. The level of local activity will also be dependent upon the number of aircraft basing at the airport and the potential for flight schools to utilize the airport in the future. The selected Master Plan local general aviation operations forecast, shown at the bottom of **Table 2G**, has local operations growing to 20,300 by 2014; 22,300 by 2019; 25,000 by 2024; and 29,000 by 2029. This is a growth rate of 2.3 percent annually.

Annual General Aviation Operations Summary

Table 2H depicts estimated 2009 general aviation operations at Eloy Municipal Airport, as well as the updated Master Plan projections. Total general aviation operations are projected to reach 45,400 annually by 2029. This yields a growth rate of 2.4 percent over the planning period. Itinerant operations are projected to remain essentially static at approximately 36 percent of total operations by the end of the planning period. This percentage share is consistent with the type of activity at the airport.

TABLE 2H
General Aviation Operations Forecast Summary
Eloy Municipal Airport

Year	Total Operations	Itinerant Operations	Local Operations	Based Aircraft	Itinerant Ops/BA	Local Ops/BA
2009	28,450	9,900	18,550	41	241	452
Master Plan Forecast						
2014	30,800	10,500	20,300	50	210	406
2019	34,500	12,200	22,300	60	203	372
2024	38,400	13,400	25,000	75	179	333
2029	45,400	16,400	29,000	100	164	290

Military

Military operations account for the smallest portion of the operational traffic at Eloy Municipal Airport. Military activity has been estimated at approximately 100 operations annually. Unless there is an unforeseen mission change in the area, a significant change from these military operational levels is not anticipated. Therefore, annual military operations have been projected at 100 throughout the planning period. This is consistent with

typical industry practices for projecting military operations.

PEAKING CHARACTERISTICS

Many airport facility needs are related to the levels of activity during peak periods (busy times). The periods used in developing facility requirements for this study are as follows:

- **Peak Month** – The calendar month when peak passenger enplanements or aircraft operations occur.

- **Design Day** – The average day in the peak month. This indicator is derived by dividing the peak month operations or passenger enplanements by the number of days in the month.

- **Busy Day** – The busy day of a typical week in the peak month.

- **Design Hour** – The peak hour within the design day.

Without an ATCT, adequate operational information is not available to directly determine peak operational activity at the airport. Therefore, peak period forecasts have been determined according to trends experienced at similar airports and by examining the operational counts estimated at the airport in 2009.

Typically, the peak month for activity at general aviation airports approximates 10 to 15 percent of the airport's annual operations. For planning purposes, peak month operations have been estimated at 12 percent of annual operations at Eloy Municipal Airport. The design day operations were calculated by dividing the peak month by 30. The design day is primarily used in airfield capacity calculations.

The busy day provides information for use in determining aircraft parking apron requirements. The busiest day of each week accounts for approximately 18 percent of weekly operations. Thus, to determine the typical busy day, the design day is multiplied by 1.25, which represents approximately 18 percent of the days in a week. Design hour operations were determined at 15 percent of the design day operations. **Table 2J** summarizes peak general aviation operations forecasts for the airport.

TABLE 2J
Peak Period Forecasts
Eloy Municipal Airport

	2009	2014	2019	2024	2029
Annual Operations (General Aviation)	28,450	30,800	34,500	38,400	45,400
Peak Month	3,414	3,696	4,140	4,608	5,448
Design Day	114	123	138	154	182
Busy Day	142	154	173	192	227
Design Hour	17	18	21	23	27

Source: Coffman Associates analysis

ANNUAL INSTRUMENT APPROACHES

An instrument approach, as defined by the FAA, is "an approach to an airport with the intent to land by an aircraft in accordance with an Instrument Flight Rule (IFR) flight plan, when visibility is less than three miles and/or when the ceiling is at or below the minimum initial approach altitude." To qualify as an instrument approach at Eloy Municipal Airport, aircraft must land at the airport after following the published instrument approach procedure and then properly close their flight plan on the ground. The approach must be conducted in weather conditions which necessitate the use of the instrument approach. If the flight plan is closed prior to landing, then the instrument approach is not counted in the records. It should be noted that practice or training approaches do not count as annual instrument approaches.

The increased availability of low-cost navigational equipment could allow smaller and less sophisticated aircraft to utilize instrument approaches. National trends indicate an increasing percentage of approaches given the greater availability of approaches at airports with GPS and the availability of more cost-effective equipment.

Eloy is not currently equipped for instrument approach operations and weather conditions rarely necessitate an instrument approach. Visual flight rule (VFR) weather conditions occur approximately 99.5 percent of the year. For the Eloy area, one-half percent of itinerant operations has been utilized to estimate potential instrument approaches. This results in approximately 82 annual instrument approaches by 2029.

SUMMARY

This chapter has provided demand-based forecasts of aviation activity at Eloy Municipal Airport over the next 20 years. An attempt has been made to define the projections in terms of short (1-5 years), intermediate (6-10 years), and long (11-20 years) term expectations. Elements such as local socioeconomic indicators, anticipated regional development, and historical aviation data, as well as national aviation trends, were all considered when determining future conditions.

The next step in the master planning process will be to assess the capacity of existing facilities, their ability to meet forecast demand, and to identify changes to the airfield and/or landside facilities which will create a more functional aviation facility. A summary of aviation forecasts is depicted on **Exhibit 2C**.

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Annual Operations

	2009	2014	2019	2024	2029
General Aviation					
Itinerant	9,900	10,500	12,200	13,400	16,400
Local	18,550	20,300	22,300	25,000	29,000
Military	100	100	100	100	100
Total Operations	**28,550**	**30,900**	**34,600**	**38,500**	**45,500**

Based Aircraft

	2009	2014	2019	2024	2029
Single Engine	29	35	40	49	65
Multi-Engine	4	4	5	5	6
Turbo Prop	8	9	11	14	18
Jet	0	1	2	4	6
Helicopters	0	1	2	3	5
Total Based Aircraft	**41**	**50**	**60**	**75**	**100**

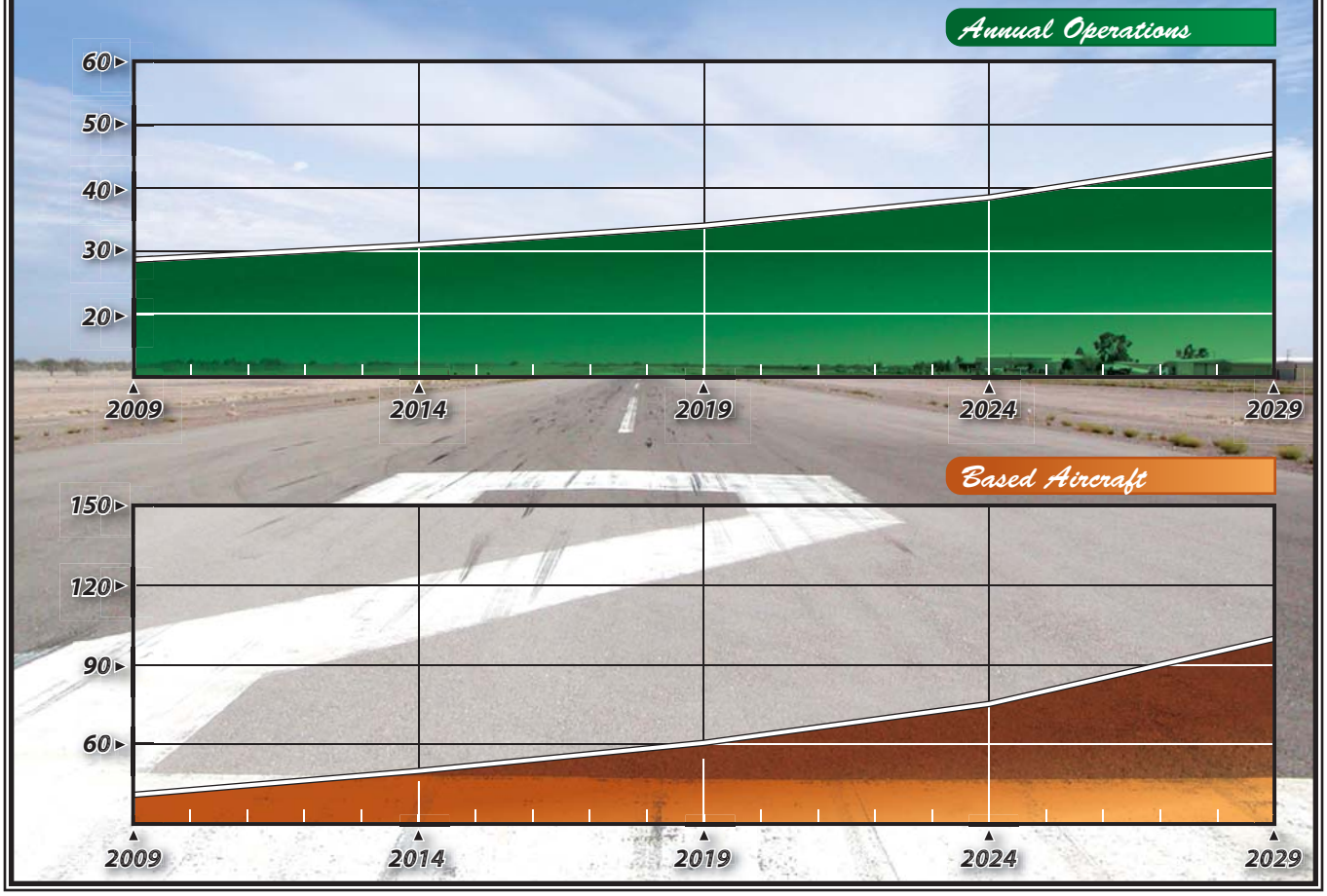

Exhibit 2C
FORECAST SUMMARY