

2.0 AVIATION FORECASTS

In planning for the future growth of any airport, it is important to understand the context within which potential increases in aviation activity are likely to occur. Several indicators of aviation activity including regional and local trends in general aviation were used to develop an aviation activity forecast for Fox Airfield. The forecast period covers a 20-year period from 2010 to 2029 and the forecast elements include data at five-year intervals (2014, 2019, 2024, and 2029).

The aviation demand forecast's purpose is to provide one of the parameters for planning future aviation facilities. Aviation forecasting is not an "exact science" so experienced aviation judgment and practical considerations will influence the level of detail and effort required to establish reasonable forecasts and subsequent airport development decisions. Sections 2.1 and 2.2 include a discussion of the national and local general aviation activity historical trends and projections. These trends provide a basis for the projections of aviation activity developed for Fox Airfield.

The air traffic activity at Fox Airfield is comprised largely of general aviation and military activity. Therefore, the historic trends and projections are focused specifically on this type of activity. The forecasts were developed through analysis of recent trends in activity at Fox Airfield and trends in national general aviation activity. Historical growth rates were analyzed and compared to forecast growth rates to insure that the projections were reasonable. Trends in the national aviation forecasts developed by the Federal Aviation Administration (FAA) were used to provide the underlying assumptions for the projections of aviation activity and the other elements of the forecast contained herein. The FAA develops its estimates of such trends through conversations with various segments of the general aviation community.

It is important to recognize that for airports with greater than 100,000 total annual operations, or 100 based aircraft, the forecasts must be approved by the FAA prior to proceeding to the facility requirements analysis. The forecasts developed for Fox Airfield do not attain those activity levels; therefore, the FAA is not required to review and approve these forecasts.

2.1 National Economic & General Aviation Trends

The *FAA Aerospace Forecast, Fiscal Years 2010 – 2030* (FAA Forecasts)¹ includes a description of national factors that influence overall aviation demand including economic measures such as U.S. Gross Domestic Product (GDP) and the Consumer Price Index (CPI). In addition to the economic factors, trends related to the purchase of general aviation aircraft specifically influence the outlook related to the overall general aviation activity in the U.S. These factors coupled with local aviation trends will be the basis for the forecasts developed for Fox Airfield.

¹ This publication was released in March 2010. Fiscal year refers to the Federal fiscal year, which begins October 1st and ends September 30th each year.

Table 2.1 presents the historic and projected GDP and CPI. GDP is a measure of overall economic growth and CPI is a measure of economic inflation. As shown in the table, since 2004, the annual increases in GDP declined and from 2008 to 2009, GDP actually decreased 2.8 percent. This decrease was a result of the recession experienced in the U.S. that began in December 2007.

GDP is projected to increase 2.7 percent from 2009 to 2014. It is expected that the U.S. will slowly climb out of the current recession in the near term. As a result, year over year increases in GDP are modest from 2009 to 2011, with the greatest increase projected to occur from 2011 to 2012. After 2012, year over year GDP growth remains consistent for the remainder of the projection period indicating a stabilization of the economy.

Because of the recession, the unemployment rate in the U.S. increased from 5.0 percent in December 2007 to 9.8 percent in September 2009. This increase resulted in falling demand for oil and lower oil prices. As a result, the CPI declined 0.3 percent from 2008 to 2009. This was the first decline in this economic measure since 1955.

CPI is projected to increase at an annual compounded growth rate of 1.9 percent from 2009 to 2014. The year over year increases in CPI follow the same pattern as the increases in GDP, with the largest year over year increase (2.2 percent) anticipated to occur from 2011 to 2012.

**Table 2.1
Historic and Projected
Gross Domestic Product and Consumer Price Index**

Fiscal Year	GDP		CPI	
	(Billions, 2005\$)	% Change	(1982-1984 = 100)	% Change
2000	11,145.9		170.7	
2001	11,335.8	1.7%	176.2	3.2%
2002	11,498.3	1.4%	178.9	1.5%
2003	11,729.7	2.0%	183.1	2.4%
2004	12,171.9	3.8%	187.3	2.3%
2005	12,553.8	3.1%	193.5	3.3%
2006	12,898.3	2.7%	200.6	3.7%
2007	13,171.4	2.1%	205.3	2.3%
2008	13,374.5	1.5%	214.4	4.4%
2009	12,995.9	-2.8%	213.8	-0.3%
2010	13,188.6	1.5%	216.8	1.4%
2011	13,533.9	2.6%	220.9	1.9%
2012	14,024.1	3.6%	225.7	2.2%
2013	14,469.8	3.2%	229.9	1.9%
2014	14,852.6	2.6%	234.4	1.9%
2015	15,233.2	2.6%	238.9	1.9%
2016	15,612.1	2.5%	243.6	2.0%
2017	15,995.2	2.5%	248.4	1.9%
2018	16,414.8	2.6%	253.2	1.9%
2019	16,876.8	2.8%	257.9	1.9%
2020	17,391.6	3.1%	262.4	1.7%
2021	17,858.1	2.7%	266.9	1.7%
2022	18,318.4	2.6%	271.6	1.7%
2023	18,794.2	2.6%	276.3	1.7%
2024	19,272.8	2.5%	281.4	1.8%
2025	19,783.0	2.6%	286.7	1.9%
2026	20,300.2	2.6%	292.1	1.9%
2027	20,802.1	2.5%	297.8	1.9%
2028	21,317.6	2.5%	303.5	1.9%
2029	21,832.4	2.4%	309.4	2.0%
Average Annual Growth				
2000-2009		1.7%		2.5%
2005-2009		0.9%		2.5%
2009-2014		2.7%		1.9%
2014-2029		2.6%		1.9%
2009-2029		2.6%		1.9%

Source: FAA Forecast, 2010-2030; Compiled by PB Americas, Inc.

The economic recession that began at the end of 2007 had a marked effect on the general aviation industry. **Table 2.2** presents the historical general aviation aircraft shipments from 2000 to 2009. According to the General Aviation Manufacturers Association (GAMA), delivery of general aviation aircraft was down nearly 50 percent in 2009 compared to 2008 and was the second year of declining shipments compared to the four previous years, which experienced increases.

**Table 2.2
Historic General Aviation Aircraft Shipments**

Year	Units Shipped	% Change
2000	2,816	
2001	2,634	-6.5%
2002	2,207	-16.2%
2003	2,137	-3.2%
2004	2,355	10.2%
2005	2,857	21.3%
2006	3,147	10.2%
2007	3,279	4.2%
2008	3,079	-6.1%
2009	1,587	-48.5%
Average Annual Growth		
2000-2009		-6.2%
2005-2009		-13.7%
2007-2009		-30.4%

Source: GAMA ; Compiled by PB Americas, Inc.

The FAA uses the economic forecasts and trends in general aviation aircraft deliveries to develop its forecast of active general aviation aircraft. **Table 2.3** presents the number of historic and FAA projected fixed wing piston and turbine aircraft. As shown in the table, the total number of active piston aircraft decreased since 2000, while the number of turbine aircraft has increased. The total number of piston and turbine aircraft has ranged from approximately 183,000 in 2002 and 2003 to a high of approximately 196,000 in 2007. Since 2007, the number of piston and turbine aircraft has decreased approximately 2 percent.

These aircraft are projected to increase slightly during the projection period at an average annual growth rate of 0.7 percent from 2009 to 2029. The main driver of the projected modest growth for these aircraft is generated by the turbine aircraft, which are projected to increase at an average annual rate of 3.0 percent during the projection period compared to 0.2 percent average annual growth for piston aircraft during the same period.

**Table 2.3
Historic and Projected
Fixed Wing Piston and Turbine General Aviation Aircraft**

Fiscal Year	Piston	% Change	Turbine	% Change	Total	% Change
2000	173,193		17,233		190,426	
2001	165,518	-4.4%	18,874	9.5%	184,392	-3.2%
2002	163,337	-1.3%	19,493	3.3%	182,830	-0.8%
2003	162,879	-0.3%	20,089	3.1%	182,968	0.1%
2004	167,397	2.8%	23,183	15.4%	190,580	4.2%
2005	170,645	1.9%	23,454	1.2%	194,099	1.8%
2006	167,005	-2.1%	24,337	3.8%	191,342	-1.4%
2007	169,675	1.6%	26,697	9.7%	196,372	2.6%
2008	166,514	-1.9%	26,327	-1.4%	192,841	-1.8%
2009	165,762	-0.5%	26,968	2.4%	192,730	-0.1%
2010	165,111	-0.4%	27,594	2.3%	192,705	0.0%
2011	164,548	-0.3%	28,318	2.6%	192,866	0.1%
2012	164,092	-0.3%	29,131	2.9%	193,224	0.2%
2013	163,732	-0.2%	30,053	3.2%	193,785	0.3%
2014	163,446	-0.2%	31,032	3.3%	194,478	0.4%
2015	163,230	-0.1%	32,060	3.3%	195,289	0.4%
2016	163,077	-0.1%	33,080	3.2%	196,157	0.4%
2017	162,979	-0.1%	34,108	3.1%	197,087	0.5%
2018	162,982	0.0%	35,128	3.0%	198,110	0.5%
2019	163,137	0.1%	36,166	3.0%	199,304	0.6%
2020	163,492	0.2%	37,242	3.0%	200,734	0.7%
2021	164,026	0.3%	38,357	3.0%	202,383	0.8%
2022	164,606	0.4%	39,499	3.0%	204,106	0.9%
2023	165,265	0.4%	40,674	3.0%	205,939	0.9%
2024	166,057	0.5%	41,883	3.0%	207,941	1.0%
2025	166,994	0.6%	43,128	3.0%	210,122	1.0%
2026	167,872	0.5%	44,412	3.0%	212,284	1.0%
2027	168,864	0.6%	45,730	3.0%	214,594	1.1%
2028	169,986	0.7%	47,084	3.0%	217,070	1.2%
2029	171,225	0.7%	48,469	2.9%	219,693	1.2%
Average Annual Growth						
2000-2009		-0.5%		5.1%		0.1%
2005-2009		-0.7%		3.6%		-0.2%
2009-2014		-0.3%		2.8%		0.2%
2014-2029		0.3%		3.0%		0.8%
2009-2029		0.2%		3.0%		0.7%

Source: FAA Forecast 2010-2030; Compiled by PB Americas, Inc.

Table 2.4 presents the historic and projected general aviation and military operations at FAA and contract air traffic control towers for the U.S. As shown in the table, the number of general aviation and military operations has decreased at an average annual rate of 3.7 percent from 2000 to 2009. General aviation and military operations are projected to decrease 3.0 percent from 2009 to 2010 followed by consistent increases ranging from 1.1 percent to 1.3 percent each year from 2011 to 2029, with an average annual growth rate of approximately 1.0 percent from 2009 to 2029. Military operations are projected to remain constant during the projection period, while general aviation operations are projected to increase at an average annual growth rate of 1.1 percent between 2009 and 2029. The modest increases in this type of activity during the projection period are a reflection of the modest increases in GA aircraft during the same period.

**Table 2.4
Historic and Projected
U.S. General Aviation and Military Operations**

Fiscal Year	General Aviation	% Change	Military	% Change	Total	% Change
2000	39,878.5		2,888.0		42,766.5	
2001	37,626.5	-5.6%	2,917.1	1.0%	40,543.6	-5.2%
2002	37,652.7	0.1%	3,063.4	5.0%	40,716.1	0.4%
2003	35,524.0	-5.7%	3,009.2	-1.8%	38,533.2	-5.4%
2004	34,967.7	-1.6%	2,979.3	-1.0%	37,947.0	-1.5%
2005	34,146.8	-2.3%	2,863.6	-3.9%	37,010.4	-2.5%
2006	33,072.5	-3.1%	2,775.8	-3.1%	35,848.3	-3.1%
2007	33,132.0	0.2%	2,719.6	-2.0%	35,851.5	0.0%
2008	31,668.0	-4.4%	2,501.4	-8.0%	34,169.4	-4.7%
2009	27,974.4	-11.7%	2,556.5	2.2%	30,530.9	-10.6%
2010	27,097.2	-3.1%	2,516.6	-1.6%	29,613.8	-3.0%
2011	27,432.7	1.2%	2,516.6	0.0%	29,949.3	1.1%
2012	27,774.5	1.2%	2,516.6	0.0%	30,291.1	1.1%
2013	28,120.2	1.2%	2,516.6	0.0%	30,636.8	1.1%
2014	28,469.1	1.2%	2,516.6	0.0%	30,985.7	1.1%
2015	28,833.4	1.3%	2,516.6	0.0%	31,350.0	1.2%
2016	29,202.3	1.3%	2,516.6	0.0%	31,718.9	1.2%
2017	29,575.5	1.3%	2,516.6	0.0%	32,092.1	1.2%
2018	29,954.4	1.3%	2,516.6	0.0%	32,471.0	1.2%
2019	30,338.6	1.3%	2,516.6	0.0%	32,855.2	1.2%
2020	30,728.9	1.3%	2,516.6	0.0%	33,245.5	1.2%
2021	31,124.4	1.3%	2,516.6	0.0%	33,641.0	1.2%
2022	31,525.7	1.3%	2,516.6	0.0%	34,042.3	1.2%
2023	31,945.4	1.3%	2,516.6	0.0%	34,462.0	1.2%
2024	32,371.8	1.3%	2,516.6	0.0%	34,888.4	1.2%
2025	32,805.0	1.3%	2,516.6	0.0%	35,321.6	1.2%
2026	33,243.5	1.3%	2,516.6	0.0%	35,760.1	1.2%
2027	33,689.1	1.3%	2,516.6	0.0%	36,205.7	1.2%
2028	34,140.3	1.3%	2,516.6	0.0%	36,656.9	1.2%
2029	34,598.8	1.3%	2,516.6	0.0%	37,115.4	1.3%
Average Annual Growth						
2000-2009		-3.9%		-1.3%		-3.7%
2005-2009		-4.9%		-2.8%		-4.7%
2009-2014		0.4%		-0.3%		0.3%
2014-2029		1.3%		0.0%		1.2%
2009-2029		1.1%		-0.1%		1.0%

Source: FAA Forecast 2010-2030; Compiled by PB Americas, Inc.

2.2 Regional General Aviation Trends

General aviation activity trends for the region surrounding Fox Airfield can also provide an indication of the projected future aviation activity for Fox Airfield. The FAA prepares the Terminal Area Forecast (TAF) each year that provides activity forecasts by aviation facility. The TAF provides information for several airports in the County of Los Angeles, which are as follows:

- Brackett
- Burbank
- Compton
- El Monte
- Fox Airfield
- Hawthorne
- Long Beach
- Los Angeles International
- Santa Monica
- Torrance/Zamperini Field
- Van Nuys
- Whiteman

Table 2.5 presents historical and projected general aviation and military operations for the County of Los Angeles airports included in the TAF compared to total U.S. general aviation and military operations. As shown in the table, the County of Los Angeles airports' general aviation operations have decreased by an annual rate of 5.4 percent from 2000 to 2009. This compares to a decrease of 3.7 percent for the nation. County of Los Angeles' share of total U.S. general aviation and military operations from 2000 to 2009 ranged from a high of 5.0 percent in 2000 and has decreased in recent years to a low of 4.3 percent in 2009. County of Los Angeles' share of U.S. general aviation operations is projected to range from 4.1 to 4.4 percent from 2010 to 2029, averaging at 4.2 percent for the entire projection period.

Table 2.5
Historic and Projected County of Los Angeles and U.S.
General Aviation and Military Operations

Year	County of Los Angeles	% Change	U.S. (in 000s)	% Change	County Share of U.S.
2000	2,152,510		42,766.5		5.0%
2001	1,914,951	-11.0%	40,543.6	-5.2%	4.7%
2002	1,925,424	0.5%	40,716.1	0.4%	4.7%
2003	1,887,484	-2.0%	38,533.2	-5.4%	4.9%
2004	1,810,652	-4.1%	37,947.0	-1.5%	4.8%
2005	1,716,005	-5.2%	37,010.4	-2.5%	4.6%
2006	1,664,996	-3.0%	35,848.3	-3.1%	4.6%
2007	1,646,862	-1.1%	35,851.5	0.0%	4.6%
2008	1,477,357	-10.3%	34,169.4	-4.7%	4.3%
2009	1,308,866	-11.4%	30,530.9	-10.6%	4.3%
2010	1,289,961	-1.4%	29,613.8	-3.0%	4.4%
2011	1,299,970	0.8%	29,949.3	1.1%	4.3%
2012	1,311,016	0.8%	30,291.1	1.1%	4.3%
2013	1,322,183	0.9%	30,636.8	1.1%	4.3%
2014	1,333,472	0.9%	30,985.7	1.1%	4.3%
2015	1,345,240	0.9%	31,350.0	1.2%	4.3%
2016	1,357,141	0.9%	31,718.9	1.2%	4.3%
2017	1,369,166	0.9%	32,092.1	1.2%	4.3%
2018	1,381,336	0.9%	32,471.0	1.2%	4.3%
2019	1,393,643	0.9%	32,855.2	1.2%	4.2%
2020	1,406,085	0.9%	33,245.5	1.2%	4.2%
2021	1,418,672	0.9%	33,641.0	1.2%	4.2%
2022	1,431,399	0.9%	34,042.3	1.2%	4.2%
2023	1,444,263	0.9%	34,462.0	1.2%	4.2%
2024	1,457,277	0.9%	34,888.4	1.2%	4.2%
2025	1,470,439	0.9%	35,321.6	1.2%	4.2%
2026	1,483,748	0.9%	35,760.1	1.2%	4.1%
2027	1,497,205	0.9%	36,205.7	1.2%	4.1%
2028	1,510,817	0.9%	36,656.9	1.2%	4.1%
2029	1,524,578	0.9%	37,115.4	1.3%	4.1%
Average Annual Growth					
2000-2009		-5.4%		-3.7%	
2005-2009		-6.5%		-4.7%	
2009-2014		0.4%		0.3%	
2014-2029		0.9%		1.2%	
2009-2029		0.8%		1.0%	

Sources: Terminal Area Forecast; FAA Forecast 2010-2030; Compiled by PB Americas, Inc.

The TAF also provides a forecast of based aircraft at the County of Los Angeles' airports. **Table 2.6** presents a comparison of the historic and projected based aircraft at the County of Los Angeles airports' compared to the projected general aviation aircraft in the U.S. The number of based aircraft at these airports has decreased at an average annual rate of 2.0 percent from 2000 to 2009 compared to a negligible average annual increase for the nation. As also shown, County of Los Angeles' share of U.S. general aviation aircraft has decreased since 2000 and is projected to stabilize and remain steady between 1.9 percent and 2.0 percent from 2010 to 2029.

Table 2.6
Historic and Projected
County of Los Angeles Based Aircraft &
U.S. Piston & Turbine Fixed Wing Aircraft

Fiscal Year	County of Los Angeles	% Change	U.S.	% Change	County Share of U.S.
2000	4,435		190,426		2.3%
2001	4,395	-0.9%	184,392	-3.2%	2.4%
2002	4,369	-0.6%	182,830	-0.8%	2.4%
2003	4,428	1.4%	182,968	0.1%	2.4%
2004	4,274	-3.5%	190,580	4.2%	2.2%
2005	4,388	2.7%	194,099	1.8%	2.3%
2006	4,418	0.7%	191,342	-1.4%	2.3%
2007	4,403	-0.3%	196,372	2.6%	2.2%
2008	3,668	-16.7%	192,841	-1.8%	1.9%
2009	3,712	1.2%	192,730	-0.1%	1.9%
2010	3,757	1.2%	192,705	0.0%	1.9%
2011	3,799	1.1%	192,866	0.1%	2.0%
2012	3,842	1.1%	193,224	0.2%	2.0%
2013	3,887	1.2%	193,785	0.3%	2.0%
2014	3,931	1.1%	194,478	0.4%	2.0%
2015	3,977	1.2%	195,289	0.4%	2.0%
2016	4,022	1.1%	196,157	0.4%	2.1%
2017	4,070	1.2%	197,087	0.5%	2.1%
2018	4,113	1.1%	198,110	0.5%	2.1%
2019	4,165	1.3%	199,304	0.6%	2.1%
2020	4,209	1.1%	200,734	0.7%	2.1%
2021	4,255	1.1%	202,383	0.8%	2.1%
2022	4,304	1.2%	204,106	0.9%	2.1%
2023	4,356	1.2%	205,939	0.9%	2.1%
2024	4,405	1.1%	207,941	1.0%	2.1%
2025	4,454	1.1%	210,122	1.0%	2.1%
2026	4,504	1.1%	212,284	1.0%	2.1%
2027	4,554	1.1%	214,594	1.1%	2.1%
2028	4,606	1.1%	217,070	1.2%	2.1%
2029	4,659	1.2%	219,693	1.2%	2.1%
Average Annual Growth					
2000-2009		-2.0%		0.1%	
2005-2009		-4.1%		-0.2%	
2009-2014		1.2%		0.2%	
2014-2029		1.1%		0.8%	
2009-2029		1.1%		0.7%	

Sources: Terminal Area Forecast; FAA Forecast 2010-2030; Compiled by PB Americas, Inc.

2.3 Base Case Forecast

In an effort to quantify the anticipated level of aircraft activity for Fox Airfield, a base case forecast was developed for the 20-year planning period (2010-2029). The forecast includes projections for aircraft operations, based aircraft and fleet mix at Fox Airfield. The primary methodology used to prepare this forecast was a review of historic growth rates in aviation activity and a comparison of Fox Airfield's aviation activity to the

general aviation activity of the region and the nation. Regression analyses were used to determine if there was a positive correlation between the aviation activity at Fox Airfield to certain local socioeconomic variables such as population, income, and/or employment. If the relationship between these data items is positive, an equation can be developed and applied to already prepared projections of the socioeconomic data to predict the aviation activity at Fox Airfield. However, the relationship of the data was not positively correlated; therefore, regression analysis was not used to develop these forecasts. Because regression analysis was not used, comparisons of historic aviation activity by type were closely examined to prepare the aviation forecasts contained herein. Section 2.3.1 and 2.3.2 provide additional details regarding the aviation activity forecasts.

2.3.1 Aircraft Operations

Table 2.7 presents historic airport operations by type. As shown in the table, total operations have decreased at an average annual rate of 3.4 percent from 2000 to 2009 and in recent years (2005 to 2009), the average annual rate of decrease has been 5.7 percent. Itinerant operations have decreased at a slower rate than local operations due to the increases in air taxi and military operations. Local operations have decreased at an average annual rate of 11.1 percent from 2005 to 2009 and the share of local operations has decreased from 52 percent to 41 percent of total operations during the same period.

Table 2.7
Historic Fox Airfield Operations by Type

Year	ITINERANT				LOCAL			TOTAL				% Change
	Air Taxi	General Aviation	Military	Total Itinerant	General Aviation	Military	Total Local	Air Taxi	General Aviation	Military	Total Operations	
2000	1,933	33,812	315	36,060	43,894	440	44,334	1,933	77,706	755	80,394	
2001	2,815	32,349	469	35,633	40,596	447	41,043	2,815	72,945	916	76,676	-4.6%
2002	2,062	37,402	503	39,967	39,904	510	40,414	2,062	77,306	1,013	80,381	4.8%
2003	1,388	37,681	750	39,819	44,058	552	44,610	1,388	81,739	1,302	84,429	5.0%
2004	1,548	37,030	630	39,208	39,289	412	39,701	1,548	76,319	1,042	78,909	-6.5%
2005	1,707	33,877	520	36,104	38,063	571	38,634	1,707	71,940	1,091	74,738	-5.3%
2006	1,820	33,754	547	36,121	32,239	909	33,148	1,820	65,993	1,456	69,269	-7.3%
2007	1,762	30,906	480	33,148	32,029	1,028	33,057	1,762	62,935	1,508	66,205	-4.4%
2008	1,491	29,409	709	31,609	27,455	538	27,993	1,491	56,864	1,247	59,602	-10.0%
2009	1,706	31,552	649	33,907	25,024	328	25,352	1,706	56,576	977	59,259	-0.6%
Average Annual Growth												
2000-2009	-1.4%	-0.8%	8.4%	-0.7%	-6.1%	-3.2%	-6.0%	-1.4%	-3.5%	2.9%	-3.3%	
2005-2009	0.0%	-1.8%	5.7%	-1.6%	-10.0%	-12.9%	-10.0%	0.0%	-5.8%	-2.7%	-5.6%	

Source: Terminal Area Forecast; Compiled by PB Americas, Inc.

Table 2.8 presents a comparison of Fox Airfield's total operations to the County of Los Angeles airports and the U.S. from 2000 to 2009. As shown, the Fox Airfield's share of the County's operations has increased over time ranging from 3.73 percent in 2000 to 4.52 percent in 2009. Fox Airfield's share of U.S. general aviation operations

has ranged from a low of 0.174 percent in 2008 to a high of 0.219 percent in 2003. The increase in Fox Airfield's share of County of Los Angeles' activity versus the decrease in the share of U.S. activity indicates a stronger relationship to local traffic over the traffic of the nation.

Table 2.8
Historic Fox Airfield, County of Los Angeles, & U.S.
General Aviation Operations

Year	Fox Airfield	% Change	County of Los Angeles	% Change	U.S. (in 000s)	% Change	Fox Airfield Share of County	Fox Airfield Share of U.S.
2000	80,394		2,152,510		42,766.5		3.73%	0.188%
2001	76,676	-4.6%	1,914,951	-11.0%	40,543.6	-5.2%	4.00%	0.189%
2002	80,381	4.8%	1,925,424	0.5%	40,716.1	0.4%	4.17%	0.197%
2003	84,429	5.0%	1,887,484	-2.0%	38,533.2	-5.4%	4.47%	0.219%
2004	78,909	-6.5%	1,810,652	-4.1%	37,947.0	-1.5%	4.36%	0.208%
2005	74,738	-5.3%	1,716,005	-5.2%	37,010.4	-2.5%	4.36%	0.202%
2006	69,269	-7.3%	1,664,996	-3.0%	35,848.3	-3.1%	4.16%	0.193%
2007	66,205	-4.4%	1,646,862	-1.1%	35,851.5	0.0%	4.02%	0.185%
2008	59,602	-10.0%	1,477,357	-10.3%	34,169.4	-4.7%	4.03%	0.174%
2009	59,259	-0.6%	1,308,866	-11.4%	30,530.9	-10.6%	4.53%	0.194%
Average Annual Growth								
2000-2009		-3.3%		-5.4%		-3.7%		
2005-2009		-5.6%		-6.5%		-4.7%		

Source: Terminal Area Forecasts; FAA Forecasts; Compiled by PB Americas, Inc.

Projections of operations were determined by using Fox Airfield's share of County of Los Angeles and U.S. operations applied to the projected operations forecast by the FAA. Because the historical data indicated a stronger relationship to local traffic, projections of local traffic were weighted more heavily than national traffic in the preparation of the activity forecasts. **Table 2.9** presents the projected operations at the airport compared to that of the County of Los Angeles and the U.S. As shown, the average annual growth rate in Fox Airfield's operations is projected to be 0.7 percent from 2009 to 2014 and 1.7 percent from 2014 to 2029.

Table 2.9
Projected Fox Airfield, County of Los Angeles, & U.S.
General Aviation Operations

Year	Fox Airfield	% Change	County of Los Angeles	% Change	U.S. (in 000s)	% Change	Fox Airfield Share of County	Fox Airfield Share of U.S.
2009	59,259		1,308,866		30,530.9		4.53%	0.194%
2010	58,700	-0.9%	1,289,961	-1.4%	29,613.8	-3.0%	4.55%	0.198%
2011	59,300	1.0%	1,299,970	0.8%	29,949.3	1.1%	4.56%	0.198%
2012	59,900	1.0%	1,311,016	0.8%	30,291.1	1.1%	4.57%	0.198%
2013	60,600	1.2%	1,322,183	0.9%	30,636.8	1.1%	4.58%	0.198%
2014	61,400	1.3%	1,333,472	0.9%	30,985.7	1.1%	4.60%	0.198%
2015	62,200	1.3%	1,345,240	0.9%	31,350.0	1.2%	4.62%	0.198%
2016	63,100	1.4%	1,357,141	0.9%	31,718.9	1.2%	4.65%	0.199%
2017	64,000	1.4%	1,369,166	0.9%	32,092.1	1.2%	4.67%	0.199%
2018	65,000	1.6%	1,381,336	0.9%	32,471.0	1.2%	4.71%	0.200%
2019	66,000	1.5%	1,393,643	0.9%	32,855.2	1.2%	4.74%	0.201%
2020	67,000	1.5%	1,406,085	0.9%	33,245.5	1.2%	4.77%	0.202%
2021	68,100	1.6%	1,418,672	0.9%	33,641.0	1.2%	4.80%	0.202%
2022	69,300	1.8%	1,431,399	0.9%	34,042.3	1.2%	4.84%	0.204%
2023	70,600	1.9%	1,444,263	0.9%	34,462.0	1.2%	4.89%	0.205%
2024	71,900	1.8%	1,457,277	0.9%	34,888.4	1.2%	4.93%	0.206%
2025	73,300	1.9%	1,470,439	0.9%	35,321.6	1.2%	4.98%	0.208%
2026	74,700	1.9%	1,483,748	0.9%	35,760.1	1.2%	5.03%	0.209%
2027	76,200	2.0%	1,497,205	0.9%	36,205.7	1.2%	5.09%	0.210%
2028	77,700	2.0%	1,510,817	0.9%	36,656.9	1.2%	5.14%	0.212%
2029	79,400	2.2%	1,524,578	0.9%	37,115.4	1.3%	5.21%	0.214%
Average Annual Growth								
2009-2014		0.7%		0.4%		0.3%		
2014-2029		1.7%		0.9%		1.2%		
2009-2029		1.5%		0.8%		1.0%		

Source: Terminal Area Forecasts; FAA Forecasts; PB Americas, Inc.

The FAA TAF provides projections for Fox Airfield's activity by type of operation. The operations forecasts for this master plan update were allocated using the same share as those in the FAA TAF. **Table 2.10** presents the operations forecast by type of operation. As shown, air taxi and military operations are projected to remain constant during the projection period, with general aviation operations driving the operations growth. The share of local operations is projected to decrease slightly during the projection period from 41 percent in 2009 to 39 percent in 2029, with itinerant operations' share increasing from 59 percent to 61 percent during the same period.

Table 2.10
Projected Fox Airfield Operations by Type

Year	ITINERANT				LOCAL			TOTAL				% Change
	Air Taxi	General Aviation	Military	Total Itinerant	General Aviation	Military	Total Local	Air Taxi	General Aviation	Military	Total Operations	
2009	1,706	31,552	649	33,907	25,024	328	25,352	1,706	56,576	977	59,259	
2010	2,120	34,140	770	37,030	21,340	330	21,670	2,120	55,480	1,100	58,700	-0.9%
2011	2,120	34,440	770	37,330	21,640	330	21,970	2,120	56,080	1,100	59,300	1.0%
2012	2,120	34,750	770	37,640	21,930	330	22,260	2,120	56,680	1,100	59,900	1.0%
2013	2,120	35,120	770	38,010	22,260	330	22,590	2,120	57,380	1,100	60,600	1.2%
2014	2,130	35,530	780	38,440	22,620	340	22,960	2,130	58,150	1,120	61,400	1.3%
2015	2,140	35,950	780	38,870	22,990	340	23,330	2,140	58,940	1,120	62,200	1.3%
2016	2,150	36,440	780	39,370	23,390	340	23,730	2,150	59,830	1,120	63,100	1.4%
2017	2,160	36,910	790	39,860	23,800	340	24,140	2,160	60,710	1,130	64,000	1.4%
2018	2,170	37,450	790	40,410	24,250	340	24,590	2,170	61,700	1,130	65,000	1.6%
2019	2,190	37,970	800	40,960	24,700	340	25,040	2,190	62,670	1,140	66,000	1.5%
2020	2,200	38,500	800	41,500	25,150	350	25,500	2,200	63,650	1,150	67,000	1.5%
2021	2,210	39,090	810	42,110	25,640	350	25,990	2,210	64,730	1,160	68,100	1.6%
2022	2,230	39,740	810	42,780	26,170	350	26,520	2,230	65,910	1,160	69,300	1.8%
2023	2,250	40,440	820	43,510	26,740	350	27,090	2,250	67,180	1,170	70,600	1.9%
2024	2,270	41,120	830	44,220	27,320	360	27,680	2,270	68,440	1,190	71,900	1.8%
2025	2,290	41,880	840	45,010	27,930	360	28,290	2,290	69,810	1,200	73,300	1.9%
2026	2,310	42,640	840	45,790	28,550	360	28,910	2,310	71,190	1,200	74,700	1.9%
2027	2,340	43,420	850	46,610	29,220	370	29,590	2,340	72,640	1,220	76,200	2.0%
2028	2,360	44,230	860	47,450	29,880	370	30,250	2,360	74,110	1,230	77,700	2.0%
2029	2,390	45,130	870	48,390	30,630	380	31,010	2,390	75,760	1,250	79,400	2.2%
Average Annual Growth												
2009-2014	4.5%	2.4%	3.7%	2.5%	-2.0%	0.7%	-2.0%	4.5%	0.6%	2.8%	0.7%	
2014-2029	0.8%	1.6%	0.7%	1.5%	2.0%	0.7%	2.0%	0.8%	1.8%	0.7%	1.7%	
2009-2029	1.7%	1.8%	1.5%	1.8%	1.0%	0.7%	1.0%	1.7%	1.5%	1.2%	1.5%	

Source: Terminal Area Forecast; Compiled by PB Americas, Inc.

2.3.2 Based Aircraft

As previously mentioned, the U.S. general aviation industry has experienced a marked decrease in aircraft shipments in the last 10 years. In addition, the FAA forecasts extremely modest growth in the number of based general aviation aircraft during the next 30 years. Based aircraft at Fox Airfield were forecast using an operations per based aircraft estimate, with Fox Airfield's share of based aircraft for the County of Los Angeles and the U.S. used as a check for reasonableness. **Table 2.11** presents the historic and forecast based aircraft statistics for Fox Airfield. As shown in the table, the number of operations per based aircraft has ranged from 307 in 2000 to a high of 422 in 2003. For the last five years, the average number of operations per based aircraft has been 350. In addition, Fox Airfield's share of the County of Los Angeles' based aircraft has remained consistent (between 4.4 percent and 4.8 percent). The number of based aircraft at Fox Airfield is projected to increase from 163 in 2009 to 227 in 2029 or an average of 3.2 aircraft each year. This increase results in Fox Airfield's share of the County of Los Angeles' based aircraft ranging from 4.4 percent to 4.9 percent, which is consistent with historical levels.

Table 2.11
Historic and Projected Based Aircraft
(Fox Airfield, County of Los Angeles, & U.S.)

Year	Operations	Based Aircraft	Ops per Based	County of Los Angeles	U.S.	Fox Airfield Share of County	Fox Airfield Share of U.S.
2000	80,394	262	307	4,435	190,426	5.9%	0.14%
2001	76,676	198	387	4,395	184,392	4.5%	0.11%
2002	80,381	198	406	4,369	182,830	4.5%	0.11%
2003	84,429	200	422	4,428	182,968	4.5%	0.11%
2004	78,909	198	399	4,274	190,580	4.6%	0.10%
2005	74,738	211	354	4,388	194,099	4.8%	0.11%
2006	69,269	211	328	4,418	191,342	4.8%	0.11%
2007	66,205	197	336	4,403	196,372	4.5%	0.10%
2008	59,602	161	370	3,668	192,841	4.4%	0.08%
2009	59,259	163	364	3,712	192,730	4.4%	0.08%
2010	58,700	167	351	3,757	192,705	4.4%	0.09%
2011	59,300	169	351	3,799	192,866	4.4%	0.09%
2012	59,900	171	350	3,842	193,224	4.5%	0.09%
2013	60,600	173	350	3,887	193,785	4.5%	0.09%
2014	61,400	175	351	3,931	194,478	4.5%	0.09%
2015	62,200	177	351	3,977	195,289	4.5%	0.09%
2016	63,100	180	351	4,022	196,157	4.5%	0.09%
2017	64,000	183	350	4,070	197,087	4.5%	0.09%
2018	65,000	185	351	4,113	198,110	4.5%	0.09%
2019	66,000	188	351	4,165	199,304	4.5%	0.09%
2020	67,000	191	351	4,209	200,734	4.5%	0.10%
2021	68,100	194	351	4,255	202,383	4.6%	0.10%
2022	69,300	198	350	4,304	204,106	4.6%	0.10%
2023	70,600	201	351	4,356	205,939	4.6%	0.10%
2024	71,900	205	351	4,405	207,941	4.7%	0.10%
2025	73,300	209	351	4,454	210,122	4.7%	0.10%
2026	74,700	213	351	4,504	212,284	4.7%	0.10%
2027	76,200	217	351	4,554	214,594	4.8%	0.10%
2028	77,700	222	350	4,606	217,070	4.8%	0.10%
2029	79,400	227	350	4,659	219,693	4.9%	0.10%

Sources: Terminal Area Forecasts, FAA Forecast, PB Americas, Inc.

2.3.3 Aircraft Fleet Mix (Based and Operational)

Table 2.12 presents a comparison of the historic aircraft fleet mix for 2001 and 2009. As shown, since 2001 there have been shifts in the fleet mix. The distribution of single engine aircraft has declined while the distribution of jets and helicopters has increased.

**Table 2.12
Historic Aircraft Fleet Mix**

	2001				2009			
	Airport	% Distr	U.S.	% Distr	Airport	% Distr	U.S.	% Distr
Single Engine	175	76.8%	145,034	78.7%	143	87.2%	144,745	75.1%
Multi Engine	40	17.5%	18,192	9.9%	14	8.5%	17,351	9.0%
Jet	12	5.3%	14,383	7.8%	4	2.4%	20,428	10.6%
Helicopter	1	0.4%	6,783	3.7%	3	1.8%	10,206	5.3%
TOTAL	228	100.0%	184,392	100.0%	164	100.0%	192,730	100.0%

Sources: FAA Forecast; SCAG Aviation Report, 2002; FAA Form 5010-1; Compiled by PB Americas, Inc.

The projected aircraft fleet mix for Fox Airfield was estimated by comparing the trends of the FAA’s forecasted fleet mix to the trends at Fox Airfield. In general, the FAA forecast indicates decreases in the overall share of single-engine and multi-engine aircraft with increases in the share of jets and helicopters. These same trends were applied to determine the projected aircraft fleet mix, which is presented in **Table 2.13**. As shown, the combined percentage distribution for single-engine and multi-engine aircraft is projected to decrease from 95.7 percent in 2009 to 77.1 percent in 2029. The percentage distribution of jets and helicopters is projected to increase from 4.2 percent in 2009 to 22.9 percent in 2029.

**Table 2.13
Projected Aircraft Fleet Mix**

	Single Engine	Multi Engine	Jet	Helicopter	Total
2009	143	14	4	3	164
2014	142	15	9	9	175
2019	145	15	13	15	188
2024	150	15	18	21	205
2029	160	15	25	27	227
Percentage Distribution					
2009	87.2%	8.5%	2.4%	1.8%	100.0%
2014	81.3%	8.6%	5.0%	5.1%	100.0%
2019	77.0%	8.0%	7.0%	8.0%	100.0%
2024	73.4%	7.4%	9.0%	10.2%	100.0%
2029	70.4%	6.7%	11.0%	11.9%	100.0%

Source: PB Americas, Inc.

The forecast distribution of aircraft for Fox Airfield was applied to the projected local operations and the FAA’s distribution of aircraft was applied to the itinerant operations to determine the distribution of operations by aircraft type during the projection period. **Table 2.14** presents the projected operations distribution for the forecast period. As shown, the distribution of single-engine and multi-engine operations decrease from 89.1 percent in 2009 to 75.6 percent in 2029, while the distribution of jet and helicopter operations increase from 10.9 percent in 2009 to 24.4 percent in 2029.

Table 2.14
Projected Operations Distribution

	Single Engine	Multi Engine	Jet	Helicopter	Total
2009	47,571	5,217	4,212	2,259	59,259
2014	46,780	5,259	5,788	3,573	61,400
2019	48,412	5,284	7,417	4,887	66,000
2024	51,033	5,290	9,357	6,221	71,900
2029	54,723	5,317	11,748	7,612	79,400
Percentage Distribution					
2009	80.3%	8.8%	7.1%	3.8%	100.0%
2014	76.2%	8.6%	9.4%	5.8%	100.0%
2019	73.4%	8.0%	11.2%	7.4%	100.0%
2024	71.0%	7.4%	13.0%	8.7%	100.0%
2029	68.9%	6.7%	14.8%	9.6%	100.0%

Source: PB Americas, Inc.

2.3.4 Peak Aircraft Operations

To plan for adequate handling of activity at an airport, a planning day incorporates the average day of the peak month. The peak hour activity on that day is also a significant planning criterion. **Table 2.15** presents a summary of the operations activity at Fox Airfield for 2009. As shown, September was the peak month for 2009, with a 10.3 percent share of total activity.

Table 2.15
2009 Fox Airfield Operations by Month

Month	Operations	Share
January	6,019	10.2%
February	3,718	6.3%
March	4,168	7.0%
April	3,125	5.3%
May	4,633	7.8%
June	5,302	8.9%
July	4,968	8.4%
August	5,758	9.7%
September	6,110	10.3%
October	5,504	9.3%
November	4,379	7.4%
December	5,575	9.4%
TOTAL	59,259	100.0%

Assuming a month has 30.5 days results in the average day, peak month estimates presented in **Table 2.16**. Average day peak month activity increases from 200 operations per day in 2009 to 237 operations per day in 2029.

**Table 2.16
Summary of Peak Activity**

	2009	2014	2019	2024	2029
Annual Operations	59,259	61,400	66,000	71,900	79,400
Peak Month @10.3%	6,110	6,331	6,805	7,413	8,187
Average Day Peak Month	200	208	223	243	268
Arrivals					
Itinerant	57	65	69	75	82
Local	43	39	42	47	52
Departures					
Itinerant	57	65	69	75	82
Local	43	39	42	47	52
By Operation Type					
Air Taxi	6	7	7	8	8
General Aviation	191	197	212	231	256
Military	3	4	4	4	4
Total	200	208	223	243	268
By Aircraft Type					
Single Engine	161	153	164	172	185
Multi Engine	18	17	18	18	18
Jet	14	23	25	32	40
Helicopter	8	15	17	21	26
Total	200	208	223	243	268

Source: PB Americas, Inc.

2.4 Potential Air Carrier Service

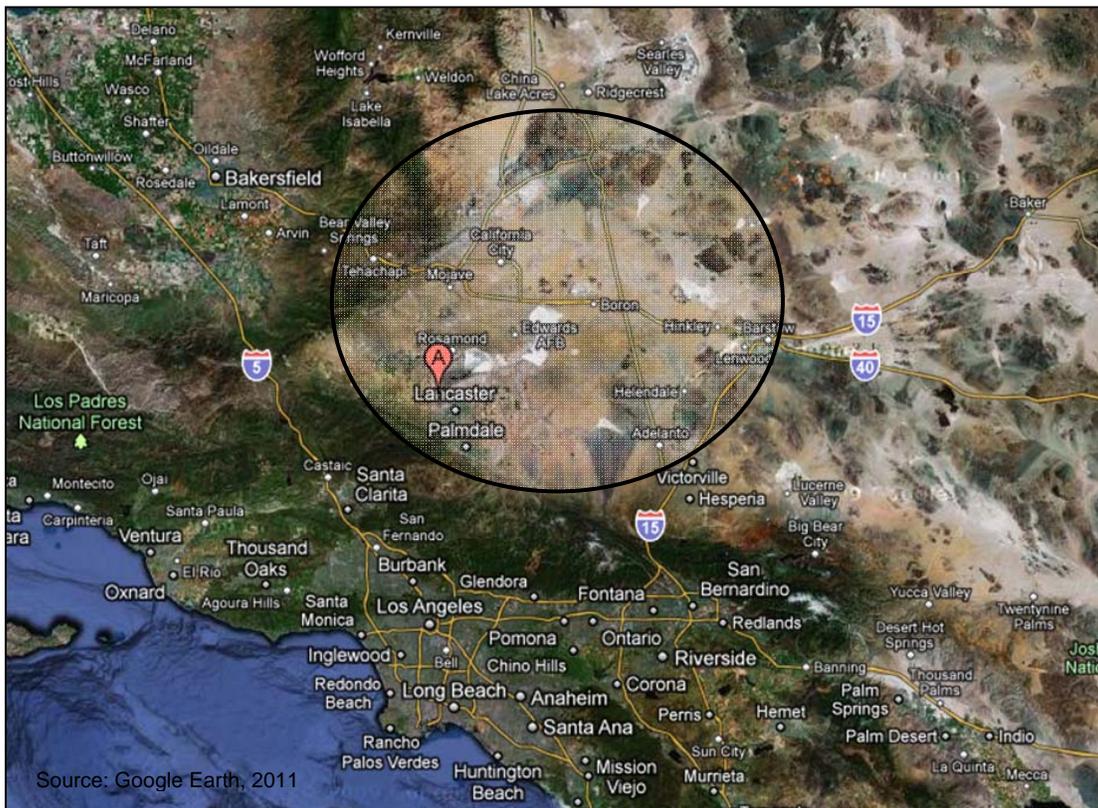
It is possible that sometime during the forecast period, a commercial carrier will approach airport management or the County of Los Angeles to provide air carrier service at the airport or the County of Los Angeles may decide to promote and develop the airport to accommodate air carrier service. Air carrier service is viable at Fox Airfield. In fact, a company in the top 50 Fortune Magazine's top 100 companies recently began utilizing the airport with a corporate charter rather than using commercial flights due to its convenient location and size that allows for the timely processing of flights. This section focuses on the activity that would be associated with potential air carrier service. Airport certification and facility requirements related to potential air carrier service are discussed in subsequent chapters.

Two benchmarking analyses were conducted to determine the characteristics of the potential air carrier service at Fox Airfield. The following sub sections provide the details of these analyses.

2.4.1 Potential Air Trade Area

Commercial air service is supported by the population in an airport's air trade area, which is the primary geographical area served by an airport. To determine the possibility and level of such air carrier service, the potential air trade area of Fox Airfield was determined, followed by a socioeconomic analysis of the potential air trade area. The potential air trade air is shown in **Figure 2.1**.

Figure 2.1
Potential Air Trade Area



The characteristics of Fox Airfield's air trade area were used to select commercial service airports with demographics similar to Fox Airfield. The levels of commercial air service at these airports were then used to determine the level of commercial air service that could be supported by the potential air trade area determined for Fox Airfield.

Fox Airfield is located in the northern part of the County of Los Angeles. The northern part of the County of Los Angeles is bordered by Kern County to the north, Ventura County to the east, and San Bernardino County to the west. The potential air trade area for Fox Airfield includes the northern part of the County of Los Angeles, portions of southern Kern County, northeastern Ventura County, and southwestern San Bernardino County.

The populations of the incorporated areas located in the potential air trade area are presented in **Table 2.17**. Because the incorporated areas do not include all of the potential air trade area, an additional allowance of 25 percent of the population of the incorporated areas was also included. As shown in the table, the estimated population of the potential air trade area is approximately 960,000.

Table 2.17
Population of Potential Air Trade Area

Area	2009 Population
Santa Clarita	169,000
Lancaster	146,000
Palmdale	144,000
Victorville	111,000
Hesperia	86,000
Apple Valley	70,000
Barstow	25,000
California City	15,000
Total	766,000
Unaccounted Areas ¹	192,000
TOTAL AIR TRADE AREA	958,000

¹ Allowance for areas not included in population statistics.

Source: U.S. Bureau of the Census; Compiled by PB Americas, Inc.

There are many communities in the United States that have a population in its air trade area similar to the potential air trade area of Fox Airfield. **Table 2.18** presents a comparison of the commercial air service provided at airports with similar sized air trade areas.

**Table 2.18
Comparison of Air Service
Airports with Similar Population**

MSA	Primary Airport	Population	Daily Departures	Destinations	Airlines
Bakersfield, CA	Meadows Field Airport	807,407	9	4	United Express, USAirways Express
Baton Rouge, LA	Baton Rouge International	786,947	40	6	American Eagle, Continental, Delta, USAirways
Dayton, OH	Dayton International	835,063	60	15	Air Canada, AirTran, American, Continental, Delta, United, USAirways
Fresno, CA	Fresno Yosemite International	915,267	40	10	Alaska, Allegiant, American, Delta, United, USAirways
Grand Rapids-Wyoming, MI	Gerald R. Ford International	778,009	50	16	Air Canada, AirTran, American, Continental, Delta, United

Sources: Individual Airport Websites; Compiled by PB Americas, Inc.

As shown in the table, airports with similar sized air trade areas to the potential air trade area of Fox Airfield have the capability of supporting commercial air service at varying levels of destinations and departures. It is also important to note that several of the airports listed (Dayton, Grand Rapids, and Baton Rouge) are also part of the secondary air trade area for other larger airports that are nearby, which is also similar to Fox Airfield.

2.4.2 Comparable Airports Analysis

The type of airport is another characteristic that can determine the type of air service that is provided at an airport. Other smaller airports in California within relatively close proximity to larger airports were identified to serve as comparable airports to Fox Airfield. These airports were chosen because they have had less than 50,000 annual enplanements in the last five years and are located in California within a reasonable driving distance of another larger commercial service airport. **Table 2.19** presents the list of comparable airports and their proximity in terms of driving time to/from the nearest commercial service airports.

**Table 2.19
Comparable Airports**

Airport	Driving Time To/From (hrs:minutes)
Fox Airfield	<ul style="list-style-type: none"> • Los Angeles International 1:30 • Bob Hope (Burbank) 1:00 • Ontario International 1:45
Palmdale Regional	<ul style="list-style-type: none"> • Los Angeles International 1:20 • Bob Hope (Burbank) 1:00 • Ontario International 1:30
Chico Municipal	<ul style="list-style-type: none"> • Sacramento International 1:40
Oxnard	<ul style="list-style-type: none"> • Los Angeles International 1:30 • Bob Hope (Burbank) 1:10 • Santa Barbara International 1:00
Stockton Metropolitan	<ul style="list-style-type: none"> • San Francisco International 1:30 • Oakland International 1:00
McClellan-Palomar	<ul style="list-style-type: none"> • San Diego International 1:00

Source: Terminal Area Forecasts, www.mapquest.com; Compiled by PB Americas, Inc.

The following bullets present additional information regarding the history of commercial air service at the comparable airports selected.

- **Palmdale Regional Airport** is currently not served by a commercial service air carrier. Palmdale is located approximately 15 miles or 20 minutes driving time from Fox Airfield, making it an excellent comparable airport for the local market. Since 1990, several regional express carriers have initiated and subsequently discontinued service at the airport, providing service to Los Angeles, San Francisco, and Las Vegas. Enplanements at the airport were approximately 11,000 in 2008 and have been as high as 26,000 in 1990. Palmdale is operated by Los Angeles World Airports (LAWA); LAWA also operates Ontario and Los Angeles International Airports. Because of competing interest with these other LAWA airports, management has not been dedicated to the success of commercial service at Palmdale.
- **Chico Municipal Airport** is currently served by United Express carrier SkyWest providing four flights to San Francisco daily on Embraer Brasilia turbo prop commuter aircraft with 28 seats. In 2008 enplanements were approximately 25,000 resulting in an average load factor of approximately 60 percent. Enplanements have been as high as approximately 33,000 in 2000; however, since then have averaged about 20,000 each year.
- **Oxnard Airport** is currently not served by a commercial service air carrier. Enplanements have been as high as 64,000 in 1991, but decreased to 17,500 in 2008. The airport was previously served by American Eagle, America West Express, California Air Shuttle and was most recently, was served by United Express, which terminated service to Los Angeles International in June 2010.
- **Stockton Metropolitan Airport** is currently served by Allegiant Air providing service to Long Beach (initiated July 2010) and Las Vegas (initiated June 2006) on McDonnell Douglas (MD) 80 aircraft. According to the airports most recent master

plan, Allegiant has experienced load factors between 70 percent and 85 percent since the initiation of service in 2006. Enplanements have fluctuated greatly at the airport, but the initiation of service by Allegiant Air has resulted in year over year increases since 2006.

- **McClellan-Palomar Airport** is currently served by United Express serving Los Angeles International with an average of five daily flights on Embraer Brasilia turbo prop commuter aircraft with 28 seats. With enplanements at approximately 39,000 in 2008, the load factor for this service is approximately 50 percent. Enplanements have been as high as 80,000 in 2000 but have decreased steadily to the current level of approximately 40,000.

As discussed in the comparable airport descriptions above, many airports that are not the primary airport in a particular region can sustain commercial air service. The primary characteristic of this type of air service includes nonstop flights to larger connecting hubs and destination markets. The aircraft for the destination markets are typically larger jet aircraft, while the aircraft used to serve the connecting hub markets are typically between 30 and 50 seat regional aircraft.

2.4.3 Potential Commercial Air Service Activity Forecast

Conclusions that can be drawn from these two benchmarking analyses presented above frame the assumptions used to develop the forecast for potential commercial air service at Fox Airfield. The primary conclusions are the following:

- Markets that are similar in size to the potential Fox Airfield air trade area sustain commercial air service at moderate levels; therefore, there is potential for commercial service at Fox Airfield.
- Airports that are not the primary airport in a region are capable of sustaining commercial air service that provides connections to larger hubs and direct flights to destination markets.

Given analyses presented earlier, any commercial air carrier service initiated at Fox Airfield will likely be on regional aircraft that has between 25 and 50 seats. The destinations for commercial air carrier service could include connections on regional aircraft to the international airports in Los Angeles, San Francisco, Seattle, Phoenix, and Denver. In addition, service to a destination market such as Las Vegas could also be provided on larger jet aircraft similar to service provided by Allegiant in Stockton.

It is assumed that air carrier service could potentially be initiated within two years. This would allow time to get the proper certification from the FAA, as well as develop the facilities that would be required to accommodate this type of commercial air service. The following lists the assumptions used to develop the air carrier forecast at Fox Airfield.

- **Daily Departures/Aircraft** - Frequencies will likely begin at two per day to test the viability of the market prior to a scheduled air carrier expanding service. In the beginning it is assumed that one flight will be on a regional jet and one flight on a turbo prop regional aircraft resulting in average seats per departure of 39. The number of these types of daily flights would increase to 10 over the forecast period with the turbo prop aircraft being gradually replaced by regional jet aircraft with more seats.

In addition, in the third year, a daily flight on a 125 seat jet aircraft would be initiated to a destination market. The daily flights and aircraft utilized for this service would remain constant during the forecast period.

- **Load Factor** (The percentage of available seats that are occupied by passengers) – Load factors would be assumed at 50 percent during the first year of service increasing gradually to 70 percent, which is the industry standard, remaining constant until the number of daily flights reaches 10 regional jet flights and 1 jet flight a day. At that point, load factors gradually increase further to 80 percent for the remainder of the forecast period.

Given these assumptions, the first year of commercial air carrier service would result in approximately 1,500 additional operations per year. Given the assumed aircraft size and frequency, enplanements would be approximately 14,000 for the initial year of service at a 50 percent load factor.

Table 2.20 presents the potential air carrier service forecast of operations, daily departures, load factors, and enplanements associated with commercial air carrier activity.

Table 2.20
Projected Potential
Air Carrier Service Activity

Year	Operations	Average Daily Departures	Average Load Factor	Enplanements
2010	-	-	0%	-
2011	-	-	0%	-
2012	1,460	2	50%	14,000
2013	2,190	3	60%	23,200
2014	3,650	5	70%	70,500
2015	4,380	6	70%	77,700
2016	5,110	7	70%	84,800
2017	6,570	9	75%	112,200
2018	8,030	11	75%	133,600
2019	8,030	11	75%	139,600
2020	8,030	11	75%	145,600
2021	8,030	11	75%	151,700
2022	8,030	11	75%	157,700
2023	8,030	11	75%	163,700
2024	8,030	11	76%	172,000
2025	8,030	11	77%	174,300
2026	8,030	11	78%	176,500
2027	8,030	11	79%	178,800
2028	8,030	11	80%	181,000
2029	8,030	11	81%	183,300

Source: PB Americas, Inc.

The peak activity would be impacted by the initiation of air carrier service at Fox Airfield. **Table 2.21** presents the summary of peak activity for the air carrier service forecast.

**Table 2.21
Summary of Peak Activity
Potential Air Carrier Service Forecast**

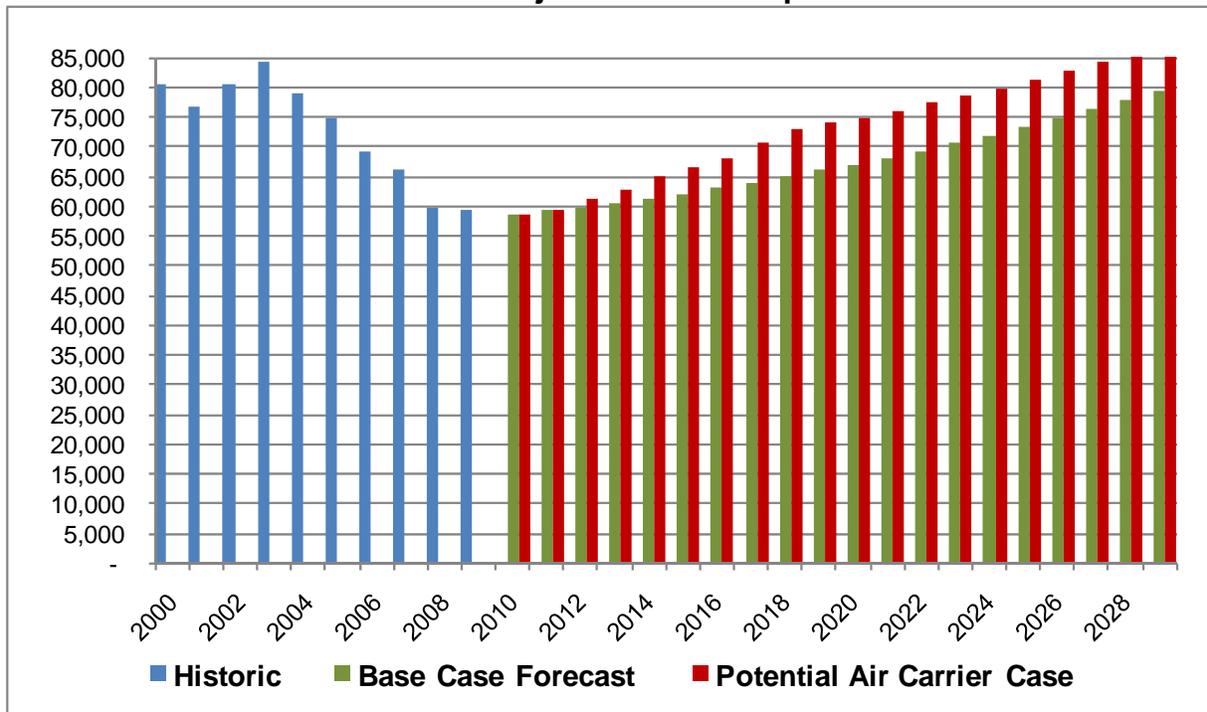
	2009	2014	2019	2024	2029
Annual Operations	59,259	65,050	74,030	79,930	87,430
Peak Month @10.3%	6,110	6,636	7,476	8,084	8,858
Average Day Peak Month	200	218	245	265	290
Arrivals					
Itinerant	57	70	80	86	93
Local	43	39	42	47	52
Departures					
Itinerant	57	70	80	86	93
Local	43	39	42	47	52
By Operation Type					
Air Carrier	-	10	22	22	22
Air Taxi	6	7	7	8	8
General Aviation	191	197	212	231	256
Military	3	4	4	4	4
Total	200	218	245	265	290
By Aircraft Type					
Single Engine	161	153	164	172	185
Multi Engine	18	17	18	18	18
Jet	14	33	47	54	62
Helicopter	8	15	17	21	26
Total	200	218	245	265	290

Source: PB Americas, Inc.

2.5 Forecast Summary

A summary of the historic and projected aviation demand for Fox Airfield is graphically presented in **Table 2.22**.

Table 2.22
Historic and Projected Aircraft Operations



A summary of the forecast, including operations, peak day operations, and based aircraft for each of the five year milestones of the forecast are presented in **Table 2.23**.

Table 2.23
Forecast Summary

	2009	2014	2019	2024	2029
Base Case					
Annual Operations	59,259	61,400	66,000	71,900	79,400
Average Day, Peak Month Ops	200	208	223	243	268
Based Aircraft	163	175	188	205	227
Potential Air Carrier Case					
Annual Operations	59,259	65,050	74,030	79,930	87,430
Average Day, Peak Month Ops	200	218	245	265	291
Based Aircraft	163	175	188	205	227

Source: PB Americas, Inc.

Based on the forecasts presented in this chapter, the future of Fox Airfield is optimistic. Fox Airfield has very good potential for air carrier service and is a desirable location for other aviation related operators such as a foreign airline and helicopter training centers. With these new operators comes the need to increase the landside and airside development, such as passenger processing/handling facilities, hangars, aircraft parking areas, classrooms, and dormitories. In conclusion, the projected forecasts for Fox Airfield indicated a steady annual increase in aircraft activity throughout the planning period. Chapter 4.0 Facility Requirements will translate the forecasts presented in this chapter into the number, type and location of future facilities necessary to support the anticipated demand described in Chapter 3.0 Demand/Capacity Analysis.