

CHAPTER 3. AVIATION FORECASTS

This chapter presents the statistical data available for the general aviation activity at Lincoln Regional Airport located in Lincoln, Placer County, California. Lincoln Regional Airport does not serve any airline, air cargo, or air taxi operations at this time. The major airline operations for the area are served from Sacramento International Airport, and it is expected that Sacramento International Airport will continue to serve the major airlines. Short-haul commuter, air taxi, and air cargo operations are feasible uses in the future at Lincoln Regional Airport.

3-1 Based Aircraft and Operations

Forecasts of future operations at the airport, including the based aircraft and total aircraft operations through the year 2030 are presented in this chapter. Short-term forecasts (0 to 5 years), medium-term forecasts (5 to 10 years) and long-term forecasts (10 to 20 years) have been included.

The overall general aviation traffic generated at airports throughout the United States has shown little or no increase since 1980, as represented by the number of active general aviation aircraft and private pilots during this period. Statistics from the Federal Aviation Administration *Statistical Handbook on Aviation*, which are included in the *California Aviation System Planning Inventory Manual* and on the Aircraft Owners and Pilots Association (AOPA) website, are shown for the active general aviation aircraft in Table No. 3-1 and for the active pilots by type of rating in Table No. 3-2 for the entire United States.

In many areas of the United States there has been extensive growth of general aviation and in other areas there has been a decrease in general aviation activity. The average activities have remained fairly constant since 1980. These changes in activity are usually associated with changes in population and economic conditions. The large cost of operating and buying general aviation aircraft, including the increased cost of the aircraft, aircraft fuel and other support activities, have had a significant influence on the number of persons that own and fly the small general aviation aircraft. Leisure and recreation type flying has dropped off significantly, while business and airline type flying has increased.

The manufacture of small propeller-driven general aviation aircraft in the United States ceased in the 1980s and early 1990s because of large liability claims. The Air Revitalization Act of 1994 limited the liability of aircraft manufacturers, and there has now been a resumption of the manufacture of some models. The statistics indicate a trend for a significant growth in single engine piston and twin engine piston aircraft and a larger growth in turbojet, experimental aircraft, and light sport aircraft (LSA). The development of the Very Light Jet (VLJ) is expected to have a significant influence on business and recreational flying. This aircraft has excellent performance, and the cost of purchase and operation of the aircraft is significantly lower than the cost of other business jet aircraft.

**TABLE NO. 3-1
ACTIVE GENERAL AVIATION AIRCRAFT IN THE U.S. – 1973 TO 2006**

Year	Piston Single Engine	Piston Multi-Engine	Piston Other	Turbo Prop ¹	Turbojet ²	Rotorcraft	Experimental	Other	Total
1973	126,074	18,502	190	1,849	1,380	3,115	N/A	2,201	153,311
1974	131,512	19,553	190	2,095	1,561	3,597	N/A	2,525	161,033
1975	136,639	20,119	178	2,504	1,743	4,054	N/A	2,812	168,049
1976	144,752	21,111	196	2,453	1,881	4,425	N/A	3,146	177,964
1977	149,300	21,301	182	2,890	2,277	4,726	N/A	3,616	184,294
1978	160,651	22,949	221	3,129	2,479	5,314	N/A	4,028	198,778
1979	168,390	24,850	229	3,579	2,653	5,864	N/A	4,770	210,339
1980	168,435	24,366	212	4,090	2,992	6,001	N/A	4,945	211,045
1981	167,898	25,356	114	4,660	3,171	6,974	N/A	5,049	213,226
1982	164,173	24,882	140	5,186	3,996	6,169	N/A	5,233	209,779
1983	166,427	24,909	143	5,453	3,898	6,539	N/A	5,923	213,293
1984	171,922	25,258	262	5,809	4,320	7,096	N/A	6,275	220,943
1985	153,400	22,100	100	5,000	4,100	6,000	N/A	5,800	196,500 ³
1986	160,300	22,100	100	5,600	4,200	6,500	N/A	6,500	205,300 ³
1987	159,700	21,700	100	4,900	4,000	5,900	N/A	6,300	202,700 ³
1988	153,700	21,200	100	4,900	3,900	6,000	N/A	6,400	196,200 ³
1989	158,900	21,800	100	5,900	4,100	7,000	N/A	7,200	205,000 ³
1990	154,000	21,100	100	5,300	4,100	6,900	N/A	6,600	198,000 ³
1991	152,836	20,551	131	4,941	4,126	6,238	N/A	8,051	196,874 ⁴
1992	144,837	17,966	77	4,786	4,004	5,979	N/A	8,000	185,650 ⁴
1993	133,516	15,626	14	4,116	3,663	4,721	10,426	5,037	177,120 ⁴
1994	127,351	14,801	NA	4,092	3,914	4,728	12,144	5,906	172,936 ⁴
1995	137,049	15,739	NA	4,995	4,559	5,830	15,176	4,741	188,089 ⁴
1996	137,401	16,150	NA	5,716	4,424	6,570	16,625	4,244	191,129
1997	140,038	16,017	NA	5,619	5,178	6,785	14,680	4,092	192,414
1998	144,234	18,729	NA	6,174	6,066	7,426	16,502	5,580	204,710
1999	150,886	20,930	108	5,679	7,120	7,448	20,528	6,765	219,464
2000	149,422	20,951	140	5,762	7,001	7,150	20,407	6,700	217,533
2001	145,034	18,192	89	6,596	7,787	6,783	20,421	6,545	211,447
2002	143,503	17,584	101	6,841	8,355	6,646	21,936	6,377	211,244
2003	143,265	17,491	182	7,689	7,997	6,525	20,550	6,008	209,708
2004	148,613	18,469	107	8,379	9,298	7,821	20,800	5,939	219,426
2005	148,101	19,412	170	7,942	9,823	8,728	23,627	6,454	224,352
2006	148,236	19,364	400	8,026	10,032	9,232	24,541	6,592	226,422

2006 totals are estimates

Subtotals might not add to totals due to rounding, estimation, and/or survey procedures.

Data is derived from the AOPA website, which includes all registered aircraft excluding: 1) air carrier aircraft operated under FAR Part 121, and 2) aircraft flown less than one hour per year (inactive).

SOURCE: AOPA Website (5-29-07)

¹ Turbo Prop is a jet engine turning a propeller.

² Turbojet is a pure jet.

³ Revised to correct for nonresponse bias on FAA G.A. Activity Survey

⁴ Revised due to change in estimating procedures for the 1996 FAA G.A. Activity Survey.

**TABLE NO. 3-2
F.A.A. CERTIFIED U.S. PILOTS BY TYPE OF RATING - 1929-2004**

Year	Student	Recreational	Private	Commercial	ATP	Other	Total
1929	N/A	N/A	4,162	5,053	N/A	N/A	9,215
1930	N/A	N/A	7,433	7,847	N/A	N/A	15,280
1931	N/A	N/A	9,226	8,513	N/A	N/A	17,739
1932	N/A	N/A	10,297	7,964	330	N/A	18,591
1933	N/A	N/A	5,771	7,635	554	N/A	13,960
1934	N/A	N/A	5,789	7,484	676	N/A	13,949
1935	N/A	N/A	6,707	7,062	736	N/A	14,505
1936	N/A	N/A	7,622	7,288	842	N/A	15,752
1937	N/A	N/A	10,206	6,411	1,064	N/A	17,681
1938	N/A	N/A	13,985	7,839	1,159	N/A	22,983
1939	N/A	N/A	20,832	11,677	1,197	N/A	33,706
1940	N/A	N/A	49,507	18,791	1,431	N/A	69,729
1941	N/A	N/A	93,782	34,578	1,587	N/A	129,947
1942	N/A	N/A	108,689	55,760	2,177	N/A	166,626
1943	N/A	N/A	106,951	63,940	2,315	N/A	173,206
1944	N/A	N/A	111,883	66,449	3,046	N/A	181,378
1945	N/A	N/A	128,207	162,873	5,815	N/A	296,895
1946	N/A	N/A	189,156	203,251	7,654	N/A	400,061
1947	N/A	N/A	244,270	181,912	7,059	N/A	433,241
1948	N/A	N/A	306,699	176,845	7,762	N/A	491,306
1949	N/A	N/A	328,380	187,789	9,025	N/A	525,194
1950	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1951	N/A	N/A	371,854	197,900	10,813	N/A	580,567
1952	N/A	N/A	371,174	191,824	10,893	N/A	573,891
1953	N/A	N/A	N/A	N/A	18,279	N/A	N/A
1954	71,959	N/A	184,595	80,340	12,129	N/A	349,023
1955	80,494	N/A	132,526	72,957	11,774	N/A	297,751
1956	95,124	N/A	96,864	54,542	11,173	N/A	257,703
1957	98,498	N/A	124,799	70,813	13,964	N/A	308,074
1958	103,456	N/A	140,673	93,126	15,840	N/A	353,095
1959	107,816	N/A	139,804	93,815	18,950	N/A	360,385
1960	99,182	N/A	138,869	89,904	18,279	1,828	348,062
1961	93,973	N/A	144,312	92,976	19,155	2,444	352,860
1962	94,870	N/A	149,405	95,047	20,032	4,617	363,971
1963	105,298	N/A	152,209	96,341	20,269	4,583	378,700
1964	120,743	N/A	175,574	108,428	21,572	4,724	431,041
1965	139,172	N/A	196,393	116,665	22,440	5,100	479,770
1966	165,177	N/A	222,427	131,539	23,917	5,697	548,757
1967	181,287	N/A	253,312	150,135	25,817	7,380	617,931
1968	209,406	N/A	281,728	164,458	28,607	7,496	691,695
1969	203,520	N/A	299,491	176,585	31,442	8,990	720,028
1970	195,861	N/A	303,779	186,821	34,430	11,838	732,729
1971	186,428	N/A	312,656	192,409	35,949	13,567	741,009
1972	181,477	N/A	321,413	196,228	37,714	14,037	750,869
1973	181,905	N/A	298,921	182,444	38,139	13,198	714,607
1974	180,795	N/A	305,848	192,425	41,002	13,658	733,728
1975	176,978	N/A	305,863	189,342	42,592	13,412	728,187
1976	188,801	N/A	309,005	187,801	45,072	13,567	744,246

**TABLE NO. 3-2
F.A.A. CERTIFIED U.S. PILOTS BY TYPE OF RATING - 1929-2004**

Year	Student	Recreational	Private	Commercial	ATP	Other	Total
1977	203,510	N/A	327,424	188,763	50,149	14,086	783,932
1978	204,874	N/A	337,644	185,833	55,881	14,601	798,833
1979	210,180	N/A	343,276	182,097	63,652	15,462	814,667
1980	199,833	N/A	357,479	183,442	69,569	16,748	827,071
1981	179,912	N/A	328,562	168,580	70,311	16,817	764,182
1982	156,361	N/A	322,094	165,093	73,471	16,236	733,255
1983	147,197	N/A	318,643	159,495	75,938	16,731	718,004
1984	150,081	N/A	320,086	155,929	79,192	17,088	722,376
1985	146,652	N/A	311,086	151,632	82,740	17,430	709,540
1986	150,273	N/A	305,736	147,798	87,186	18,125	709,118
1987	146,016	N/A	300,949	143,645	91,287	17,756	699,653
1988	136,913	N/A	299,786	143,030	96,968	17,319	694,016
1989	142,544	N/A	293,179	144,540	102,087	17,660	700,010
1990	128,663	87	299,111	149,666	107,732	17,400	702,659
1991	120,203	161	293,306	148,365	112,167	17,893	692,095
1992	114,597	187	288,078	146,385	115,855	17,857	682,959
1993	103,583	206	283,700	143,014	117,071	17,495	665,069
1994	96,254	241	284,236	138,728	117,434	17,195	654,088
1995	101,279	232	261,399	133,980	123,877	18,417	639,184
1996	94,947	265	254,002	129,187	127,486	16,374	622,261
1997	96,101	284	247,604	125,300	130,858	16,195	616,342
1998	97,736	305	247,226	122,053	134,612	16,366	618,298
1999	99,184 ¹	343	258,749	124,261	137,642	17,461	637,297
2000	99,110 ¹	340	251,561	121,858	141,598	17,502	631,629
2001	94,420 ¹	318	243,823	120,502	144,702	16,516	619,963
2002	85,991	318	245,230	125,920	144,708	29,913 ²	631,762
2003	87,296	--	241,045	123,990	143,504	29,176 ³	625,011
2004	87,910	--	235,994	122,592	142,160	29,977 ³	618,633

¹1999-2001 students restated in 2003-2014 FAA Aerospace Forecasts - March 2003.

²In March 2001, the FAA Registry changed the definition of this pilot category.

³"Other" includes recreational, helicopter (only) and glider (only).

Note: Certificate type (private, commercial, etc.) cannot be used to determine the number of "private pilots" or general aviation pilots. Many pilots who fly for personal business or pleasure earn higher FAA certificates or ratings for personal achievement. As a rule of thumb, about 20 percent of all pilots are actually employed full-time as pilots.

SOURCE: AOPA Website (2-05)

The home addresses of the aircraft owners that have currently based their aircraft at the Lincoln Regional Airport are listed in Table No. 3-3 to identify the area of influence of the airport. Significant portions of the aircraft owner population live outside of the City of Lincoln and even outside of Placer County. The projected growth of the airport is, therefore, expected to be a function of growth not only in Lincoln and Placer County, but in the northern portion of Sacramento County.

County	City	Lincoln Based Aircraft	
		Total	% of Total
Placer	Lincoln	54	23.5
	Auburn	5	2.3
	Loomis	7	2.8
	Rocklin	28	12.2
	Roseville	30	13.1
	Unincorporated Area	<u>23</u>	<u>9.8</u>
	Subtotal	147	63.7
Sacramento	Sacramento	12	5.2
	Citrus Heights	12	5.2
	Folsom	3	1.4
	Unincorporated Area	<u>20</u>	<u>8.5</u>
	Subtotal	47	20.3
Others		37	16
TOTAL		231	100

Statistical data have been prepared for population, employment, per capital income, based aircraft, and total annual aircraft operations for various significant areas that contribute to growth at the Lincoln Regional Airport. These data have been obtained from the California Aviation System Plan and are shown in Tables No. 3-4 and 3-5 and summarized in Tables No. 3-6 and 3-7. The statistical data include total population and total jobs for the following areas:

- Auburn
- Lincoln
- Loomis
- Rocklin,
- Roseville
- Unincorporated Placer County
- Citrus Heights
- Folsom
- Sacramento and unincorporated Sacramento County

Base Historical Data		
Aircraft Based at Lincoln 2006	(airport)	213
Annual Operations at Lincoln 2003	(FAA)	73,360

Table 3-4
Historical & Forecast Population & Aviation Activity by City
For Lincoln Regional Airport

Formulation of Ratios for Projections												
County	Placer					Sacramento					Others	
	Auburn	Lincoln	Loomis	Rocklin	Roseville	Unincorporated	Citrus Heights	Folsom	Sacramento	Unincorporated		
2005 Population	12,683	26,661	6,115	52,035	104,136	98,158	86,744	67,325	448,648	540,521		
# Based AC (2005)	5	50	6	26	28	21	11	3	11	18	34	
% of Total Based AC (2005)	2.35	23.47	2.82	12.21	13.15	9.86	5.16	1.41	5.16	8.45	15.96	
Annual Operations (2005) (based on % Total Based AC)	1,722	17,221	2,066	8,955	9,644	7,233	3,789	1,033	3,789	6,199	11,710	
Ratio: Population / Based AC	2,536.60	533.22	1,019.17	2,001.35	3,719.14	4,674.19	7,885.82	22,441.67	40,786.18	30,028.94	-	
Ratio: Population / Annual Operations	7.36	1.55	2.96	5.81	10.80	13.57	22.90	65.16	118.42	87.19	-	

Historical & Forecast Population & Aviation Activity - Placer County

Year	Auburn					Lincoln					Loomis					Rocklin					Roseville					Unincorporated Placer County					Total Placer County				
	Population	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Population	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Population	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Population	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Population	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Population	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Population	Based AC	Total Ops		
1970	6,570	-	-	-	-	3,176	-	-	-	-	-	-	-	-	-	3,039	-	-	-	-	-	18,221	-	-	-	-	-	45,828	-	-	-	-	76,834	-	-
1975	6,725	-	-	-	-	3,420	-	-	-	-	-	-	-	-	-	3,490	-	-	-	-	-	20,150	-	-	-	-	-	55,600	-	-	-	-	89,385	-	-
1980	7,540	-	-	-	-	4,132	-	-	-	-	-	-	-	-	-	7,344	-	-	-	-	-	24,347	-	-	-	-	-	72,904	-	-	-	-	116,267	-	-
1985	8,725	-	-	-	-	5,400	-	-	-	-	-	-	-	-	-	10,050	-	-	-	-	-	28,000	-	-	-	-	-	78,600	-	-	-	-	135,425	-	-
1990	10,500	-	-	-	-	7,248	-	-	-	-	-	-	-	-	-	18,150	-	-	-	-	-	43,900	-	-	-	-	-	83,475	-	-	-	-	168,923	-	-
1995	11,150	-	-	-	-	7,811	-	-	-	-	-	-	-	-	-	25,850	-	-	-	-	-	56,500	-	-	-	-	-	90,920	-	-	-	-	198,161	-	-
2000	12,800	-	-	-	-	11,205	-	-	-	-	-	-	-	-	-	36,000	-	-	-	-	-	80,100	-	-	-	-	-	101,465	-	-	-	-	247,695	-	-
2005	12,683	5	-	1,722	-	26,661	50	-	17,221	-	6,115	6	-	2,066	-	52,035	26	-	8,955	-	104,136	28	-	9,644	-	98,158	21	-	7,233	-	259,788	136	46,840		
2010	13,872	5	0.09	1,884	32.29	45,657	86	7.13	29,490	2,453.95	7,101	7	0.19	2,400	66.64	56,765	28	0.47	9,769	162.80	107,038	29	0.16	9,912	53.75	115,233	25	0.73	8,491	251.63	345,666	180	61,945		
2015	15,027	6	0.09	2,040	31.36	54,657	103	3.38	35,304	1,162.64	8,129	8	0.20	2,747	69.48	61,338	31	0.46	10,556	157.39	108,692	29	0.09	10,065	30.63	133,147	28	0.77	9,811	264.00	380,990	205	70,523		
2020	16,331	6	0.10	2,217	35.41	63,247	119	3.22	40,852	1,109.68	9,298	9	0.23	3,142	79.01	66,498	33	0.52	11,444	177.60	110,412	30	0.09	10,225	31.86	153,557	33	0.87	11,315	300.78	419,343	230	79,195		
2025	17,663	7	0.11	2,398	36.17	72,042	135	3.30	46,533	1,136.16	10,548	10	0.25	3,565	84.48	71,749	36	0.52	12,347	180.73	111,258	30	0.05	10,303	15.67	175,445	38	0.94	12,927	322.56	458,705	256	88,074		
2030	18,995	7	0.11	2,579	36.17	80,837	152	3.30	52,214	1,136.16	11,798	12	0.25	3,987	84.48	77,000	38	0.52	13,251	180.73	112,104	30	0.05	10,381	15.67	197,333	42	0.94	14,540	322.56	498,067	282	96,952		

Historical & Forecast Population & Aviation Activity - Sacramento County

Year	Citrus Heights					Folsom					Sacramento					Unincorporated Sacramento Co.					Total Sacramento County			
	Population	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Population	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Population	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Population	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Population	Based AC	Total Ops	
1970	-	-	-	-	-	5,810	-	-	-	-	257,105	-	-	-	-	367,349	-	-	-	-	-	630,264	-	-
1975	-	-	-	-	-	9,125	-	-	-	-	262,700	-	-	-	-	410,300	-	-	-	-	-	682,125	-	-
1980	-	-	-	-	-	11,003	-	-	-	-	275,741	-	-	-	-	490,209	-	-	-	-	-	776,953	-	-
1985	-	-	-	-	-	15,600	-	-	-	-	319,700	-	-	-	-	537,800	-	-	-	-	-	873,100	-	-
1990	-	-	-	-	-	29,600	-	-	-	-	366,500	-	-	-	-	625,785	-	-	-	-	-	1,021,885	-	-
1995	-	-	-	-	-	39,800	-	-	-	-	384,300	-	-	-	-	675,370	-	-	-	-	-	1,099,470	-	-
2000	85,400	-	-	-	-	51,300	-	-	-	-	411,200	-	-	-	-	662,410	-	-	-	-	-	1,210,310	-	-
2005	86,744	11	-	3,789	-	67,325	3	-	1,033	-	448,648	11	-	3,789	-	540,521	18	-	6,199	-	1,143,238	43	14,810	
2010	89,177	11	0.06	3,895	21.25	70,372	3	0.03	1,080	9.35	473,218	12	0.12	3,996	41.50	564,736	19	0.16	6,477	55.55	1,197,503	45	15,448	
2015	90,573	11	0.04	3,956	12.19	72,778	3	0.02	1,117	7.38	493,034	12	0.10	4,163	33.47	583,772	19	0.13	6,695	43.67	1,240,157	46	15,932	
2020	92,027	12	0.04	4,019	12.70	75,425	3	0.02	1,158	8.12	517,035	13	0.12	4,366	40.53	604,702	20	0.14	6,936	48.01	1,289,189	48	16,478	
2025	92,755	12	0.02	4,051	6.36	77,695	3	0.02	1,192	6.97	538,303	13	0.10	4,546	35.92	622,564	21	0.12	7,140	40.97	1,331,317	49	16,930	
2030	93,483	12	0.02	4,083	6.36	79,955	4	0.02	1,227	6.97	559,571	14	0.10	4,725	35.92	640,426	21	0.12	7,345	40.97	1,373,445	50	17,381	

Average Based AC growth Rate (w/o Lincoln) (planes/yr.)	0.23
Average Total Operations growth Rate (w/o Lincoln) (ops/yr)	78.01

Historical & Forecast Population & Aviation Activity - Other Areas

Year	Based AC	Total Ops
2005	34	11,710
2010	35	12,100
2015	36	12,490
2020	37	12,880
2025	39	13,270
2030	40	13,660

Notes:
 = Estimated
 = Future Projection
 Prior to 1984 the population of Loomis is included in unincorporated Placer County
 Prior to 1997 the population of Citrus Heights is included in unincorporated Sacramento County
 Prior to 2003 the population of Rancho Cordova is included in unincorporated Sacramento County

Sources:
 Sacramento Council of Governments (sacog)
 Ca Department of Finance (DOF)
 City of Lincoln Data
 Lincoln Regional Airport Records
 Federal Aviation Administration (FAA)

Base Historical Data		
Aircraft Based at Lincoln 2006	(airport)	213
Annual Operations at Lincoln 2003	(FAA)	73,360

Table 3-5
Historical & Forecast Employment & Aviation Activity by City
For Lincoln Regional Airport

Formulation of Ratios for Projections											
County Area	Placer										Others
	Auburn	Lincoln	Loomis	Rocklin	Roseville	Unincorporated	Citrus Heights	Folsom	Sacramento	Unincorporated	
2005 Jobs	13,417	7,207	4,423	15,003	66,250	50,221	22,314	31,654	293,218	225,261	-
# Based AC (2005)	5	6	6	26	28	21	11	3	11	18	34
% of Total Based AC (2005)	2.35	23.47	2.82	12.21	13.15	9.86	5.16	1.41	5.16	8.45	15.96
Annual Operations (2005) (based on % Total Based AC)	1,722	17,221	2,066	8,955	9,644	7,233	3,789	1,033	3,789	6,199	11,710
Ratio: Jobs / Based AC	2,683.40	144.14	737.17	577.04	2,366.07	2,391.48	2,028.55	10,551.33	26,656.18	12,514.50	-
Ratio: Jobs / Annual Operations	7.79	0.42	2.14	1.68	6.67	6.94	5.89	30.64	77.40	38.34	-

Historical & Forecast Employment & Aviation Activity - Placer County

Year	Auburn					Lincoln					Loomis					Rocklin					Roseville					Unincorporated Placer County					Total Placer County		
	Jobs	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Jobs	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Jobs	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Jobs	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Jobs	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Jobs	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Jobs	Based AC	Total Ops
1970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1975	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	-	-	-	-	-	3,973	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	4,293	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	4,612	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2005	13,417	5	-	1,722	-	7,207	50	-	17,221	-	4,423	6	-	2,066	-	15,003	26	-	8,955	-	66,250	28	-	9,644	-	50,221	21	-	7,233	-	156,521	136	46,840
2010	14,661	5	0.09	1,882	31.93	9,802	68	3.60	23,421	1,240.12	4,851	7	0.12	2,266	39.99	17,349	30	0.81	10,355	280.05	80,211	34	1.18	11,676	406.44	54,127	23	0.33	7,795	112.51	181,001	167	57,395
2015	15,133	6	0.04	1,942	12.12	12,764	89	4.11	30,499	1,415.50	4,960	7	0.03	2,317	10.19	19,042	33	0.59	11,365	202.10	91,013	38	0.91	13,248	314.47	55,006	23	0.07	7,922	25.32	197,918	195	67,294
2020	15,579	6	0.03	2,000	11.45	15,726	109	4.11	37,576	1,415.50	5,025	7	0.02	2,348	6.07	20,833	36	0.62	12,434	213.80	102,880	43	1.00	14,976	345.48	55,757	23	0.06	8,030	21.63	215,800	225	77,364
2025	15,915	6	0.03	2,043	8.63	17,463	121	2.41	41,727	830.09	5,040	7	0.00	2,355	1.40	22,548	39	0.59	13,458	204.72	114,659	48	1.00	16,890	342.92	56,037	23	0.02	8,070	8.06	231,662	245	84,343
2030	16,251	6	0.03	2,086	8.63	19,200	133	2.41	45,877	830.09	5,055	7	0.00	2,362	1.40	24,263	42	0.59	14,482	204.72	126,438	53	1.00	18,405	342.92	56,317	24	0.02	8,111	8.06	247,524	265	91,322

Historical & Forecast Employment & Aviation Activity - Sacramento County

Year	Citrus Heights					Folsom					Sacramento					Unincorporated Sacramento Co.					Total Sacramento County			
	Jobs	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Jobs	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Jobs	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Jobs	Based AC	Based Ac Growth Rate (planes/yr)	Total Ops	Ops Growth Rate (ops/yr)	Jobs	Based AC	Total Ops	
1970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1975	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1990	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2005	22,314	11	-	3,789	-	31,654	3	-	1,033	-	293,218	11	-	3,789	-	225,261	18	-	6,199	-	572,447	43	-	14,810
2010	23,192	11	0.09	3,938	29.81	34,981	3	0.06	1,142	21.72	333,034	12	0.30	4,303	102.89	235,388	19	0.16	6,478	55.74	626,595	46	0.33	15,861
2015	22,818	11	-0.04	3,874	-12.70	36,453	3	0.03	1,190	9.61	356,983	13	0.18	4,612	61.89	231,365	18	-0.06	6,367	-22.14	647,619	47	0.06	16,044
2020	22,281	11	-0.05	3,783	-18.23	38,011	4	0.03	1,241	10.17	381,945	14	0.19	4,935	64.50	225,211	18	-0.10	6,198	-33.87	667,448	47	0.06	16,157
2025	21,568	11	-0.07	3,662	-24.21	39,015	4	0.02	1,274	6.55	405,943	15	0.18	5,245	62.01	216,077	17	-0.15	5,947	-50.28	682,603	47	0.06	16,127
2030	20,855	10	-0.07	3,541	-24.21	40,019	4	0.02	1,306	6.55	429,941	16	0.18	5,555	62.01	206,943	17	-0.15	5,695	-50.28	697,758	47	0.06	16,098

Average Based AC growth Rate Lincoln) (planes/yr.)	(w/o)	0.23
Average Total Operations growth Rate Lincoln) (ops/yr)	(w/o)	79.52

Historical & Forecast Employment & Aviation Activity - Other Areas

Year	Based AC	Total Ops
2005	34	11,710
2010	35	12,108
2015	36	12,505
2020	37	12,903
2025	39	13,300
2030	40	13,698

Notes:
Bold = Future Projection

Sources:
Sacramento Council of Governments (sacog)
Ca Department of Finance (DOF)
City of Lincoln Data
Lincoln Regional Airport Records
Federal Aviation Administration (FAA)

Table 3-6
Summary of Historical & Forecast Aviation Activity
Lincoln Regional Airport

Year	Based Aircraft										Total Annual Operations					
	Historical 15-20	FAA (TAF)	FAA (1.4% growth)	CASP	2004 Master Plan (Mead & Hunt)	% Market Share	Brandley Pop. Forecast	Brandley Job. Forecast	Historical	FAA (TAF)	FAA (1.4% growth)	CASP	2004 Master Plan (Mead & Hunt)	Brandley Pop. Forecast	Brandley Job. Forecast	
1976	-	-	-	-	-	-	-	-	15,500	15,500	-	-	-	-	-	
1977	-	-	-	-	-	-	-	-	15,500	15,500	-	-	-	-	-	
1978	-	-	-	-	-	-	-	-	15,500	15,500	-	-	-	-	-	
1979	-	-	-	-	-	-	-	-	16,250	16,250	-	-	-	-	-	
1980	94	94	-	-	-	-	-	16,600	16,000	16,000	-	-	-	-	-	
1981	-	103	-	-	-	-	-	-	16,000	16,000	-	-	-	-	-	
1982	-	110	-	-	-	-	-	-	39,002	39,002	-	-	-	-	-	
1983	-	137	-	-	-	-	-	-	50,000	50,000	-	-	-	-	-	
1984	-	137	-	-	-	-	-	-	50,000	50,000	-	-	-	-	-	
1985	137	137	-	-	-	-	-	50,000	50,000	50,000	-	-	-	-	-	
1986	-	172	-	-	-	-	-	-	50,000	50,000	-	-	-	-	-	
1987	-	225	-	-	-	-	-	-	71,000	71,000	-	-	-	-	-	
1988	-	219	-	-	-	-	-	-	71,882	71,882	-	-	-	-	-	
1989	-	225	-	-	-	-	-	-	71,000	71,000	-	-	-	-	-	
1990	225	225	-	-	-	-	-	71,000	71,000	71,000	-	-	-	-	-	
1991	-	225	-	-	-	-	-	-	71,000	71,000	-	-	-	-	-	
1992	-	225	-	-	-	-	-	-	71,000	71,000	-	-	-	-	-	
1993	-	225	-	-	-	-	-	-	71,000	71,000	-	-	-	-	-	
1994	-	207	-	-	-	-	-	-	71,000	71,000	-	-	-	-	-	
1995	207	207	-	207	-	-	-	71,000	71,000	71,000	68,000	-	-	-	-	
1996	-	207	-	-	-	-	-	-	71,000	71,000	-	-	-	-	-	
1997	-	207	-	-	-	-	-	-	71,645	71,645	-	-	-	-	-	
1998	-	207	-	-	-	-	-	-	72,154	72,154	-	-	-	-	-	
1999	-	207	-	-	-	-	-	-	72,674	72,674	-	-	-	-	-	
2000	207	207	-	248	-	-	-	73,194	73,194	73,194	81,468	-	-	-	-	
2001	-	207	-	-	-	-	-	-	72,312	72,312	-	-	70,360	-	-	
2002	-	207	-	-	198	-	-	-	72,836	72,836	-	-	-	-	-	
2003	-	208	-	-	-	-	-	-	73,360	73,360	-	-	-	-	-	
2004	-	207	-	-	-	-	-	-	73,882	73,882	-	-	-	-	-	
2005	-	207	207	292	-	-	213	74,406	74,406	74,406	95,923	-	-	73,360	73,360	
2006	213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2007	231	-	-	-	-	-	-	71,000	-	-	-	-	-	-	-	
2008	-	212	216	-	229	217	-	-	75,909	77,575	-	87,020	-	-	-	
2010	-	214	222	331	-	221	260	-	76,928	79,762	108,734	-	89,494	85,364	-	
2013	-	218	231	-	258	227	-	-	78,483	83,159	-	103,200	-	-	-	
2015	-	229	238	366	-	230	287	-	79,538	85,504	120,232	-	100,000	98,000	-	
2020	-	229	255	398	-	240	325	-	82,242	91,659	130,774	-	113,000	110,000	-	
2023	-	235	266	-	318	-	-	-	83,910	95,563	-	133,560	-	-	-	
2025	-	237	273	-	-	-	362	-	85,044	98,258	-	-	125,000	120,000	-	
2030	-	-	293	-	-	-	398	-	-	105,331	-	-	-	138,000	132,000	

Bold = Future Projection

Sources:
Sacramento Council of Governments (sacog)
City of Lincoln Data
Lincoln Regional Airport Records
Federal Aviation Administration (FAA)
Ca. Aviation System Plan (CASP)

Table 3-7			
Historical & Forecast Based Aircraft by Market Share			
For Lincoln Regional Airport			
Year	Based Aircraft		Market Share (%)
	Western Pacific Region	Lincoln Regional Airport	
1997	36,418	-	-
1998	36,396	-	-
1999	36,610	-	-
2000	37,223	-	-
2001	36,700	-	-
2002	36,747	-	-
2003	37,058	-	-
2004	36,905	-	-
2005	37,920	-	-
2006	38,193	213	0.56
2007	38,489	216	0.56
2008	38,809	217	0.56
2009	39,117	219	0.56
2010	39,440	221	0.56
2011	39,753	223	0.56
2012	40,124	225	0.56
2013	40,448	227	0.56
2014	40,780	228	0.56
2015	41,133	230	0.56
2016	41,497	232	0.56
2017	41,852	234	0.56
2018	42,210	236	0.56
2019	42,583	238	0.56
2020	42,944	240	0.56
2021	43,317	243	0.56
2022	43,708	245	0.56
2023	44,114	247	0.56
2024	44,515	249	0.56
2025	44,919	252	0.56

Bold = Future Projection

Source: FAA Terminal Area Forecast

The data also include the following information:

- Total based aircraft
- Annual aircraft operations including itinerant, local and total

Population data are available from 1976 through 2004 and forecast data for population, employment, based aircraft, and aircraft operations are available through 2025 in most

cases and up to 2050 for the total City and County population. Operations data are available and included from both the F.A.A. Terminal Area Forecast (TAF) System (<http://www.apo.data.faa.gov/main/taf.asp>) and the California Aviation System Plan. Population data were obtained from the U.S. Census Bureau, the California Department of Finance, the Sacramento Area Council of Governments (SACOG), and the City of Lincoln. The total based aircraft listed are obtained from two different sources; namely, the F.A.A. TAF and the California Aviation System Plan.

The population forecasts show a very rapid growth for the City of Lincoln, beginning in the year 2000, with a corresponding rapid growth for the unincorporated Placer County area. The rapid growth of Roseville and Rocklin occurred between 1990 and 2005. Sacramento City and County growth is forecast to be modest.

The historical data and the forecasts have been presented graphically as follows:

Figure No. 3-1 – Historical and Forecast Population Trends – Placer County California

Figure No. 3-2 – Historical and Forecast Population Trends – Sacramento County, California

Figure No. 3-3 – Historical and Forecast Employment Trends – Placer County, California

Figure No. 3-4 – Historical and Forecast Employment Trends – Sacramento County, California

Figure No. 3-5 – Historical and Forecast Based Aircraft Trends – Lincoln Regional Airport, Lincoln, California

Figure No. 3-6 – Historical and Forecast Annual Operations Trends – Lincoln Regional Airport, Lincoln, California

The based aircraft forecasts and operations forecasts varied significantly between the F.A.A. and the California Aviation System Plan. The F.A.A. forecasts show minor growth at the airport, which matches the forecast growth nationwide. However, with the explosive growth of population and employment in Placer County and the City of Lincoln, these forecasts are considered to be extremely conservative. F.A.A. has recently allowed use of an annual growth rate of 1.4 percent. This compound growth rate of 1.4 percent is shown on Figures 3-5 and 3-6 and is still fairly low.

The California Aviation System Plan (CASP) forecasts are higher than all other forecasts and appear to be based on a compounded growth rate beginning in 1995; whereas, all other forecast growth began in the year 2005. The CASP forecast line basically parallels the other forecast lines. The growth of based aircraft and operations at Lincoln Regional Airport from 1995 to 2005 did not match the CASP forecasts. Long-term trends of based aircraft and operations at an airport vary somewhat throughout the years but the trend is generally fairly uniform. If this holds true for Lincoln Regional

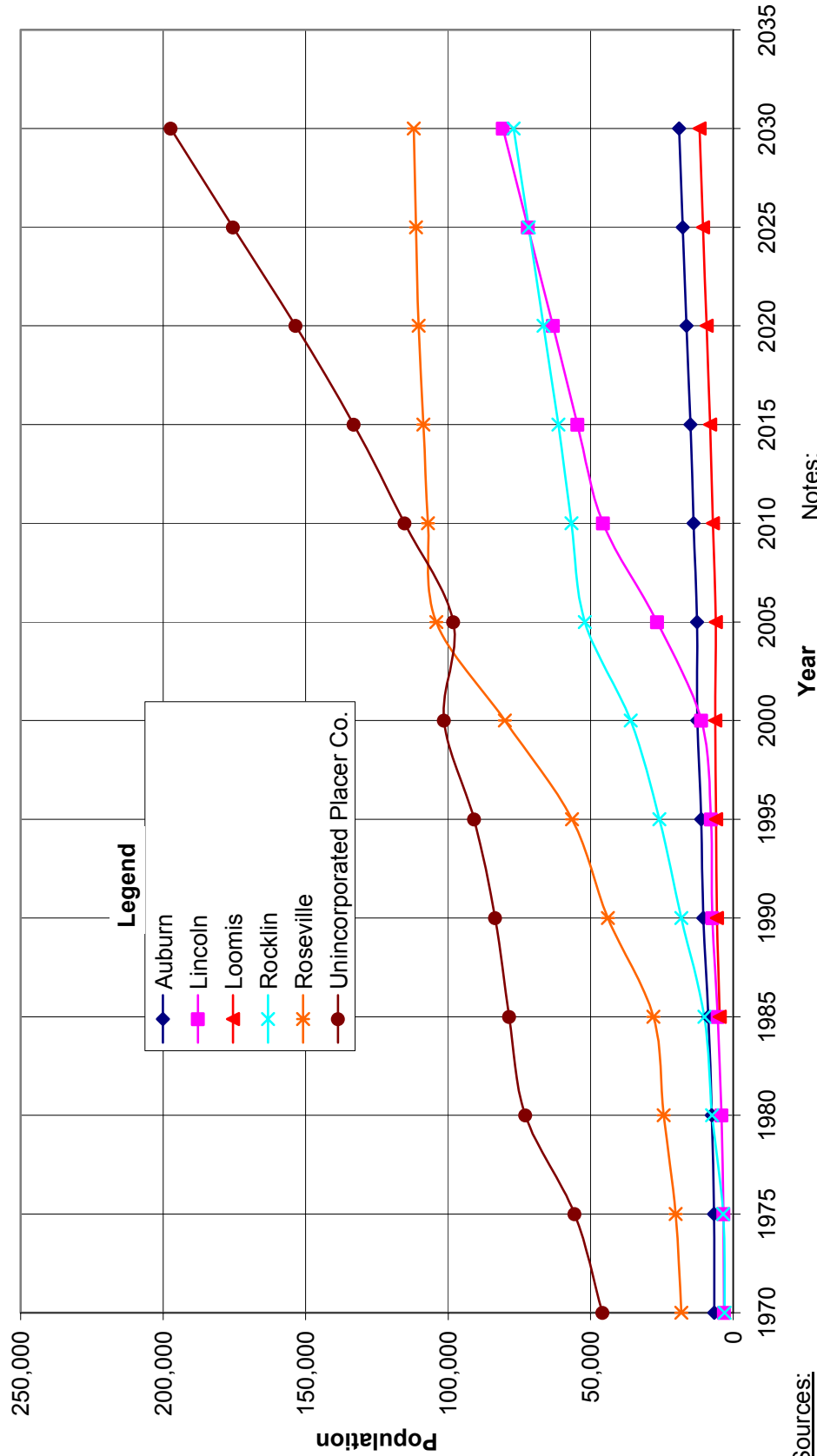
Airport, then the time period between 1988 and 2005 would represent a downtrend and the CASP forecasts could be realized during the forecast period through 2030.

As an alternative to the CASP forecasts, the forecasts designated as “Brandley Forecasts From Population” and “Brandley Forecasts From Employment” are considered to be realistic for this airport, and it is recommended that they be used for development of the airport facilities. The Mead & Hunt forecasts developed in 2004 are also shown on these Figures and indicate a slightly lower forecast for based aircraft and somewhat higher for aircraft operations. The Brandley forecasts are based on the historical relationship between population, employment, and based aircraft or operations of the total air trade area, which includes the City of Lincoln, the southwestern portion of Placer County, and some of the northern portion of Sacramento County and are, therefore, considered to be realistic for this particular airport.

With the introduction of the Very Light Jet, the increase in business jet travel brought on by the fractional ownership of jet aircraft and the possible introduction of Air Taxi Service, the Brandley Forecasts are probably conservative. The development of corporate hangars at general aviation airports near large centers of population and commerce attracts business jet aircraft to base at these general aviation airports, which significantly increases the aviation activity. This type of growth has recently occurred in Visalia and Madera, California, where business jet operators have moved their aircraft from Fresno.

It is recommended that the Brandley forecasts for based aircraft and operations be used for the development of the updated Airport Layout Plan for the Lincoln Regional Airport. It is further recommended that land be preserved for 100 percent future aviation growth and that all other excess airport property be designated as non-aviation and that this land be considered eligible for release from F.A.A. jurisdiction.

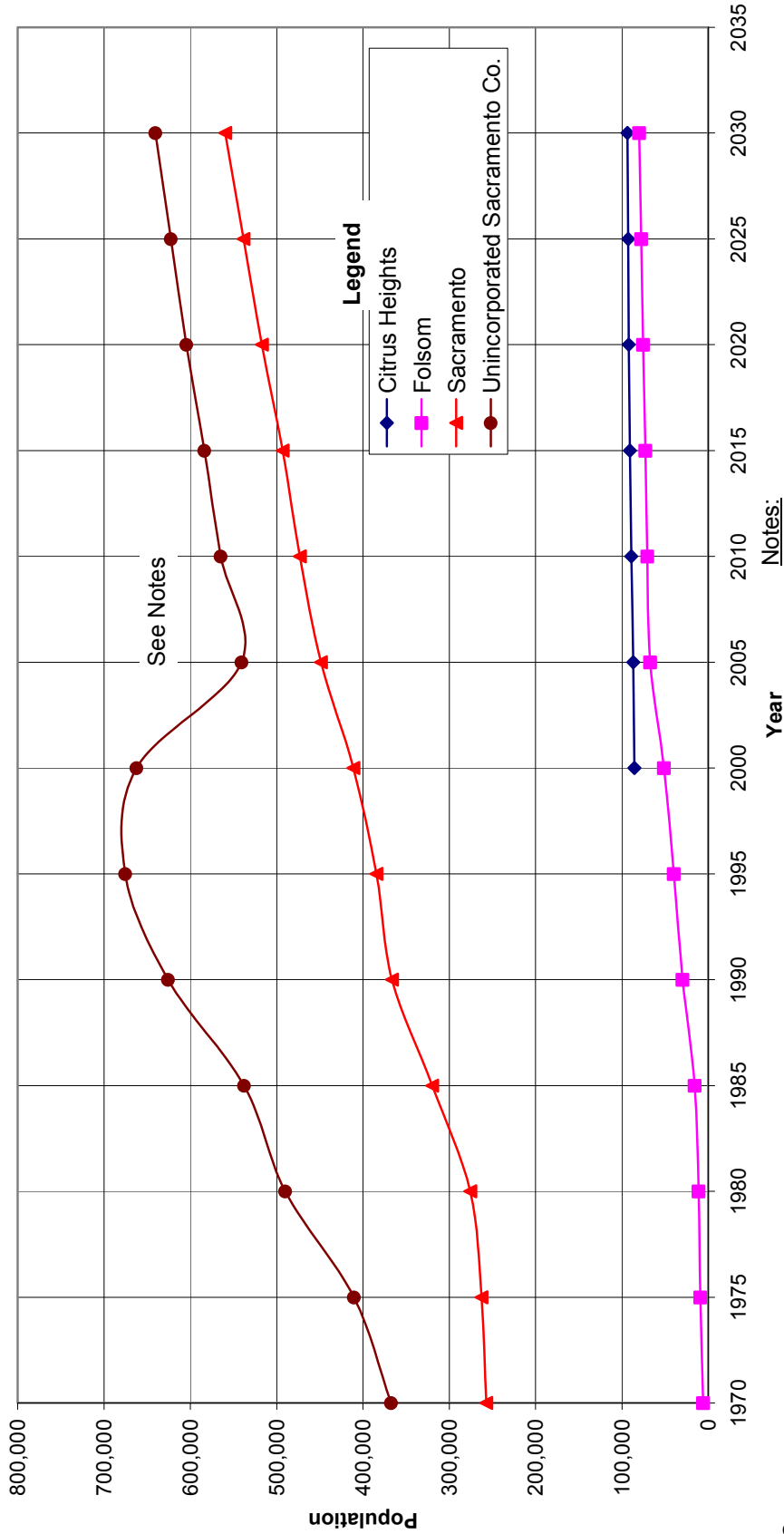
**Figure 3-1
Historical & Forecast Population Trends
Placer County, CA**



Sources:
 Sacramento Area Council of Governments (sacog)
 Ca. Department of Finance (DOF)
 City of Lincoln Data

Notes:
 1. Prior to 1984 the population of Loomis is included in unincorporated Placer County

Figure 3-2
Historical & Forecast Population Trends
Sacramento County, CA

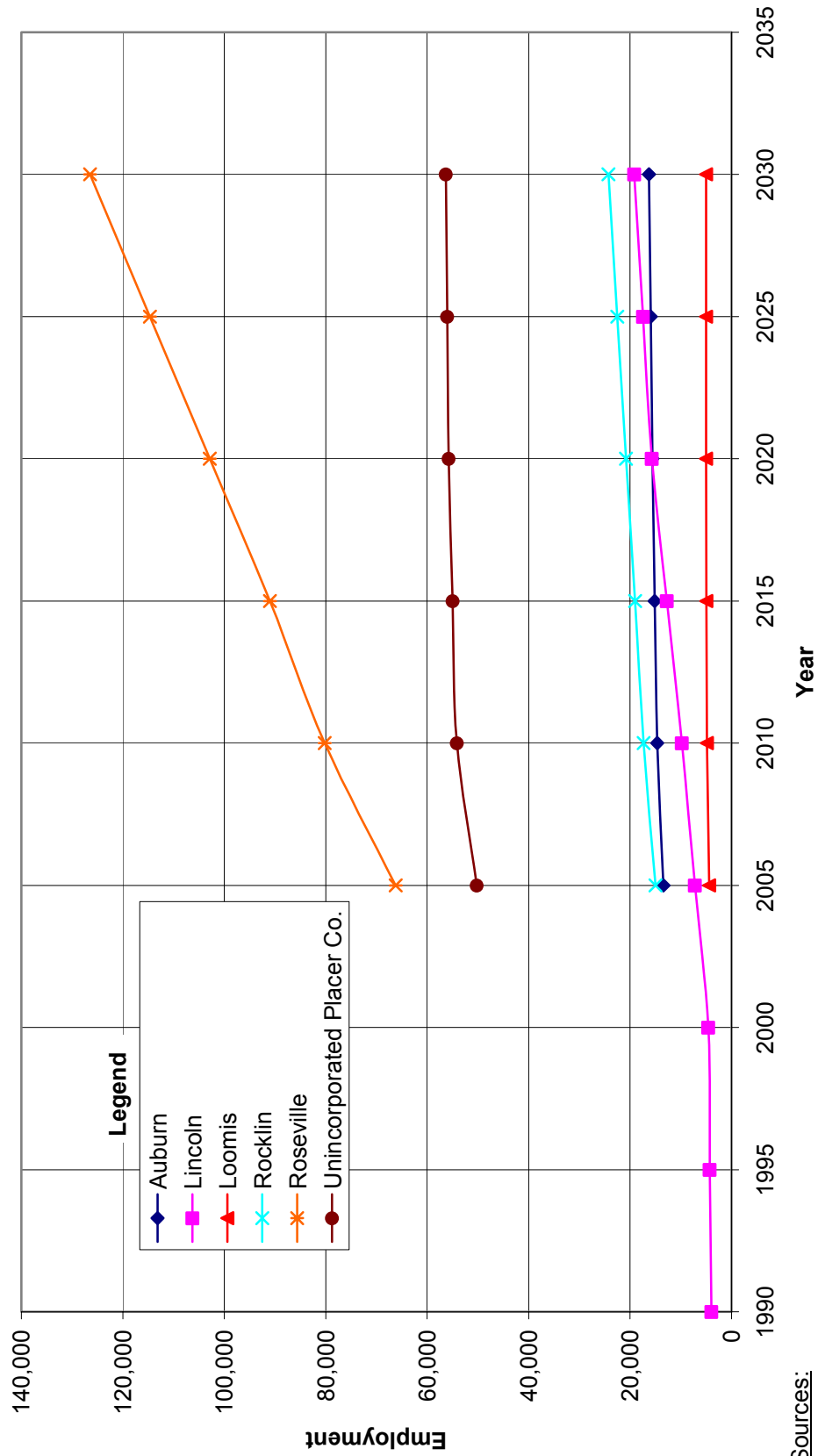


Notes:

1. Prior to 1997 the population of Citrus Heights is included in unincorporated Sacramento County
2. Prior to 2003 the population of Rancho Cordova is included in unincorporated Sacramento County

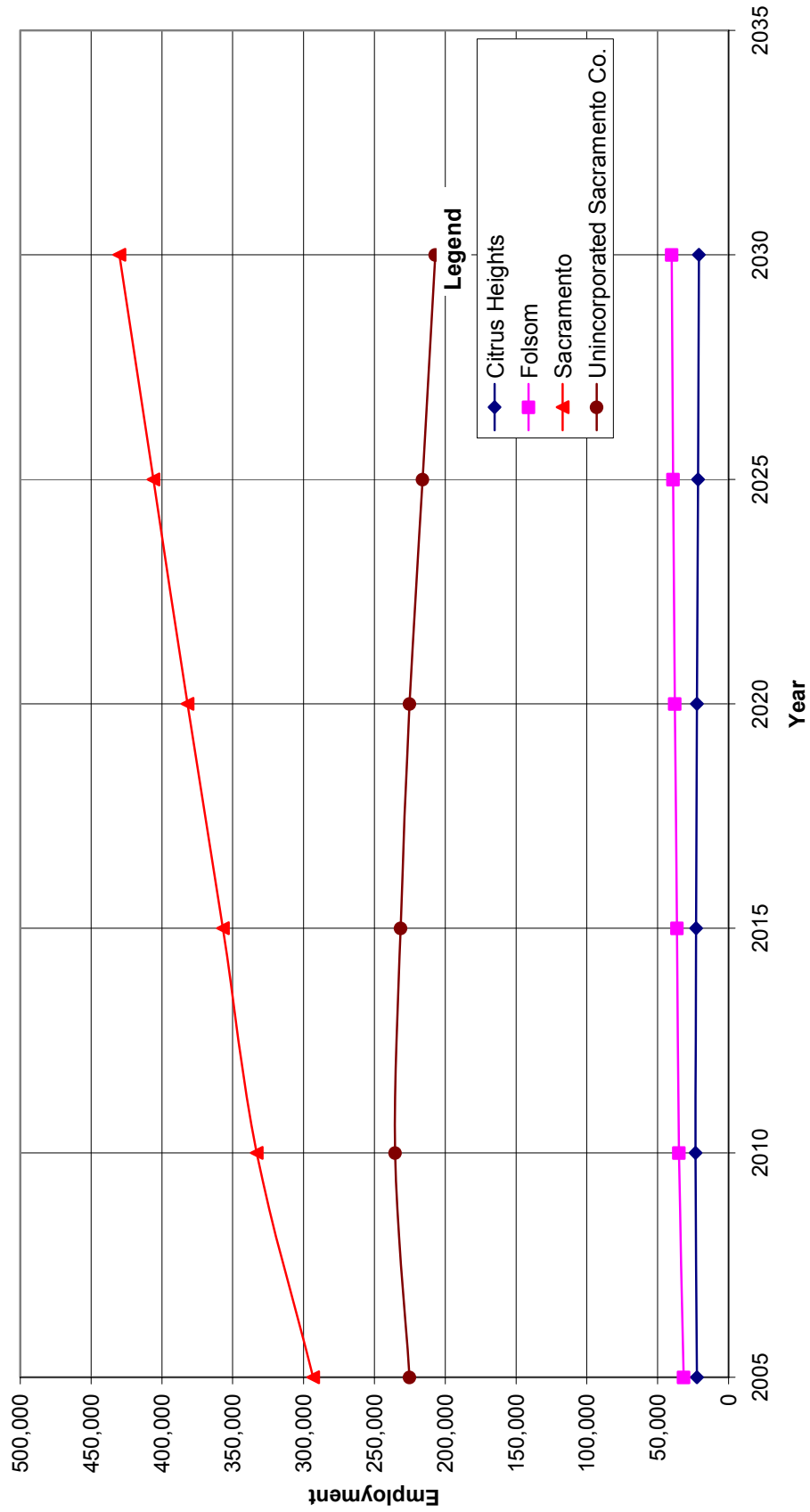
Sources:
 Sacramento Area Council of Governments (sacog)
 Ca. Department of Finance (DOF)
 City of Lincoln Data

**Figure 3-3
Historical & Forecast Employment Trends
Placer County, CA**



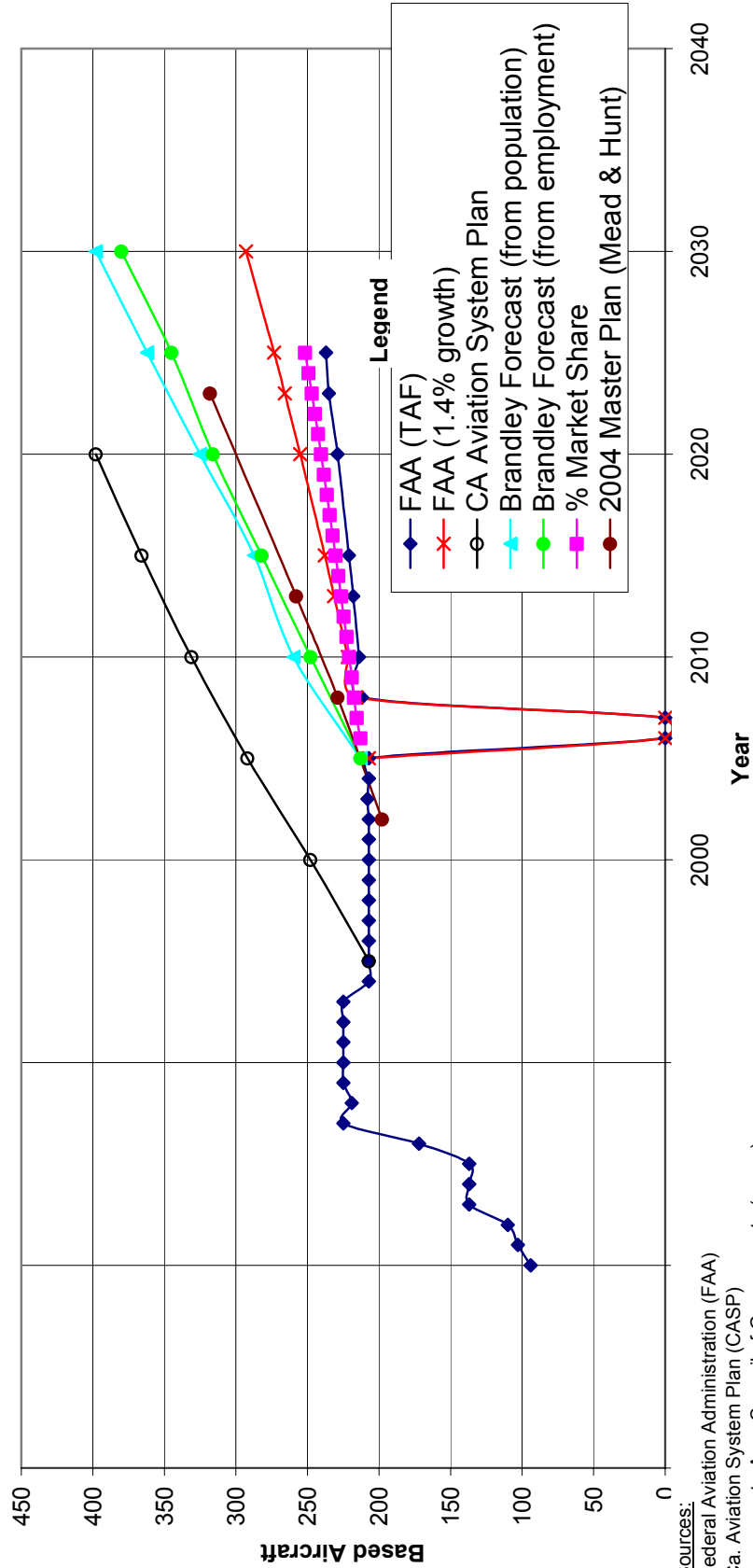
Sources:
Sacramento Area Council of Governments (sacog)
City of Lincoln Data

Figure 3-4
Historical & Forecast Employment Trends
Sacramento County, CA



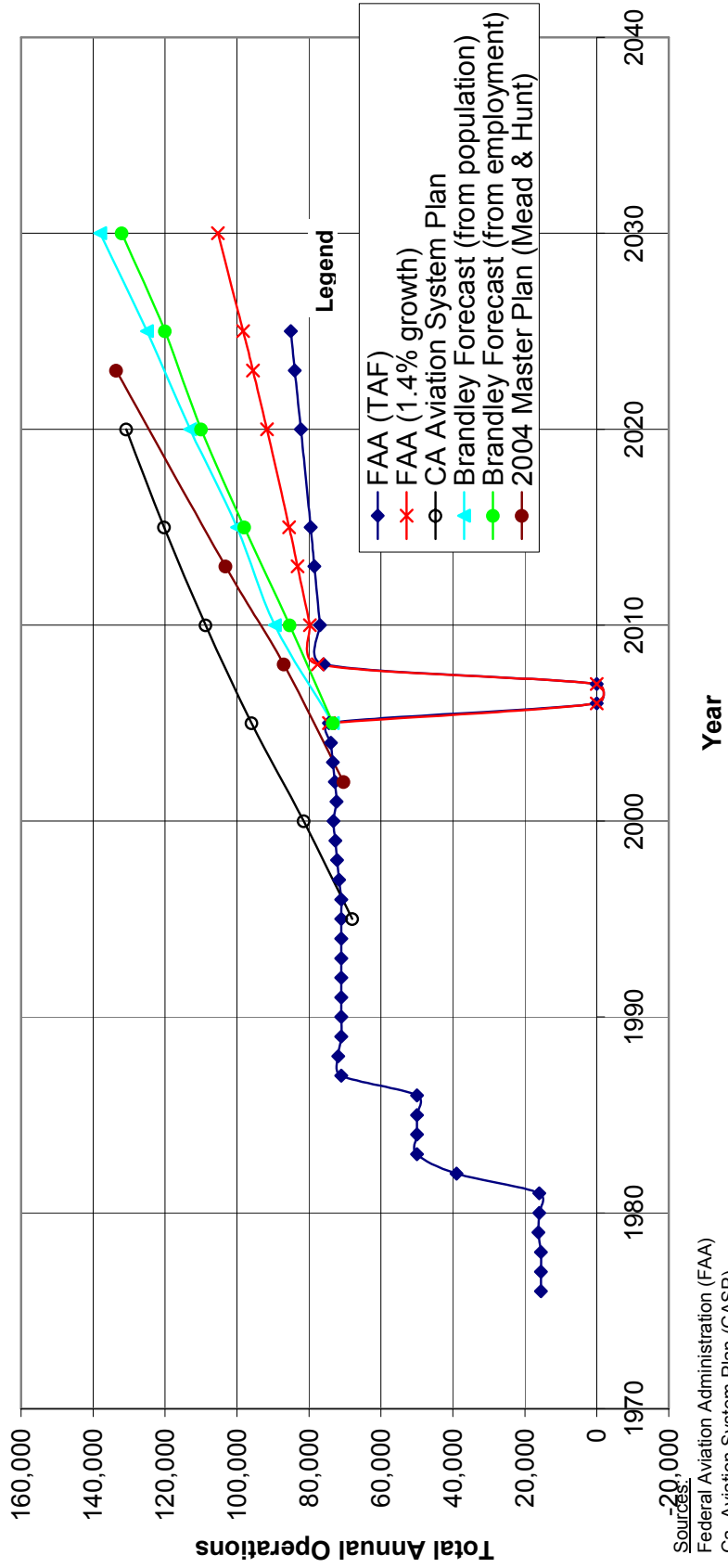
Sources:
 Sacramento Area Council of Governments (sacog)
 City of Lincoln Data

**Figure 3-5
Historical & Forecast Based Aircraft Trends
Lincoln Regional Airport, Lincoln, Ca.**



Sources:
 Federal Aviation Administration (FAA)
 Ca. Aviation System Plan (CASP)
 Sacramento Area Council of Governments (sacog)
 City of Lincoln Data
 Lincoln Regional Airport Records

Figure 3-6
Historical & Forecast Annual Operations Trends
Lincoln Regional Airport, Lincoln, Ca



Sources:
 Federal Aviation Administration (FAA)
 Ca. Aviation System Plan (CASP)
 Sacramento Area Council of Governments (sacog)
 City of Lincoln Data
 Lincoln Regional Airport Records

3-2 Projected Fleet Mix

The fleet mix at this airport in the 2002/2003 timeframe, which is still valid today, indicates 88 percent single engine aircraft, 8 percent multi-engine, 6 percent jet, and 1 percent helicopter. With the increase in jet traffic and multi-engine aircraft operations, it is expected that these percentages will change showing a decrease in single-engine aircraft operations and a significant increase in multi-engine and jet aircraft operations. F.A.A. projections of nationwide trends also indicate significant decrease in single engine operations and increase in multi-engine and jet operations. It is reasonable to assume that at the end of the forecast period (2030) the based aircraft fleet mix will be 76 percent single-engine, 15 percent multi-engine, 8 percent jet, and 1 percent helicopter.

Currently the based jet aircraft are of the smaller Cessna Citation class, but aircraft of the Gulfstream V and Global Express classes frequently utilize the airport. It is anticipated that future operations of the larger jet aircraft will expand, and there will be significant use by the Very Light Jet (VLJ).

3-3 Critical Aircraft

The critical or design aircraft is considered to be the most demanding aircraft that operate on the airport on a regular basis. F.A.A. considers a minimum of 500 operations annually of a class of aircraft as the minimum requirement for designation of that aircraft as the critical aircraft. The design aircraft at this time is the Cessna Citation VII and is expected to be the G V within the forecast period. The F.A.A. has established airport design standards based on Airport Reference Code (ARC). The ARC includes two components: aircraft approach category and airplane design group. The airport approach category represents operational approach speed characteristics of the critical aircraft. The airplane design group is based on wing span of the critical aircraft. The approach category is denoted by letter, and the airplane design group is denoted by Roman numeral. Lincoln Regional Airport is currently designated as an ARC C III, which will accommodate forecast traffic, including the Gulfstream GV.

3-4 Projected Peak Demand Characteristics

Projections of peak demand characteristics for aircraft operations at the airport are important to estimate delays an aircraft may experience at the airport and to determine the timing for improvements at the airport to increase capacity. Typically the peak hour operation levels are the critical feature for design purposes. The peaking characteristics are generally developed using the following methodology:

Annual Operation Data is converted to peak month activity by taking 10 percent of the annual operations as representing the peak month.

The average day of the peak month is determined by dividing the peak month by 30

The peak hour percentage is typically estimated as 12 to 20 percent of the peak day operations

Using this methodology, peak hour operations at the airport currently are 35 and in 2027 will be 70.

3-5 Summary of Aviation Forecasts

Forecasts prepared have been limited to short-term, medium-term, and long-term and extend out to 20 years. The airport is expected to have a life much longer than 20 years, and it is prudent to provide space on the airport for significant increases in based aircraft and operations. It is considered prudent to reserve space on the airport to accommodate double the number of based aircraft and operations as forecast in the 20-year period, which for the Lincoln Regional Airport would require space for up to 800 based aircraft and 280,000 annual operations. The land should be reserved to accommodate this type of growth. In 20 to 30 years new projections should be made and if the anticipated potential growth is not occurring, then some of the land reserved for airport development could be released for other airport-compatible uses.

Lincoln Regional Airport has sufficient land area and facilities to accommodate double the 20-year forecast based aircraft and annual operations and still have significant area of land not needed for potential aviation uses. This excess land can be used for airport-compatible non-aviation development. Income from these uses will make the airport a financial self-sustaining operation, including the ability to fund Airport's share of facilities and capital improvements.