AVIATION DEMAND FORECASTS

1. PURPOSE AND CONTEXT

The *San Diego County Regional Aviation Strategic Plan (RASP) Aviation Demand Forecasts* study was undertaken as part of a periodic update of the forecasts of aviation demand for the San Diego County airports. There are 12 public-use airports and four military airports in San Diego County (see **Figure 1-1**). The public-use airports included in this study are:

San Diego International Airport (SDIA)

McClellan-Palomar Airport (CRQ)

Gillespie Field (SEE)

Brown Field Municipal Airport (SDM)

Montgomery Field (MYF)

Ramona Airport (RNM)

Fallbrook Airpark (L18)

Borrego Valley Airport (LO8)

Oceanside Municipal Airport (OKB)

Agua Caliente Airport (L54)

Ocotillo Airport (L90)

Jacumba Airport (L78)

The four military airports in San Diego County are:

Camp Pendleton Marine Corps Air Station (NFG)

Miramar Marine Corps Air Station (NKX)

Imperial Beach Naval Outlying Field (NRS)

North Island Naval Air Station (NZY)

The baseline year for the *RASP Aviation Demand Forecasts* is 2007. Annual operations and fleet mix forecasts are presented for each airport through 2030.

Figure 1-1
SAN DIEGO COUNTY AIRPORTS

H:\SAN San Diego RASP\Maps\GIS
Sources: Environmental Systems Research Institute, Inc. (ESRI), 2008; Landrum & Brown analysis

2. NATIONAL INDUSTRY TRENDS

Understanding the history and current state of the aviation industry can help predict future aviation demand. This section discusses nationwide trends in commercial passenger aviation, air taxi/general aviation, and military activity.

2.1 U.S. Commercial Aviation Industry Trends

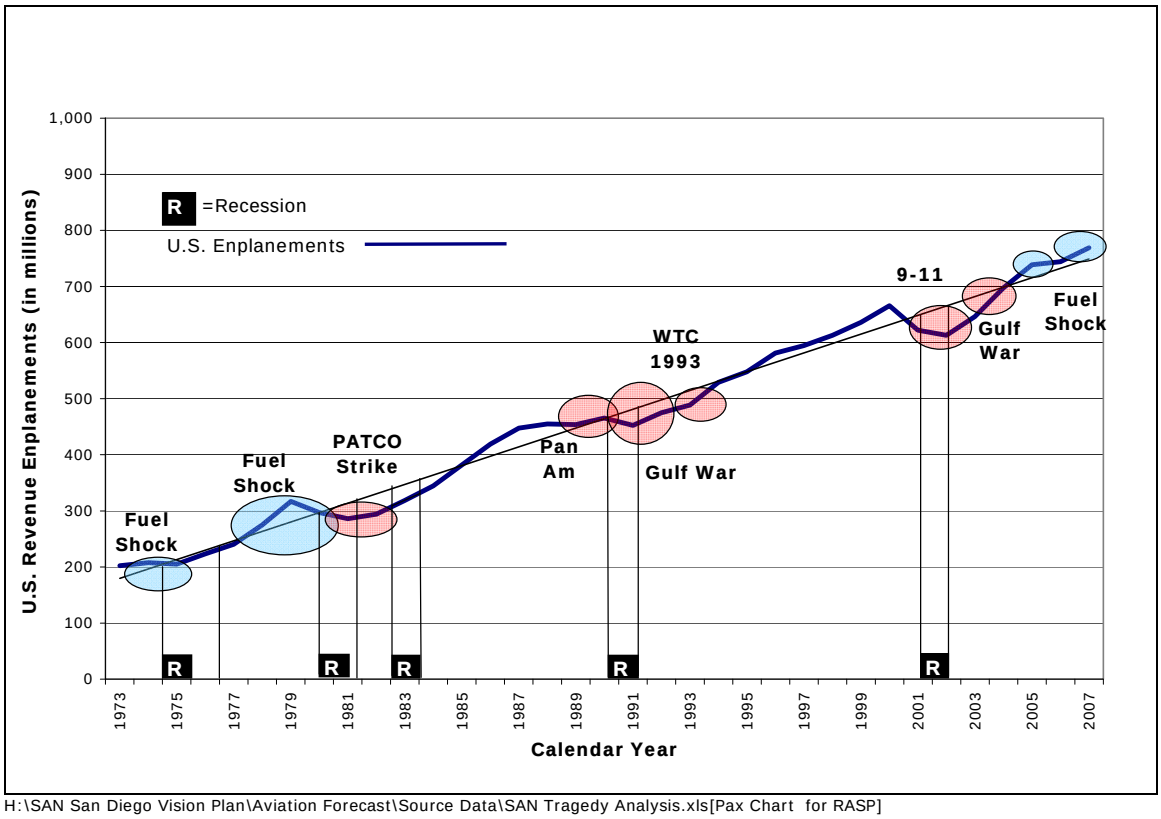
SDIA and McClellan-Palomar are the only two airports in San Diego County with scheduled commercial passenger service. SDIA is the primary airport serving San Diego County. It was the 20th largest airport in the U.S. in terms of enplaned passengers in 2007 (over 9.1 million). In 2008, 20 airlines at SDIA provided service to 52 domestic airports and five international airports.[1]

[1] Based on airline schedules listed in the *Official Airline Guide* for August 2008.

McClellan-Palomar is served by just one commercial service airline, providing commuter service to Los Angeles International Airport (LAX). In 2007, McClellan-Palomar enplaned almost 47,000 passengers.

This section presents an overview of the commercial passenger airline industry in the U.S. and provides a context for the commercial passenger forecasts for SDIA and McClellan-Palomar. Demand for air travel in the U.S. correlates strongly with fluctuations in the economy. As shown in **Figure 2.1-1**, passenger traffic has typically declined during economic contractions and returned to positive growth during subsequent economic expansions. Shocks to the industry such as terrorist attacks, fuel prices, labor issues, and wars also have an impact, although typically short-term, on air travel. In spite of the historical recessions and shocks to the industry, commercial passenger air travel has experienced overall positive growth since the 1970s.

Figure 2.1-1
AVIATION SYSTEM SHOCKS AND RECOVERIES



H:\SAN San Diego Vision Plan\Aviation Forecast\Source Data\SAN Tragedy Analysis.xls[Pax Chart for RASP]
Sources: Air Transport Association of America; Landrum & Brown analysis

The commercial passenger aviation industry is currently in an unprecedented period of uncertainty. Oil prices surged to historically high levels in 2006 through 2008, just as the U.S. airline industry as a whole returned to profitability following the most recent economic downturn and the aftermath of the September 11, 2001 terrorist attacks. Airlines are faced with

significant upward pressure on costs but are limited in their ability to extract further cost savings from labor, which provided significant concessions in the last round of restructuring following September 11, 2001. With fuel cost largely beyond their control, airlines are increasing fares, cutting traditional amenities, and charging for checked bags, among other measures in order to balance the variables of supply and demand. Oil prices have come down in the 4th quarter of 2008 but were still above historical prices.

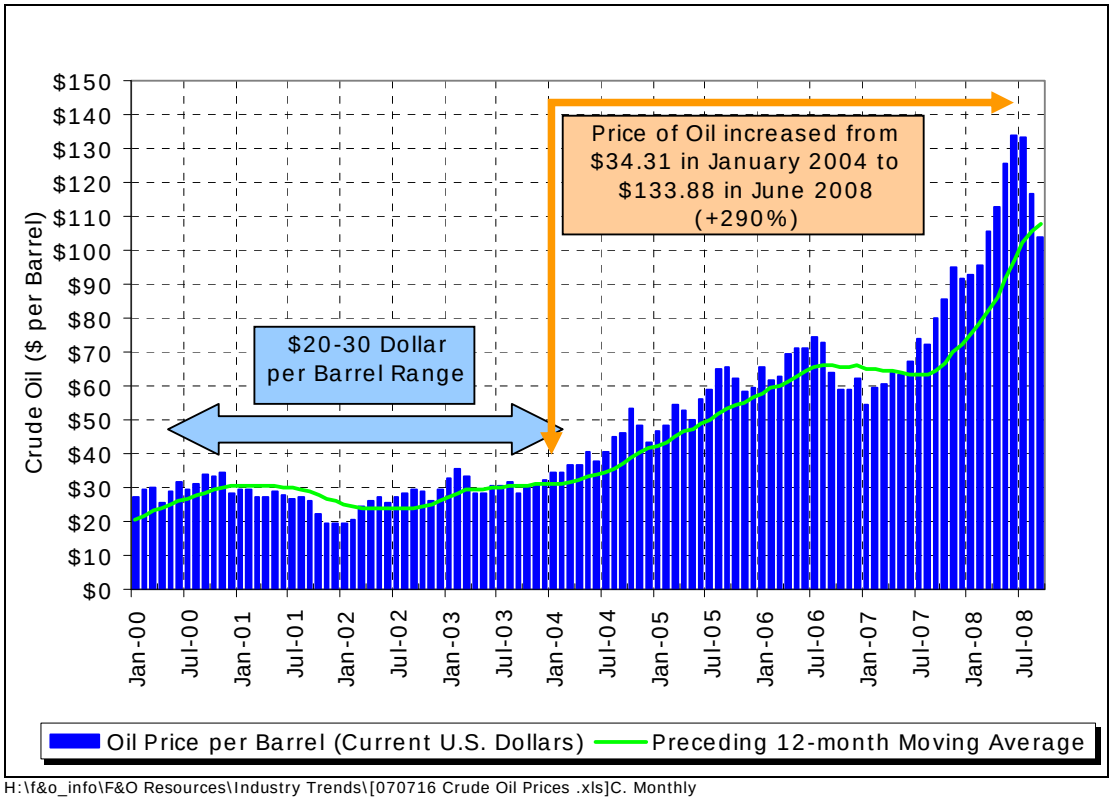
The post-deregulation[2] environment has been characterized by a period of declining fares, causing passenger traffic to reach record levels. As the industry is now collectively faced with significantly higher costs and the traveling public with higher fares, there is the very real possibility that fewer people will fly. In the current weak consumer environment, increases in airfares are likely to have a much greater negative effect on demand. Airlines are recognizing this and are reducing capacity, parking aircraft, and restructuring route networks. The potential for passage of a climate bill in the U.S. Congress could also further increase airline operating expenses as a cost attached to airline emissions as a part of a cap and trade scheme. The new higher cost industry will affect each airport differently, depending upon the mix of airlines, aircraft, and air services offered.

Price of Fuel

The price of jet fuel is directly linked to the price of oil and subsequent refining costs. The price of oil increased dramatically from 2004 to 2008, posting a 290 percent increase in June 2008 versus January 2004 (see **Figure 2.1-2**). After averaging $20 to $30 per barrel in the 2000 to 2003 time period, crude oil prices surged to $133.88 per barrel by June 2008 and were at a similar level in July of 2008. Several factors drove the increase such as strong global demand, particularly in China and India, a weak U.S. dollar, commodity speculation, political unrest, and a reticence to materially increase supply. Crude oil prices began to decline in August of 2008 and by October of 2008 crude oil prices had declined to under $65 per barrel due to decreases in demand. Oil prices for the fourth quarter of 2008 are still above historical prices but are in a range where the major U.S. carriers are somewhat optimistic about being able to make a profit.

[2] Deregulation refers to the Airline Deregulation Act of 1978 which reduced government control over commercial aviation.

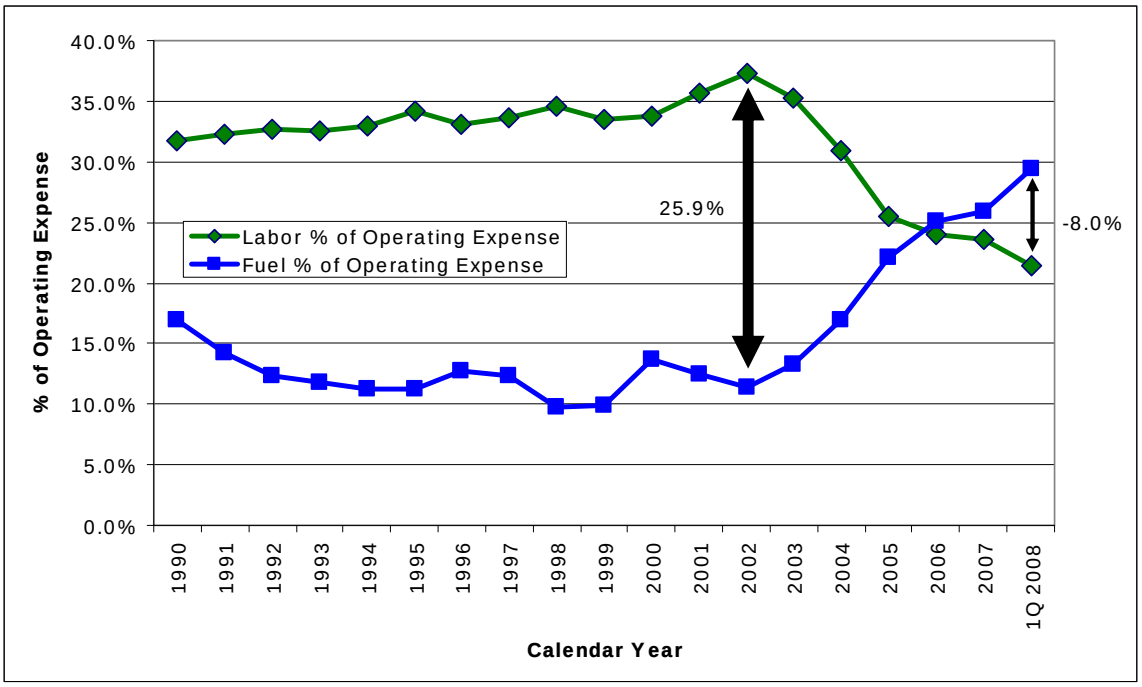
Figure 2.1-2
CRUDE OIL PRICES



H:\f&o_info\F&O Resources\Industry Trends\[070716 Crude Oil Prices .xls]C. Monthly
Note: Prices shown are spot prices for West Texas Intermediate (WTI) crude oil (spot prices require immediate payment versus forward prices which can be settled in the future).
Sources: Energy Information Administration; Landrum & Brown analysis

Jet fuel has accounted for an increasing share of total airline operating costs in the 21st century and has become the major driver of airline operating costs (see **Figure 2.1-3**). Rising fuel costs completely wiped out the labor cost savings legacy carriers were able to obtain during bankruptcy proceedings. As the airlines have already accomplished major cuts in labor costs, there is not much more they can do to reduce operating costs. Although crude oil prices have come down in the fourth quarter of 2008, oil prices are still above historical prices and fuel costs will still likely make up an increasing share of total airline operating costs.

Figure 2.1-3
FUEL AND LABOR AS A PERCENT OF AIRLINE TOTAL OPERATING COSTS



H:\SAN San Diego Vision Plan\Aviation Forecast\Industry Trends\[Industry Trends - Form 41 Database.xls]Fuel
Note: Operating costs for U.S. airlines only.
Sources: Air Transport Association; Landrum & Brown analysis

Domestic Capacity

Domestic airlines have been dealing with bankruptcies and restructuring for decades, with the most recent round beginning shortly after the 9/11 terrorist attacks in 2001. Most Low Cost Carriers (LCC)[3] and legacy carriers[4] had finally returned to profitability in 2006 after savings from labor cuts, salary concessions, and removal of many flight perquisites were realized. The surge in oil prices pushed airlines to start raising fares and cutting capacity. The success of restructuring has produced an industry that is already streamlined with very little fat left to trim. To survive and be profitable, the airlines must also reduce domestic capacity to avoid losing money on unprofitable routes and excessive frequencies that are not supported with sufficient demand. Legacy carriers have been growing their international markets and are benefiting from higher ticket prices and load factors (percent of seats occupied). A capacity reduction in the range of 10

[3] A low cost carrier is an airline that eliminates traditional passenger services in order to offer low fares.
[4] Legacy carriers include United, American, Delta, US Airways, Continental, Northwest, Alaska, and Hawaiian.

to 15 percent is currently scheduled in the fourth quarter of 2008 and early 2009 for most airlines.[5]

Providing frequent flights is a cost that the airlines can no longer bear with the high cost of fuel. The efforts that airlines are making to reduce losses by cutting the number of flight options comes with additional infrastructure costs that require the retirement of less fuel-efficient aircraft and the furlough of thousands of airline employees. Although costly, higher capacity provides choices to air travelers and has an impact on the resulting demand for air travel. The short-haul market in particular is likely to suffer when air travelers are faced with fewer flight options and have the ability to simply get in their cars and drive. Flight options are decreasing and will continue to do so until the airlines find a new capacity equilibrium that works with the price of fuel, acceptable air fares, and passenger demand. Greater capacity provides a market that can accommodate more passengers with a wide array of needs and requests for how they will travel. Demand is certain to fall as airfares rise and the number of flight options decreases, due mainly to the lack of convenience and fit for specific travel plans.

2.2 U.S. Air Taxi and General Aviation Industry Trends

All of the public-use airports in San Diego County accommodate general aviation activity. The term "general aviation" refers to any aircraft not operated by the commercial airlines (passenger or cargo) or the military. General aviation activity includes recreational and flight training activities, business travel, news reporting, traffic observation, environmental surveys, police patrol, emergency medical evacuation, and crop dusting aircraft. Many of the San Diego County airports also accommodate air taxi activity. The term "air taxi" refers to aircraft for hire.

2.2.1 Historical Trends

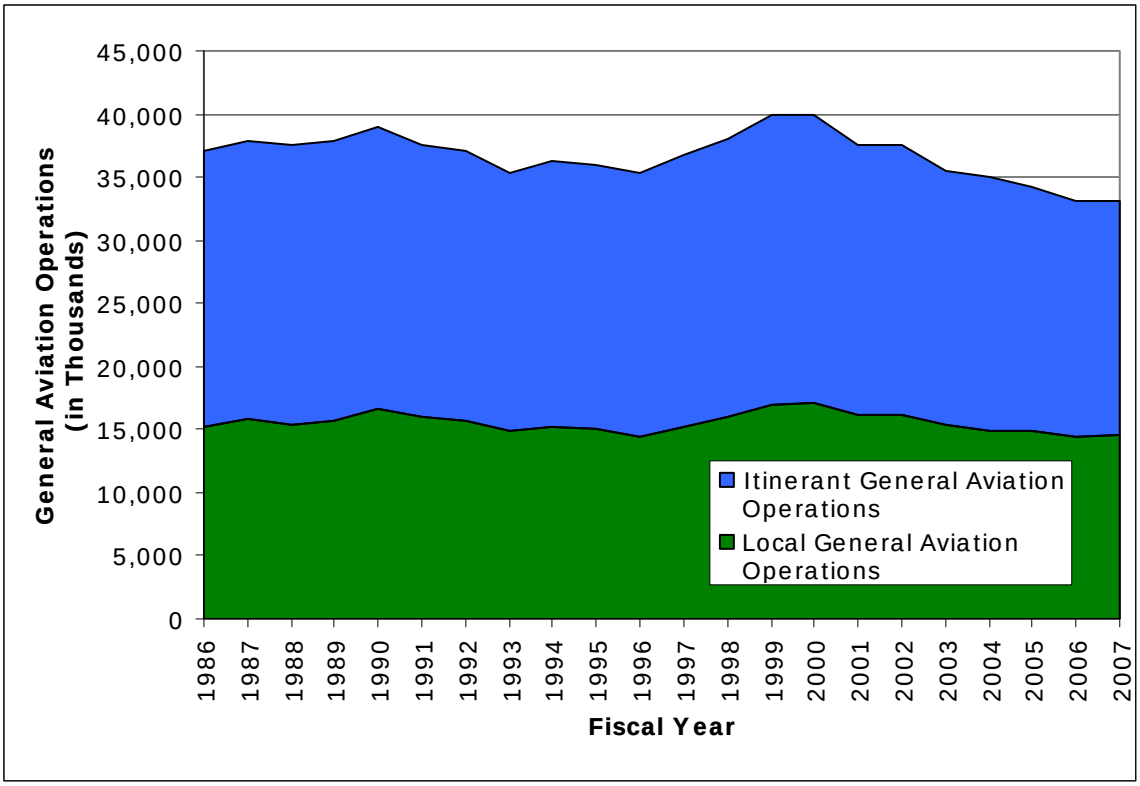
The general aviation/air taxi industry in the U.S. has experienced major changes over the last 30 years. Activity levels were at their highest in the late 1970s through 1981. General aviation activity levels and new aircraft production reached all-time lows in the early 1990s due to a number of factors including the 1982 economic downturn, followed by higher fuel prices, increased product liability stemming from litigation concerns, and the resulting higher cost of new aircraft. The passage of the 1994 General Aviation Revitalization Act (GARA)[6] combined with reduced new aircraft prices, lower fuel prices, resumed production of single-engine aircraft, continued strength in the production and sale of business jets, and a

[5] Based on the Official Airline Guide, as of October 2008.

[6] GARA imposes an 18-year statute of repose on product liability lawsuits for general aviation aircraft.

recovered economy led to growth in the general aviation industry in the later half of the 1990s (see **Figure 2.2-1**).[7]

Figure 2.2-1
U.S. GENERAL AVIATION OPERATIONS



H:\SAN San Diego RASP\[GA Trends.xls]Ops
Note: Represents operations at U.S. airports with Air Traffic Control Service.
Sources: *FAA Aviation Forecasts, Fiscal Years 1991-2002* and *1995-2006*; *FAA Aerospace Forecasts, Fiscal Years 2008-2025*; Landrum & Brown analysis

The rebound in the U.S. general aviation industry that began with GARA started to subside by Fiscal Year (FY) 2000. General aviation traffic at airports with an Air Traffic Control Tower (ATCT) slowed considerably in FY 2001 due largely to a U.S. economic recession and to some extent the terrorist attacks of September 11, 2001. General aviation traffic at airports with ATCTs continued to decline through FY 2006 as spikes in fuel costs occurred and the economy grew at a relatively even pace. For the first time since FY 1999, general aviation traffic at airports with an ATCT increased in FY 2007, but just slightly (0.04 percent over FY 2006). The number of general aviation aircraft handled by an Federal Aviation Administration (FAA)

[7] Based on information from the General Aviation Manufacturers Association (GAMA).

Air Route Traffic Control Center (ARTCC) in FY 2007 increased by 1.2 percent over FY 2006.[8]

There are a number of important indicators that help present a picture of the state of the general aviation industry, including aircraft shipments, the number of active aircraft, the number of hours flown, and the number of active pilots. Each of these indicators is discussed in the following subsections.

Aircraft Shipments

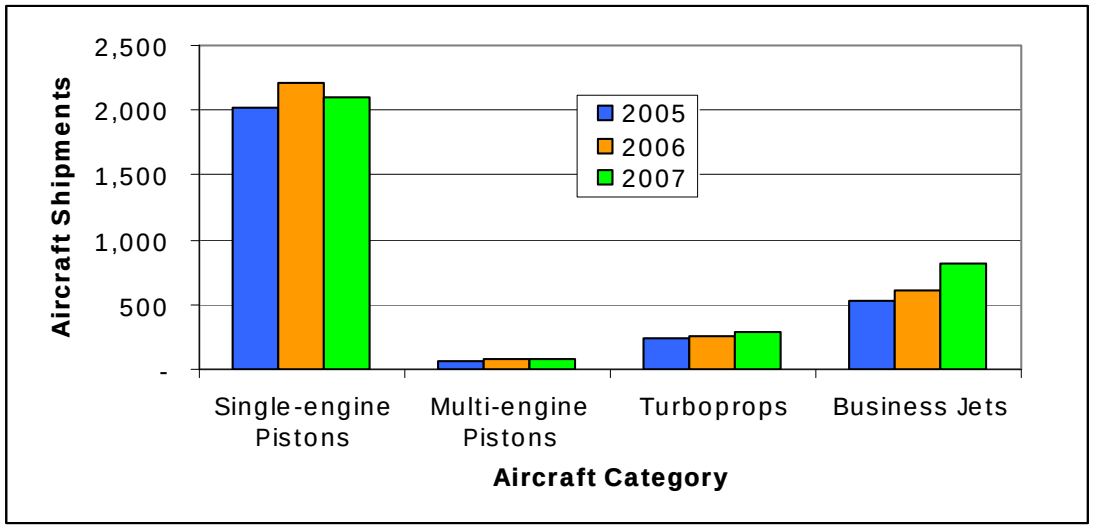
The General Aviation Manufacturers Association (GAMA) reports total shipments of general aviation aircraft in its annual *General Aviation Statistical Databook & Industry Outlook* report. The 2007 report shows that the number of general aviation aircraft shipped[9] in 2007 increased 4.2 percent over 2006, following a 10.2 percent increase in 2006 over 2005. **Figure 2.2-2** shows the number of shipments by aircraft category for 2005, 2006, and 2007. Over 70 percent of U.S. shipments in this time period were single-engine aircraft. The number of piston shipments (both single-engine and multi-engine) decreased by 4.9 percent in 2007 after increasing 9.2 percent in 2006. Business jets saw the largest increase of any of the aircraft groups, a 34.9 percent increase in 2007 over 2006 after a 15.7 percent increase in 2006 over 2005. Business jets make up a growing share of total U.S. shipments, increasing from 18.3 percent of all U.S. shipments in 2005 to 19.2 percent in 2007.

Number of Active Aircraft

An aircraft is considered an "active aircraft" by the FAA if it has a current registration and was flown for a minimum of one hour in the calendar year. According to the *FAA Aerospace Forecasts, Fiscal Years 2008-2025*, the number of active general aviation and air taxi aircraft in the U.S. declined from 217,533 in 2000 to 209,606 in 2003 (see **Figure 2.2-3**). The number of active aircraft then increased to 224,262 in 2005 before declining again in 2006 to 221,942. Active aircraft are estimated to increase to 225,007 in 2007. Overall, the number of active aircraft has increased at a rate of 0.5 percent annually from 2000 to 2007.

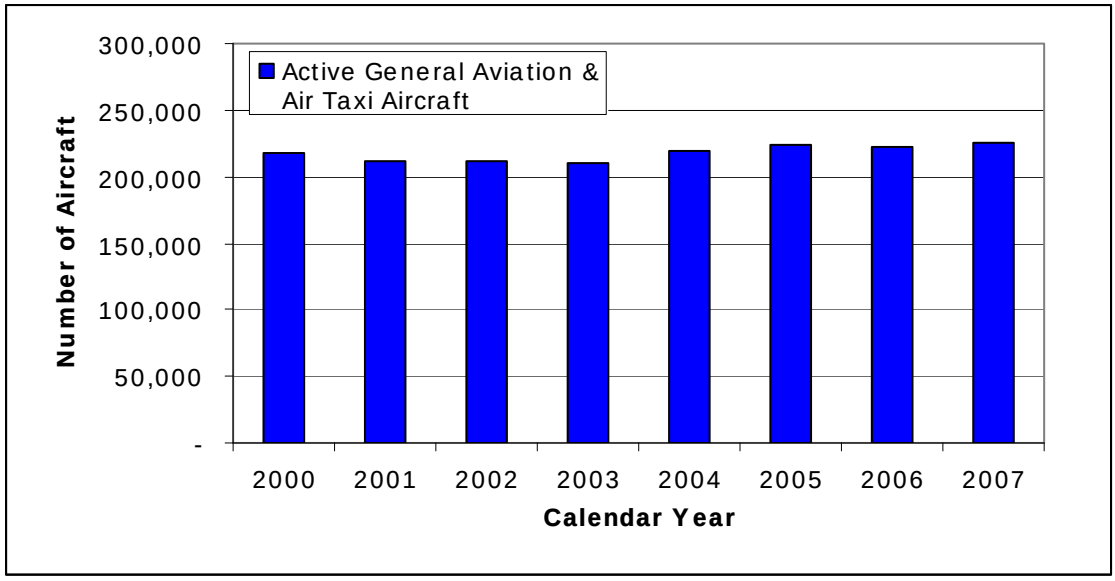
[8] *FAA Aerospace Forecasts, Fiscal Years 2008-2025*, Tables 31 and 33
[9] Represents aircraft manufactured in the U.S. only.

Figure 2.2-2
GENERAL AVIATION AIRCRAFT SHIPMENTS MANUFACTURED IN THE U.S.



H:\SAN San Diego RASP\[GA Trends.xls]Shipments
Sources: GAMA International Shipment Reports, 2005, 2006, 2007; Landrum & Brown analysis

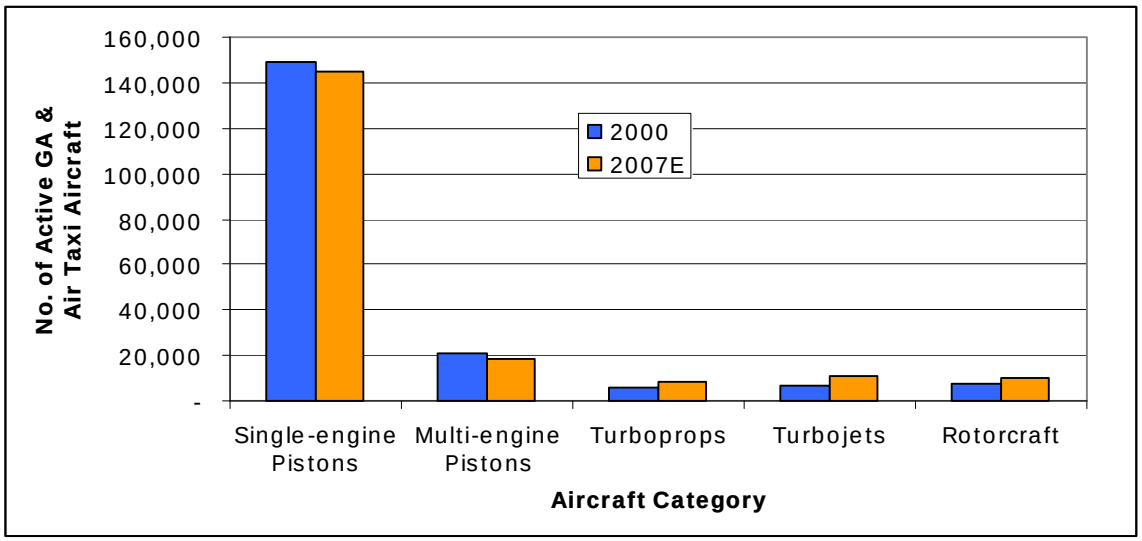
Figure 2.2-3
NUMBER OF ACTIVE GENERAL AVIATION AND AIR TAXI AIRCRAFT IN THE U.S.



H:\SAN San Diego RASP\[GA Trends.xls]active aircraft
Source: *FAA Aerospace Forecasts, Fiscal Years 2008-2025*, Table 27

The average annual growth in the number of active turboprops and turbojets outpaced the industry at 5.2 percent and 6.7 percent, respectively, during the 2000 to 2007 time period (see **Figure 2.2-4**). The number of active rotorcraft also grew at a strong rate from 2000 to 2007 (4.4 percent annually). Piston aircraft continue to make up the majority of active aircraft in the U.S., however, the number of active piston aircraft has declined at an average rate of 0.6 percent annually. Pistons represented 68.7 percent of all active general aviation and air taxi aircraft in 2000, but decreased to 64.3 percent of the U.S. fleet in 2007.

Figure 2.2-4
NUMBER OF ACTIVE GENERAL AVIATION AND AIR TAXI AIRCRAFT BY AIRCRAFT CATEGORY IN THE U.S.

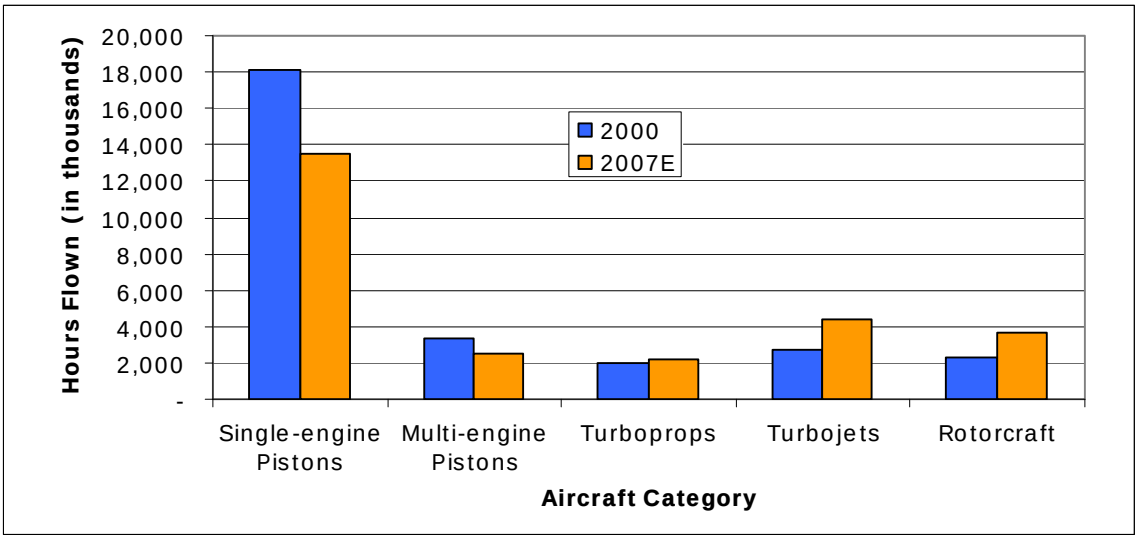


H:\SAN San Diego RASP\[GA Trends.xls]active aircraft
Note: Fixed Wing and Rotorcraft aircraft only. Excludes Experimental, Sport, and Other aircraft categories.
Source: *FAA Aerospace Forecasts, Fiscal Years 2008-2025*, Table 27

Hours Flown

The number of hours flown by each of the aircraft categories reflects similar trends as the number of active aircraft (see **Figure 2.2-5**). From 2000 to 2007, the number of hours flown by rotorcraft aircraft, turboprops, and turbojets increased while the number of hours flown by piston aircraft (single-engine and multi-engine) decreased by over 25 percent. The number of hours flown by turbojets increased by 60 percent from 2000 to 2007.

Figure 2.2-5
NUMBER OF ACTIVE GENERAL AVIATION AND AIR TAXI AIRCRAFT HOURS FLOWN IN THE U.S.



H:\SAN San Diego RASP\[GA Trends.xls]hours flown
Note: Fixed Wing and Rotorcraft aircraft only. Excludes Experimental, Sport, and Other aircraft categories.
Source: *FAA Aerospace Forecasts, Fiscal Years 2008-2025*, Table 28

Active Pilots

According to the *FAA Aerospace Forecasts, Fiscal Years 2008-2025*, the number of non-airline transport active pilots (a person with a pilot certificate and a valid medical certificate) in the U.S. declined almost nine percent from 2000 to 2007. The number of student pilots declined by almost 15 percent over this time period.[10]

[10] *FAA Aerospace Forecasts, Fiscal Years 2008-2025*, Table 29

2.2.2 Forecast Trends

The FAA annually publishes forecasts of the U.S. aviation industry. The annual FAA forecasts of general aviation and air taxi activity are based largely on "discussions with industry experts that occurred at the October 2006 FAA/Transportation Research Board (TRB) Workshop on General Aviation. The assumptions have been updated by FAA analysts to reflect more recent data and developing trends, as well as further information from industry experts."[11] The GAMA *2007 General Aviation Statistical Databook & Industry Outlook* uses the FAA Aerospace Forecasts for its projections. The FAA forecasts project the following trends in the U.S. general aviation industry from 2007 to 2025:

> The number of active general aviation aircraft is forecast to increase by 1.4 percent annually.
> Growth of 3.0 percent annually is expected in the number of general aviation hours flown.
> The number of student pilots is expected to increase at a rate of 1.0 percent annually.
> General aviation operations at airports with an ATCT are forecast to increase by 1.3 percent annually.
> Business use of general aviation aircraft has experienced historically high growth rates and will continue to grow more rapidly than recreational use.

2.3 Military Trends

According to the *FAA Aerospace Forecasts, Fiscal Years 2008-2025*, military operations at U.S. public-use airports with an ATCT have experienced an overall decline of 0.8 percent annually from 2000 to 2007.[12] The FAA does not forecast military operations at public airports nor does it track military operations at military airports.

3. SOCIOECONOMIC TRENDS

The intrinsic links between the level of aviation activity and economic growth are well documented. Simply put, growth in population, income, and business activity typically lead to increased demand for air travel. There are a multitude of socio-economic statistics that are available to assess the overall health of San Diego County and the broader national economy. Population, per capita personal income (PCPI), employment, and gross regional product (GRP) are the best barometers of economic prosperity as

[11] *FAA Aerospace Forecasts, Fiscal Years 2008-2025*, Page 25
[12] *FAA Aerospace Forecasts, Fiscal Years 2008-2025*, Table 32

related to aviation demand. In addition, U.S. gross domestic product (GDP) is another important indicator of air travel.

The socioeconomic data presented in this report is the most recent data available as of October 2008. As a result, the data does not reflect the economic crisis that began in the latter half of 2008. The purpose of the discussion is to evaluate long-term trends in socioeconomic indicators as related to air travel. Short-term fluctuations as a result of economic slowdowns are to be expected around the long-term trend.

3.1 Local Economy

This section summarizes recent trends and future forecasts of population, PCPI, employment, and GRP for San Diego County. Comparisons with the State of California and the U.S. as whole are presented, where appropriate, for reference and benchmarking purposes. Historical and forecast population, PCPI, employment, and local GRP data were obtained from the San Diego Association of Governments (SANDAG), Woods and Poole Economics, Inc. of Washington, D.C, the California Department of Finance, the U.S. Bureau of Economic Analysis, and the 2000 U.S. Census. All economic variables are presented in constant dollars to eliminate distortions resulting from inflation.

The general conclusion of the analysis of the socioeconomic indicators is that San Diego County is well positioned to experience future economic expansion. The population in San Diego County has grown at a faster rate than the U.S. as a whole, indicating the desirability of the county as a place to live and work. PCPI, which is a measure of the wealth of the population, has also generally tracked above U.S. averages. However, inflation has dragged on real PCPI growth, largely due to the rising cost of housing in the county, and as a result the differential with national averages is narrowing.

Encouragingly, employment has exceeded population growth in the county, and the unemployment rate has been lower than state and national benchmarks since the mid-1990s. While traditional military, defense related, and tourism industries continue to be integral parts of the local economy, there has been considerable diversification of industry into high technology sectors such as bio-technology which typically pay higher than average wages. The diversification of the San Diego economy is also widely assumed to make the local economy more resistant to economic downturns.

While most states and many municipalities are experiencing tax collection shortfalls due to the downturn in the housing market, inflationary pressures related to the price of oil and food, and increasing unemployment, San Diego County's economy appears to be holding up better than most. Over the long-term, it is anticipated that growth will be positive albeit at generally

slower rates. This is largely indicative of the continued maturation of the local San Diego County and broader economies.

3.1.1 Population Trends

San Diego is the second most populous county in the state with 3.1 million residents accounting for just over eight percent of the state's total population.[13] Population growth in San Diego County has generally been in line with growth in Southern California and for the State, but exceeded the rate of population growth for the U.S. as a whole (see **Table 3.1-1**).

Table 3.1-1
HISTORICAL POPULATION

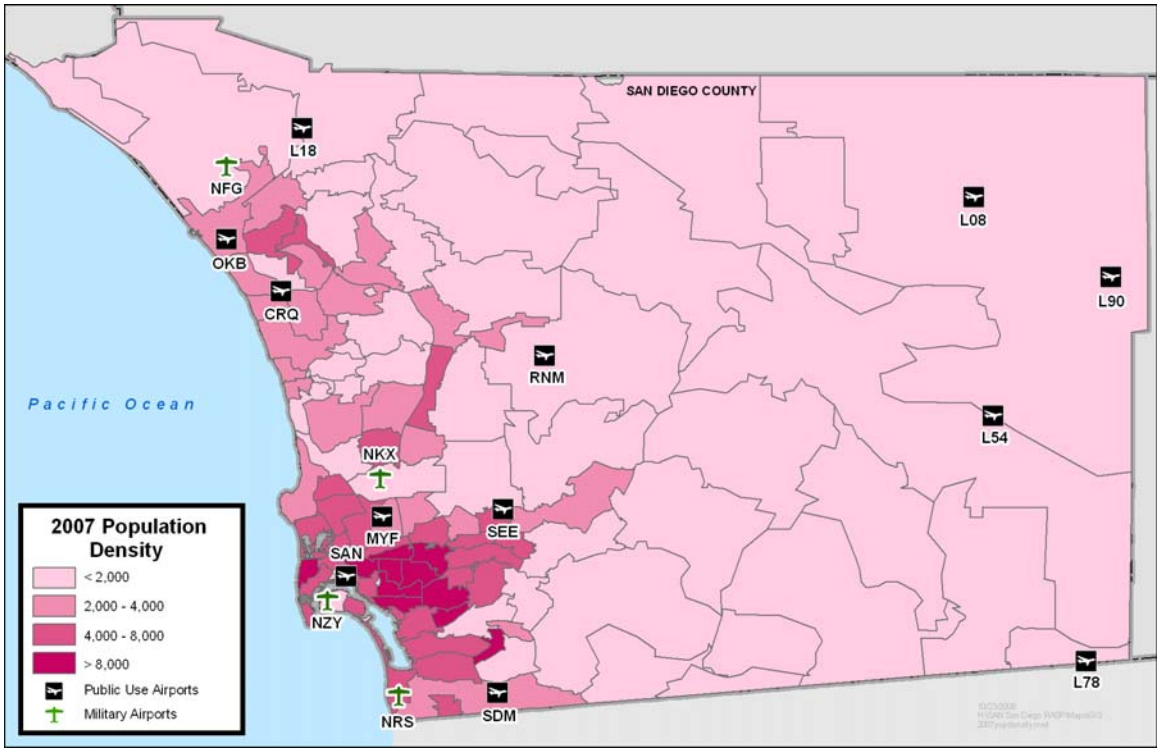
Calendar Year	San Diego County[1]	Southern California[2]	California[2]	United States[3]
1980	1,873,300	13,355,500	23,510,815	227,225,622
1990	2,504,900	17,138,848	29,758,213	249,622,814
2000	2,813,833	19,330,536	33,873,086	282,216,952
2007	3,128,465	21,521,623	37,559,440	303,096,742
Average Annual Growth Rate:				
1980-1990	2.9%	2.5%	2.4%	0.9%
1990-2000	1.2%	1.2%	1.3%	1.2%
2000-2007	1.5%	1.5%	1.5%	1.0%
1980-2007	1.9%	1.8%	1.8%	1.1%

H:\SAN San Diego Vision Plan\Aviation Forecast\Source Data\Socioeconomic\[Socioeconomic Tables & Exhibits.xls]Tables for RASP
Sources: [1] SANDAG; [2] California Department of Finance; [3] Woods & Poole Economics 2007; Landrum & Brown analysis

As shown in **Figure 3.1-1**, population within San Diego County is concentrated in the coastal corridors in the western areas of the county. The areas of highest population density (population per square mile) are located in the southwest quadrant of the county in close proximity to SDIA, and Montgomery Field. Gillespie Field and Brown Field are located on the outer edges of this population center. Oceanside and McClellan-Palomar Airports are located in the most densely populated part of the northern coastal area in San Diego County. Fallbrook Airpark is located to the north of McClellan-Palomar and Oceanside in a less densely populated area. Ramona Airport is located to the southeast of Palomar, also in a less densely populated area. Borrego Valley, Ocotillo, Agua Caliente, and Jacumba Airports are located further inland, east of and in the San Diego County Mountains. These areas have significantly lower population density than the coastal areas.

[13] State of California, Department of Finance, *E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2007 and 2008,* Sacramento, California, May 2008

Figure 3.1-1
2007 SAN DIEGO COUNTY POPULATION DENSITY



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Legend

SAN – San Diego International Airport
CRQ – McClellan-Palomar Airport
MYF – Montgomery Field
SEE – Gillespie Field
SDM – Brown Field Municipal Airport
RNM – Ramona Airport
OKB – Oceanside Municipal Airport
L18 – Fallbrook Community Airpark
L08 – Borrego Valley Airport
L54 – Agua Caliente Airport
L90 – Ocotillo Airport
L78 – Jacumba Airport

Note: Population density is defined as population per square mile.
Sources: SANDAG and Landrum & Brown analysis

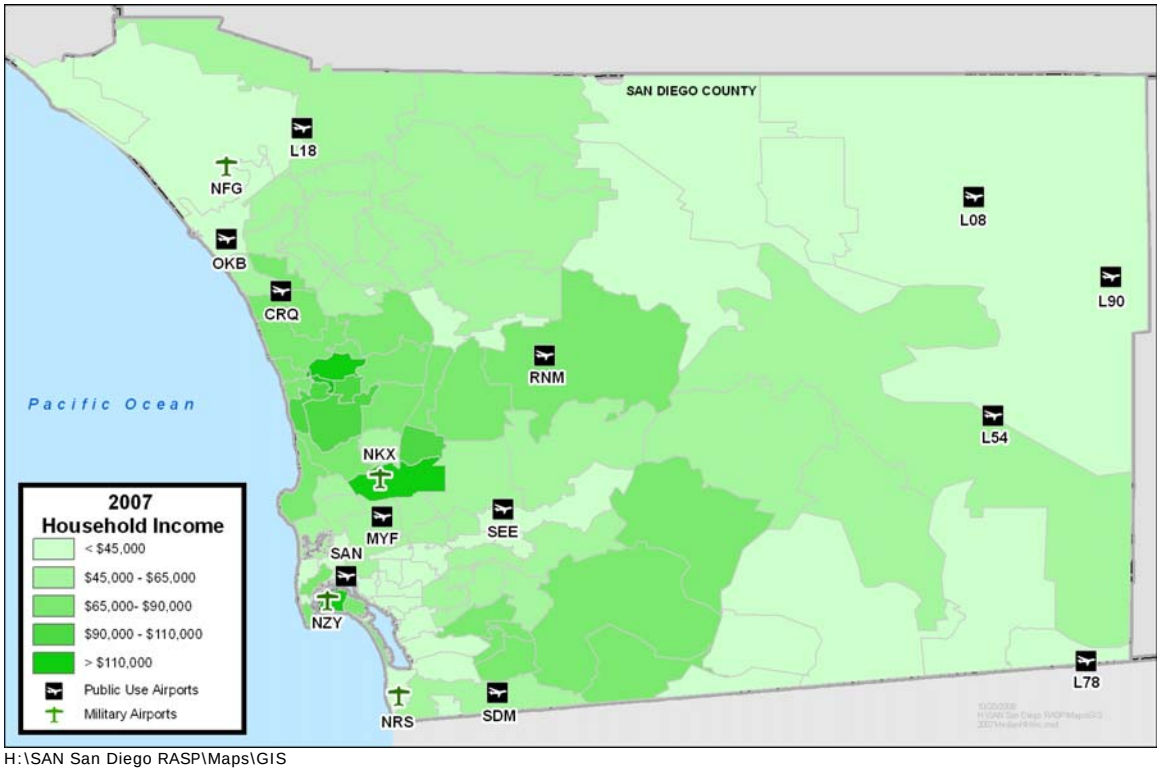
3.1.2 Personal Income Trends

Income statistics are broad indicators of the relative earning power and wealth of an area and inferences can be made related to the residents' ability to afford to fly commercially or own or rent a private plane. There are two income statistics discussed in this section: household income and PCPI. Household income represents the average income per housing unit while PCPI corresponds to the income per inhabitant (total income divided by total population).

Median Household Income Trends

Median household income at the zip code level was used to understand the distribution of wealth in the county (see **Figure 3.1-2**). It is interesting to note that the most densely populated areas in the southwest quadrant of the county (near SDIA and Montgomery Airport) typically have the lowest levels of household income.

Figure 3.1-2
2007 SAN DIEGO COUNTY MEDIAN HOUSEHOLD INCOME



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Legend

SAN – San Diego International Airport
CRQ – McClellan-Palomar Airport
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SEE – Gillespie Field
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RNM – Ramona Airport
OKB – Oceanside Municipal Airport
L18 – Fallbrook Community Airpark
L08 – Borrego Valley Airport
L54 – Agua Caliente Airport
L90 – Ocotillo Airport
L78 – Jacumba Airport

Sources: SANDAG and Landrum & Brown analysis

Household income growth is expected to be strongest in the wealthiest areas of the county, located to the north and northeast of the City of San Diego. Income growth in the cities in closest proximity to SDIA is projected to be slightly lower than the county average.

Per Capita Personal Income Trends

Real PCPI (inflation adjusted in 2000 dollars) for San Diego County has closely mirrored PCPI for the state (see **Table 3.1-2**). Real PCPI for San Diego County has tracked higher than the national average but the gap is closing as PCPI for the U.S. has, on average, grown at a faster rate. Higher inflation in San Diego County has dragged on real PCPI growth, primarily due to the rise in the cost of housing in the county. Indeed in nominal terms, PCPI grew at a faster rate in the county than both the state and the nation between 1980 and 2006.

Table 3.1-2
HISTORICAL PCPI

Calendar Year	San Diego County[1]	California[2]	United States[2]
1980	25,795	25,339	21,136
1990	28,006	28,017	25,661
2000	32,856	32,462	29,845
2006	33,082	32,906	31,360
Average Annual Growth Rate:			
1980-1990	0.8%	1.0%	2.0%
1990-2000	1.6%	1.5%	1.5%
2000-2006	0.1%	0.2%	0.8%
1980-2006	1.0%	1.0%	1.5%

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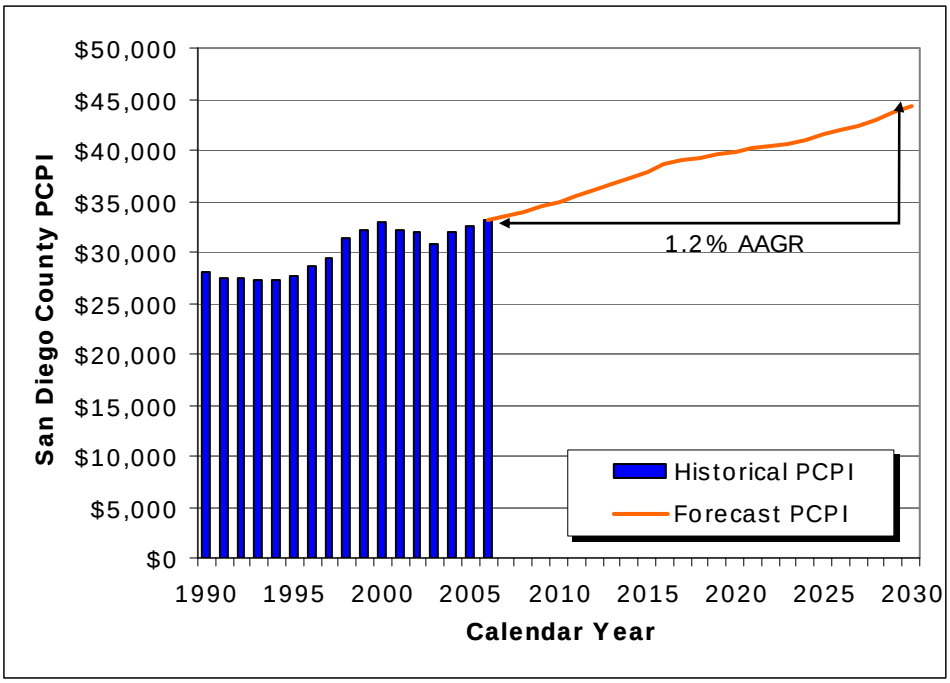
Note: Data is in constant 2000 dollars.
Sources: [1] SANDAG; [2] Bureau of Economic Analysis; Landrum & Brown analysis

Real PCPI for San Diego County is expected to increase to almost $45,000 by 2030, averaging 1.2 percent compound annual growth (see **Figure 3.1-3**).

Figure 3.1-3
2007 SAN DIEGO COUNTY FORECAST PCPI



H:\SAN San Diego Vision Plan\Aviation Forecast\Source Data\Socioeconomic\[Socioeconomic Tables & Exhibits.xls]Tables for RASP
Note: Data is in constant 2000 dollars.
Sources: SANDAG; Landrum & Brown analysis

3.1.3 Employment Trends

Growth in employment is an important indicator of the overall health of the local economy. Population changes and employment changes tend to be closely correlated as people migrate in and out of areas largely depending on their ability to find work in the local economy. Employment growth in San Diego County has marginally exceeded population growth, averaging 1.4 percent per year since 1990 (see **Table 3.1-3**). Employment growth in the county since 1990 has been stronger than the state (1.3 percent per annum) but slower than the U.S. (1.5 percent per annum). Over the years, San Diego County's share of overall Southern California employments has increased. In 2007, San Diego County was the third largest county of Southern California in terms of jobs, behind Los Angeles and Orange counties.[14]

[14] California Department of Finance

Table 3-3
HISTORICAL AND FORECAST EMPLOYMENT LEVELS (IN THOUSANDS)

	Calendar Year	San Diego County[1]	Southern California[2]	California[2]	United States[2]
Actual	1980	849,580	7,275,175	12,776,784	114,231,187
	1990	1,196,010	9,764,198	16,965,207	139,380,891
	2000	1,386,278	10,948,040	19,626,032	166,758,782
	2007	1,502,942	12,126,432	21,284,155	179,885,516
Forecast	2010	1,557,000	12,693,000	22,388,000	188,633,000
	2015	1,647,000	13,637,000	24,226,000	203,211,000
	2020	1,741,000	14,580,000	26,064,000	217,790,000
	2025	1,823,000	15,523,000	27,902,000	232,370,000
	2030	1,914,000	16,465,000	29,738,000	246,949,000
	Average Annual Growth Rate:				
	1980-2007	2.1%	1.9%	1.9%	1.7%
	1990-2007	1.4%	1.3%	1.3%	1.5%
	2007-2015	1.2%	1.5%	1.6%	1.5%
	2015-2030	1.0%	1.3%	1.4%	1.3%
	2007-2030	1.1%	1.3%	1.5%	1.4%

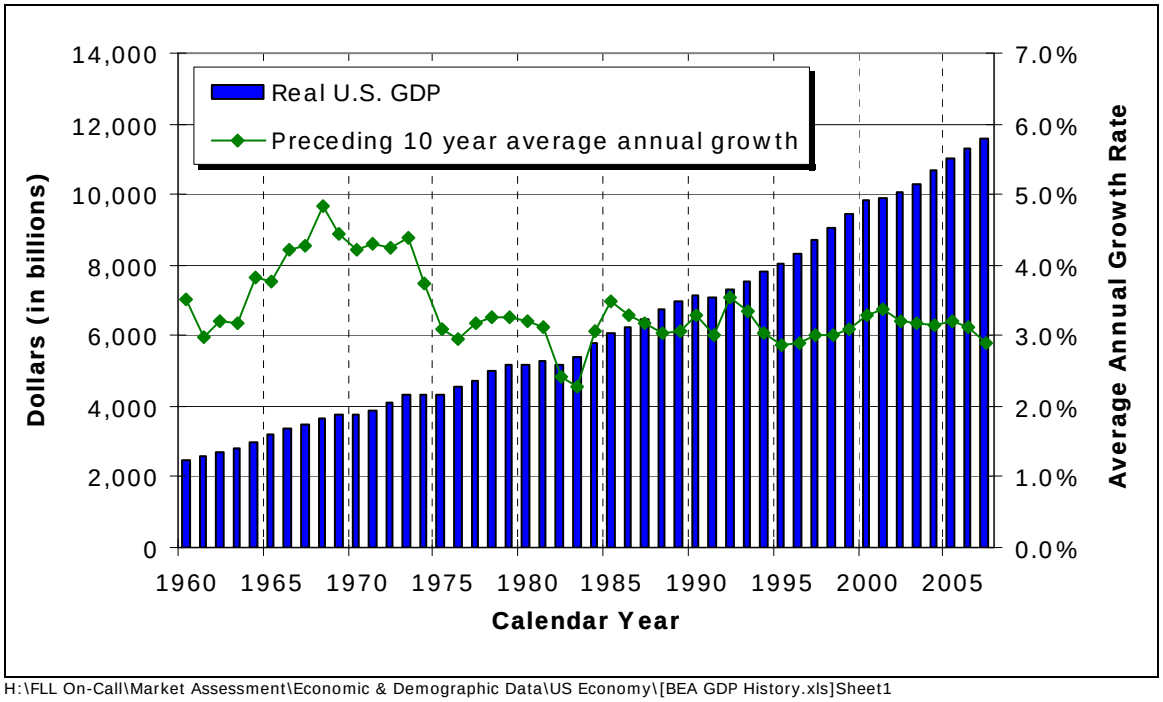
H:\SAN San Diego Vision Plan\Aviation Forecast\Source Data\Socioeconomic\[SANDAG vs. Woods & Poole.xls]Tables
Sources: [1] SANDAG; [2] Woods & Poole Economics 2007; Landrum & Brown analysis

3.2 National Economy

Historically the U.S. economy, as measured by GDP, has grown at a relatively steady rate; averaging 3.3 percent per year between 1960 and 2007 (see **Figure 3.2-1**). The rate of growth, particularly since 1985, has been remarkably stable, reflecting both the size and maturation of the U.S. economy. Individual years have fluctuated around the long-term trend for a variety of reasons including pure macro-economic factors, fuel shocks, war, and terrorist attacks.

The most recent official economic recession in the U.S. occurred between March and November of 2001 and was compounded by the September 11, 2001 terrorist attacks. The deleterious impact of these events on the airline industry is well documented. The recession itself was short lived by historical standards and the economy returned to more normal growth rates quite quickly, fueled in large part by a gradual and prolonged reduction in interest rates.

Figure 3.2-1
HISTORICAL TRENDS IN U.S. GROSS DOMESTIC PRODUCT



H:\FLL On-Call\Market Assessment\Economic & Demographic Data\US Economy\[BEA GDP History.xls]Sheet1
Sources: Bureau of Economic Analysis; Landrum & Brown analysis

Since the summer of 2007, the U.S. and other industrialized western countries have been faced with an increasing credit crisis and a slowing economy. In early 2007, financial markets drew attention to the rising delinquency rates of subprime mortgages and the resulting impact on communities, the credit market, and the broader economy. The resulting collapse of the housing market has permeated U.S. financial markets, putting significant downward pressure on the economy. For a time, the crisis in the housing sector was mitigated in part by continued consumer spending and business fixed investments. However, so far in 2008 consumer spending has stagnated and the economy shed approximately 250,000 jobs through March. Due to the failure of several financial institutions and the frozen credit market, the Troubled Asset Relief Program (TARP) legislation was passed by Congress and signed by President Bush on October 3, 2008. The bill authorizes the U.S. Treasury to spend as much as $700 billion to buy assets of U.S. institutions in an effort to free up credit. The U.S. and most of the industrialized world is either already in recession or is on the precipice of recession.

According to projections published by the Congressional Budget Office in January 2008, U.S. GDP growth is expected to moderate compared with historical trends, averaging growth of 2.7 percent per year through 2018 (see **Table 3.2-1**).[15]

Table 3.2-1
FORECAST OF U.S. GROSS DOMESTIC PRODUCT

	Calendar Year	U.S. GDP	% Change
Actual	2007	11,567	
Estimate	2008	11,788	1.9%
Forecast	2009	12,061	2.3%
	2010	12,528	3.9%
	2011	12,977	3.6%
	2012	13,328	2.7%
	2013	13,675	2.6%
	2014	14,022	2.5%
	2015	14,368	2.5%
	2016	14,717	2.4%
	2017	15,073	2.4%
	2018	15,437	2.4%
	Average Annual Growth Rate:		
	2007-2018	2.7%	

H:\SAN San Diego Vision Plan\Aviation Forecast\Source Data\Socioeconomic\CBO\[8979_TableC-1.xls]Tables
Sources: Congressional Budget Office; Landrum & Brown analysis

3.3 Military Bases

San Diego is a leader in U.S. defense and homeland security efforts with more than $1.2 billion annually in contracts and salaries in the San Diego region in 2006.[16] The region has the largest military concentration in the nation and is home to the Space and Naval Warfare System Center (SPAWAR). The total direct economic impact of military spending in San Diego was $13.4 billion in 2005.[17]

There are 14 military bases in San Diego County, including U.S. Navy ports, Marine Corps bases, and Coast Guard stations. These bases had more than 147,000 personnel in 2005. **Table 3.3-1** presents a list of the military bases in San Diego County and the number of personnel at each location. Defense spending for the military bases not only generates a major economic impact to the San Diego regional economy, but also affects the traffic traveling

[15] The Budget and Economic Outlook: Fiscal Years 2008 to 2018, January 2008, Congressional Budget Office.
[16] California Employment Development Department, 2006
[17] San Diego Association of Governments, 2005

to/from the county airports each year. This includes military personnel traveling on commercial passenger flights and family and friends of the military personnel traveling to the region. In addition, the military conducts training flights at public airports in the county.

Table 3.3-1
2005 MILITARY BASES AND INSTALLATIONS
San Diego County

Base / Installation	Branch	City	Personnel
Marine Corps Base Camp Pendleton	Marines	Oceanside	56,000
Naval Station San Diego	Navy	San Diego	48,000
Naval Air Station North Island	Navy	Coronado	17,510
Marine Corps Air Station Miramar	Marines	San Diego	10,500
Naval Amphibious Base Coronado	Navy	Coronado	5,000
Naval Base Point Loma	Navy	San Diego	4,385
Naval Medical Center San Diego	Navy	San Diego	3,072
Marine Corps Recruit Depot San Diego	Marines	San Diego	1,725
Space and Naval Weapons Systems Command (SPAWAR)	Navy	San Diego	689
Naval Weapons Station Fallbrook	Navy	Fallbrook	365
Naval Outlying Landing Field Imperial Beach	Navy	Imperial Beach	50
Total			**147,296**

H:\SAN San Diego Vision Plan\Aviation Forecast\Source Data\Socioeconomic\San Diego Economic Development Corporation\[San Diego Market Intelligence.xls]Military Presence
Note: List represents 11 of 14 installations.
Sources: San Diego Regional Economic Development Corporation, 2005; Landrum & Brown analysis

4. SAN DIEGO COUNTY AIRPORTS

This section provides a summary of the role of each airport in San Diego County. Both the FAA and the state of California have classified each of the public-use airports in San Diego County according to its operational role and available facilities.

The FAA NPIAS classifications[18] are:

Primary Commercial Service Airports: Public airports with scheduled passenger service that enplane more than 10,000 passengers annually. There are four categories of Primary Commercial Service Airports:

- **Large Hub**: Airports that account for at least one percent of the nation's passenger enplanements.
- **Medium Hub**: Airports that serve between 0.25 percent and one percent of U.S. passenger enplanements.
- **Small Hub**: Airports that enplane 0.05 percent to 0.25 percent of U.S. departing passengers.

[18] FAA *National Plan of Integrated Airport Systems (NPIAS), 2009-2013 Report to Congress*, pages 5-9

- **Non-hub**: Commercial service airports that serve less than 0.25 percent of all U.S. passenger enplanements but have more than 10,000 enplanements.

Nonprimary Commercial Service Airports: Commercial service airports with between 2,500 and 10,000 passenger enplanements annually.

Reliever Airports: High capacity general aviation airports in major metropolitan areas. In order to be classified as a reliever by the FAA, an airport must have at least 100 based aircraft or a minimum of 25,000 annual itinerant operations. The FAA encourages the development and improvement of reliever airports to alleviate congestion at commercial service airports. Reliever airports also provide general aviation access to the surrounding communities.

General Aviation Airports: Airports without scheduled passenger service or that serve fewer than 2,500 enplanements on an annual basis.

The California Aviation System Plan (CASP) functional classifications are:

Primary Commercial Airports: Airports with scheduled air service.

Metropolitan Airports: Airports that are located in urban areas and have a published instrument approach and an ATCT. Metropolitan Airports provide full services for aircraft and pilots including jet fuel and flight planning facilities. Metropolitan Airports emphasize business, charter, and corporate flying activities. These airports can accommodate all jet and turboprop aircraft.

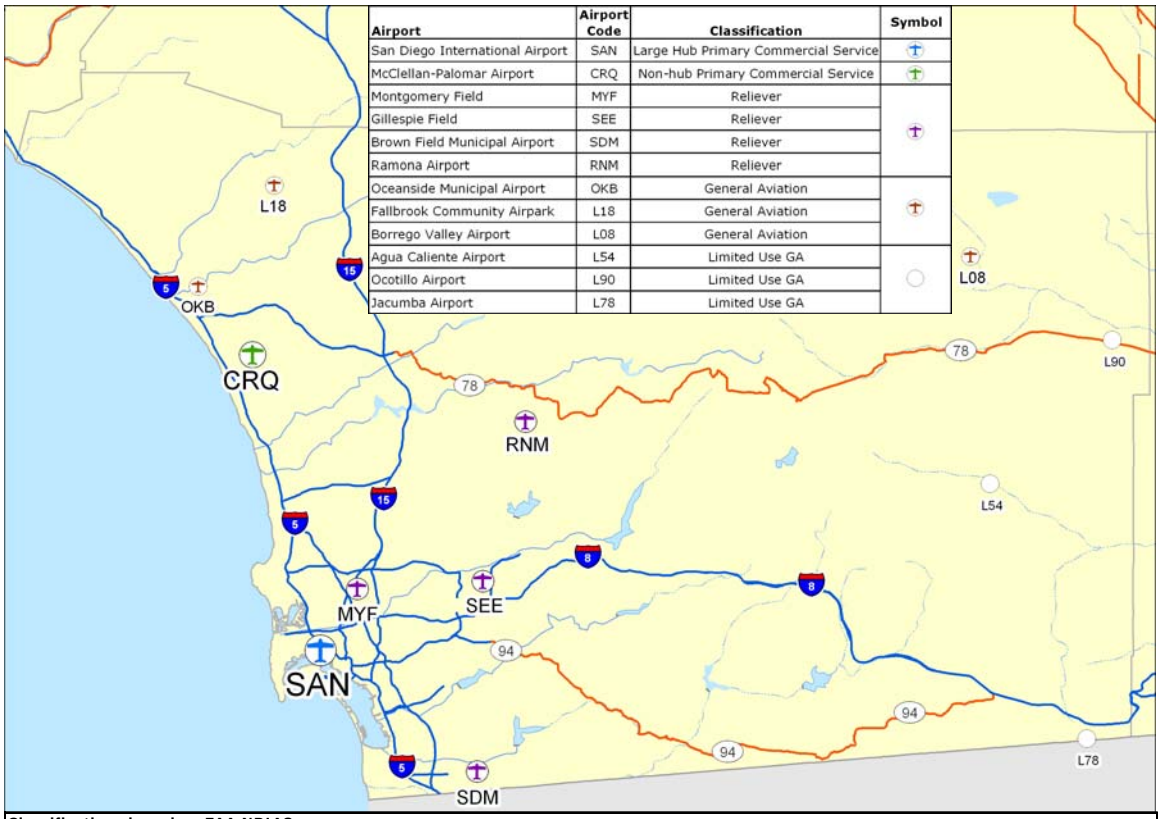
Regional Airports: Airports that serve a number of cities and counties but are in less populated areas than Metropolitan Airports. Regional Airports have a published instrument approach and have aviation fuel available (but not necessarily jet fuel). These airports provide most services for pilots and aircraft and can accommodate most business, multi-engine aircraft, and jet aircraft.

Community Airports: Airports located near small communities or in remote locations. These airports typically serve recreational flying and flight training. Community airports mostly serve single-engine aircraft that weigh less than 12,500 pounds. Community Airports provide limited services for pilots and aircraft.

Limited Use Airports: Airports located in rural areas with limited access. These types of airports may be used for a single, specific purpose. Limited Use Airports provide no services for pilots or aircraft and typically do not have any based aircraft.

Figure 4-1 shows the location of each public-use airport in San Diego County along with its NPIAS classification. **Table 4-1** provides a summary of the San Diego County public-use airports and the corresponding FAA NPIAS and CASP classifications along with a description of each airport's facilities and capabilities.

Figure 4-1
SAN DIEGO COUNTY AIRPORTS



Airport	Airport Code	Classification	Symbol
San Diego International Airport	SAN	Large Hub Primary Commercial Service	
McClellan-Palomar Airport	CRQ	Non-hub Primary Commercial Service	
Montgomery Field	MYF	Reliever	
Gillespie Field	SEE	Reliever	
Brown Field Municipal Airport	SDM	Reliever	
Ramona Airport	RNM	Reliever	
Oceanside Municipal Airport	OKB	General Aviation	
Fallbrook Community Airpark	L18	General Aviation	
Borrego Valley Airport	L08	General Aviation	
Agua Caliente Airport	L54	Limited Use GA	
Ocotillo Airport	L90	Limited Use GA	
Jacumba Airport	L78	Limited Use GA	

Classifications based on FAA NPIAS:
Large Hub Primary Commercial Service - Airports that enplane at least 1% of total U.S. passengers
Non-hub Primary Commercial Service - Airports that enplane less than 0.05% of total U.S. passengers but have more than 10,000 enplanements annually
Reliever - General aviation airports with 100 or more based aircraft or 25,000 annual itinerant operations
General Aviation - Airports with less than 2,500 annual enplanements
Limited Use GA - Airports not incldued in NPIAS

Sources: FAA *National Plan of Integrated Airport Systems (NPIAS), 2009-2013 Report to Congress*; Environmental Systems Research Institute, Inc. (ESRI), 2008; Landrum & Brown analysis

Table 4-1 (Page 1 of 2)
AIRPORT COMPARISON AND SUMMARY
San Diego County Public-Use Airports

Airport	Airport Code	Distance from Downtown	Classification		2007 Annual Operations	2007 Based Aircraft	FAA ARC[3]	Tower	Longest Rwy Length	Type of Approach[4]
			FAA NPIAS[1]	CASP[2]						
San Diego International Airport	SAN	Located in downtown	Large Hub Primary Commercial Service	Primary Commercial Hub	229,486	7	D-V	Full Time	9,401 feet	Precision (ILS)
McClellan-Palomar Airport	CRQ	30 miles north	Non-hub Primary Commercial Service	Primary Commercial Non-hub	212,023	344	B-II	Part Time	4,897 feet	Precision (ILS)
Montgomery Field	MYF	< 10 miles north	Reliever	Metropolitan GA	222,492	604	B-II (Runway strength limited to aircraft weighing less than 20,000 lbs.)	Part Time	4,577 feet	Precision (ILS)
Gillespie Field	SEE	10 miles east	Reliever	Regional GA	295,652	978	B-II	Part Time	5,341 feet	Non-precision
Brown Field Municipal Airport	SDM	21 miles south	Reliever	Regional GA	145,661	190	D-IV	Part Time	7,972 feet	Non-precision
Ramona Airport	RNM	27 miles north	Reliever	Regional GA	164,699	210	B-II	Part Time	5,000 feet	Non-precision
Oceanside Municipal Airport	OKB	38 miles north	General Aviation	Regional GA	14,128	66	B-I (Runway strength limited to aircraft weighing less than 12,000 lbs.)	No	2,712 feet	Non-precision
Fallbrook Community Airpark	L18	60 miles north	General Aviation	Community GA	33,286	124	B-I (Runway strength limited to aircraft weighing less than 12,000 lbs.)	No	2,160 feet	Non-precision
Borrego Valley Airport	L08	East of mountains	General Aviation	Community GA	26,251	23	B-II	No	5,011 feet	Non-precision

Table 4-1 (Page 2 of 2)
AIRPORT COMPARISON AND SUMMARY
San Diego County Public-Use Airports

Airport	Airport Code	Distance from Downtown	Classification		2007 Annual Operations	2007 Based Aircraft	FAA ARC[3]	Tower	Longest Rwy Length	Type of Approach[4]
			FAA NPIAS[1]	CASP[2]						
Agua Caliente Airport	L54	East of mountains	Not in NPIAS	Limited Use GA	4,400	1	B-I (Runway strength limited to aircraft weighing less than 12,000 lbs.)	No	2,500 feet	Visual
Ocotillo Airport	L90	East of mountains	Not in NPIAS	Limited Use GA	800	0	B-I	No	4,210 feet (dirt)	Visual
Jacumba Airport	L78	East of mountains	Not in NPIAS	Limited Use GA	325	0	B-I (Runway strength limited to aircraft weighing less than 12,000 lbs.)	No	2,508 feet (gravel)	Visual

[1] Classifications based on FAA *National Plan of Integrated Airport Systems (NPIAS), 2009-2013 Report to Congress* – see document text for definitions.
[2] Classifications based on 2003 California Aviation System Plan, System Requirements Element- see document text for definitions.
[3] Airport Reference Code - a coding system used by the FAA.
- D-V - Aircraft with approach speed less than 166 knots and wingspan less than 214 feet
- D-IV - Aircraft with approach speed less than 166 knots and wingspan less than 171 feet
- B-II - Aircraft with approach speed less than 121 knots and wingspan less than 79 feet
- B-I - Aircraft with approach speed less than 121 knots and wingspan less than 49 feet

[4] Indicates the type of approach permitted at the airport.
- A precision approach provides horizontal (distance from the runway) and vertical (distance from the ground) guidance.
- A non-precision approach provides horizontal guidance only.
- A visual approach can only occur in good weather conditions.

Sources: FAA *National Plan of Integrated Airport Systems (NPIAS), 2009-2013 Report to Congress*, FAA ATADS, FAA TAF, San Diego County ALUCP reports, 2003 California Aviation System Plan, airnav.com, and Landrum & Brown analysis

4.1 Commercial Service Airports

SDIA (illustrated on **Figure 4.1-1**) is classified as a "Large Hub Primary Commercial Service Airport" by the FAA. SDIA enplaned over 9.1 million passengers and accommodated over 200,000 annual operations in 2007, 90 percent of which were commercial operations. It is the busiest single-runway airport in the U.S and has a 9,401-foot long runway.

Figure 4.1-1
AIRPORT FACILITIES
San Diego International Airport

Source: Google Earth, October 2008

McClellan-Palomar (illustrated on **Figure 4-1-2**), the only other commercial service airport in the county, is classified by the FAA as a "Non-hub Primary Commercial Service Airport" because it annually enplanes less than 0.05 percent of all commercial service passengers in the U.S. but has more than 10,000 annual enplanements. McClellan-Palomar enplaned 46,909 passengers on 4,700 commuter operations in 2007. McClellan-Palomar accommodated over 212,000 total operations in 2007. The single runway at McClellan-Palomar is less than 5,000 feet long which limits the types of aircraft that can use the airport.

Figure 4.1-2
AIRPORT FACILITIES
McClellan-Palomar Airport (CRQ)

Source: Google Earth, September 2008

SDIA is located in downtown San Diego while McClellan-Palomar is located 30 miles north of downtown and has good interstate access (it is located two miles east of Interstate 5). SDIA has a full time ATCT while McClellan-Palomar has a part time tower. Both airports have an Instrument Landing System (ILS)[19], which permits instrument landings during poor weather conditions. Both SDIA and McClellan-Palomar have plans to improve their commercial service operations. SDIA plans to begin construction on new gates, airfield improvements, auto parking, and roadway improvements in 2009. Ground was broken for a new terminal at McClellan-Palomar in 2007. The need for a runway extension at McClellan-Palomar was identified in the 2003 *California Aviation System Plan* and is still under consideration. New

[19] An ILS allows for instrument approaches and consists of an approach lighting system, an electronic localizer (horizontal guidance), a glide slope facility (vertical guidance), and markers (to identify distance from the runway).

hangars are under construction at McClellan-Palomar. An additional 38,000 square feet of hangar space will be available by the end of calendar year 2009.

4.2 Reliever Airports

Four of the county airports (Montgomery Field, Gillespie, Brown Field, and Ramona Airport) are classified as "Reliever Airports" by the FAA. Combined, these four reliever airports accommodated over 828,500 operations and had an estimated 1,982 based aircraft in 2007. These airports significantly reduce congestion at SDIA by off-loading general aviation activity from SDIA.

Of the four reliever airports in the county, only Montgomery Field is classified as a "Metropolitan GA" airport by the State of California (the others are classified as "Regional GA" facilities). According to the 2003 CASP, in order to be classified as Metropolitan GA airports, Gillespie would need jet fuel availability[20] and 24-hour on-field weather services, Brown Field would need visual approach slope indicator (VASI) equipment, and Ramona would need runway pavement rehabilitation.

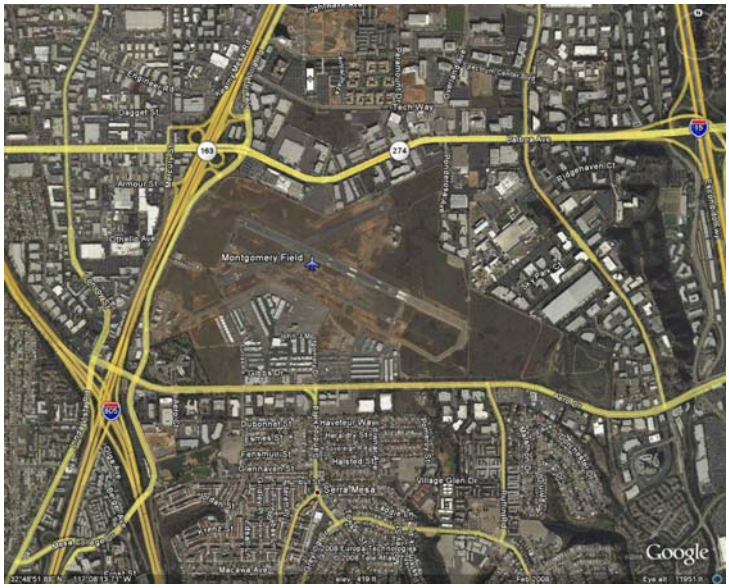
These four airports are all located less than 30 miles from downtown San Diego. Each of the reliever airports has a part time ATCT. Montgomery Field has an ILS so it can accommodate arrivals in poor weather conditions. Gillespie, Brown Field, and Ramona can accommodate non-precision approaches.[21] Brown Field has a 7,972-foot long runway and is designed for Airport Reference Code (ARC) D-IV aircraft (approach speed less than 166 knots and wingspan less than 171 feet). Montgomery, Gillespie, and Ramona each have runways between 4,500 feet and 5,400 feet long. Montgomery is limited to dual wheel aircraft weighing less than 20,000 pounds due to runway strength limitations. Montgomery, Gillespie, and Ramona Airports are designed for ARC B-II aircraft (approach speed less than 121 knots and wingspan of less than 79 feet).

Current projects at Montgomery Field (which is illustrated on **Figure 4.2-1**) are aimed at restoring runway and taxiway surfaces. The 2003 CASP defined the need for a 423-foot runway extension at Montgomery Field. The Montgomery Field Airport Layout Plan (ALP) was updated in 2004 and includes the development of 60 new tie down positions, 61 individual hangar units, and four helicopter spaces.

[20] Gillespie currently has Jet A fuel available according to airnav.com, October 1, 2008.

[21] A non-precision approach is an instrument approach which utilizes lateral guidance (distance from the airport) but does not incorporate vertical guidance (distance from the ground).

Figure 4.2-1
AIRPORT FACILITIES
Montgomery Field (MYF)



Source: Google Earth, September 2008

Gillespie Field (illustrated on **Figure 4.2-2**) recently constructed a transient aircraft parking ramp on the west side of the airport. The County has plans to develop the Cajon Air Center on 70 acres to the east of the Airport. This development is expected to include 55 acres of new hangars. An Environmental Assessment (EA)/Environmental Impact Report (EIR) on the development is underway and a draft report is expected to be available for public comment in mid-2009. Construction is expected to be completed by December of 2011.[22]

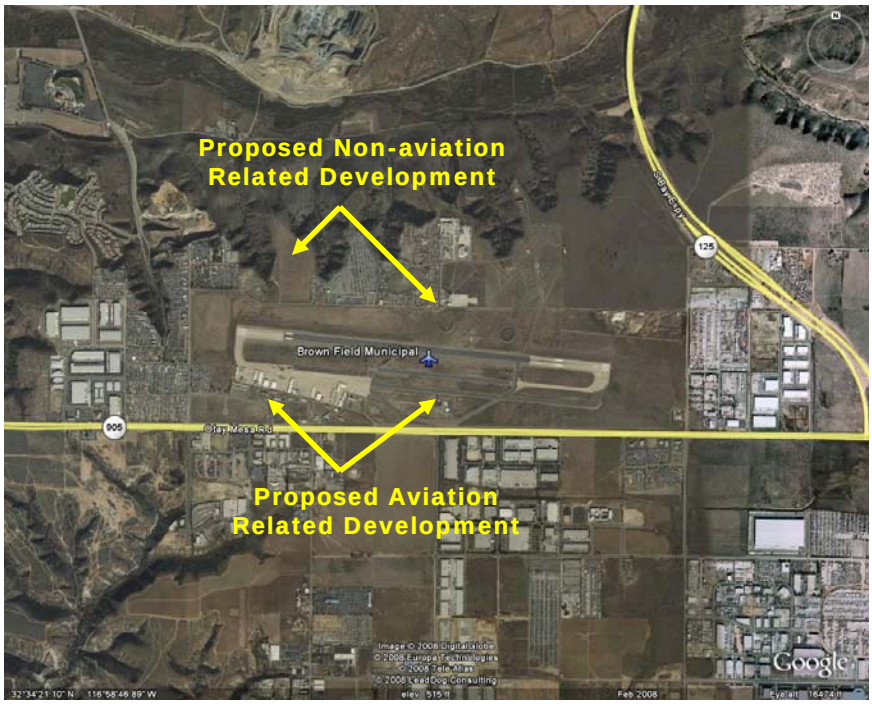
Brown Field (illustrated on **Figure 4.2-3**) is currently implementing a development plan that involves over 325 acres. Plans include additional space for a high-end Fixed Base Operator (FBO), a General Aviation Center (consisting of hangars, offices, and tie-downs), corporate aviation facilities (hangars and offices), a helicopter business center, and additional apron space to the north of the runway. In addition, the County is establishing a helicopter base at Brown Field for fighting wildfires. Non-aviation plans at Brown Field include retail, commercial, industrial, hotel, educational, and other facilities to the north of the runway. The development is expected to be complete by the end of 2011. The County initiated a Master Plan for Brown Field in 2008.

[22] http://www.sdcounty.ca.gov/dpw/airports/gillespie.html

Figure 4.2-2
AIRPORT FACILITIES
Gillespie Field (SEE)

Source: Google Earth, September 2008

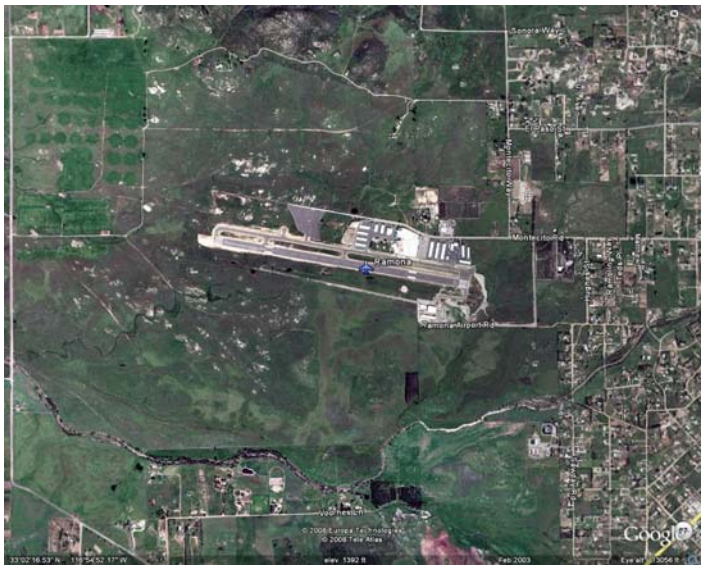
Figure 4.2-3
AIRPORT FACILITIES
Brown Field (SDM)



Source: Google Earth, September 2008

Ramona Airport is illustrated on **Figure 4.2-4**. The Ramona Community Planning Group (RCPG) voted on September 4, 2008 to move forward with the Ramona Air Center project. This is a public/private project proposed by Ramona Air Center LLC partially on private property and partially on San Diego County land. It initially includes 56 private hangars and 40 public hangars (12 single-story box hangars and 28 T-hangars).[23] An EIR on the development is currently underway. Construction is expected to begin in the first quarter of 2010 and take seven to nine years to complete.

Figure 4.2-4
AIRPORT FACILITIES
Ramona Airport (RNM)



Source: Google Earth, September 2008

4.3 General Aviation Airports

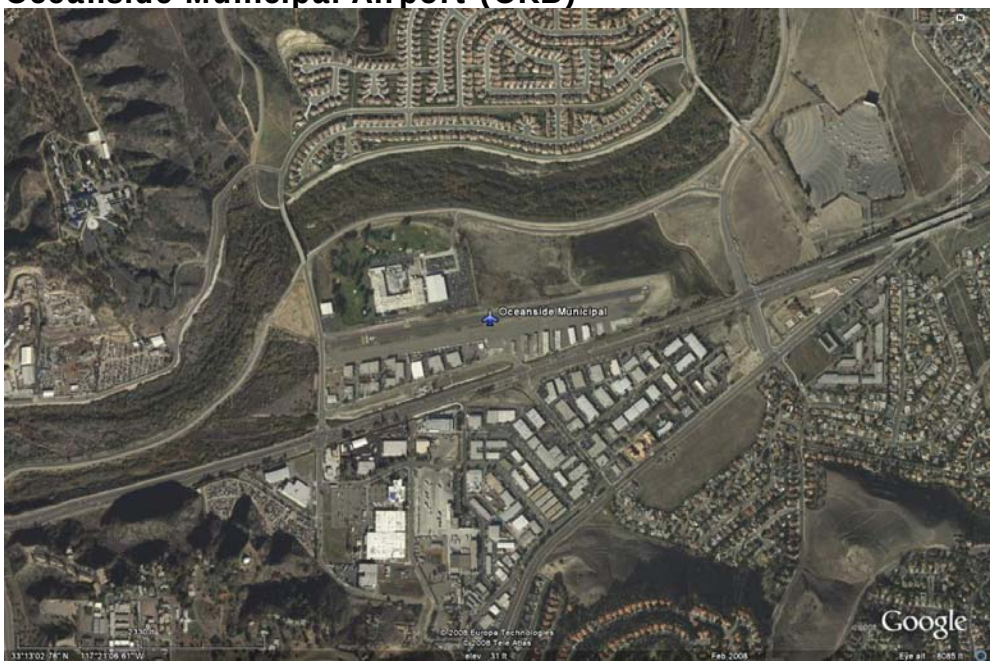
Fallbrook and Oceanside (see **Figure 4.3-1** and **Figure 4.3-2**) are classified by the FAA as "General Aviation Airports." Fallbrook is located 60 miles and Oceanside 38 miles north of downtown San Diego. Neither of these airports has an ATCT and both have relatively short runways (2,712 feet at Oceanside and 2,160 feet at Fallbrook). Both airports are limited to aircraft weighing less than 12,000 pounds. Both airports can accommodate non-precision instrument approaches. Oceanside handled 14,128 operations and had 66 based aircraft in 2007. Fallbrook had over 33,000 operations and had 124 based aircraft in 2007.

[23] Ramona Sentinel, September 18, 2008 and the County of San Diego

Figure 4.3-1
AIRPORT FACILITIES
Fallbrook Community Airpark (L18)

Source: Google Earth, September 2008

Figure 4.3-2
AIRPORT FACILITIES
Oceanside Municipal Airport (OKB)



Source: Google Earth, September 2008

The recommended development plan in the March 2006 *Fallbrook Community Airpark Master Plan Final Report* includes airfield improvements to meet FAA design standards, runway and taxiway rehabilitation, a new general aviation/administration building, a transient apron, based aircraft storage facilities, and an aircraft maintenance hangar.

Oceanside City Council has plans to turn the development and operation of Oceanside Airport over to a private company. In May of 2008 Council voted to negotiate a lease with Airport Property Ventures. Council will consider approving the lease on November 12, 2008. The proposed lease calls for a build out of the 1997 Master Plan "adjusted for market demand." The 1997 Master Plan proposed 100 new hangars.[24]

Borrego Valley, Agua Caliente, Ocotillo, Jucumba Airports are all located east of the mountains or in the mountains. These airports serve their individual communities or provide a specific purpose.

Borrego Valley (see **Figure 4.3-3**) is classified in the NPIAS as a "General Aviation Airport" and in the CASP as a "Community GA Airport." Borrego Valley accommodated 26,251 operations and had 23 based aircraft in 2007. Borrego Valley does not have an ATCT and is designed for ARC B-II aircraft. It has a 5,011-foot long runway and a published non-precision approach.

Agua Caliente, Ocotillo, and Jacumba are classified as "Limited Use" in the 2003 *California Aviation System Plan* and are not included in the FAA 2009-2013 NPIAS. None of these airports has an ATCT and they do not have any published instrument approaches. Agua Caliente accommodated 4,400 operations in 2007 while Ocotillo and Jacumba Airports had less than 1,000 operations each. Agua Caliente has one based aircraft while Ocotillo and Jacumba have none. Of the three, only Agua Caliente has a paved runway (Ocotillo has a dirt runway and Jacumba has a gravel runway). The three Limited Use airports are shown on **Figure 4.3-4** through **Figure 4.3-6**.

[24] The San Diego Union-Tribune, October 4, 2008

Figure 4.3-3
AIRPORT FACILITIES
Borrego Valley (L08)

Source: Google Earth, September 2008

Figure 4.3-4
AIRPORT FACILITIES
Agua Caliente (L54)

Source: Google Earth, September 2008

Figure 4.3-5
AIRPORT FACILITIES
Ocotillo Airport (L90)

Source: Google Earth, September 2008

Figure 4.3-6
AIRPORT FACILITIES
Jucumba Airport (L78)

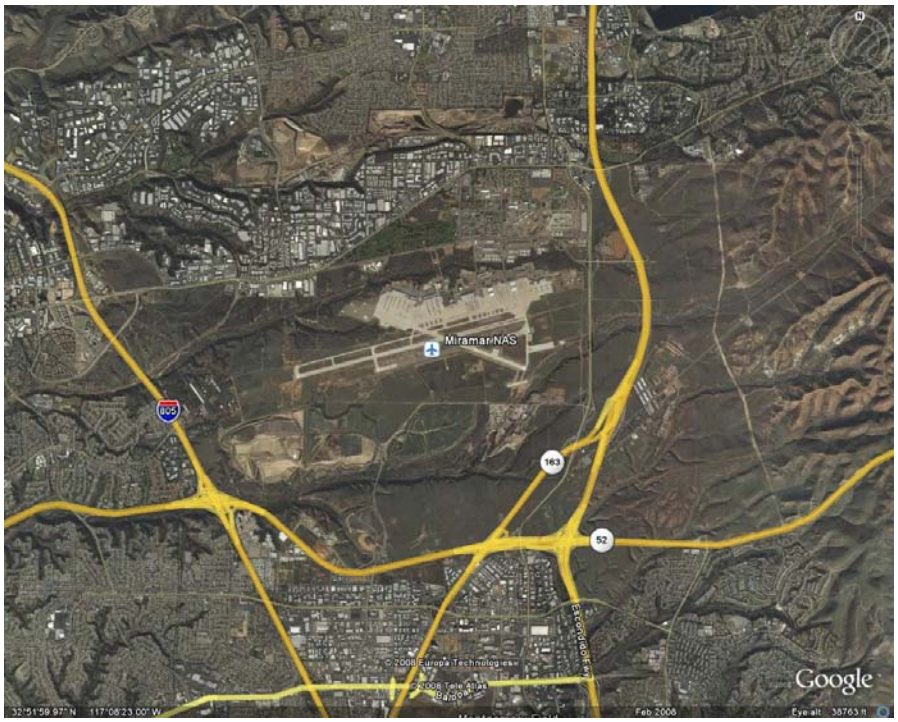
Source: Google Earth, September 2008

4.4 Military Airports

There are four military airports in the county. These airports are not open to the public and are for military use only.

Marine Corps Air Station Miramar (see **Figure 4.4-1**) is located just over 10 miles from downtown San Diego. It sits on 23,000 acres and has three runways. In 2003, there were over 91,500 annual operations and 256 based aircraft at Miramar.

Figure 4.4-1
AIRPORT FACILITIES
Marine Corps Air Station Miramar (NKX)



Source: Google Earth, September 2008

Marine Corps Air Station Camp Pendleton (see **Figure 4.4-2**) is 40 miles northwest of downtown San Diego within the boundaries of Marine Corps Base Camp Pendleton. It has a single 6,005-foot long runway. There were 131,744 helicopter operations in 1994 (the most recent year for which data was available). In 1995 there were 185 aircraft based at Camp Pendleton.

Figure 4.4-2
AIRPORT FACILITIES
Marine Corps Air Station Camp Pendleton (NFG)

Source: Google Earth, September 2008

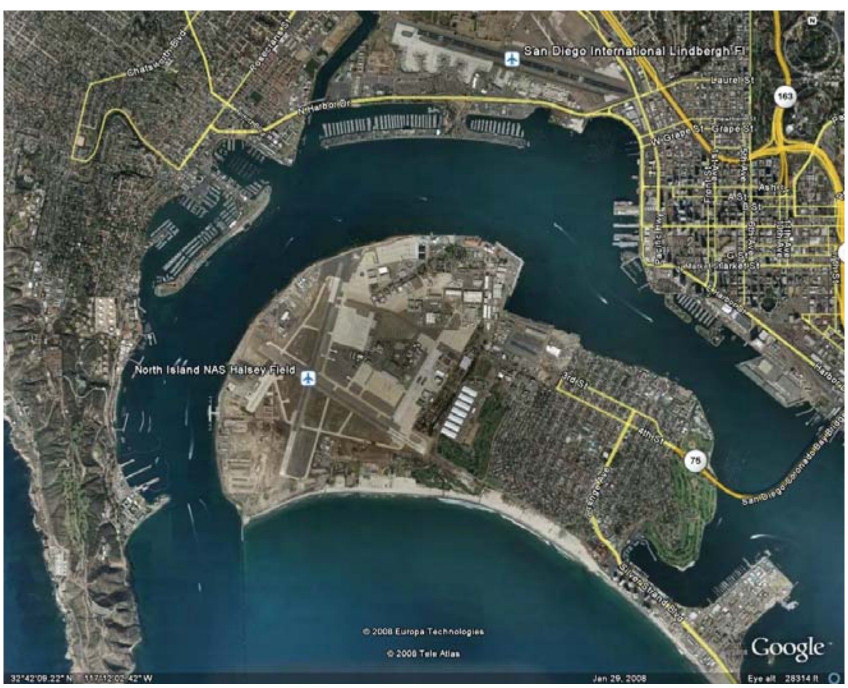
Imperial Beach Naval Outlying Field (see **Figure 4.4-3**) has two runways and sits on 1,190 acres. It is about two miles north of the Mexican border. In 2003 (the last year for which data was available), Imperial Beach accommodated 250,000 annual helicopter operations and there were 126 helicopters based at the airport.

North Island Naval Air Station (see **Figure 4.4-4**) is located two miles from SDIA. It has two runways and accommodated 139,700 operations in 1981 (the last year for which data was available). In 1981 there were 242 aircraft based at the airport.

Figure 4.4-3
AIRPORT FACILITIES
Imperial Beach Naval Outlying Field (NRS)

Source: Google Earth, September 2008

Figure 4.4-3
AIRPORT FACILITIES
North Island Naval Air Station (Halsey Field) (NZY)



Source: Google Earth, September 2008

5. FORECASTS OF AVIATION DEMAND

This section contains the San Diego County RASP forecasts of aviation demand. Annual operations and aircraft fleet mix information was compiled for each of the 16 San Diego County airports based on previous studies; Airport Land Use Compatibility Plan (ALUCP) studies for each airport; Air Installations Compatible Use Zones (AICUZ) studies for the military airports; interviews with airport staff, county officials, and city officials; FAA and other industry forecasts; and independent analyses. Future activity levels for the San Diego County airports were forecast separately through 2030 for three categories of activity: (1) commercial service, (2) air taxi and general aviation, and (3) military. A summary of the overall forecast for each airport is also provided in this section.

Historical activity information was obtained from FAA Air Traffic Activity Data System (ATADS) counts for airports with an ATCT (SDIA, McClellan-Palomar, Montgomery Field, Brown Field, and Ramona Airport). With the exception of SDIA, none of these airports has a full time ATCT. Therefore, all activity counts are for ATCT working hours only. For the remaining county airports without an ATCT, historical operations counts are based on airport records. Operations counts for these airports are also for working hours only.

5.1 Commercial Activity

SDIA and McClellan-Palomar are the only two airports in San Diego County with scheduled commercial passenger service. SDIA also has commercial cargo activity. This section contains the commercial service forecasts for these two airports.

5.1.1 San Diego International Airport (SDIA)

This section summarizes the baseline and high scenario commercial passenger and cargo forecasts for SDIA from the 2008 *Destination Lindbergh-The Ultimate Build-out* study which was prepared by Landrum & Brown. While the high forecast is presented for comparison purposes, the baseline forecast is the most appropriate for future planning purposes.

Commercial Passenger Enplanements Forecast

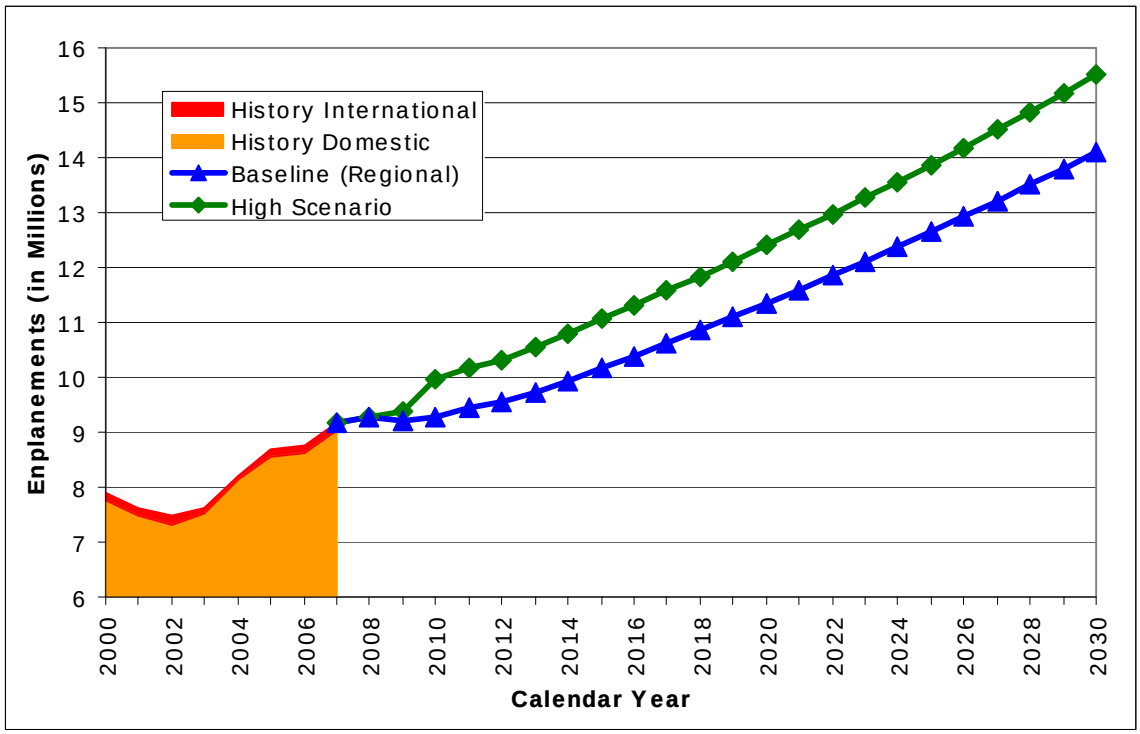
Passenger traffic at SDIA was divided into four segments for purposes of developing the forecast: (1) Domestic origin and destination (O&D or local) passengers that travel on purely domestic itineraries, (2) O&D passengers that board domestic flights at SDIA and travel to another U.S. gateway to connect with international flights, (3) O&D passengers that board international flights at SDIA on purely international itineraries, and (4) connecting passengers. The forecasts for O&D traffic (segments 1 to 3) were developed using econometric logistic and linear regression models, while the

connecting traffic forecast, which is a relatively small component of the passenger base, was developed based on a trend analysis.

The passenger forecast is driven principally by the domestic O&D traffic which accounted for almost 90 percent of enplanements at SDIA in 2007. The domestic O&D forecast was developed based on assumptions related to growth in personal income (the product of population and per capita personal income) and projections of future fare levels (expressed as fare paid per passenger mile or yield) at SDIA. The results of the domestic O&D forecast reflect growth in the underlying economic variables, but in a higher fare environment than has traditionally been the case at SDIA. In spite of increased fare levels, the enplanement forecast still calls for growth at SDIA, albeit at slower rates than have been experienced historically.

Enplanements in the baseline forecast are projected to increase from 9.2 million enplanements in 2007 to 14.1 million enplanements in 2030, averaging growth of 1.9 percent per year (see **Figure 5.1-1**). The high scenario, which reflects lower fuel prices than the baseline scenario, calls for 15.5 million enplanements in 2030.

Figure 5.1-1
PASSENGER ENPLANEMENTS FORECASTS SUMMARY
San Diego International Airport

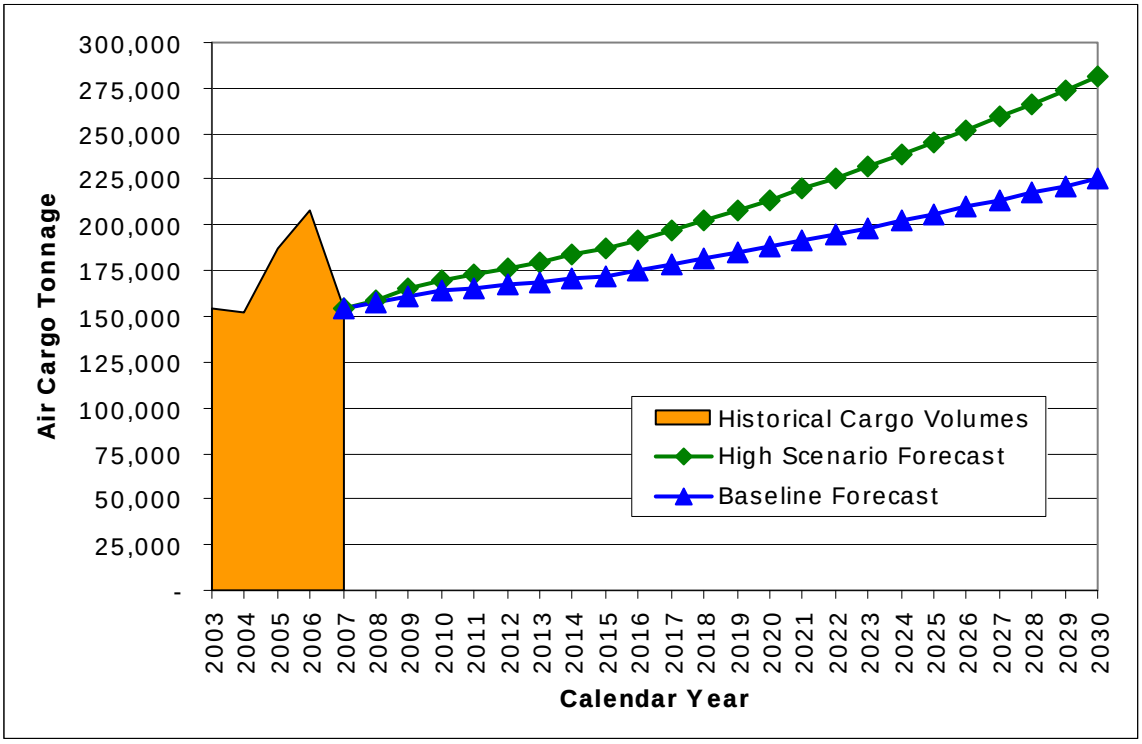


H:\SAN San Diego Vision Plan\Aviation Forecast\Master Sheet\[SAN Master Sheet_Final.xls]Master Sheet Summary
Source: *Destination Lindbergh, The Ultimate Build-out, Aviation Activity Forecast*, Draft August 2008

Commercial Cargo Tonnage Forecast

National cargo forecasts prepared by the FAA, Boeing, and Airbus were reviewed and analyzed to determine the applicability to the SDIA forecasts. As a result of the domestic nature of the cargo at SDIA and the lack of a cargo hub, it was assumed that the long-term growth rate for the baseline forecast would likely be somewhat less than the growth projected by the industry forecasts. Based on this assumption, cargo tonnage is expected to grow at a rate of 1.7 percent annually from 154,689 tons in 2007 to 225,600 tons by 2030 under the baseline scenario (see **Figure 5.1-2**). Under the high scenario, it is assumed cargo tonnage at SDIA would grow at an average annual growth rate of 2.6 percent through 2030.

Figure 5.1-2
AIR CARGO TONNAGE FORECASTS SUMMARY
San Diego International Airport

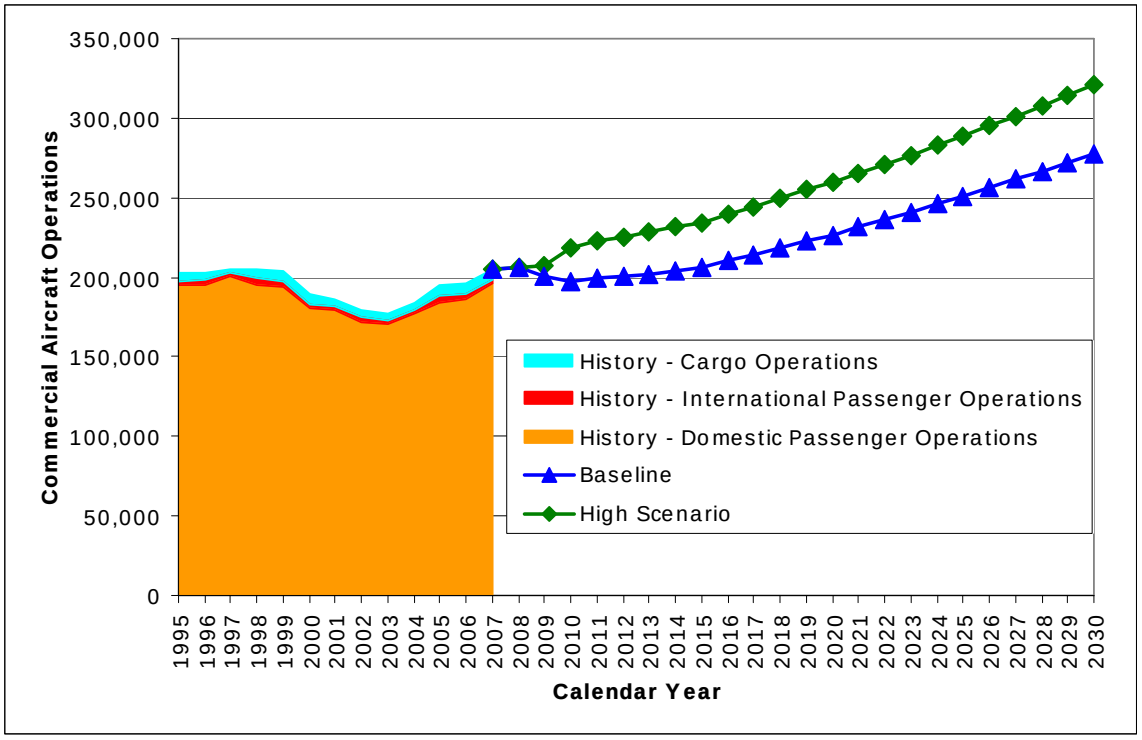


H:\SAN San Diego Vision Plan\Aviation Forecast\Master Sheet\[Cargo Forecast.xls]graph
Source: *Destination Lindbergh, The Ultimate Build-out, Aviation Activity Forecast*, Draft August 2008

Commercial Aircraft Operations Forecast

This section presents the baseline and high scenario commercial aircraft operations forecasts (see **Figure 5.1-3**).

Figure 5.1-3
COMMERCIAL AIRCRAFT OPERATIONS FORECASTS SUMMARY
San Diego International Airport



H:\SAN San Diego Vision Plan\Aviation Forecast\Master Sheet\[SDIA Enplanements & Operations Template_Final.xls]Forecast Comparison
Source: *Destination Lindbergh, The Ultimate Build-out, Aviation Activity Forecast*, Draft August 2008

Commercial Passenger Operations

Passenger aircraft operations were derived from the enplaned passenger forecasts. The aggregate number of commercial operations at an airport depends on three factors: total passengers, average aircraft size, and average load factor. The relationship is shown in the equation below.

$$\text{Operations} = \frac{\text{Total Passengers}}{\text{Average Load Factor} * \text{Average Aircraft Size}}$$

The domestic passenger operations baseline and high forecasts were developed based on the assumption that the historical deployment of 135- to 145-seat narrowbody jets at SDIA would continue into the future, with the evolution of the fleet being towards similarly sized, next generation

replacement aircraft. Small regional jets are expected to be replaced with larger regional jets. In general, domestic load factors are expected to increase in the short-term due to increases in fuel prices and corresponding capacity cuts.

International activity is expected to expand somewhat with nonstop service to Europe in 2008 and Pacific destinations by 2015, which will lead to more widebody aircraft in the fleet in both the baseline and high scenarios. International load factors are expected to increase from almost 70 percent in 2007 to 75 percent in 2030 for both scenarios.

As a result, commercial passenger operations are expected to grow at 1.3 percent per annum from 198,943 in 2007 to 269,200 operations by 2030 in the baseline scenario. In the high scenario, commercial passenger operations will reach 310,600 operations by 2030.

The allocation of domestic commercial passenger operations by aircraft type for the baseline and high scenario is shown in **Table 5.1-1**.

Table 5.1-1
DOMESTIC PASSENGER FLEET MIX
San Diego International Airport

	Percent of Total Domestic Passenger Operations					
	2007	**2010**	**2015**	**2020**	**2025**	**2030**
Widebody Jet	**1.5%**	**1.0%**	**1.0%**	**1.1%**	**1.1%**	**1.1%**
Narrowbody Jet						
757	6.8%	4.8%	1.9%	0.0%	0.0%	0.0%
M80/M90	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other	62.9%	75.0%	81.5%	85.2%	86.1%	86.9%
Total	**76.6%**	**79.8%**	**83.5%**	**85.2%**	**86.1%**	**86.9%**
Large Regional Jet	**1.2%**	**0.8%**	**6.4%**	**6.1%**	**6.1%**	**6.0%**
Small Regional Jet	**9.2%**	**8.6%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Turboprop	**11.5%**	**9.7%**	**9.2%**	**7.6%**	**6.8%**	**6.0%**
Total Domestic	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

H:\SAN San Diego Vision Plan\Aviation Forecast\Source Data\Fleet Mix\[SAN Fleet Mix_Final.xls]Dom Summary

Source: *Destination Lindbergh, The Ultimate Build-out, Aviation Activity Forecast*, Draft August 2008

The international commercial passenger operation fleet mix for the baseline and high scenario is presented in **Table 5.1-2**.

Table 5.1-2
INTERNATIONAL PASSENGER FLEET MIX
San Diego International Airport

	Percent of Total Domestic Passenger Operations					
	2007	2010	2015	2020	2025	2030
Widebody Jet						
A350/B787	0.0%	0.0%	4.5%	7.3%	7.0%	6.7%
763	0.0%	5.1%	6.8%	7.3%	7.0%	6.7%
Total	**0.0%**	**5.1%**	**11.3%**	**14.6%**	**14.0%**	**13.4%**
Narrowbody Jet	**76.8%**	**87.9%**	**83.2%**	**80.6%**	**81.5%**	**82.5%**
Large Regional Jet	**23.2%**	**7.0%**	**5.5%**	**4.8%**	**4.5%**	**4.2%**
Total International	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

H:\SAN San Diego Vision Plan\Aviation Forecast\Source Data\Fleet Mix\[SAN Fleet Mix_Final.xls]Int'l Summary
Source: *Destination Lindbergh, The Ultimate Build-out, Aviation Activity Forecast*, Draft August 2008

Commercial Cargo Operations

The air cargo tonnage forecast for the all-cargo operators was used to derive the all-cargo operations forecast, based on assumptions regarding the amount of air cargo tonnage handled per flight (see **Table 5.1-3**). These assumptions are the same for the baseline and high scenarios.

Table 5.1-3
CARGO FLEET MIX
San Diego International Airport

Aircraft Type	2007	2010	2015	2020	2025	2030
Widebody Jet						
A300	29.3%	30.0%	30.5%	31.0%	31.5%	32.0%
A310	14.2%	14.4%	14.6%	14.8%	15.0%	15.2%
Boeing 767 series	20.9%	21.0%	21.2%	21.3%	21.4%	21.6%
DC-10	3.2%	3.2%	0.0%	0.0%	0.0%	0.0%
Other	0.3%	0.2%	3.4%	3.4%	3.4%	3.4%
Total	**67.7%**	**68.8%**	**69.7%**	**70.5%**	**71.3%**	**72.2%**
Narrowbody Jet						
Boeing 727 series	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%
Other	0.3%	6.0%	6.0%	6.0%	6.0%	6.0%
Total	**6.6%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**	**6.0%**
Turboprop	**25.6%**	**25.2%**	**24.3%**	**23.5%**	**22.7%**	**21.8%**
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Capacity (Tons/Operation)	41.0	41.4	42.8	43.2	43.6	44.1
Load Factor	51.7%	56.0%	58.0%	60.0%	60.0%	60.0%

H:\SAN San Diego Vision Plan\Aviation Forecast\Master Sheet\[Cargo Forecast.xls]fleet table
Source: *Destination Lindbergh, The Ultimate Build-out, Aviation Activity Forecast*, Draft August 2008

The all-cargo fleet at SDIA consisted of 67.7 percent widebody aircraft, 6.6 percent narrowbody aircraft, and 25.6 percent turboprops (exclusively FedEx feeder service to Imperial County Airport) in 2007. These aircraft carried approximately 21.2 tons per operation on each flight, which equates to being approximately 52 percent full. FedEx, the dominant cargo carrier at SDIA, currently operates mainly A300s, A310s, and DC10s, in addition to Cessna 208s for its feeder service to Imperial County Airport. FedEx plans to replace its DC10s with B777s in the 2009 to 2011 timeframe. FedEx does not have plans to replace any of the other aircraft it operates at SDIA. ABX Air and UPS mainly operate Boeing 767s at SAN. The freighter fleet is not expected to change substantially throughout the planning horizon. The share of widebody aircraft is forecast to increase to 72.2 percent by 2030, from 67.7 percent share in 2007. Narrowbody aircraft are predicted to decrease slightly to 6.0 percent share by 2030. Turboprops are expected to decline somewhat in share, from 25.6 percent to 21.8 percent in 2030. Based on these fleet changes, capacity will increase from 41.0 tons per operation in 2007 to 44.1 tons per operation in 2030.

It is assumed the cargo carriers will become more efficient with the amount of cargo carried on each flight in order to minimize fuel costs. As a result, load factors are expected to increase from 52 percent in 2007 to 60 percent by 2020 and then remain flat through 2030.

Based on these assumptions, air cargo operations are expected to grow from 6,682 operations in 2007 to 8,400 operations in 2030 in the baseline scenario versus 10,500 operations in the high scenario.

5.1.2 McClellan-Palomar Airport (CRQ)

Commercial passenger operations at McClellan-Palomar accounted for 2.5 percent of total aircraft operations in 2007. Since 1995, all commercial operations have been on commuter aircraft (aircraft with less than 60 seats). In previous years, the air service offered at McClellan-Palomar has been limited to two airlines (SkyWest and Mesa Airlines) serving mainly the Los Angeles and Phoenix markets. In February of 2008, Mesa Airlines stopped serving Palomar. SkyWest (flying for United Airlines) is the only airline currently operating at McClellan-Palomar, serving the Los Angeles market. Passenger enplanements hovered around 50,000 from 2003 to 2007. As a result of Mesa discontinuing its service, passenger enplanement levels are estimated to fall to 36,500 for 2008.

There were no recent forecasts of passenger activity for McClellan-Palomar available at the time of this study. Therefore, baseline and high scenario forecasts were developed for commercial passenger enplanements and commercial operations at McClellan-Palomar.

Baseline Scenario

The baseline forecast assumes SkyWest continues to serve LAX exclusively through 2030. Enplanements are forecast to return to the 50,000 level experienced historically by 2010 and remain at that level through 2030.

SkyWest currently flies the EMB120 on the McClellan-Palomar-Los Angeles route. Skywest has announced its desire to remove the EMB120 aircraft from its fleet by 2012. Therefore, it is assumed that SkyWest will replace the EMB120 with a CRJ200 (or similar aircraft) by 2013. As a result of increasing the size of the aircraft with a flat passenger enplanement projection, commercial passenger operations are forecast to decline at an average annual rate of 2.3 percent from 2007 to 2030 (see **Table 5.1-4**).

Table 5.1-4
BASELINE SCENARIO COMMERCIAL PASSENGER FORECAST
McClellan-Palomar Airport (CRQ)

	Calendar Year	Passenger Enplanements	Outbound Seats	Passenger Load Factor	Seats/ Departure	Passenger Operations
Actual	2003	49,275	83,605	58.9%	31	5,314
	2004	49,447	83,580	59.2%	32	5,214
	2005	48,927	83,790	58.4%	32	5,306
	2006	50,157	86,906	57.7%	31	5,524
	2007	46,909	82,316	57.0%	31	5,318
Estimate	2008	36,500	71,600	51.0%	30	4,700
Forecast	2010	50,000	83,300	60.0%	30	5,600
	2015	50,000	76,900	65.0%	50	3,100
	2020	50,000	76,900	65.0%	50	3,100
	2025	50,000	76,900	65.0%	50	3,100
	2030	50,000	76,900	65.0%	50	3,100
	Average Annual Growth Rate:					
	2003-2007	-1.2%	-0.4%	-0.8%	-0.4%	0.0%
	2007-2010	2.1%	0.4%	1.7%	-1.0%	1.7%
	2010-2020	0.0%	-0.8%	0.8%	5.2%	-5.7%
	2020-2030	0.0%	0.0%	0.0%	0.0%	0.0%
	2007-2030	0.3%	-0.3%	0.6%	2.1%	-2.3%

H:\SAN San Diego RASP\[CRQ Passengers.xls]Enpax
Sources: FAA, Air Carrier Activity Information System (ACAIS); USDOT, Schedule T-100; Landrum & Brown analysis

High Scenario

The high growth forecast assumes airfield improvements are implemented, including a runway extension that is sufficient to accommodate regional jets without restrictions. As a result of the airfield improvements, SkyWest or a new entrant carrier(s) would be able to use large regional jets to serve new destinations from McClellan-Palomar, beginning around 2015. The high forecast therefore assumes 14 departures per day in 2015, increasing to 20

departures per day in 2020. It is assumed that McClellan-Palomar would remain at 20 departures per day through 2030 but that gauge would increase. Potential markets that could be served include Las Vegas, Phoenix, San Francisco, and Denver. Based on these assumptions, commercial passenger operations are projected to increase at a rate of 4.4 percent annually from 2007 to 2030 (see **Table 5.1-5**).

Table 5.1-5
HIGH SCENARIO COMMERCIAL PASSENGER FORECAST
McClellan-Palomar Airport (CRQ)

	Calendar Year	Passenger Enplanements	Outbound Seats	Passenger Load Factor	Seats/ Departure	Passenger Operations
Actual	2003	49,275	83,605	58.9%	31	5,314
	2004	49,447	83,580	59.2%	32	5,214
	2005	48,927	83,790	58.4%	32	5,306
	2006	50,157	86,906	57.7%	31	5,524
	2007	46,909	82,316	57.0%	31	5,318
Estimate	2008	36,500	71,600	51.0%	30	4,700
Forecast	2010	50,000	83,300	60.0%	30	5,600
	2015	222,600	318,000	70.0%	64	9,900
	2020	400,000	553,600	72.3%	77	14,300
	2025	412,900	553,600	74.6%	77	14,300
	2030	426,200	553,600	77.0%	77	14,300
	Average Annual Growth Rate:					
	2003-2007	-1.2%	-0.4%	-0.8%	-0.4%	0.0%
	2007-2010	2.1%	0.4%	1.7%	-1.0%	1.7%
	2010-2020	23.1%	20.9%	1.9%	9.9%	9.8%
	2020-2030	0.6%	0.0%	0.6%	0.0%	0.0%
	2007-2030	10.1%	8.6%	1.3%	4.1%	4.4%

H:\SAN San Diego RASP\[CRQ Passengers.xls]Enpax
Sources: FAA, Air Carrier Activity Information System (ACAIS); USDOT, Schedule T-100; Landrum & Brown analysis

It is assumed that SkyWest would continue to use the EMB120 through 2012. By 2013, Skywest and/or other airlines would fly the CRJ200, EMB170, and the 72-seat Q400 at McClellan-Palomar. By 2020, SkyWest and/or other airline(s) at McClellan-Palomar are assumed to replace the CRJ200 with the EMB190. Load factors are projected to increase from an estimated 51 percent in 2008 to 77 percent by 2030. As a result of these assumptions, passenger enplanements are projected to increase at an average annual rate of 10.1 percent, reaching 426,200 passengers in 2030.

Fleet Mix Forecast

Table 5.1-6 summarizes the passenger operations fleet mix for McClellan-Palomar for both the baseline and optimistic scenarios.

Table 5.1-6
BASELINE AND HIGH SCENARIOS - PASSENGER FLEET MIX
McClellan-Palomar Airport (CRQ)

BASELINE FORECAST

	Percent of Total Passenger Operations						
Aircraft	**2007**	**2008**	**2010**	**2015**	**2020**	**2025**	**2030**
Commuter							
CRJ	0.0%	0.0%	0.0%	100.0%	100.0%	100.0%	100.0%
DH8	14.9%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%
EM2	85.1%	98.1%	100.0%	0.0%	0.0%	0.0%	0.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

H:\SAN San Diego RASP\[CRQ Passengers.xls]Fleet Mix Base

	Percent of Total Passenger Operations						
Aircraft	**2007**	**2008**	**2010**	**2015**	**2020**	**2025**	**2030**
Air Carrier	**0.0%**	**0.0%**	**0.0%**	**66.7%**	**100.0%**	**100.0%**	**100.0%**
E90	0.0%	0.0%	0.0%	0.0%	33.3%	33.3%	33.3%
Q400	0.0%	0.0%	0.0%	33.3%	33.3%	33.3%	33.3%
E70	0.0%	0.0%	0.0%	33.3%	33.3%	33.3%	33.3%
Commuter	**100.0%**	**100.0%**	**100.0%**	**33.3%**	**0.0%**	**0.0%**	**0.0%**
CRJ	0.0%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%
DH8	14.9%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%
EM2	85.1%	98.1%	100.0%	0.0%	0.0%	0.0%	0.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

H:\SAN San Diego RASP\[CRQ Passengers.xls]Fleet Mix High case

Sources: USDOT, Schedule T-100; *Official Airline Guide*; Landrum & Brown analysis

5.2 Air Taxi and General Aviation Activity

This section contains the air taxi and general aviation based aircraft and operations forecasts for the 12 public-use airports in San Diego County.

5.2.1 Air Taxi and General Aviation Based Aircraft Forecast

Table 5.2-1 presents the 2007 based aircraft fleet mix for each of the airports. The 2007 based aircraft information is based on a variety of sources. The SDIA based aircraft fleet mix was obtained from airnav.com. The 2007 Gillespie Field fleet mix was obtained from the 2008 *Unconstrained Gillespie Field Aviation Activity Forecasts Master Plan*. Current based aircraft counts for McClellan-Palomar, Fallbrook, and Ramona were provided by airport staff. The fleet mix information for the remaining airports was obtained from the current *Airport Land Use Compatibility Plans* (ALUCP) which are based on 2005/2006 data. For the purposes of this analysis, the 2005/2006 data was assumed to be valid for 2007. As a county-wide system total, single-engine aircraft account for 82.1 percent of total based aircraft, followed by 8.1 percent multi-engine aircraft, 4.8 percent helicopters, and 4.8 percent turboprops/business jets (see **Figure 5.2-1**).

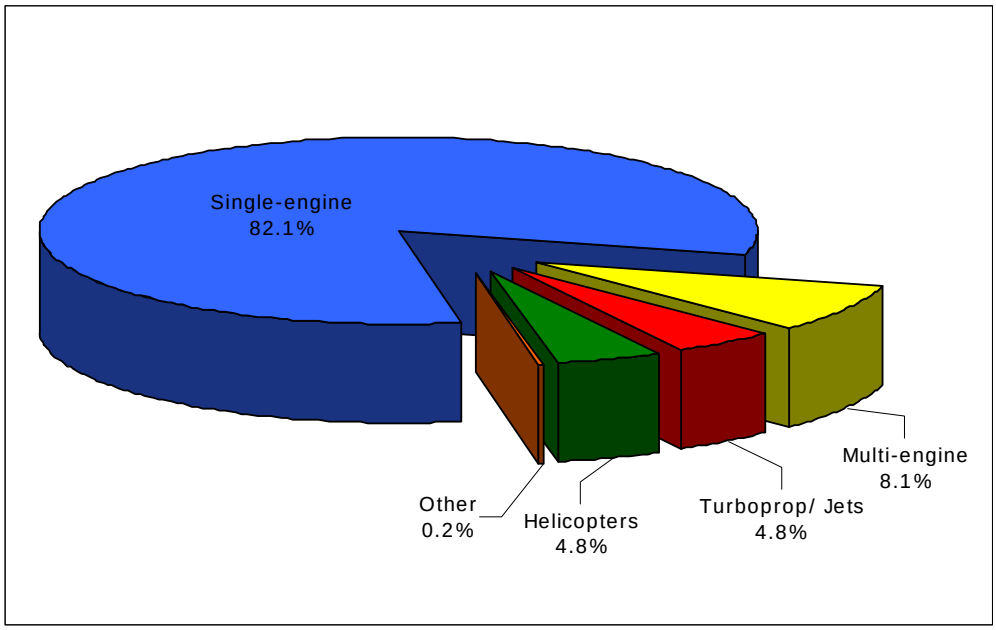
Table 5.2-1
2007 BASED AIRCRAFT FLEET MIX
San Diego County Public-Use Airports

Facility	Code	2007 Based Aircraft					
		Single-engine	Multi-engine	Turboprop / Jets	Helicopters	Other	Total
San Diego International Airport	SAN	-	3	4	-	-	7
McClellan-Palomar Airport	CRQ	221	37	74	12	-	344
Montgomery Field Airport	MYF	495	59	13	37	-	604
Gillespie Field Airport	SEE	841	73	16	43	5	978
Brown Field Municipal Airport	SDM	159	15	14	2	-	190
Ramona Airport	RNM	174	10	1	25	-	210
Oceanside Municipal Airport	OKB	59	5	-	2	-	66
Fallbrook Community Airpark	L18	117	5	-	2	-	124
Borrego Valley Airport	L08	23	-	-	-	-	23
Agua Caliente Airport	L54	1	-	-	-	-	1
Ocotillo Airport	L90	-	-	-	-	-	-
Jacumba Airport	L78	-	-	-	-	-	-
Total		**2,090**	**207**	**122**	**123**	**5**	**2,547**
% Share		**82.1%**	**8.1%**	**4.8%**	**4.8%**	**0.2%**	**100.0%**

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[2008 Estimate County GA.xls]Total Based aircraft

Sources: *Unconstrained Gillespie Field Aviation Activity Forecasts Master Plan,* September 2008; airport staff interviews; *Airport Land Use Compatibility Plans* for each airport; airnav.com; Landrum & Brown analysis

Figure 5.2-1
2007 BASED AIRCRAFT FLEET MIX
San Diego County Public-Use Airports



H:\SAN San Diego RASP\Source Data\FAA\ATADS\[2008 Estimate County GA.xls]Total Based aircraft

Sources: *Unconstrained Gillespie Field Aviation Activity Forecasts Master Plan,* September 2008; airport staff interviews; *Airport Land Use Compatibility Plans* for each airport; airnav.com; Landrum & Brown analysis

In order to forecast future based aircraft, a number of factors must be taken into consideration including national trends, local demand, and planned development. Nationally, the FAA Active Aircraft forecast in the *FAA Aerospace Forecasts, Fiscal Years 2008-2025* shows an initial decline of 0.5 percent annually in the number of active single-engine aircraft through 2010. The FAA expects single-engine aircraft to recover and grow at an average annual rate of 0.6 percent from 2010 to 2025. Multi-engine aircraft are expected to decline at an average annual rate of 0.9 percent from 2007 to 2025. Turboprops and jets are forecast by the FAA to grow at rate of 4.2 percent annually while helicopters are projected to grow at an average annual rate of 3.1 percent from 2007 to 2025.

Gillespie Airport is the only public-use airport with an up-to-date based aircraft forecast. The 2008 Gillespie Field forecast shows based aircraft increasing from 978 in 2007 to 1,269 in 2027.[25] The Master Plan based aircraft forecast was developed by applying the growth rates projected in the 2007 FAA TAF for Gillespie Field. All the growth in based aircraft is expected to occur in the single-engine category with the other categories remaining flat. This methodology results in average annual growth of 1.5 percent from 2005 to 2027 for a fleet that is made up of 86 percent single-engine aircraft. The FAA projects the number of active single-engine aircraft in the U.S. will increase at a rate of 0.5 percent annually, much lower than the projected growth at Gillespie. According to discussions with Gillespie airport staff, there is significant demand for hangar space at Gillespie. The vast majority of the new aircraft demand is expected to come from outside the county (not from other county airports). In response to this projected demand, the County has plans to develop the Cajon Air Center on 70 acres to the east of the Airport, which includes 55 acres of new hangars. Construction is expected to be completed by December of 2011.

Three other airports in the county (Brown Field, Ramona, and Oceanside) also have plans to develop a significant number of hangars in the next five years, suggesting growth well beyond the FAA forecast growth rates. Brown Field's plans include new hangars with capacity to accommodate 290 aircraft. Ramona Airport has plans to build 96 hangars by 2017-2019. The privatization of the development of Oceanside Airport is expected to result in approximately 100 new hangars. All of these plans are in the early stages and it is not known which will go forward and which will be successful. These development plans suggest the number of based aircraft at these airports will increase at faster rates than the rest of the nation, if full occupancy of the new facilities is obtained.

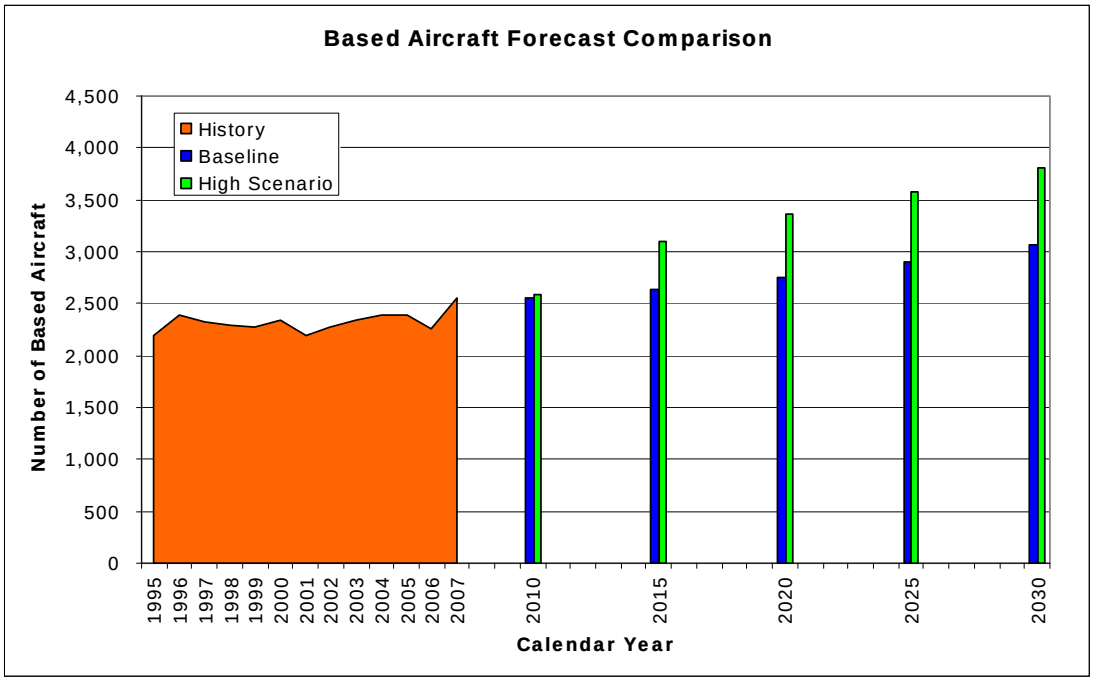
[25] *Gillespie Field Unconstrained Aviation Activity Forecasts*, September 9, 2008

In addition, McClellan-Palomar is in the process of adding approximately 38,000 square feet of hangar space (estimated to be complete by the end of 2009). Because construction is underway there is no inherent uncertainty with regards to the likelihood of the development. This development is modest in comparison to the aforementioned development. As a result, the FAA's forecast of active aircraft would apply at McClellan-Palomar.

There are no major hangar development plans at any of the other public-use county airports. Therefore, there is no reason to expect growth in the number of based aircraft at these airports to differ materially from the FAA national active aircraft forecast growth rates.

Based on these factors, two based aircraft forecasts were prepared (see **Figure 5.2-2**). The first is a baseline scenario which applies the FAA active aircraft growth rates to the 2007 based aircraft fleet mix for each public-use airport in the county. This scenario reflects the number of based aircraft that could be expected if the planned development at Gillespie, Brown Field, Ramona, and Oceanside does not move forward. The baseline forecast takes into consideration the ongoing construction at McClellan-Palomar.

Figure 5.2-2
BASED AIRCRAFT FORECAST COMPARISON
San Diego County Public-Use Airports



H:\SAN San Diego RASP\Source Data\FAA\ATADS\[2008 Estimate County GA.xls]Method 1-Baseline

Sources: *Unconstrained Gillespie Field Aviation Activity Forecasts Master Plan,* September 2008; *Airport Land Use Compatibility Plans* for each airport; FAA 2007 Terminal Area Forecasts for each airport; airport staff interviews; Landrum & Brown analysis

The high scenario assumes all development plans at Gillespie, Brown Field, Ramona, and Oceanside will be completed as scheduled and full occupancy would be achieved. The Gillespie based aircraft forecast for the high scenario was obtained from the Master Plan forecasts. The Brown Field, Ramona Airport, and Oceanside Airport based aircraft forecasts were developed assuming full occupancy of the planned development at each airport will be achieved within five years. The baseline forecast of based aircraft was used for the other public-use county airports in the high scenario.

Both the baseline and high scenarios reflect the loss of a helicopter flight school at Gillespie in 2008. This resulted in the loss of 14 based helicopters.

Under the baseline scenario, the number of based aircraft would increase at a average annual rate 0.8 percent from 2,547 in 2007 to 3,073 in 2030 (**see Table 5.2-2**). In the baseline scenario, single-engine and multi-engine aircraft are expected to fall as a share of total from 2007 to 2030. Helicopters are forecast to increase in share (from 4.8 percent in 2007 to 6.7 percent in 2030). The turboprop/jet category is also expected to increase in share, from 4.8 percent in 2007 to 9.4 percent in 2030.

Table 5.2-2
BASELINE SCENARIO 2030 BASED AIRCRAFT FLEET MIX
San Diego County Public-Use Airports

		2030 Based Aircraft - Baseline					
Facility	Code	Single-engine	Multi-engine	Turboprop /Jets	Helicopters	Other	Total
San Diego International Airport	SAN	-	2	10	-	-	12
McClellan-Palomar Airport	CRQ	254	30	177	23	-	484
Montgomery Field Airport	MYF	569	47	31	71	-	719
Gillespie Field Airport	SEE	965	59	36	53	9	1,122
Brown Field Municipal Airport	SDM	183	12	34	4	-	232
Ramona Airport	RNM	200	8	2	48	-	259
Oceanside Municipal Airport	OKB	68	4	-	4	-	76
Fallbrook Community Airpark	L18	135	4	-	4	-	142
Borrego Valley Airport	L08	26	-	-	-	-	26
Agua Caliente Airport	L54	1	-	-	-	-	1
Ocotillo Airport	L90	-	-	-	-	-	-
Jacumba Airport	L78	-	-	-	-	-	-
Total		**2,401**	**166**	**290**	**207**	**9**	**3,073**
% Share		**78.1%**	**5.4%**	**9.4%**	**6.7%**	**0.3%**	**100.0%**
AAG 2007-2030		**0.6%**	**-0.9%**	**3.8%**	**2.3%**	**2.6%**	**0.8%**

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[2008 Estimate County GA.xls]Based Aircraft
AAG=Average Annual Growth
Sources: *Unconstrained Gillespie Field Aviation Activity Forecasts Master Plan,* September 2008; airport staff interviews; *Airport Land Use Compatibility Plans* for each airport; *FAA Aerospace Forecasts*, *Fiscal Years 2008-2025;* Landrum & Brown analysis

The high scenario forecast results in the number of based aircraft at the public-use county airports reaching 3,812 by 2030, representing average annual growth of 1.8 percent (see **Table 5.2-3**). The high scenario results in single-engine and multi-engine aircraft decreasing in share from 2007. Helicopters are expected to make up 5.6 percent of the county-wide based aircraft in 2030 while turboprops and jets are forecast to make up 8.5 percent of the based aircraft fleet under the high scenario.

Table 5.2-3
HIGH SCENARIO 2030 BASED AIRCRAFT FLEET MIX
San Diego County Public-Use Airports

		2030 Based Aircraft - High Scenario					
Facility	**Code**	**Single-engine**	**Multi-engine**	**Turboprop /Jets**	**Helicopters**	**Other**	**Total**
San Diego International Airport	SAN	-	2	10	-	-	12
McClellan-Palomar Airport	CRQ	254	30	177	23	-	484
Montgomery Field Airport	MYF	569	47	31	71	-	719
Gillespie Field Airport	SEE	1,198	73	16	29	9	1,325
Brown Field Municipal Airport	SDM	419	30	87	30	-	566
Ramona Airport	RNM	288	13	2	48	-	350
Oceanside Municipal Airport	OKB	168	11	-	7	-	187
Fallbrook Community Airpark	L18	135	4	-	4	-	142
Borrego Valley Airport	L08	26	-	-	-	-	26
Agua Caliente Airport	L54	1	-	-	-	-	1
Ocotillo Airport	L90	-	-	-	-	-	-
Jacumba Airport	L78	-	-	-	-	-	-
Total		**3,058**	**210**	**323**	**212**	**9**	**3,812**
% Share		**80.2%**	**5.5%**	**8.5%**	**5.6%**	**0.2%**	**100.0%**
AAG 2007-2030		**1.7%**	**0.1%**	**4.3%**	**2.4%**	**2.6%**	**1.8%**

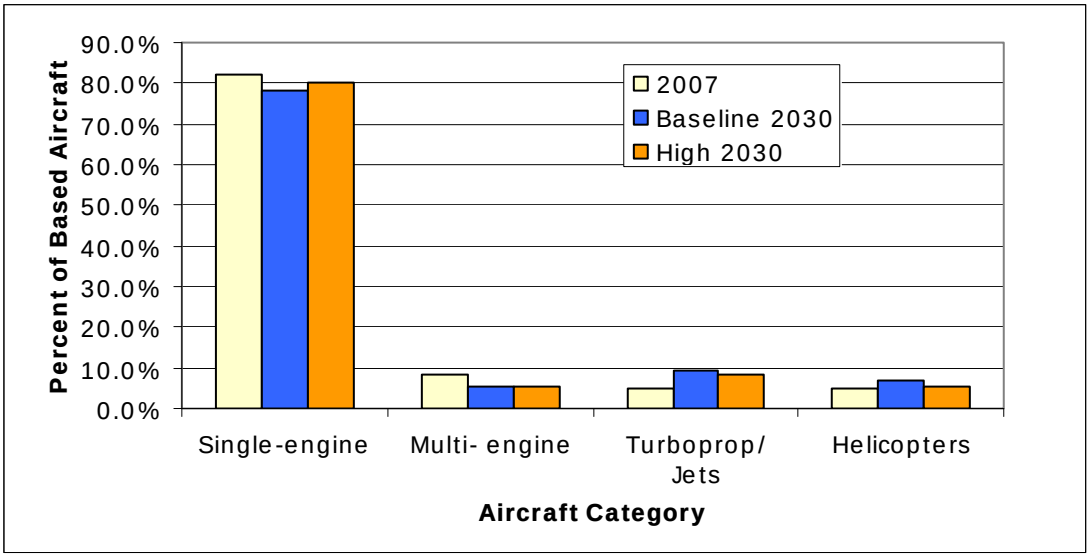
H:\SAN San Diego RASP\Source Data\FAA\ATADS\[2008 Estimate County GA.xls]Based Aircraft
AAG=Average Annual Growth
Sources: *Unconstrained Gillespie Field Aviation Activity Forecasts Master Plan,* September 2008; airport staff interviews; *Airport Land Use Compatibility Plans* for each airport; *FAA Aerospace Forecasts*, *Fiscal Years 2008-2025;* Landrum & Brown analysis

Some of the reported and forecast based aircraft may be stored at off-airport facilities that access airside facilities "through-the-fence." Under proposed legislation, off-airport based aircraft are not included in the counts used to determine entitlement grants from the FAA. The FAA is updating the GCR for each airport and is requiring that all reported based aircraft be validated by tail number. In some cases, aircraft have been included in the based aircraft counts at multiple airports. The revised GCR may well show a decline in the total number of based aircraft. For purposes of preparing this forecast, all aircraft considered by airport management to be based at their respective airports are included in the reported numbers.

A comparison of the baseline and high scenario county-wide based aircraft fleet mix is shown in **Figure 5.2-3**. In the high scenario, the share of helicopters and jets is expected to be somewhat less than in the baseline

scenario. This is mainly due to the forecasts for Gillespie Field which predict all the growth at that airport will be in the single-engine piston category.

Figure 5.2-3
FORECAST BASED AIRCRAFT FLEET MIX COMPARISON
San Diego County Public-Use Airports



H:\SAN San Diego RASP\Source Data\FAA\ATADS\[based ac table.xls]chart
Sources: *Unconstrained Gillespie Field Aviation Activity Forecasts Master Plan,* September 2008; airport staff interviews; *Airport Land Use Compatibility Plans* for each airport; Landrum & Brown analysis

5.2.2 Air Taxi and General Aviation Aircraft Operations Forecast

Three methodologies were used to forecast air taxi and general aviation operations:

Methodology 1 - County-wide Operations Per Based Aircraft
Methodology 2 - County-wide Regression
Methodology 3 - Individual Airport Forecasts

Methodology 1 - County-wide Operations Per Based Aircraft Approach

This methodology determined the number of air taxi and general aviation operations per based aircraft for the county airports from 1990 to 2008. In order to forecast future operations, it was assumed that the number of operations per based aircraft would hold steady at the 2007 level for each airport through 2030 (see **Table 5.2-4**). Ocotillo and Jacumba Airports do not have based aircraft. Therefore, operations at these airports were assumed to remain constant through 2030.

Table 5.2-4
2007 AIR TAXI AND GENERAL AVIATION OPERATIONS PER BASED AIRCRAFT
San Diego County Public-Use Airports

Airport	2007 Est. Based Aircraft	2007 Air Taxi & GA Operations	2007 Ops./ Based Aircraft
San Diego International Airport	7	23,645	3,378
McClellan-Palomar Airport	344	205,042	596
Montgomery Field Airport	604	221,585	367
Gillespie Field Airport	978	294,027	301
Brown Field Municipal Airport	190	137,745	725
Ramona Airport	210	163,479	778
Oceanside Municipal Airport	66	14,128	214
Fallbrook Community Airpark	124	33,286	268
Borrego Valley Airport	23	26,251	1,141
Agua Caliente Airport	1	700	700
Ocotillo Airport	-	800	n.a.
Jacumba Airport	-	325	n.a.
Total	**2,547**	**1,121,013**	**440**

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[2008 Estimate County GA.xls]Ops Per BA summary

Sources: *Unconstrained Gillespie Field Aviation Activity Forecasts Master Plan,* September 2008; airport staff interviews; *Airport Land Use Compatibility Plans* for each airport; airnav.com; Landrum & Brown analysis

The operations per based aircraft methodology results in San Diego County air taxi and general aviation operations growing at an average annual rate of 0.9 percent through 2030 (see **Table 5.2-5**) with the baseline scenario based aircraft forecast. Under the high scenario based aircraft forecast, air taxi and general aviation operations would grow by 2.0 percent annually through 2030 (see **Table 5.2-6**).

Table 5.2-5
AIR TAXI AND GENERAL AVIATION OPERATIONS FORECAST
METHODOLOGY 1 - OPERATIONS PER BASED AIRCRAFT APPROACH
BASELINE SCENARIO OPERATIONS FORECAST
San Diego County Public-Use Airports

	Calendar	Air Taxi and General Aviation Operations												
	Year	SDIA	CRQ	MYF	SEE	SDM	RNM	OKB	L18	L08	L54	L90	L78	Total
Actual	1990	n.a.	246,104	269,361	188,044	188,543	110,168	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,027,704
	1995	19,027	191,653	227,369	184,125	110,267	133,778	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	874,123
	2000	16,759	236,911	251,464	187,677	108,312	132,407	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	939,658
	2001	18,942	208,725	214,883	175,321	116,208	110,413	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	850,619
	2002	25,789	196,775	245,343	182,921	130,198	106,429	n.a.	20,896	n.a.	n.a.	n.a.	n.a.	918,641
	2003	24,497	186,099	216,351	180,292	97,293	95,328	n.a.	18,292	19,554	452	246	1,626	840,030
	2004	24,150	201,115	229,351	207,910	97,374	121,271	11,233	22,728	18,697	500	250	1,500	936,078
	2005	24,595	201,877	245,030	242,165	109,427	139,886	11,609	36,124	26,454	650	405	325	1,038,547
	2006	24,209	191,495	231,453	278,380	127,789	153,498	14,352	32,586	20,853	650	405	325	1,075,995
	2007	23,645	205,042	221,585	294,027	137,745	163,479	14,128	33,286	26,251	700	800	325	1,121,013
Forecast	2010	25,900	213,400	223,400	290,600	139,100	166,100	14,100	33,200	26,100	700	800	325	1,133,725
	2015	29,900	230,200	229,300	295,800	143,700	172,100	14,300	33,600	26,400	700	800	325	1,177,125
	2020	33,600	248,000	237,700	305,400	150,100	179,500	14,700	34,600	27,200	700	800	325	1,232,625
	2025	36,900	267,200	249,600	320,000	158,500	189,500	15,400	36,300	28,600	700	800	325	1,303,825
	2030	40,500	288,500	263,700	337,300	168,400	201,300	16,200	38,200	30,200	700	800	325	1,386,125
	Average Annual Growth Rate:													
	2000-2007	5.0%	-2.0%	-1.8%	6.6%	3.5%	3.1%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.6%
	2007-2010	3.1%	1.3%	0.3%	-0.4%	0.3%	0.5%	-0.1%	-0.1%	-0.2%	0.0%	0.0%	0.0%	0.4%
	2010-2020	2.6%	1.5%	0.6%	0.5%	0.8%	0.8%	0.4%	0.4%	0.4%	0.0%	0.0%	0.0%	0.8%
	2020-2030	1.9%	1.5%	1.0%	1.0%	1.2%	1.2%	1.0%	1.0%	1.1%	0.0%	0.0%	0.0%	1.2%
	2007-2030	2.4%	1.5%	0.8%	0.6%	0.9%	0.9%	0.6%	0.6%	0.6%	0.0%	0.0%	0.0%	0.9%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[2008 Estimate County GA.xls]Method 1-Baseline

Sources: FAA, TAF 2007; *Airport Land Use Compatibility Plans* for each airport; *Fallbrook Community Airpark Master Plan,* March 2006; *Unconstrained Gillespie Field Aviation Activity Forecasts Master Plan,* September 2008; Landrum & Brown analysis

Legend:

SDIA – San Diego International Airport
CRQ – McClellan-Palomar Airport
MYF – Montgomery Field
SEE – Gillespie Field
SDM – Brown Field Municipal Airport
RNM – Ramona Airport
OKB – Oceanside Municipal Airport
L18 – Fallbrook Community Airpark
L08 – Borrego Valley Airport
L54 – Agua Caliente Airport
L90 – Ocotillo Airport
L78 – Jacumba Airport

Table 5.2-6
AIR TAXI AND GENERAL AVIATION OPERATIONS FORECAST
METHODOLOGY 1 - OPERATIONS PER BASED AIRCRAFT APPROACH
HIGH SCENARIO OPERATION FORECAST
San Diego County Public-Use Airports

	Calendar	Air Taxi and General Aviation Operations												
	Year	SDIA	CRQ	MYF	SEE	SDM	RNM	OKB	L18	L08	L54	L90	L78	Total
Actual	1990	n.a.	246,104	269,361	188,044	188,543	110,168	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,027,704
	1995	19,027	191,653	227,369	184,125	110,267	133,778	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	874,123
	2000	16,759	236,911	251,464	187,677	108,312	132,407	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	939,658
	2001	18,942	208,725	214,883	175,321	116,208	110,413	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	850,619
	2002	25,789	196,775	245,343	182,921	130,198	106,429	n.a.	20,896	n.a.	n.a.	n.a.	n.a.	918,641
	2003	24,497	186,099	216,351	180,292	97,293	95,328	n.a.	18,292	19,554	452	246	1,626	840,030
	2004	24,150	201,115	229,351	207,910	97,374	121,271	11,233	22,728	18,697	500	250	1,500	936,078
	2005	24,595	201,877	245,030	242,165	109,427	139,886	11,609	36,124	26,454	650	405	325	1,038,547
	2006	24,209	191,495	231,453	278,380	127,789	153,498	14,352	32,586	20,853	650	405	325	1,075,995
	2007	23,645	205,042	221,585	294,027	137,745	163,479	14,128	33,286	26,251	700	800	325	1,121,013
Forecast	2010	25,900	213,400	223,400	298,400	139,100	162,500	14,100	33,200	26,100	700	800	325	1,137,925
	2015	29,900	230,200	229,300	321,300	308,100	222,300	31,300	33,600	26,400	700	800	325	1,434,225
	2020	33,600	248,000	237,700	345,300	364,000	244,700	36,400	34,600	27,200	700	800	325	1,573,325
	2025	36,900	267,200	249,600	370,800	385,600	257,600	38,000	36,300	28,600	700	800	325	1,672,425
	2030	40,500	288,500	263,700	398,300	410,400	272,700	39,900	38,200	30,200	700	800	325	1,784,225
	Average Annual Growth Rate:													
	2000-2007	5.0%	-2.0%	-1.8%	6.6%	3.5%	3.1%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.6%
	2007-2010	3.1%	1.3%	0.3%	0.5%	0.3%	-0.2%	-0.1%	-0.1%	-0.2%	0.0%	0.0%	0.0%	0.5%
	2010-2020	2.6%	1.5%	0.6%	1.5%	10.1%	4.2%	9.9%	0.4%	0.4%	0.0%	0.0%	0.0%	3.3%
	2020-2030	1.9%	1.5%	1.0%	1.4%	1.2%	1.1%	0.9%	1.0%	1.1%	0.0%	0.0%	0.0%	1.3%
	2007-2030	2.4%	1.5%	0.8%	1.3%	4.9%	2.2%	4.6%	0.6%	0.6%	0.0%	0.0%	0.0%	2.0%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[2008 Estimate County GA.xls]Based Aircraft allocation (cell AS59)

Sources: FAA, TAF 2007; *Airport Land Use Compatibility Plans* for each airport; *Unconstrained Gillespie Field Aviation Activity Forecasts Master Plan,* September 2008; development plans for Brown Field, Ramona, and Oceanside; Landrum & Brown analysis

Legend:

SDIA – San Diego International Airport
CRQ – McClellan-Palomar Airport
MYF – Montgomery Field
SEE – Gillespie Field
SDM – Brown Field Municipal Airport
RNM – Ramona Airport
OKB – Oceanside Municipal Airport
L18 – Fallbrook Community Airpark
L08 – Borrego Valley Airport
L54 – Agua Caliente Airport
L90 – Ocotillo Airport
L78 – Jacumba Airport

Methodology 2 - County-wide Regression Approach

The regression analysis methodology presented in this section correlates air taxi and general aviation aircraft operations to historical and projected San Diego County personal income through a linear regression analysis. The personal income projections presented in this section are based on the projections developed in the SANDAG 2030 Regional Growth Forecast.

Data from 1995 to 2008 for seven airports (SDIA, McClellan-Palomar, Gillespie, Brown Field, Montgomery Field, Fallbrook, and Borrego Valley) were included in the regression. Due to lack of historical data and inconsistent trends, Ramona, Oceanside, Agua Caliente, Ocotillo, and Jacumba Airports were not included in the regression analysis.

The correlation between historical air taxi/general aviation operations and personal income between 1995 and 2008 resulted in an r-squared value of 0.53. This r-squared value would indicate that there is a positive correlation between air taxi/general aviation operations and personal income, but the correlation between the two variables is not strong. This methodology resulted in the number of air taxi/general aviation operations at the seven airports increasing from 941,581 in 2007 to 1,207,100 in 2030, representing an average annual growth rate of 1.1 percent (see **Table 5.2-7**).

Several combinations of airports and different independent variables were tested in order to improve the correlation (r-squared value), however, the presented result was the highest correlation found. Moreover, trend analyses were also tested, but ultimately rejected due to poor correlation factors.

Table 5.2-7
AIR TAXI AND GENERAL AVIATION OPERATIONS FORECAST
METHODOLOGY 2 - REGRESSION APPROACH
(SDIA, McClellan-Palomar, Montgomery Field, Gillespie, Brown Field, Fallbrook, & Borrego Valley)

	Calendar Year	Personal Income (Millions; 2004$)	GA Operations
Actual	1995	$83,966	749,145
	2000	$107,623	816,051
	2001	$107,481	749,006
	2002	$108,353	812,213
	2003	$106,572	742,378
	2004	$112,105	801,325
	2005	$115,958	885,672
	2006	$118,964	906,765
	2007	$121,802	941,581
Estimate	2008	$125,357	895,900
Forecast	2010	$132,129	922,000
	2015	$151,927	998,400
	2020	$168,590	1,062,800
	2025	$183,813	1,121,500
	2030	$205,972	1,207,100
	Average Annual Growth Rate:		
	1995-2000	5.1%	1.7%
	2000-2007	1.8%	2.1%
	2007-2010	2.7%	-0.7%
	2010-2020	2.5%	1.4%
	2020-2030	2.0%	1.3%
	2007-2030	2.3%	1.1%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[2008 Estimate County GA.xls]GA Operations
Sources: SANDAG; FAA, ATADS; FAA, TAF 2007; County of San Diego; Airport staff; Landrum & Brown analysis.

Methodology 3 - Individual Airport Forecasts

This approach involves individual forecasts of air taxi and general aviation demand for each of the 12 public-use airports.

San Diego International Airport (SDIA)

Approximately 2.9 percent of the total operations at SDIA in 2007 were air taxi while 7.4 percent were general aviation. The most recent forecast for SDIA was prepared by Landrum & Brown for the 2008 *Destination Lindbergh-The Ultimate Build-out* study. The baseline and high growth scenarios from this study for air taxi and general aviation operations are shown in **Table 5.2-8**.

Table 5.2-8
AIR TAXI AND GENERAL AVIATION OPERATIONS FORECAST
San Diego International Airport (SDIA)

		Air Taxi & GA Ops.	
	Calendar Year	Baseline Scenario	High Scenario
Actual	1995	19,027	19,027
	2000	16,759	16,759
	2001	18,942	18,942
	2002	25,789	25,789
	2003	24,497	24,497
	2004	24,150	24,150
	2005	24,595	24,595
	2006	24,209	24,209
	2007	23,645	23,645
Estimate	2008	21,500	21,500
Forecast	2010	22,500	22,700
	2015	25,400	26,500
	2020	27,600	30,900
	2025	29,300	36,100
	2030	32,000	42,100
	Average Annual Growth Rate:		
	1995-2007	1.8%	1.8%
	2007-2010	-1.6%	-1.3%
	2010-2020	2.1%	3.1%
	2020-2030	1.5%	3.1%
	2007-2030	1.3%	2.5%

H:\SAN San Diego Vision Plan\Aviation Forecast\Master Sheet\[AT & GA Forecast.xls]Scenario 1
Source: *Destination Lindbergh, The Ultimate Build-out, Aviation Activity Forecast*, Draft August 2008

The baseline scenario was created through an econometric model using a regression analysis of the total San Diego County air taxi and general aviation activity against historical personal income for San Diego County. SDIA forecast air taxi/general aviation activity was calculated based on a market share analysis. SDIA's historical contribution of air taxi/general aviation traffic has averaged 2.3 percent of the total air taxi/general aviation activity in San Diego County between 1995 and 2007. However, based on the 2008 air taxi/general aviation activity estimates at the airport, this is expected to fall to 1.9 percent. Furthermore, as commercial passenger operations increase and airside congestion worsens, it is expected that this amount will fall further over time, reaching 1.6 percent by 2030. The resulting forecast shows air taxi/general aviation activity growing at an average annual rate of 1.3 percent from 2007 until 2030.

A high scenario was developed based on the growth rates from the air taxi and general aviation hours flown forecast in the FAA *Aerospace Forecast, Fiscal Years 2008-2025*. Based on this approach, air taxi/general aviation activity will grow at an average annual rate of 2.5 percent from 23,645 operations in 2007 to 42,100 operations in 2030.

The *Destination Lindbergh* operational fleet mix forecast is presented in **Table 5.2-9**. Jet aircraft are expected to continue to account for the majority of the traffic through 2030. Jet aircraft are forecast to increase from 62.9 percent of the total civil activity in 2007 to 79.8 percent in 2030. All other categories of aircraft are expected to decline in share through 2030.

Table 5.2-9
AIR TAXI AND GENERAL AVIATION FLEET MIX FORECAST
San Diego International Airport (SDIA)

	Percent of Air Taxi and General Aviation Operations						
Aircraft Group	**2007**	**2008E**	**2010**	**2015**	**2020**	**2025**	**2030**
Jet	62.9%	65.6%	70.9%	73.9%	76.0%	77.6%	79.8%
Turboprop	11.8%	9.3%	8.4%	7.4%	6.5%	5.5%	4.5%
Multi Piston	3.6%	2.6%	2.4%	2.1%	1.9%	1.8%	1.6%
Single Piston	16.9%	18.4%	18.1%	16.4%	15.5%	14.9%	14.0%
Helicopter	2.5%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%
Other	2.2%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

H:\SAN San Diego Vision Plan\Aviation Forecast\Master Sheet\[AT & GA Forecast.xls]Fleet Mix Forecast
Source: *Destination Lindbergh, The Ultimate Build-out, Aviation Activity Forecast*, Draft August 2008

McClellan-Palomar Airport (CRQ)

Over 87 percent of the 2007 operations at McClellan-Palomar were general aviation while 5.8 percent were air taxi. The majority of general aviation operations at McClellan-Palomar are itinerant in nature, making up between 62 and 70 percent of total general aviation operations from 1990 to 2007 (see **Table 5.2-10**). Historical general aviation activity has been erratic since 1990, reaching a high of over 264,000 in 1999 and declining to a low of 178,208 in 2003. General aviation operations were up in 2004 and 2005, declined in 2006, and then recovered to 2005 levels in 2007. In 2008, general aviation operations are estimated to be down four percent from 2007, likely due to high fuel prices and economic conditions. Air taxi activity has increased significantly since 1997 but is also estimated to be down in 2008.

Table 5.2-10
AIR TAXI AND GENERAL AVIATION OPERATIONS FORECAST
McClellan-Palomar Airport (CRQ)

	Calendar Year	Air Taxi Operations	General Aviation Operations			AT & GA Operations		
			Itinerant	Local	Total	Itinerant	Local	Total
Actual	1990	3,519	154,806	87,779	242,585	158,325	87,779	246,104
	1995	4,745	131,289	55,619	186,908	136,034	55,619	191,653
	2000	6,322	152,184	78,405	230,589	158,506	78,405	236,911
	2001	6,770	131,284	70,671	201,955	138,054	70,671	208,725
	2002	7,591	126,266	62,918	189,184	133,857	62,918	196,775
	2003	7,891	121,026	57,182	178,208	128,917	57,182	186,099
	2004	9,238	124,213	67,664	191,877	133,451	67,664	201,115
	2005	9,353	120,128	72,396	192,524	129,481	72,396	201,877
	2006	12,699	125,723	53,073	178,796	138,422	53,073	191,495
	2007	12,211	132,111	60,720	192,831	144,322	60,720	205,042
Estimate	2008	9,500	120,700	64,500	185,200	130,200	64,500	194,700
Forecast	2010	12,200	125,000	64,500	189,500	137,200	64,500	201,700
	2015	14,500	135,500	64,500	200,000	150,000	64,500	214,500
	2020	16,700	147,900	64,500	212,400	164,600	64,500	229,100
	2025	18,800	161,600	64,500	226,100	180,400	64,500	244,900
	2030	21,100	178,400	64,500	242,900	199,500	64,500	264,000
	Average Annual Growth Rate:							
	1990-2000	n.c.	-0.2%	-1.1%	-0.5%	0.0%	-1.1%	-0.4%
	2000-2007	9.9%	-2.0%	-3.6%	-2.5%	-1.3%	-3.6%	-2.0%
	2007-2010	0.0%	-1.8%	2.0%	-0.6%	-1.7%	2.0%	-0.5%
	2010-2020	3.2%	1.7%	0.0%	1.1%	1.8%	0.0%	1.3%
	2020-2030	2.4%	1.9%	0.0%	1.4%	1.9%	0.0%	1.4%
	2007-2030	2.4%	1.3%	0.3%	1.0%	1.4%	0.3%	1.1%

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Notes: General aviation operations for 2008 are annualized based on operations counts for January-July 2008. Air taxi activity for 2008 is annualized based on January-May 2008 data.
Sources: FAA, ATADS; USDOT, Schedule T-100; *Official Airline Guide*; Landrum & Brown analysis

Based on the increasing share history for air taxi, the number of air taxi operations is projected to grow back to the 2007 level of 12,200 operations by 2010 and increase at an average annual rate of 2.8 percent from 2010 to 2030, based on the *FAA Aerospace Forecast, Fiscal Years 2008-2025* growth rate for air taxi operations. The 2024-2025 growth rates for air taxi operations are assumed to continue through 2030. By applying these growth rates, air taxi operations at McClellan-Palomar are projected to increase from 12,211 operations in 2007 to 21,100 operations in 2030.

Itinerant general aviation operations have been declining at an average rate of 4.6 percent per year from 2000 to 2005. However, itinerant general aviation operations increased by approximately five percent in 2006 and in 2007. Itinerant general aviation operations were down by 8.6 percent in 2008. Itinerant general aviation operations are projected to continue to decline through 2010 and then increase at the national FAA forecast rate for itinerant operations. Local general aviation operations are assumed to

remain at 2008 estimated levels through 2030. As a result, total general aviation activity at McClellan-Palomar is projected to grow at an average rate of one percent per year from 192,831 operations in 2007 to 242,900 operations in 2030. Total air taxi and general aviation activity at McClellan-Palomar is projected to grow at an average rate of 1.1 percent per year from 205,042 operations in 2007 to 264,000 operations in 2030.

Table 5.2-11 presents the operational fleet mix forecast for air taxi and general aviation traffic at McClellan-Palomar. According to the January 2008 ALUCP for McClellan-Palomar, almost 69 percent of the air taxi and general aviation operations were on single-engine aircraft in 2006. Helicopters accounted for 17.2 percent of operations while twin-engine pistons accounted for 6.1 percent of operations and turboprop/business jets accounted for 8.1 percent of operations. Overall, single-engine and twin-engine activity is expected to decline as a share of total traffic, following the trends in based aircraft. Consistent with national trends and the based aircraft forecast, turboprop/jet activity is expected to increase. Helicopter activity is expected to maintain the same share as was seen in 2006.

Table 5.2-11
AIR TAXI AND GENERAL AVIATION FLEET MIX FORECAST
McClellan-Palomar Airport (CRQ)

Aircraft Category	Percent of Air Taxi and General Aviation Operations	
	2006	2030
Single-engine piston	68.7%	61.1%
Twin-engine piston	6.1%	4.1%
Turboprop/Business Jet	8.1%	17.7%
Helicopters	17.2%	17.1%
Total	**100.0%**	**100.0%**

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Sources: San Diego County, ALUCP, January 2008; Landrum & Brown analysis

Montgomery Field Airport (MYF)

Activity at Montgomery Field consists mostly of general aviation operations (at least 96 percent since 1990). In 2007 approximately 1.5 percent of Montgomery Field operations were air taxi in nature. General aviation operations are expected to be up 11.8 percent in 2008 while air taxi operations are estimated to decline 18.7 percent in 2008 over 2007. There was no recent forecast available for Montgomery Field so an independent forecast was prepared.

Air taxi operations declined at an average annual rate of 11 percent from 2000 to 2007. Air taxi operations are expected to continue to decline through 2030, albeit at a slower rate than has been experienced historically (see **Table 5.2-12**).

Table 5.2-12
AIR TAXI AND GENERAL AVIATION OPERATIONS FORECAST
Montgomery Field Airport (MYF)

	Calendar Year	Air Taxi Operations	General Aviation Operations			AT & GA Operations		
			Itinerant	Local	Total	Itinerant	Local	Total
Actual	1990	6,177	138,696	124,488	263,184	144,873	124,488	269,361
	1995	7,672	124,003	95,694	219,697	131,675	95,694	227,369
	2000	7,729	142,160	101,575	243,735	149,889	101,575	251,464
	2001	6,831	123,505	84,547	208,052	130,336	84,547	214,883
	2002	5,438	143,058	96,847	239,905	148,496	96,847	245,343
	2003	4,723	127,645	83,983	211,628	132,368	83,983	216,351
	2004	3,950	130,051	95,350	225,401	134,001	95,350	229,351
	2005	3,739	126,780	114,511	241,291	130,519	114,511	245,030
	2006	3,756	122,732	104,965	227,697	126,488	104,965	231,453
	2007	3,428	121,088	97,069	218,157	124,516	97,069	221,585
Estimate	2008	2,800	129,200	114,800	244,000	132,000	114,800	246,800
Forecast	2010	2,700	129,200	118,200	247,400	131,900	118,200	250,100
	2015	2,400	129,200	119,000	248,200	131,600	119,000	250,600
	2020	2,200	129,200	124,000	253,200	131,400	124,000	255,400
	2025	2,000	129,200	131,200	260,400	131,200	131,200	262,400
	2030	1,800	129,200	140,500	269,700	131,000	140,500	271,500
	Average Annual Growth Rate:							
	1990-2000	2.3%	0.2%	-2.0%	-0.8%	0.3%	-2.0%	-0.7%
	2000-2007	-11.0%	-2.3%	-0.6%	-1.6%	-2.6%	-0.6%	-1.8%
	2007-2010	-7.6%	2.2%	6.8%	4.3%	1.9%	6.8%	4.1%
	2010-2020	-2.0%	0.0%	0.5%	0.2%	0.0%	0.5%	0.2%
	2020-2030	-2.0%	0.0%	1.3%	0.6%	0.0%	1.3%	0.6%
	2007-2030	-2.8%	0.3%	1.6%	0.9%	0.2%	1.6%	0.9%

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Note: 2008 is annualized from January-July 2008 data.
Sources: FAA, ATADS; Landrum & Brown analysis

Itinerant general aviation operations declined from 130,051 in 2004 to 121,088 in 2007, but are expected to rebound to 129,200 in 2008. Itinerant general aviation operations are projected to hold constant at the 2008 estimated level of 129,200 operations per year through 2030.

Local operations declined from 2005 to 2007. Local operations are estimated to return to 2005 levels in 2008. Future local general aviation activity was projected based on the FAA *Aerospace Forecast, Fiscal Years 2008-2025* for local general aviation operations. This results in an average annual growth rate of 1.6 percent from 2007 to 2030.

Total air taxi and general aviation activity at Montgomery Field is projected to grow at an average rate of 0.9 percent per year from 221,585 operations in 2007 to 271,500 operations in 2030.

Table 5.2-13 presents the operational fleet mix forecast for air taxi and general aviation traffic at Montgomery Field. According to the October 2007 ALUCP, just over three-quarters of the operations at Montgomery Field were on single-engine aircraft in 2006. The forecast operational fleet mix was developed in accordance with the based aircraft fleet mix, assuming the number of operations per based aircraft category would remain the same in the future as it was in 2006. Based on this methodology, the share of single-engine aircraft is forecast to remain essentially the same in 2030 as it is today. The share of twin-engine aircraft operations is forecast to decline while the share of business jets and helicopters increases.

Table 5.2-13
AIR TAXI AND GENERAL AVIATION FLEET MIX FORECAST
Montgomery Field Airport (MYF)

Aircraft Category	Percent of Air Taxi and General Aviation Operations	
	2006	2030
Single-engine	77.0%	76.5%
Twin-engine	17.0%	11.3%
Business Jets	4.0%	8.7%
Helicopters	2.0%	3.4%
Total	**100.0%**	**100.0%**

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[RASP ATADS History.xls]MYF
Sources: San Diego County, ALUCP October 2007; Landrum & Brown analysis

Gillespie Field Airport (SEE)

As part of a Master Plan process, San Diego County commissioned aviation forecasts for Gillespie Field. The baseline and high-growth forecast scenarios from the 2008 *Gillespie Field Unconstrained Aviation Activity Forecasts* are summarized in this section.

The Master Plan did not differentiate between general aviation and military activity. Military operations made up 0.5 percent of total operations in 2007. There is little to no air taxi activity at Gillespie.

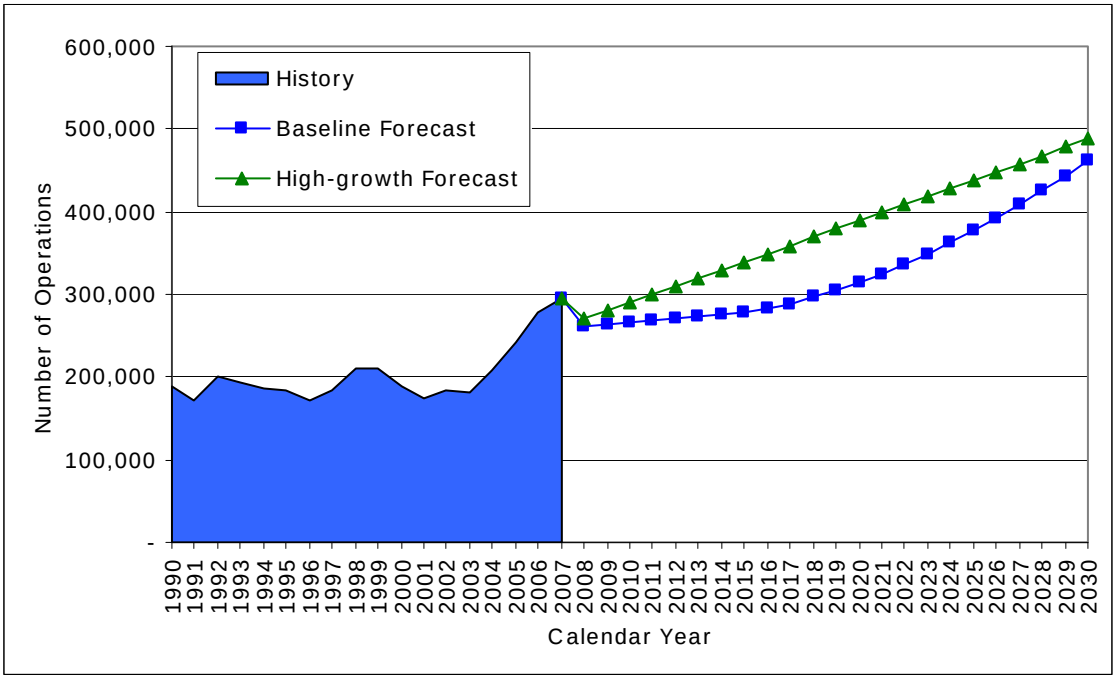
The Master Plan forecasts estimated total operations for 2008. Operations were estimated to be down 11.4 percent in 2008 largely due to the loss of a helicopter training school that accounted for approximately 30,000 operations per year. Additionally, the remaining flight schools had reported a slight decrease in student pilot activity.

The Master Plan baseline forecast of total operations was developed using a multi-linear regression model based on socioeconomic variables (San Diego County population, employment, and personal income). The regression analysis was based on historical data from 1990 to 2007 resulting in an r-squared value of 0.677. The baseline forecast projected an average growth

of 1.6 percent per year in total aircraft operations from 2007 through 2027, resulting in 409,895 operations in 2027. The Master Plan high-growth scenario was developed using a trend analysis which results in average annual growth of 2.2 percent per year. This results in 457,186 total operations in 2027.

The Master Plan forecasts projected operations through 2027. For purposes of the RASP forecast, operations from 2027 to 2030 were estimated based on the average annual growth rate between 2015 and 2027. Military operations were estimated for each year and subtracted from the forecast. **Figure 5.2-4** shows a comparison of the two forecasts of general aviation operations.

Figure 5.2-4
MASTER PLAN GENERAL AVIATION OPERATIONS FORECASTS
Gillespie Field Airport (SEE)



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Note: Data from 2027 to 2030 were projected based on an average annual growth rate between 2015 and 2027.
Sources: *Unconstrained Gillespie Field Aviation Activity Forecasts,* September 2008*;* Landrum & Brown analysis.

After reviewing the Gillespie Field Master Plan, the baseline unconstrained forecast was found to be the most reasonable forecast for the RASP. The resulting general aviation forecast for Gillespie Field is shown in **Table 5.2-14**. General aviation operations are projected to grow from 294,027 operations in 2007 to 460,800 in 2030.

Table 5.2-14
GENERAL AVIATION OPERATIONS FORECAST
Gillespie Field Airport (SEE)

	Calendar Year	General Aviation Operations					
		Baseline			High Scenario		
		Itinerant	Local	Total	Itinerant	Local	Total
Actual	1990	94,886	93,158	188,044	94,886	93,158	188,044
	1995	87,236	96,889	184,125	87,236	96,889	184,125
	2000	88,137	99,540	187,677	88,137	99,540	187,677
	2001	79,470	95,851	175,321	79,470	95,851	175,321
	2002	82,347	100,574	182,921	82,347	100,574	182,921
	2003	78,947	101,345	180,292	78,947	101,345	180,292
	2004	77,454	130,456	207,910	77,454	130,456	207,910
	2005	94,376	147,789	242,165	94,376	147,789	242,165
	2006	112,475	165,905	278,380	112,475	165,905	278,380
	2007	119,950	174,077	294,027	119,950	174,077	294,027
Estimate	2008	103,100	158,800	261,900	106,700	164,300	271,000
Forecast	2010	101,300	164,700	266,000	110,700	179,900	290,600
	2015	103,600	174,300	277,900	126,600	213,000	339,600
	2020	117,300	197,500	314,800	144,800	243,800	388,600
	2025	140,200	235,900	376,100	163,100	274,500	437,600
	2030	171,700	289,100	460,800	182,400	307,000	489,400
	Average Annual Growth Rate:						
	1990-2000	-0.7%	0.7%	0.0%	-0.7%	0.7%	0.0%
	2000-2007	4.5%	8.3%	6.6%	4.5%	8.3%	6.6%
	2007-2010	-5.5%	-1.8%	-3.3%	-2.6%	1.1%	-0.4%
	2010-2020	1.5%	1.8%	1.7%	2.7%	3.1%	2.9%
	2020-2030	3.9%	3.9%	3.9%	2.3%	2.3%	2.3%
	2007-2030	1.6%	2.2%	2.0%	1.8%	2.5%	2.2%

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Sources: *Unconstrained Gillespie Field Aviation Activity Forecasts,* September 2008; Landrum & Brown analysis.

The Master Plan forecasts for Gillespie provided a fleet mix forecast for 2027. This 2027 fleet mix forecast was assumed to be valid for 2030. **Table 5.2-15** presents the operational fleet mix forecast for general aviation traffic at Gillespie from the Master Plan forecasts.

Table 5.2-15
GENERAL AVIATION FLEET MIX FORECAST
Gillespie Field Airport (SEE)

Aircraft Category	Percent of Air Taxi and General Aviation Operations	
	2008	2030
Single-engine	81.7%	85.8%
Multi-engine	10.5%	7.7%
Business Jets	3.5%	3.1%
Helicopters	3.8%	2.9%
Other	0.5%	0.5%
Total	**100.0%**	**100.0%**

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Sources: Airport Staff; Ricondo & Associates, Inc., *Constrained Gillespie Field Aviation Activity Forecasts*, September 9, 2008.

Brown Field Municipal Airport (SDM)

Over 92 percent of the total operations at Brown Field were general aviation in 2007. Approximately 72 percent of the general aviation operations were local in nature in 2007. General aviation activity declined from a high of over 188,000 operations in 1990 to 84,687 operations in 1998. General aviation operations increased through 2002, reaching over 129,600 operations in 2002. General aviation operations declined in 2003 and 2004 but have increased each year through 2007. General aviation operations are estimated to be down 17.2 percent in 2008. Air taxi makes up a small portion of the activity at Brown Field (2.5 percent in 2007). Air taxi operations have increased steadily since 1998 to 4,065 in 2008.

There was no recent forecast available for Brown Field so an independent forecast was prepared. Brown Field is currently implementing a development plan that includes additional apron space, space for a large “high-end” FBO, and aircraft storage hangars. If this development moves forward as planned, it would result in an increase in activity at Brown Field. As a result, two forecast scenarios were prepared for Brown Field. The first is a baseline forecast which does not reflect the planned development. The second is a high scenario which assumes the proposed development occurs as planned.

Air taxi activity has shown strong growth since 1998. In 2008, air taxi operations are estimated to increase to 4,100 operations from just 17 operations in 1998. A trend analysis of air taxi operations from 1998 to 2008 resulted in an r-squared value of 0.927. The baseline scenario is based on the trend analysis. Under this scenario, air taxi operations are projected to grow at an average rate of 4.3 percent per year from 2007 to 2030, reaching 9,500 operations in 2030.

A trend analysis of itinerant general aviation operations from 1998 to 2008 was used for the baseline forecast. The trend analysis resulted in an r-squared value of 0.7078. This methodology yields average annual growth of 2.8 percent from 2007 to 2030. This increases itinerant general aviation operations from 37,690 operations in 2007 to 71,100 operations in 2030.

Baseline local general aviation operations were projected based on the FAA *Aerospace Forecast, Fiscal Years 2008-2025* for local general aviation traffic. This results in local general aviation operations at Brown Field reaching 89,700 in 2030 with the baseline scenario.

If the proposed development is accomplished, growth in air taxi and general aviation activity is expected to exceed that predicted in the baseline scenario. Therefore, under the high scenario, a jump in activity is expected in 2012 due to the market stimulation that would result from the planned development. Operations are forecast to increase by 10 percent annually in 2013 through 2016 as full occupancy is achieved. Beginning in 2017, growth is expected to moderate and return to the growth rates projected in the baseline forecast.

The two forecasts are compared in **Table 5.2-16**. Under the baseline forecast, total air taxi and general aviation activity at Brown Field is projected to grow at an average rate of 0.9 percent per year from 137,745 operations in 2007 to 170,300 operations in 2030. The high scenario results in 3.1 percent average annual growth, with total operations reaching 275,900 in 2030.

Table 5.2-17 presents the operational fleet mix forecast for air taxi and general aviation traffic at Brown Field. According to the June 2007 ALUCP, Brown Field operations were made up of just over half single-engine aircraft. The operational fleet mix was developed in accordance with the based aircraft fleet mix, assuming the number of operations per based aircraft category would remain the same in the future as it was in 2006. Based on this methodology, single-engine and twin-engine aircraft are forecast to decline in share while helicopters and jets increase in share by 2030.

Table 5.2-16
AIR TAXI AND GENERAL AVIATION OPERATIONS FORECAST
Brown Field Municipal Airport (SDM)

		Operations - Baseline				Operations - High Scenario			
	Calendar		General Aviation				General Aviation		
	Year	Air Taxi	Itinerant	Local	Total	Air Taxi	Itinerant	Local	Total
Actual	1990	119	62,620	125,804	188,543	119	62,620	125,804	188,543
	1995	211	26,783	83,273	110,267	211	26,783	83,273	110,267
	2000	133	16,291	91,888	108,312	133	16,291	91,888	108,312
	2001	299	21,397	94,512	116,208	299	21,397	94,512	116,208
	2002	542	38,457	91,199	130,198	542	38,457	91,199	130,198
	2003	972	31,024	65,297	97,293	972	31,024	65,297	97,293
	2004	1,837	27,330	68,207	97,374	1,837	27,330	68,207	97,374
	2005	2,426	27,014	79,987	109,427	2,426	27,014	79,987	109,427
	2006	3,405	33,181	91,203	127,789	3,405	33,181	91,203	127,789
	2007	3,615	37,690	96,440	137,745	3,615	37,690	96,440	137,745
Estimate	2008	4,100	37,800	73,300	115,200	4,100	37,800	73,300	115,200
Forecast	2010	4,600	40,900	75,400	120,900	4,600	40,900	75,400	120,900
	2015	5,800	48,400	76,000	130,200	8,000	79,900	106,500	194,400
	2020	7,000	56,000	79,100	142,100	10,200	98,300	121,400	229,900
	2025	8,300	63,600	83,800	155,700	12,000	111,400	128,500	251,900
	2030	9,500	71,100	89,700	170,300	13,800	124,500	137,600	275,900
	Average Annual Growth Rate:								
	1990-2000	1.1%	-12.6%	-3.1%	-5.4%	1.1%	-12.6%	-3.1%	-5.4%
	2000-2007	60.3%	12.7%	0.7%	3.5%	60.3%	12.7%	0.7%	3.5%
	2007-2010	8.4%	2.8%	-7.9%	-4.3%	8.4%	2.8%	-7.9%	-4.3%
	2010-2020	4.3%	3.2%	0.5%	1.6%	8.3%	9.2%	4.9%	6.6%
	2020-2030	3.1%	2.4%	1.3%	1.8%	3.1%	2.4%	1.3%	1.8%
	2007-2030	4.3%	2.8%	-0.3%	0.9%	6.0%	5.3%	1.6%	3.1%

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Note: 2008 is annualized from January-July 2008 data.

Sources: FAA, ATADS; Landrum & Brown analysis

Table 5.2-17
AIR TAXI AND GENERAL AVIATION FLEET MIX FORECAST
Brown Field Municipal Airport (SDM)

Aircraft Category	Percent of Air Taxi and General Aviation Operations	
	2006	2030
Single-engine	55.0%	45.7%
Twin-engine	11.6%	6.7%
Business Jets	15.9%	22.3%
Helicopters	17.5%	25.2%
Total	**100.0%**	**100.0%**

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Sources: San Diego County, ALUCP June 2007; Landrum & Brown analysis

Ramona Airport (RNM)

An ATCT was built at Ramona in 2004. Operations counts prior to 2004 were obtained from the 2007 TAF. Over 99 percent of the activity at Ramona is general aviation. Less than one percent of the operations at Ramona are on military aircraft and there is little to no air taxi activity. Total general aviation activity has increased at an average annual rate of 10.5 percent from 2004 (the first year the new ATCT was open) to 2007 (see **Table 5.2-18**). Operations are down 23.2 percent in 2008 compared to 2007. There are no recent forecasts available for Ramona Airport so an independent forecast was prepared.

Table 5.2-18
GENERAL AVIATION OPERATIONS FORECAST
Ramona Airport (RNM)

		General Aviation Operations					
	Calendar	Baseline			High Scenario		
	Year	Itinerant	Local	Total	Itinerant	Local	Total
Actual	1990	n.a.	n.a.	110,168	n.a.	n.a.	110,168
	1995	n.a.	n.a.	133,778	n.a.	n.a.	133,778
	2000	n.a.	n.a.	132,407	n.a.	n.a.	132,407
	2001	n.a.	n.a.	110,413	n.a.	n.a.	110,413
	2002	n.a.	n.a.	106,429	n.a.	n.a.	106,429
	2003	n.a.	n.a.	95,328	n.a.	n.a.	95,328
	2004	40,238	81,033	121,271	40,238	81,033	121,271
	2005	37,084	102,802	139,886	37,084	102,802	139,886
	2006	39,727	113,771	153,498	39,727	113,771	153,498
	2007	41,647	121,832	163,479	41,647	121,832	163,479
Estimate	2008	30,400	95,100	125,500	30,400	95,100	125,500
Forecast	2010	39,200	97,900	137,100	39,200	97,900	137,100
	2015	43,300	114,500	157,800	43,300	114,500	157,800
	2020	47,200	119,200	166,400	87,800	119,200	207,000
	2025	51,600	126,200	177,800	96,000	126,200	222,200
	2030	56,900	135,100	192,000	106,000	135,100	241,100
	Average Annual Growth Rate:						
	1990-2000	n.a.	n.a.	1.9%	n.a.	n.a.	1.9%
	2000-2007	n.a.	n.a.	3.1%	n.a.	n.a.	3.1%
	2007-2010	-2.0%	-7.0%	-5.7%	-2.0%	-7.0%	-5.7%
	2010-2020	1.9%	2.0%	2.0%	8.4%	2.0%	4.2%
	2020-2030	1.9%	1.3%	1.4%	1.9%	1.3%	1.5%
	2007-2030	1.4%	0.5%	0.7%	4.1%	0.5%	1.7%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[RASP ATADS History.xls]RNM
Notes: 2008 is annualized from January-July 2008 data.
Sources: FAA, ATADS; FAA, TAF 2007; Landrum & Brown analysis

Prior to the opening of the ATCT in 2004, there was no reliable source to determine the local/itinerant split of operations. Itinerant general aviation traffic has been fairly flat since the ATCT opened, ranging from 37,000 to

41,700 operations each year from 2004 to 2007. Itinerant general aviation operations are estimated to be down in 2008 but this is viewed as a temporary decline due to fuel prices and the state of the economy. Local general aviation activity dominates at Ramona, representing 75 percent of total general aviation operations in 2007. Local operations increased 14.6 percent annually from 2004 to 2007. Local general aviation operations are estimated to be down 21.9 percent in 2008 over 2007 due to the state of the economy and fuel prices.

There was no recent forecast available for Ramona so an independent forecast was prepared. Construction on new hangars at Ramona is expected to begin in 2010. If the proposed development occurs traffic will increase at Ramona. As a result, two forecast scenarios were prepared. The first is a baseline forecast which does not reflect the planned development. The second is a high scenario which assumes the proposed development occurs as planned.

In the baseline scenario, traffic is expected to recover by 2012 and then grow at the FAA forecast rates for local and itinerant traffic. This results in total general aviation operations growing at 0.7 percent annually from 163,479 in 2007 to 192,000 in 2030.

Under the high scenario, itinerant operations are forecast to increase to 60,000 in 2016 as a result of the market stimulation from the hangar development. Itinerant operations are forecast to increase by 10 percent annually for four years beginning in 2017 as full occupancy is achieved. Growth is then expected to moderate and grow at FAA forecast rates for itinerant operations from 2021 to 2030. Local operations are not expected to differ from the baseline forecast. These assumptions result in total general aviation operations in the high scenario growing to 241,100 by 2030 (1.7 percent average annual growth).

Table 5.2-19 presents the operational fleet mix forecast for air taxi and general aviation traffic at Ramona. According to the December 2006 ALUCP for Ramona, 76 percent of the operations at Ramona are on single-engine aircraft, followed by 12 percent multi-engine, nine percent helicopters, two percent business jets, and one percent fire attack aircraft. The proportion of single-engine aircraft operations is expected to remain the same with the share of helicopter and business jet activity increasing slightly. Consistent with national trends, the share of multi-engine aircraft operations is expected to decline.

Table 5.2-19
GENERAL AVIATION FLEET MIX FORECAST
Ramona Airport (RNM)

Aircraft Category	Percent of Air Taxi and General Aviation Operations	
	2006	2030
Single-engine	76.0%	76.4%
Multi-engine	12.0%	10.8%
Business Jets	2.0%	1.8%
Helicopters	9.0%	10.0%
Fire Attack	1.0%	1.0%
Total	**100.0%**	**100.0%**

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[RASP ATADS History.xls]RNM
Sources: San Diego County, ALUCP December 2006; Landrum & Brown analysis

Oceanside Municipal Airport (OKB)

There is no ATCT at Oceanside so operations statistics were provided by airport staff. All activity at Oceanside is assumed to be general aviation in nature. There were 11,233 operations at Oceanside in 2004 (the first year reliable operations counts were available). Total operations increased by 3.3 percent from 2004 to 2005. Operations then increased by over 23 percent in 2006 to reach 14,352 operations. In 2007, total operations fell slightly. General aviation activity at Oceanside is expected to fall 17.9 percent to 11,600 in 2008 compared to 14,148 operations in 2007. This drop is likely due to record high oil prices and economic conditions. There is no recent forecast available for Oceanside so an independent forecast was prepared for the RASP.

Oceanside Airport is in the process of being leased to a private company. Two competing companies are proposing a 50-year lease with a promise to spend $21 million to improve the airport (including building 100 hangers, 50 tie-downs and a new terminal building) and to pay more than $11 million in rent to the city in the next 25 years.[26] However, it appears that the airport cannot have "ultra-light operations, aircraft rentals, aircraft rides for hire, or a flight school at the airport, according to the request for proposals. The restriction honors a 2003 settlement agreement with *Citizens for a Better Oceanside*, a group of airport-area residents that has opposed expansion of the airport."[27]

Two forecasts were prepared for Oceanside. The first is a baseline forecast that does not reflect the planned development. The second is a high scenario that assumes the proposed development is built.

[26] California Pilots Association, May 2008.
[27] North County Time News, July 30, 2007.

Under the baseline scenario, general aviation activity is expected to recover and reach the 2007 level of 14,000 operations in 2012. General aviation operations are then projected to grow at an average rate of 1.7 percent per year from 2012 through 2030 based on the *FAA Aerospace, Fiscal Years 2008-2025* growth rates for general aviation operations. This results in general aviation operations reaching 18,200 in 2030 (see **Table 5.2-20**).

Table 5.2-20
GENERAL AVIATION OPERATIONS FORECAST
Oceanside Municipal Airport (OKB)

	Calendar Year	General Aviation Operations	
		Baseline	High Scenario
Actual	2004	11,233	11,233
	2005	11,609	11,609
	2006	14,352	14,352
	2007	14,128	14,128
Estimate	2008	11,600	11,600
Forecast	2010	12,000	14,400
	2015	14,500	26,600
	2020	15,500	31,000
	2025	16,600	33,400
	2030	18,200	36,500
	Average Annual Growth Rate:		
	2004-2007	7.9%	7.9%
	2007-2010	-5.3%	0.6%
	2010-2020	2.6%	8.0%
	2020-2030	1.6%	1.6%
	2007-2030	1.1%	4.2%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[RASP ATADS History.xls]16 Airports
Notes: The 2008 estimate is annualized based on data from the month of August 2008.
Sources: FAA, TAF 2007; Airport Staff; Landrum & Brown analysis

The high scenario assumes traffic recovers quicker than under the baseline scenario, reaching 20,000 operations by 2012 due to the market stimulation of the new development. Operations are assumed to increase by 10 percent annually for four years and then grow at the FAA forecast rate for general aviation operations. This results in annual average growth in total operations of 4.2 percent from 2007 to 2030.

Table 5.2-21 presents the forecast operational fleet mix forecast for general aviation traffic at Oceanside. Single-engine aircraft made up 95 percent of the operations at Oceanside while multi-engine aircraft accounted for three percent of the operations in 2006, according to the ALUCP. Consistent with national trends, single-engine aircraft operations are forecast to increase slightly in share while multi-engine aircraft operations are forecast to decrease in share. Helicopter operations are assumed to maintain the two percent share experienced in 2006.

Table 5.2-21
GENERAL AVIATION FLEET MIX FORECAST
Oceanside Municipal Airport (OKB)

Aircraft Category	Percent of Air Taxi and General Aviation Ops.	
	2006	2030
Single-engine	95%	97%
Multi-engine	3%	1%
Business Jets	0%	0%
Helicopters	2%	2%
Total	**100%**	**100%**

H:\SAN San Diego RASP\[Operation Statistics.xls]OKB
Sources: San Diego County ALUCP, February 2008 Draft; Landrum & Brown analysis

Fallbrook Community Airpark (L18)

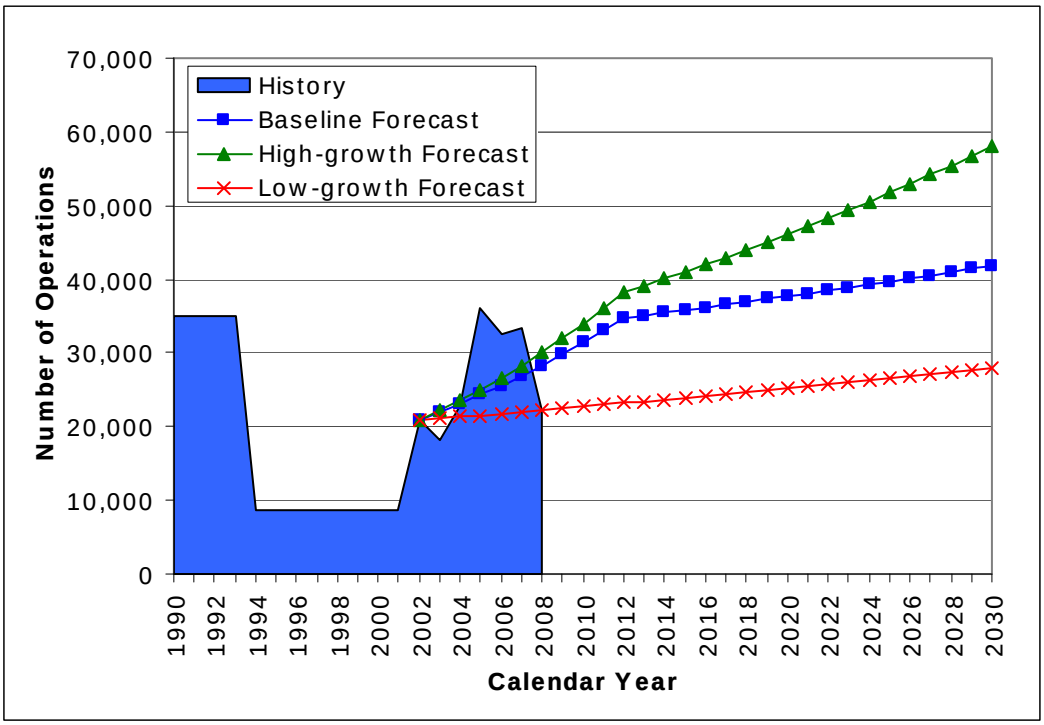
Since there is no ATCT at Fallbrook, historical operations counts are based county records. The 2006 *Fallbrook Community Airpark Master Plan* estimated aircraft operations for 2002 at 20,896 (based on traffic counter data from airport records). Airport staff estimated that approximately 60 percent of the 2002 operations were local in nature. Since 2002, aircraft operations have increased 9.8 percent annually to 33,286 in 2007. Operations are estimated to be down 33 percent in 2008. An itinerant/local split was not available for any years except 2002. There is no air taxi or military activity at Fallbrook.

The 2006 *Fallbrook Community Airpark Master Plan* provided baseline, high-growth, and low-growth scenarios through the year 2025. The Master Plan baseline forecast used an Operations Per Based Aircraft methodology to forecast general aviation operations. The baseline Master Plan forecast assumed Fallbrook would maintain a four percent market share of the Competitive Market Area[28] (CMA) based aircraft through 2025. This results in 2.8 percent average annual growth from 2007 to 2025, resulting in 39,700 operations in 2025. In the high-growth forecast scenario, the Master Plan assumes the based aircraft percent share would increase to four percent in 2005 and reach six percent by 2025. The high forecast projects 51,700 operations by 2025, averaging growth of 4.0 percent annually. In the low-growth forecast scenario, the Master Plan assumed the Fallbrook based aircraft market share would remain at the 2001 level of 1.8 percent through 2025. The low forecast results in 26,600 operations in 2025.

[28] Competitive airports in the CMA include Oceanside Municipal Airport, McClellan-Palomar Airport, French Valley Airport, Ramona Airport, Montgomery Field, Lindbergh Field, Gillespie Field, and Hemet-Ryan Airport.

Actual operations have far exceeded the three Master Plan forecast scenarios from 2005 to 2007 (see **Figure 5.2-5**). As a result, the Master Plan forecast was not used and an independent forecast was prepared for the RASP.

Figure 5.2-5
MASTER PLAN GENERAL AVIATION OPERATIONS FORECAST
Fallbrook Community Airpark (L18)



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Notes: The base year in the Master Plan was 2002. Actual operations data from 2003 to 2007 is from the county website.
Sources: *Fallbrook Community Airpark Master Plan*, March 2006; County of San Diego, Department of Public Works

Operations are estimated to be down 33 percent in 2008 over 2007 levels, most likely due to the economy and high fuel prices. Operations are expected to increase slowly through 2011 based on the *FAA Aerospace, Fiscal Years 2008-2025* growth rates for general aviation operations. Operations are forecast to recover to 2007 levels in 2012. After 2012, operations at Fallbrook are expected to again grow at the FAA forecast growth rates for general aviation operations. These assumptions result in general aviation activity at Fallbrook growing at an average annual rate of 1.1 percent from 33,286 operations in 2007 to 43,200 operations in 2030 (see **Table 5.2-22**).

Table 5.2-22
GENERAL AVIATION OPERATIONS FORECAST
Fallbrook Community Airpark (L18)

	Calendar Year	General Aviation Operations
Actual	2002	20,896
	2003	18,292
	2004	22,728
	2005	36,124
	2006	32,586
	2007	33,286
Estimate	2008	22,302
Forecast	2010	23,000
	2015	34,300
	2020	36,700
	2025	39,600
	2030	43,200
	Average Annual Growth Rate:	
	2002-2007	9.8%
	2007-2010	-11.6%
	2010-2020	4.8%
	2020-2030	1.6%
	2007-2030	1.1%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[RASP ATADS History.xls]16 Airports
Sources: San Diego County, Department of Public Works; FAA, TAF 2007; Landrum & Brown analysis

Table 5.2-23 presents the operational fleet mix forecast for general aviation traffic at Fallbrook. According to the 2006 Master Plan (base year of 2002) and the December 2006 ALUCP for Fallbrook (base year of 2005), 98 percent of the operations at Fallbrook are on single-engine aircraft with the remainder on multi-engine aircraft. This fleet mix is not expected to change in the future.

Table 5.2-23
GENERAL AVIATION FLEET MIX FORECAST
Fallbrook Community Airpark (L18)

Aircraft Category	Percent of Air Taxi and General Aviation Ops.	
	2005	2030
Single-engine	98%	98%
Multi-engine	2%	2%
Business Jets	0%	0%
Helicopters	0%	0%
Total	100%	100%

H:\SAN San Diego RASP\[Operation Statistics.xls]L18
Sources: San Diego County ALUCP, December 2006 Draft; *Fallbrook Community Airpark Master Plan*, March 2006

Borrego Valley Airport (L08)

Activity at Borrego Valley consists of only general aviation operations according to the 2007 TAF. Based on the aircraft operations counts provided by San Diego County, there were 19,554 total operations at Borrego Valley in 2003. Operations declined by 4.4 percent in 2004, before increasing by over 41.5 percent in 2005. Operations declined by over 21 percent in 2006 and then rebounded to 2005 levels in 2007. There is no recent forecast available for Borrego Valley so an independent forecast was created for the RASP.

As shown in **Table 5.2-24**, general aviation activity at Borrego Valley is projected to remain constant at 22,400 operations a year through 2030 based on an average of traffic levels over the past five years (2003 to 2007). The 2005 operational fleet mix presented in the December 2006 Borrego Valley ALUCP is not expected to change in the future (see **Table 5.2-25**).

Table 5.2-24
GENERAL AVIATION OPERATIONS FORECAST
Borrego Valley Airport (L08)

	Calendar Year	General Aviation Operations
Actual	2003	19,554
	2004	18,697
	2005	26,454
	2006	20,853
	2007	26,251
Forecast	2010	22,400
	2015	22,400
	2020	22,400
	2025	22,400
	2030	22,400
	Average Annual Growth Rate:	
	2003-2007	7.6%
	2007-2010	-5.2%
	2010-2020	0.0%
	2020-2030	0.0%
	2007-2030	-0.7%

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Notes: Data for 2003 to 2007 are based on San Diego County operations counts.
Sources: FAA, TAF 2007; County of San Diego, Department of Public works; Landrum & Brown analysis

Table 5.2-25
GENERAL AVIATION FLEET MIX FORECAST
Borrego Valley Airport (L08)

Aircraft Category	Percent of Air Taxi and General Aviation Ops.	
	2005	2030
Single-engine	78%	78%
Multi-engine	15%	15%
Business Jets	5%	5%
Helicopters	2%	2%
Total	**100%**	**100%**

H:\SAN San Diego RASP\[Operation Statistics.xls]L08
Sources: San Diego County ALUCP, December 2006 Draft and Landrum & Brown analysis

Agua Caliente Airport (L54)

Activity at Agua Caliente consisted of an estimated 84 percent military helicopters and 16 percent general aviation operations in 2007. According to aircraft operations counts provided by San Diego County, general aviation operations increased from 452 in 2003 to 700 in 2007 (see **Table 5.2-26**).

Table 5.2-26
GENERAL AVIATION OPERATIONS FORECAST
Agua Caliente Airport (L54)

	Calendar Year	General Aviation Operations
Actual	2003	452
	2004	500
	2005	650
	2006	650
	2007	700
Forecast	2010	700
	2015	700
	2020	700
	2025	700
	2030	700
	Average Annual Growth Rate:	
	2003-2007	11.6%
	2007-2010	0.0%
	2010-2020	0.0%
	2020-2030	0.0%
	2007-2030	0.0%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[RASP ATADS History.xls]16 Airports
Sources: County of San Diego, Department of Public works; Landrum & Brown analysis

The County forecast for Agua Caliente assumes operations remain constant through 2027. Given the role of Agua Caliente as a limited use airport in a sparsely populated area, the County forecast was deemed reasonable.

General aviation activity at Agua Caliente is projected to remain constant at the 2007 level of 700 operations a year through 2030. All general aviation operations at Agua Caliente are on single-engine aircraft. This is not expected to change in the future.

Ocotillo Airport (L90)

Activity at Ocotillo consists of mostly military helicopters and small portion of general aviation operations. According to aircraft operations counts provided by San Diego County, there were 246 general aviation operations at Ocotillo in 2003 (see **Table 5.2-27**). General aviation operations reached 800 in 2007. The County forecast for Agua Caliente assumes general aviation operations remain constant through 2027. Given the role of Ocotillo as a limited use airport in a sparsely populated area, the County forecast seems reasonable. All general aviation operations at Ocotillo are on single-engine aircraft. This is not expected to change in the future.

Table 5.2-27
GENERAL AVIATION OPERATIONS FORECAST
Ocotillo Airport (L90)

	Calendar Year	General Aviation Operations
Actual	2003	246
	2004	250
	2005	405
	2006	405
	2007	800
Forecast	2010	800
	2015	800
	2020	800
	2025	800
	2030	800
	Average Annual Growth Rate:	
	2003-2007	34.3%
	2007-2010	0.0%
	2010-2020	0.0%
	2020-2030	0.0%
	2007-2030	0.0%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[RASP ATADS History.xls]16 Airports
Sources: County of San Diego, Department of Public works; Landrum & Brown analysis

Jacumba Airport (L78)

Activity at Jacumba consists of all general aviation operations. The airport is mainly used as a glider facility by single-engine aircraft and sailplanes. According to aircraft operations counts provided by San Diego County, there were 1,626 general aviation operations at Jacumba in 2003 (see **Table 5.2-**

28). Jacumba operations declined by 7.7 percent to 1,500 in 2004. In 2005, total operations at Jacumba dropped to 325 because the glider clubs discontinued operations at the airport. General aviation operations at Jacumba have remained at 325 each year through 2007. The County forecast for Agua Caliente assumes general aviation operations remain constant through 2027. Based on the role of Jacumba and its location, this forecast is reasonable. All general aviation operations at Jacumba are on single-engine aircraft. This is not expected to change in the future.

Table 5.2-28
GENERAL AVIATION OPERATIONS FORECAST
Jacumba Airport (L78)

	Calendar Year	General Aviation Operations
Actual	2003	1,626
	2004	1,500
	2005	325
	2006	325
	2007	325
Forecast	2010	325
	2015	325
	2020	325
	2025	325
	2030	325
	Average Annual Growth Rate:	
	2003-2007	-33.1%
	2007-2010	0.0%
	2010-2020	0.0%
	2020-2030	0.0%
	2007-2030	0.0%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[RASP ATADS History.xls]16 Airports
Sources: County of San Diego, Department of Public works; Landrum & Brown analysis

San Diego County Public-use Airports

The baseline scenario forecasts for the 12 individual public-use airports in San Diego County were combined to determine the total county air taxi and general aviation operations baseline forecast under Methodology 3. This methodology results in air taxi and general aviation operations increasing at an average annual rate of 1.2 percent, from 1.12 million in 2007 to 1.48 million in 2030 (see **Table 5.2-29**).

High scenario forecasts were presented for SDIA, Gillespie, Brown Field, Ramona, and Oceanside. The combination of the high forecast scenario for these airports with the baseline scenarios for the other county airports results in total county operations increasing to 1.69 million in 2030 (see **Table 5.2-30**). This represents annual growth of 1.8 percent.

Table 5.2-29
SAN DIEGO COUNTY AIR TAXI AND GENERAL AVIATION OPERATIONS FORECAST
METHODOLOGY 3 - INDIVIDUAL AIRPORT APPROACH
BASELINE SCENARIO FORECAST
San Diego County Public-Use Airports

	Calendar	Air Taxi & General Aviation Operations - Baseline												
	Year	SDIA	CRQ	MYF	SEE	SDM	RNM	OKB	L18	L08	L54	L90	L78	Total
Actual	1990	n.a.	246,104	269,361	188,044	188,543	110,168	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,002,219
	1995	19,027	191,653	227,369	184,125	110,267	133,778	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	866,219
	2000	16,759	236,911	251,464	187,677	108,312	132,407	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	933,531
	2001	18,942	208,725	214,883	175,321	116,208	110,413	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	844,492
	2002	25,789	196,775	245,343	182,921	130,198	106,429	n.a.	20,896	n.a.	n.a.	n.a.	n.a.	908,350
	2003	24,497	186,099	216,351	180,292	97,293	95,328	n.a.	18,292	19,554	452	246	1,626	840,030
	2004	24,150	201,115	229,351	207,910	97,374	121,271	11,233	22,728	18,697	500	250	1,500	936,078
	2005	24,595	201,877	245,030	242,165	109,427	139,886	11,609	36,124	26,454	650	405	325	1,038,547
	2006	24,209	191,495	231,453	278,380	127,789	153,498	14,352	32,586	20,853	650	405	325	1,075,995
	2007	23,645	205,042	221,585	294,027	137,745	163,479	14,128	33,286	26,251	700	800	325	1,121,013
Estimate	2008	21,500	194,700	246,800	261,900	115,200	125,500	11,600	22,300	22,400	700	800	325	1,023,725
Forecast	2010	22,500	201,700	250,100	266,000	120,900	137,100	12,000	23,000	22,400	700	800	325	1,057,525
	2015	25,400	214,500	250,600	277,900	130,200	157,800	14,500	34,300	22,400	700	800	325	1,129,425
	2020	27,600	229,100	255,400	314,800	142,100	166,400	15,500	36,700	22,400	700	800	325	1,211,825
	2025	29,300	244,900	262,400	376,100	155,700	177,800	16,600	39,600	22,400	700	800	325	1,326,625
	2030	32,000	264,000	271,500	460,800	170,300	192,000	18,200	43,200	22,400	700	800	325	1,476,225
	Average Annual Growth Rate:													
	1990-2000	n.a.	-0.4%	-0.7%	0.0%	-5.4%	1.9%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-0.7%
	2000-2007	5.0%	-2.0%	-1.8%	6.6%	3.5%	3.1%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.6%
	2007-2010	-1.6%	-0.5%	4.1%	-3.3%	-4.3%	-5.7%	-5.3%	-11.6%	-5.2%	0.0%	0.0%	0.0%	-1.9%
	2010-2020	2.1%	1.3%	0.2%	1.7%	1.6%	2.0%	2.6%	4.8%	0.0%	0.0%	0.0%	0.0%	1.4%
	2020-2030	1.5%	1.4%	0.6%	3.9%	1.8%	1.4%	1.6%	1.6%	0.0%	0.0%	0.0%	0.0%	2.0%
	2007-2030	1.3%	1.1%	0.9%	2.0%	0.9%	0.7%	1.1%	1.1%	-0.7%	0.0%	0.0%	0.0%	1.2%

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Sources: FAA, ATADS; FAA, TAF 2007; County of San Diego, Department of Public Works; *Fallbrook Community Airpark Master Plan*, March 2006; *Unconstrained Gillespie Field Aviation Activity Forecasts Master Plan,* September 2008; Airport Staff; Airport Records; Landrum & Brown analysis.

Legend:

SDIA – San Diego International Airport
CRQ – McClellan-Palomar Airport
MYF – Montgomery Field
SEE – Gillespie Field
SDM – Brown Field Municipal Airport
RNM – Ramona Airport
OKB – Oceanside Municipal Airport
L18 – Fallbrook Community Airpark
L08 – Borrego Valley Airport
L54 – Agua Caliente Airport
L90 – Ocotillo Airport
L78 – Jacumba Airport

Table 5.2-30
SAN DIEGO COUNTY AIR TAXI AND GENERAL AVIATION OPERATIONS FORECAST
METHODOLOGY 3 - INDIVIDUAL AIRPORT APPROACH
HIGH SCENARIO FORECAST
San Diego County Public-Use Airports

	Calendar	Air Taxi & General Aviation Operations - High Scenario												
	Year	SDIA	CRQ	MYF	SEE	SDM	RNM	OKB	L18	L08	L54	L90	L78	Total
Actual	1990	n.a.	246,104	269,361	188,044	188,543	110,168	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,002,219
	1995	19,027	191,653	227,369	184,125	110,267	133,778	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	866,219
	2000	16,759	236,911	251,464	187,677	108,312	132,407	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	933,531
	2001	18,942	208,725	214,883	175,321	116,208	110,413	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	844,492
	2002	25,789	196,775	245,343	182,921	130,198	106,429	n.a.	20,896	n.a.	n.a.	n.a.	n.a.	908,350
	2003	24,497	186,099	216,351	180,292	97,293	95,328	n.a.	18,292	19,554	452	246	1,626	840,030
	2004	24,150	201,115	229,351	207,910	97,374	121,271	11,233	22,728	18,697	500	250	1,500	936,078
	2005	24,595	201,877	245,030	242,165	109,427	139,886	11,609	36,124	26,454	650	405	325	1,038,547
	2006	24,209	191,495	231,453	278,380	127,789	153,498	14,352	32,586	20,853	650	405	325	1,075,995
	2007	23,645	205,042	221,585	294,027	137,745	163,479	14,128	33,286	26,251	700	800	325	1,121,013
Estimate	2008	21,500	194,700	246,800	261,900	115,200	125,500	11,600	22,300	22,400	700	800	325	1,023,725
Forecast	2009	22,100	198,400	249,700	280,800	118,800	132,300	14,100	22,800	22,400	700	800	325	1,063,225
Forecast	2010	22,700	201,700	250,100	290,600	120,900	137,100	14,400	23,000	22,400	700	800	325	1,084,725
	2015	26,500	214,500	250,600	339,600	194,400	157,800	26,600	34,300	22,400	700	800	325	1,268,525
	2020	30,900	229,100	255,400	388,600	229,900	207,000	31,000	36,700	22,400	700	800	325	1,432,825
	2025	36,100	244,900	262,400	437,600	251,900	222,200	33,400	39,600	22,400	700	800	325	1,552,325
	2030	42,100	264,000	271,500	489,400	275,900	241,100	36,500	43,200	22,400	700	800	325	1,687,925
	Average Annual Growth Rate:													
	1990-2000	n.a.	-0.4%	-0.7%	0.0%	-5.4%	1.9%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-0.7%
	2000-2007	5.0%	-2.0%	-1.8%	6.6%	3.5%	3.1%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.6%
	2007-2010	-1.3%	-0.5%	4.1%	-0.4%	-4.3%	-5.7%	0.6%	-11.6%	-5.2%	0.0%	0.0%	0.0%	-1.1%
	2010-2020	3.1%	1.3%	0.2%	2.9%	6.6%	4.2%	8.0%	4.8%	0.0%	0.0%	0.0%	0.0%	2.8%
	2020-2030	3.1%	1.4%	0.6%	2.3%	1.8%	1.5%	1.6%	1.6%	0.0%	0.0%	0.0%	0.0%	1.7%
	2007-2030	2.5%	1.1%	0.9%	2.2%	3.1%	1.7%	4.2%	1.1%	-0.7%	0.0%	0.0%	0.0%	1.8%

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Sources: FAA, ATADS; FAA, TAF 2007; County of San Diego, Department of Public Works; *Fallbrook Community Airpark Master Plan*, March 2006; *Unconstrained Gillespie Field Aviation Activity Forecasts Master Plan,* September 2008; Airport Staff; Airport Records; Landrum & Brown analysis.

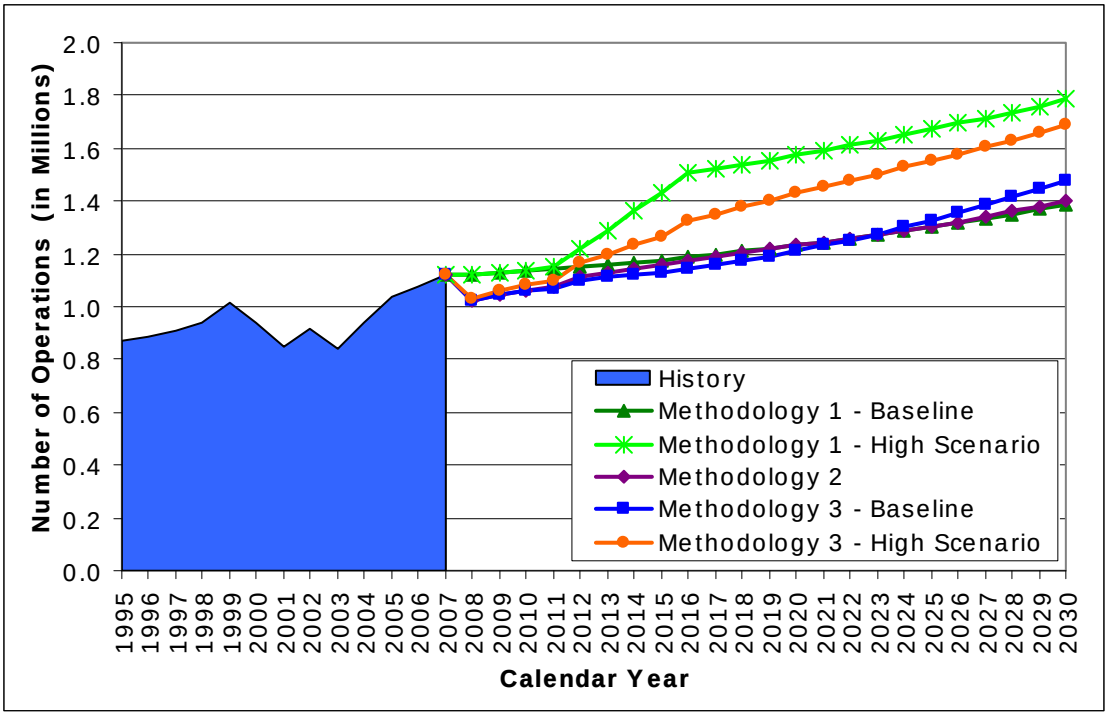
Legend:

SDIA – San Diego International Airport
CRQ – McClellan-Palomar Airport
MYF – Montgomery Field
SEE – Gillespie Field
SDM – Brown Field Municipal Airport
RNM – Ramona Airport
OKB – Oceanside Municipal Airport
L18 – Fallbrook Community Airpark
L08 – Borrego Valley Airport
L54 – Agua Caliente Airport
L90 – Ocotillo Airport
L78 – Jacumba Airport

5.2.3 Air Taxi and General Aviation Forecast Comparison

Figure 5.2-6 illustrates the results of the three forecast methodologies for air taxi and general aviation operations. Methodology 1 (county-wide operations per based aircraft approach) results in 0.9 percent annual growth under the baseline based aircraft forecast and two percent annual growth for the high based aircraft forecast. Methodology 2 (county-wide regression) results in one percent annual growth through 2030. Methodology 3 (individual airport forecasts) results in 1.2 percent average annual growth in the baseline scenario and 1.8 percent annual growth under the high scenario.

Figure 5.2-6
AIR TAXI AND GENERAL AVIATION OPERATIONS FORECAST COMPARISON
San Diego County Public-Use Airports



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Methodology 1 - County-wide Operations Per Based Aircraft
Methodology 2 - County-wide Regression
Methodology 3 - Individual Airport Approach
Source: Landrum & Brown analysis

The individual airport forecast methodology is preferable due to considerations given to each airport based on the individual characteristics of the airports. In general, the baseline forecast for each airport is the most likely to occur. In the case of Brown Field, Ramona, and Oceanside, whether the baseline or high forecast is preferred depends on whether all of the proposed development occurs as planned and is filled to capacity.

5.3 Military Activity

This section contains the military operations forecasts for the San Diego County airports. There are two Marine Corps Air Stations (Miramar and Camp Pendleton) and two Naval Air Stations (Imperial Beach and Halsey Field) in the county. In addition, military activity also occurs at seven of the public-use airports in San Diego County: SDIA, McClellan-Palomar, Gillespie, Brown Field, Montgomery Field, Ramona, and Agua Caliente. According to the FAA 2007 TAF, Fallbrook, Borrego Valley and Oceanside Airports do not have military operations. In addition, Ocotillo and Jacumba Airports are not presented in this section due to lack of available data regarding military operations. At these airports, all operations were assumed to be general aviation operations.

Military activity is difficult to project due to the classified nature of the activity. Unless forecast activity was provided by the military, operations at each San Diego County airport are assumed to stay constant at current levels. It is important to understand that year-to-year variations should be expected due to changes in military strategy or other events requiring military services from the San Diego County airports.

5.3.1 San Diego International Airport (SDIA)

Military operations at SDIA over the 12-year period ending in 2007 have varied between 193 and 6,511 annual operations with an average of 1,738 (see **Table 5.3-1**). Military operations have fallen dramatically since their high in 1996. Recent years show military operations remaining relatively low at less than 250 operations a year. Military operations are expected to remain flat at 200 annual operations over the forecast period.

Table 5.3-1
MILITARY OPERATIONS FORECAST
San Diego International Airport (SDIA)

	Calendar Year	Military Operations
Actual	1995	5,041
	2000	770
	2001	1,504
	2002	1,253
	2003	543
	2004	230
	2005	227
	2006	193
	2007	216
Forecast	2010	200
	2015	200
	2020	200
	2025	200
	2030	200
	Average Annual Growth Rate:	
	1995-2000	-31.3%
	2000-2007	-16.6%
	2007-2010	-2.5%
	2010-2020	0.0%
	2020-2030	0.0%
	2007-2030	-0.3%

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Sources: *Destination Lindbergh, The Ultimate Build-out, Aviation Activity Forecast*, Draft August 2008

5.3.2 McClellan-Palomar Airport (CRQ)

The military operations at McClellan-Palomar are mostly itinerant in nature (more than 80 percent of the total military operations from 1990 to 2006 were itinerant). In 1999, itinerant military operations increased significantly to 12,458 operations, from 2,030 in 1998. The number of itinerant operations then declined between 1999 and 2002 at an average annual growth rate of 46.6 percent and declined at slower rate of 9.0 percent annually from 2002 to 2007. Local military operations increased from 61 operations in 2004 to 479 operations in 2007. Military operations are projected to remain flat at the 2008 estimated levels through 2030 (see **Table 5.3-2**).

Table 5.3-2
MILITARY OPERATIONS FORECAST
McClellan-Palomar Airport (CRQ)

	Calendar	Military Operations		
	Year	Itinerant	Local	Total
Actual	1990	2,125	164	2,289
	1995	2,787	343	3,130
	2000	7,888	74	7,962
	2001	4,629	138	4,767
	2002	1,894	72	1,966
	2003	1,838	85	1,923
	2004	1,476	61	1,537
	2005	1,414	171	1,585
	2006	1,268	303	1,571
	2007	1,184	479	1,663
Estimate	2008	1,097	466	1,562
Forecast	2010	1,100	500	1,600
	2015	1,100	500	1,600
	2020	1,100	500	1,600
	2025	1,100	500	1,600
	2030	1,100	500	1,600
	Average Annual Growth Rate:			
	1990-2000	14.0%	-7.6%	13.3%
	2000-2007	-23.7%	30.6%	-20.0%
	2007-2010	-2.4%	1.4%	-1.3%
	2010-2020	0.0%	0.0%	0.0%
	2020-2030	0.0%	0.0%	0.0%
	2007-2030	-0.3%	0.2%	-0.2%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[RASP ATADS History.xls]CRQ
Sources: FAA, ATADS; Landrum & Brown analysis

5.3.3 Montgomery Field Airport (MYF)

Military operations at Montgomery Field have fluctuated between 181 operations (in 2000) and 1,245 operations (in 2006) since 1990 (see **Table 5.3-3**). Military operations are estimated to total 300 in 2008. Military operations are assumed to remain flat at 300 annual operations over the forecast period.

Table 5.3-3
MILITARY OPERATIONS FORECAST
Montgomery Field Airport (MYF)

	Calendar Year	Military Operations Itinerant	Local	Total
Actual	1990	214	48	262
	1995	355	123	478
	2000	161	20	181
	2001	192	114	306
	2002	291	9	300
	2003	151	69	220
	2004	282	40	322
	2005	166	38	204
	2006	742	503	1,245
	2007	156	751	907
Estimate	2008	260	40	300
Forecast	2010	260	40	300
	2015	260	40	300
	2020	260	40	300
	2025	260	40	300
	2030	260	40	300
	Average Annual Growth Rate:			
	1990-2000	-2.8%	-8.4%	-3.6%
	2000-2007	-0.4%	67.9%	25.9%
	2007-2010	18.6%	-62.4%	-30.8%
	2010-2020	0.0%	0.0%	0.0%
	2020-2030	0.0%	0.0%	0.0%
	2007-2030	2.2%	-12.0%	-4.7%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[RASP ATADS History.xls]MYF
Sources: FAA, ATADS; Landrum & Brown analysis

5.3.4 Gillespie Field Airport (SEE)

Military activity at Gillespie is a small proportion of total traffic. The military activity has fluctuated year-to-year since 1990 (see **Table 5.3-4**). The itinerant/local split has also varied quite a bit since 1990. In 2007, local operations jumped to 1,625 and itinerant operations fell to zero. Total military activity in 2008 is estimated to fall to 200 operations (all local). Military operations are expected to remain flat at the 2008 level of 200 annual operations over the forecast period.

Table 5.3-4
MILITARY OPERATIONS FORECAST
Gillespie Field Airport (SEE)

	Calendar	Military Operations		
	Year	Itinerant	Local	Total
Actual	1990	333	156	489
	1995	79	87	166
	2000	45	29	74
	2001	17	54	71
	2002	137	87	224
	2003	244	213	457
	2004	202	47	249
	2005	2	12	14
	2006	2	6	8
	2007	-	1,625	1,625
Estimate	2008	-	200	200
Forecast	2010	-	200	200
	2015	-	200	200
	2020	-	200	200
	2025	-	200	200
	2030	-	200	200
	Average Annual Growth Rate:			
	1990-2000	-18.1%	-15.5%	-17.2%
	2000-2007	-100.0%	77.7%	55.5%
	2007-2010	n.a.	-50.3%	-50.3%
	2010-2020	n.a.	0.0%	0.0%
	2020-2030	n.a.	0.0%	0.0%
	2007-2030	n.a.	-8.7%	-8.7%

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Sources: FAA, ATADS; Landrum & Brown analysis

5.3.5 Brown Field Municipal Airport (SDM)

Military operations at Brown Field have declined at an average annual rate of 15.3 percent between 1990 and 2000 (see **Table 5.3-5**). From 1990 to 2005, local operations have represented the bulk of military activity. In 2006 through 2008 the share of local military operations has fallen below 50 percent. Military operations are assumed to remain constant at the 2008 estimated levels through 2030.

Table 5.3-5
MILITARY OPERATIONS FORECAST
Brown Field Municipal Airport (SDM)

	Calendar	Military Operations		
	Year	Itinerant	Local	Total
Actual	1990	4,935	18,815	23,750
	1995	1,477	13,290	14,767
	2000	522	3,966	4,488
	2001	1,404	6,149	7,553
	2002	3,206	7,418	10,624
	2003	2,420	5,614	8,034
	2004	2,006	5,007	7,013
	2005	2,352	5,119	7,471
	2006	3,901	3,795	7,696
	2007	4,260	3,656	7,916
Estimate	2008	3,000	2,600	5,600
Forecast	2010	3,000	2,600	5,600
	2015	3,000	2,600	5,600
	2020	3,000	2,600	5,600
	2025	3,000	2,600	5,600
	2030	3,000	2,600	5,600
	Average Annual Growth Rate:			
	2000-2007	35.0%	-1.2%	8.4%
	2007-2010	-11.0%	-10.7%	-10.9%
	2010-2020	0.0%	0.0%	0.0%
	2020-2030	0.0%	0.0%	0.0%
	2007-2030	-1.5%	-1.5%	-1.5%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[RASP ATADS History.xls]SDM
Sources: FAA, ATADS; Landrum & Brown analysis

5.3.6 Ramona Airport (RNM)

As shown in **Table 5.3-6**, military operations at Ramona have increased from 604 in 2004 (the first year the ATCT was open) to an estimated 2,944 operations in 2008. Itinerant operations are projected to remain flat at the 2008 level of 200 operations through 2030. Local military operations are projected to remain flat at 800 operations based on an average of the past four years (2004 to 2007).

Table 5.3-6
MILITARY OPERATIONS FORECAST
Ramona Airport (RNM)

	Calendar	Military Operations		
	Year	Itinerant	Local	Total
Actual	2004	262	342	604
	2005	390	624	1,014
	2006	389	1,233	1,622
	2007	409	811	1,220
Estimate	2008	200	2,700	2,900
Forecast	2010	200	800	1,000
	2015	200	800	1,000
	2020	200	800	1,000
	2025	200	800	1,000
	2030	200	800	1,000
	Average Annual Growth Rate:			
	2004-2007	16.0%	33.4%	26.4%
	2007-2010	-21.2%	-0.5%	-6.4%
	2010-2020	0.0%	0.0%	0.0%
	2020-2030	0.0%	0.0%	0.0%
	2007-2030	-3.1%	-0.1%	-0.9%

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Sources: FAA, ATADS; Landrum & Brown analysis

5.3.7 Agua Caliente Airport (L54)

Based on data provided by San Diego County and the December 2006 ALUCP for Agua Caliente, it is estimated that there were 3,700 military helicopter operations at Agua Caliente in 2007. Data for previous years was not available. The number of military operations at Agua Caliente is assumed to remain at the 2007 level through 2030.

5.3.8 Marine Corps Air Station Miramar (NKX)

According to the March 2005 *Marine Corp Air Station, Miramar AICUZ Update*, total aircraft operations at Miramar declined from 166,951 in 1996 to 88,945 in 1998. Operations then increased to 110,233 in 1999. Operations declined again in 2000 to 90,864 and then increased through 2002. Operations fell to 91,556 in 2003. According to the AICUZ, the number of operations at Miramar is projected to reach 112,200 at an unidentified point in the future. This operations level reflects "the highest expected flight operations using a mission readiness factor of 85%."[29] For purposes of the RASP, operations at Miramar were assumed to grow to this level by 2030 (see **Table 5.3-7**).

Table 5.3-7
MILITARY OPERATIONS FORECAST
Marine Corps Air Station Miramar (NKX)

	Calendar Year	Military Operations
Actual	1996	166,951
	2000	90,864
	2001	107,561
	2002	122,361
	2003	91,556
Forecast	2010	96,500
	2015	100,200
	2020	104,100
	2025	108,100
	2030	112,200
	Average Annual Growth Rate:	
	1996-2000	-14.1%
	2000-2003	0.3%
	2003-2010	0.8%
	2010-2020	0.8%
	2020-2030	0.8%
	2003-2030	0.8%

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Sources: *Marine Corps Air Station, Miramar AICUZ Revised March 2005*; Landrum & Brown analysis

According to the AICUZ for Miramar, 71.3 percent of the operations were on fixed-wing aircraft and 28.7 percent were on helicopters in 2002. The maximum mission operational fleet mix is expected to consist of 70.7 percent fixed-wing aircraft and 29.3 percent helicopters.

[29] *Marine Corps Air Station, Miramar AICUZ Update*, March 2005, page 2-5

According to the March 2005 ALUCP for Miramar, there were 256 aircraft based at Miramar in 2002, 56.3 percent of which were fixed-wing aircraft and 43.8 percent of which were helicopters. A forecast of based aircraft was not provided in the ALUCP.

5.3.9 Marine Corps Air Station Camp Pendleton (NFG)

The June 2008 ALUCP is the only source of data available for Camp Pendleton. The information in the ALUCP is from 1994/1995. According to the ALUCP there were 131,744 helicopter operations in 1994. The ALUCP provided a future operations number of 176,194 for an unspecified time period. The ALUCP indicates there were 185 helicopters based at Camp Pendleton in 1995. A forecast of based aircraft was not provided in the ALUCP.

5.3.10 Imperial Beach Naval Outlying Field (NRS)

The March 2005 ALUCP is the only source of data available for Imperial Beach and is based on 2003 data. There were 250,000 annual helicopter operations at NRS in 2003. The ALUCP shows a maximum mission operations total of 308,000. In 2003 there were 126 helicopters based at NRS. The maximum mission based aircraft total is 197 helicopters.

5.3.11 North Island Naval Air Station (Halsey Field) (NZY)

The March 2005 ALUCP is based on data from 1981 and is the only source of data available for Halsey Field. There were 139,700 operations in 1981. The maximum mission level (20+ years) is 189,000 annual operations. In 1981 there were 242 aircraft based at Halsey Field (96 fixed-wing aircraft and 146 helicopters). The maximum mission (20+ years) based aircraft total is shown at 326 aircraft (103 fixed-wing aircraft and 223 helicopters).

5.3.11 Total Military Operations Summary

By combining the forecasts for the seven individual civil airports with military activity, total military operations for the San Diego County public-use airports are forecast to hold constant at 12,600 operations through 2030 (see **Table 5.3-8**).

Table 5.3-8
MILITARY OPERATIONS FORECASTS
San Diego County Public-Use Airports

	Calendar Year	Military Operations												
		SDIA	CRQ	MYF	SEE	SDM	RNM	OKB	L18	L08	L54	L90	L78	Total
Actual	1990	n.a.	2,289	262	489	23,750	n.a.				n.a.			26,790
	1995	5,041	3,130	478	166	14,767	n.a.				n.a.			23,582
	2000	770	7,962	181	74	4,488	n.a.	-	-	-	n.a.	-	-	13,475
	2001	1,504	4,767	306	71	7,553	n.a.	-	-	-	n.a.	-	-	14,201
	2002	1,253	1,966	300	224	10,624	n.a.	-	-	-	n.a.	-	-	14,367
	2003	543	1,923	220	457	8,034	n.a.	-	-	-	n.a.	-	-	11,177
	2004	230	1,537	322	249	7,013	604	-	-	-	n.a.	-	-	9,955
	2005	227	1,585	204	14	7,471	1,014	-	-	-	n.a.	-	-	10,515
	2006	193	1,571	1,245	8	7,696	1,622	-	-	-	n.a.	-	-	12,335
	2007	216	1,663	907	1,625	7,916	1,220	-	-	-	3,700	-	-	17,247
Estimate	2008	200	1,562	300	200	5,600	2,900	-	-	-	3,700	-	-	14,462
Forecast	2010	200	1,600	300	200	5,600	1,000	-	-	-	3,700	-	-	12,600
	2015	200	1,600	300	200	5,600	1,000	-	-	-	3,700	-	-	12,600
	2020	200	1,600	300	200	5,600	1,000	-	-	-	3,700	-	-	12,600
	2025	200	1,600	300	200	5,600	1,000	-	-	-	3,700	-	-	12,600
	2030	200	1,600	300	200	5,600	1,000	-	-	-	3,700	-	-	12,600
	Average Annual Growth Rate:													
	1990-2000	n.a.	13.3%	-3.6%	-17.2%	-15.3%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-6.6%
	2000-2007	-16.6%	-20.0%	25.9%	55.5%	8.4%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3.6%
	2007-2010	-2.5%	-1.3%	-30.8%	-50.3%	-10.9%	-6.4%	n.a.	n.a.	n.a.	0.0%	n.a.	n.a.	-9.9%
	2010-2020	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	n.a.	n.a.	n.a.	0.0%	n.a.	n.a.	0.0%
	2020-2030	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	n.a.	n.a.	n.a.	0.0%	n.a.	n.a.	0.0%
	2007-2030	-0.3%	-0.2%	-4.7%	-8.7%	-1.5%	-0.9%	n.a.	n.a.	n.a.	0.0%	n.a.	n.a.	-1.4%

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Note: Miramar, Camp Pendleton, Imperial Beach and Halsey Field military airports are not included due to lack of data.
Sources: FAA, ATADS; San Diego County, ALUCP; Landrum & Brown analysis

Legend:

SDIA – San Diego International Airport
CRQ – McClellan-Palomar Airport
MYF – Montgomery Field
SEE – Gillespie Field
SDM – Brown Field Municipal Airport
RNM – Ramona Airport
OKB – Oceanside Municipal Airport
L18 – Fallbrook Community Airpark
L08 – Borrego Valley Airport
L54 – Agua Caliente Airport
L90 – Ocotillo Airport
L78 – Jacumba Airport

5.4 Total Activity Summary by Airport

This section provides a summary of the forecasts of enplaned passengers, cargo tonnage, and aircraft operations for each of the 12 public-use airports and the four military airports in San Diego County.

5.4.1 San Diego International Airport (SDIA)

Table 5.4-1 presents the baseline passenger enplanements and total operations forecasts for SDIA based on the August 2008 *Destination Lindbergh, The Ultimate Build-out, Aviation Activity Forecast*. According to the baseline forecast, passenger enplanements are projected to grow at an average annual rate of 1.9 percent from 2007 to 2030. Total annual operations are projected to grow at an average annual rate of 1.3 percent from 2007 to 2030.

Table 5.4-1
BASELINE PASSENGER ENPLANEMENTS AND TOTAL OPERATIONS FORECAST
San Diego International Airport (SDIA)

	Calendar Year	Passenger Enplanements	Number of Operations				
			Air Carrier	Commuter	AT & GA	Military	Total
Actual	2007	9,172,966	165,193	40,433	23,645	216	229,486
Estimate	2008	9,264,200	170,000	36,400	21,500	200	228,100
Forecast	2010	9,286,400	162,700	34,400	22,500	200	219,800
	2015	10,163,600	188,300	17,900	25,400	200	231,800
	2020	11,351,300	210,500	16,300	27,600	200	254,600
	2025	12,650,400	234,700	16,100	29,300	200	280,300
	2030	14,106,700	261,900	15,700	32,000	200	309,800
	Average Annual Growth Rate:						
	2007-2010	0.4%	-0.5%	-5.2%	-1.6%	-2.5%	-1.4%
	2010-2020	2.0%	2.6%	-7.2%	2.1%	0.0%	1.5%
	2020-2030	2.2%	2.2%	-0.4%	1.5%	0.0%	2.0%
	2007-2030	1.9%	2.0%	-4.0%	1.3%	-0.3%	1.3%

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Source: *Destination Lindbergh, The Ultimate Build-out, Aviation Activity Forecast*, Draft August 2008

Table 5.4-2 presents the high forecast for comparison purposes. Under this scenario, enplanements are forecast to increase to 15.5 million and total operations are projected to increase to 363,400 in 2030.

Table 5.4-2
HIGH SCENARIO PASSENGER ENPLANEMENTS AND TOTAL OPERATIONS FORECAST
San Diego International Airport (SDIA)

	Calendar	Passenger	Number of Operations				
	Year	Enplanements	Air Carrier	Commuter	AT & GA	Military	Total
Actual	2007	9,172,966	165,193	40,433	23,645	216	229,486
Estimate	2008	9,265,123	170,000	36,400	21,500	200	228,100
Forecast	2010	9,950,300	181,200	37,000	22,700	200	241,100
	2015	11,054,600	215,000	19,500	26,500	200	261,200
	2020	12,397,600	241,700	17,800	30,900	200	290,600
	2025	13,869,700	271,000	17,700	36,100	200	325,000
	2030	15,521,800	303,800	17,300	42,100	200	363,400
	Average Annual Growth Rate:						
	2007-2010	2.7%	3.1%	-2.9%	-1.3%	-2.5%	1.7%
	2010-2020	2.2%	2.9%	-7.1%	3.1%	0.0%	1.9%
	2020-2030	2.3%	2.3%	-0.3%	3.1%	0.0%	2.3%
	2007-2030	2.3%	2.7%	-3.6%	2.5%	-0.3%	2.0%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[RASP ATADS History.xls]16 Airports
Source: *Destination Lindbergh, The Ultimate Build-out, Aviation Activity Forecast*, Draft August 2008

5.4.2 McClellan-Palomar Airport (CRQ)

Two forecast scenarios were developed for this study, a baseline scenario and a high scenario. According to the baseline scenario (see **Table 5.4-3**), passenger enplanements are projected to return to the 50,000 level experienced historically and then remain flat through 2030. Total annual operations under the baseline forecast are projected to grow at an average annual rate of 1.0 percent from 2007 to 2030.

Table 5.4-4 presents the high scenario forecast for McClellan-Palomar. The high scenario assumes airfield improvements are made so that the airport can accommodate regional jets without constraints, improving the ability of the airport to achieve new air service. Based on the high scenario, passenger enplanements are projected to grow at an average annual rate of 10.1 percent from 2007 to 2030. Total annual operations are projected to grow at an average annual growth of 1.2 percent from 2007 to 2030.

Table 5.4-3
BASELINE SCENARIO PASSENGER ENPLANEMENTS AND TOTAL OPERATIONS FORECAST
McClellan-Palomar Airport (CRQ)

	Calendar Year	Passenger Enplanements	Number of Operations			
			Commuter	AT & GA	Military	Total
Actual	2007	46,909	5,318	205,042	1,663	212,023
Estimate	2008	36,500	4,700	194,700	1,600	201,000
Forecast	2010	50,000	5,600	201,700	1,600	208,900
	2015	50,000	3,100	214,500	1,600	219,200
	2020	50,000	3,100	229,100	1,600	233,800
	2025	50,000	3,100	244,900	1,600	249,600
	2030	50,000	3,100	264,000	1,600	268,700
	Average Annual Growth Rate:					
	2007-2010	2.1%	1.7%	-0.5%	-1.3%	-0.5%
	2010-2020	0.0%	-5.7%	1.3%	0.0%	1.1%
	2020-2030	0.0%	0.0%	1.4%	0.0%	1.4%
	2007-2030	0.3%	-2.3%	1.1%	-0.2%	1.0%

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Sources: FAA, Air Carrier Activity Information System (ACAIS); FAA, Schedule T-100; *Official Airline Guide*; FAA, ATADS; Landrum & Brown analysis

Table 5.4-4
HIGH SCENARIO PASSENGER ENPLANEMENTS AND OPERATIONS FORECAST
McClellan-Palomar Airport (CRQ)

	Calendar Year	Passenger Enplanements	Number of Operations			
			Commuter	AT & GA	Military	Total
Actual	2007	46,909	5,318	205,042	1,663	212,023
Estimate	2008	36,500	4,700	194,700	1,600	201,000
Forecast	2010	50,000	5,600	201,700	1,600	208,900
	2015	222,600	9,900	214,500	1,600	226,000
	2020	400,000	14,300	229,100	1,600	245,000
	2025	412,900	14,300	244,900	1,600	260,800
	2030	426,200	14,300	264,000	1,600	279,900
	Average Annual Growth Rate:					
	2007-2010	2.1%	1.7%	-0.5%	-1.3%	-0.5%
	2010-2020	23.1%	9.8%	1.3%	0.0%	1.6%
	2020-2030	0.6%	0.0%	1.4%	0.0%	1.3%
	2007-2030	10.1%	4.4%	1.1%	-0.2%	1.2%

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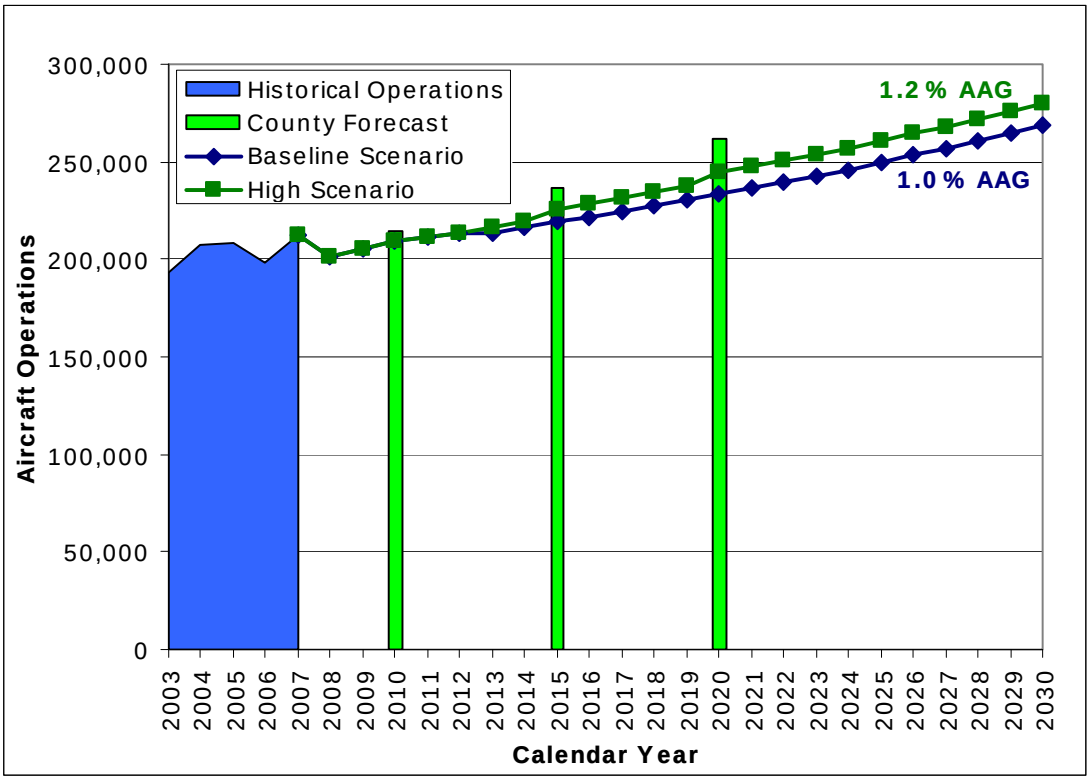
Sources: FAA, Air Carrier Activity Information System (ACAIS); FAA, Schedule T-100; *Official Airline Guide*; FAA, ATADS; Landrum & Brown analysis

Figure 5.4-1 demonstrates a comparison of the total operations baseline and high scenario forecasts with the forecast provided by the County of San Diego. The County forecast projects higher growth from 2007 to 2020 (1.6 percent annually) than the RASP forecasts over the same time period (0.8 percent annual growth in the baseline forecast and 1.1 percent annual growth in the high scenario).

Figure 5.4-1
TOTAL OPERATIONS FORECAST COMPARISON
McClellan-Palomar Airport (CRQ)



H:\SAN San Diego RASP\[CRQ Passengers.xls]Enpax
Sources: San Diego County, Department of Public Works; Landrum & Brown analysis

5.4.3 Montgomery Field Airport (MYF)

Table 5.4-5 presents the operations forecasts for Montgomery Field. Total annual operations are projected to grow from 222,492 operations in 2007 to 271,800 operations in 2030, an average annual growth rate of 0.9 percent.

Table 5.4-5
Operations Forecast
Montgomery Field Airport (MYF)

	Calendar Year	Number of Operations AT & GA	Military	Total
Actual	2007	221,585	907	222,492
Estimate	2008	246,800	300	247,100
Forecast	2010	250,100	300	250,400
	2015	250,600	300	250,900
	2020	255,400	300	255,700
	2025	262,400	300	262,700
	2030	271,500	300	271,800
	Average Annual Growth Rate:			
	2007-2010	4.1%	-30.8%	4.0%
	2010-2020	0.2%	0.0%	0.2%
	2020-2030	0.6%	0.0%	0.6%
	2007-2030	0.9%	-4.7%	0.9%

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Sources: FAA, ATADS; Landrum & Brown analysis

5.4.4 Gillespie Field Airport (SEE)

Table 5.4-6 presents the unconstrained baseline and high scenario operations forecast for Gillespie Field. The Gillespie forecasts were obtained from the September 2008 *Unconstrained Gillespie Field Aviation Activity Forecasts*, which was prepared as part of a Master Plan Update. Total annual operations are projected to grow at an average annual growth rate of 2.0 percent from 2007 to 2030, reaching 461,000 operations in 2030 under the baseline scenario. The high scenario projects that total operations will reach 489,400 in 2030 (2.2 percent average annual growth).

5.4.5 Brown Field Municipal Airport (SDM)

Table 5.4-7 presents the baseline and high scenario operations forecasts for Brown Field. Total annual operations are projected to grow at an average annual growth rate of 0.8 percent from 2007 to 2030, reaching 175,900 in 2030 under the baseline scenario. The high scenario results in 2.9 percent average annual growth in total operations through 2030.

Table 5.4-6
OPERATIONS FORECAST
Gillespie Field Airport (SEE)

	Calendar	Operations - Baseline			Operations - High Scenario		
	Year	AT & GA	Military	Total	AT & GA	Military	Total
Actual	2007	294,027	1,625	295,652	294,027	1,625	295,652
Estimate	2008	261,900	200	262,100	271,000	200	271,200
Forecast	2010	266,000	200	266,200	290,600	200	290,800
	2015	277,900	200	278,100	339,600	200	339,800
	2020	314,800	200	315,000	388,600	200	388,800
	2025	376,100	200	376,300	437,600	200	437,800
	2030	460,800	200	461,000	489,400	200	489,600
	Average Annual Growth Rate:						
	2007-2010	-3.3%	-50.3%	-3.4%	-0.4%	-50.3%	-0.6%
	2010-2020	1.7%	0.0%	1.7%	2.9%	0.0%	2.9%
	2020-2030	3.9%	0.0%	3.9%	2.3%	0.0%	2.3%
	2007-2030	2.0%	-8.7%	2.0%	2.2%	-8.7%	2.2%

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Sources: *Unconstrained Gillespie Field Aviation Activity Forecasts Master Plan,* September 2008*;* FAA, ATADS; Landrum & Brown analysis

Table 5.4-7
OPERATIONS FORECAST
Brown Field Municipal Airport (SDM)

	Calendar	Operations - Baseline			Operations - High Scenario		
	Year	AT & GA	Military	Total	AT & GA	Military	Total
Actual	2007	137,745	7,916	145,661	137,745	7,916	145,661
Estimate	2008	115,200	5,600	120,800	115,200	5,600	120,800
Forecast	2010	120,900	5,600	126,500	120,900	5,600	126,500
	2015	130,200	5,600	135,800	194,400	5,600	200,000
	2020	142,100	5,600	147,700	229,900	5,600	235,500
	2025	155,700	5,600	161,300	251,900	5,600	257,500
	2030	170,300	5,600	175,900	275,900	5,600	281,500
	Average Annual Growth Rate:						
	2007-2010	-4.3%	-10.9%	-4.6%	-4.3%	-10.9%	-4.6%
	2010-2020	1.6%	0.0%	1.6%	6.6%	0.0%	6.4%
	2020-2030	1.8%	0.0%	1.8%	1.8%	0.0%	1.8%
	2007-2030	0.9%	-1.5%	0.8%	3.1%	-1.5%	2.9%

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Sources: FAA, ATADS; Landrum & Brown analysis

5.4.6 Ramona Airport (RNM)

Table 5.4-8 presents the baseline and high scenario operations forecasts for Ramona Airport. Total annual operations are projected to decline at an average annual rate of 5.6 percent from 2007 to 2010 and then grow at an average annual rate of 1.7 percent from 2010 to 2030 under the baseline scenario. As with the baseline scenario, total operations under the high scenario are forecast to decline through 2010. Growth is expected to then be higher in the post 2010 time period, averaging 2.8 percent annually due to the proposed development at Ramona. This results in 242,100 total operations in 2030 in the high scenario.

Table 5.4-8
Operations Forecast
Ramona Airport (RNM)

	Calendar	Operations - Baseline			Operations - High Scenario		
	Year	AT & GA	Military	Total	AT & GA	Military	Total
Actual	2007	163,479	1,220	164,699	163,479	1,220	164,699
Estimate	2008	125,500	2,900	128,400	125,500	2,900	128,400
Forecast	2010	137,100	1,000	138,100	137,100	1,000	138,100
	2015	157,800	1,000	158,800	157,800	1,000	158,800
	2020	166,400	1,000	167,400	207,000	1,000	208,000
	2025	177,800	1,000	178,800	222,200	1,000	223,200
	2030	192,000	1,000	193,000	241,100	1,000	242,100
	Average Annual Growth Rate:						
	2007-2010	-5.7%	-6.4%	-5.7%	-5.7%	-6.4%	-5.7%
	2010-2020	2.0%	0.0%	1.9%	4.2%	0.0%	4.2%
	2020-2030	1.4%	0.0%	1.4%	1.5%	0.0%	1.5%
	2007-2030	0.7%	-0.9%	0.7%	1.7%	-0.9%	1.7%

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Sources: FAA, ATADS; Landrum & Brown analysis

5.4.7 Oceanside Municipal Airport (OKB)

Table 5.4-9 presents the baseline and high scenario operations forecasts for Oceanside Municipal Airport. Total annual operations are projected to decline at an average annual rate of 5.3 percent from 2007 to 2010 and then grow at an average rate of 2.1 percent annually from 2010 to 2030 according to the baseline scenario. This results in total aircraft operations reaching 18,200 in 2030. Total operations are projected to reach 36,500 in 2030 under the high scenario (4.2 percent average annual growth).

Table 5.4-9
Operations Forecast
Oceanside Municipal Airport (OKB)

	Calendar Year	General Aviation Operations	
		Baseline	High Scenario
Actual	2007	14,128	14,128
Estimate	2008	11,600	11,600
Forecast	2010	12,000	14,400
	2015	14,500	26,600
	2020	15,500	31,000
	2025	16,600	33,400
	2030	18,200	36,500
	Average Annual Growth Rate:		
	2007-2010	-5.3%	0.6%
	2010-2020	2.6%	8.0%
	2020-2030	1.6%	1.6%
	2007-2030	1.1%	4.2%

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Sources: City of Oceanside; FAA, TAF 2007; Landrum & Brown analysis

5.4.8 Fallbrook Community Airpark (L18)

Table 5.4-10 presents the operations forecasts for Fallbrook Community Airpark. Total annual operations are projected to grow at an average annual rate of 1.1 percent from 2007 to 2030, reaching 43,200 operations in 2030.

Table 5.4-10
Operations Forecast
Fallbrook Community Airpark (L18)

	Calendar Year	General Aviation Operations
Actual	2007	33,286
Estimate	2008	22,302
Forecast	2010	23,000
	2015	34,300
	2020	36,700
	2025	39,600
	2030	43,200
	Average Annual Growth Rate:	
	2007-2010	-11.6%
	2010-2020	4.8%
	2020-2030	1.6%
	2007-2030	1.1%

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Sources: *Fallbrook Community Airpark Master Plan*, March 2006; Landrum & Brown analysis

5.4.9 Borrego Valley Airport (L08)

Table 5.4-11 presents the operations forecasts for Borrego Valley. Total annual operations are projected to remain flat at 22,400 operations through 2030.

Table 5.4-11
Operations Forecast
Borrego Valley Airport (L08)

	Calendar Year	AT & GA Operations
Actual	2007	26,251
Forecast	2010	22,400
	2015	22,400
	2020	22,400
	2025	22,400
	2030	22,400
	Average Annual Growth Rate:	
	2007-2010	-5.2%
	2010-2020	0.0%
	2020-2030	0.0%
	2007-2030	-0.7%

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Sources: FAA, TAF 2007; County of San Diego, Department of Public works; Landrum & Brown analysis

5.4.10 Agua Caliente Airport (L54)

Table 5.4-12 presents the operations forecasts for Agua Caliente. Total annual operations are projected to remain flat at the 2007 level of 4,400 through 2030.

5.4.11 Ocotillo Airport (L90)

Table 5.4-13 presents the operations forecasts for Ocotillo. Total annual operations are projected to remain flat at 800 through 2030.

Table 5.4-12
Operations Forecast
Agua Caliente Airport (L54)

	Calendar Year	Number of Operations AT & GA	Military	Total
Actual	2007	700	3,700	4,400
Forecast	2010	700	3,700	4,400
	2015	700	3,700	4,400
	2020	700	3,700	4,400
	2025	700	3,700	4,400
	2030	700	3,700	4,400
	Average Annual Growth Rate:			
	2007-2010	0.0%	0.0%	0.0%
	2010-2020	0.0%	0.0%	0.0%
	2020-2030	0.0%	0.0%	0.0%
	2007-2030	0.0%	0.0%	0.0%

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Sources: County of San Diego, Department of Public works; Landrum & Brown analysis

Table 5.4-13
Operations Forecast
Ocotillo Airport (L90)

	Calendar Year	AT & GA Operations
Actual	2007	800
Forecast	2010	800
	2015	800
	2020	800
	2025	800
	2030	800
	Average Annual Growth Rate:	
	2007-2010	0.0%
	2010-2020	0.0%
	2020-2030	0.0%
	2007-2030	0.0%

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Sources: County of San Diego, Department of Public works; Landrum & Brown analysis

5.4.12 Jacumba Airport (L78)

Table 5.4-14 presents the operations forecasts for Jacumba. Total annual operations are projected to remain at 325 operations through 2030.

Table 5.4-14
Operations Forecast
Jacumba Airport (L78)

	Calendar Year	AT & GA Operations
Actual	2007	325
Forecast	2010	325
	2015	325
	2020	325
	2025	325
	2030	325
	Average Annual Growth Rate:	
	2007-2010	0.0%
	2010-2020	0.0%
	2020-2030	0.0%
	2007-2030	0.0%

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Sources: County of San Diego, Department of Public works; Landrum & Brown analysis

5.4.13 Marine Corps Air Station Miramar (NKX)

Table 5.4-15 presents the operations forecasts for MCAS Miramar based on the *Marine Corp Air Station Miramar AICUZ Update*, 2005. Total annual operations are projected to grow at an average annual rate of 0.8 percent from 2007 to 2030, reaching the maximum mission level of 112,200 operations in 2030.

Table 5.4-15
Operations Forecast
Marine Corps Air Station Miramar (NKX)

	Calendar Year	Military Operations
Actual	2003	91,556
Forecast	2010	96,500
	2015	100,200
	2020	104,100
	2025	108,100
	2030	112,200
	Average Annual Growth Rate:	
	2010-2020	0.8%
	2020-2030	0.8%
	2003-2030	0.8%

H:\SAN San Diego RASP\Source Data\FAA\ATADS\[RASP ATADS History.xls]16 Airports
Sources: Marine Corps Air Station Miramar AICUZ Revised March 2005; Landrum & Brown analysis

5.4.14 Marine Corps Air Station Camp Pendleton (NFG)

According to the June 2008 ALUCP for MCAS Camp Pendleton, there were 131,744 helicopter operations in 1994. The ALUCP provided a future operations number of 176,194.

5.4.15 Imperial Beach Naval Outlying Field (NRS)

According to the March 2005 ALUCP for NRS, there were 250,000 annual helicopter operations at NRS in 2003. The ALUCP shows a maximum mission operations total of 308,000.

5.4.16 North Island Naval Air Station (Halsey Field) (NZY)

According to the March 2005 ALUCP for Halsey Field, there were 139,700 operations in 1981. The maximum mission (20+ years) is 189,000 annual operations.

5.5 Total Activity Summary

The commercial, air taxi, general aviation, and military forecasts for the 12 individual public-use airports were combined (see **Table 5.5-1** and **Table 5.5-2**) to show the county-wide operations forecasts for the baseline and high scenarios. Under the baseline scenario, total aircraft operations for the San Diego County public-use airports are forecast to increase from 1.35 million operations in 2007 to 1.77 million in 2030. This represents an average annual growth rate of 1.2 percent from 2007 to 2030. The high scenario forecast results in 1.8 percent average annual growth with operations at the San Diego County public-use airports increasing to 2.04 million in 2030. In general, the baseline forecast for each airport is the most likely to occur. In the case of Brown Field, Ramona, and Oceanside, whether the baseline or high forecast is preferred depends on whether all of the proposed development occurs as planned and is filled to capacity.

Table 5.5-1
BASELINE SCENARIO TOTAL AIRCRAFT OPERATIONS FORECAST
San Diego County Public-Use Airports

	Calendar	Total Operations - Baseline												
	Year	SDIA	CRQ	MYF	SEE	SDM	RNM	OKB	L18	L08	L54	L90	L78	Total
Actual	1990	n.a.	255,369	269,623	188,533	212,293	110,168	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,035,986
	1995	226,994	204,191	227,847	184,291	125,034	133,778	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,102,135
	2000	206,889	255,096	251,645	187,751	112,800	132,407	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,146,588
	2001	206,988	221,898	215,189	175,392	123,761	110,413	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,053,641
	2002	206,380	204,289	245,643	183,145	140,822	106,429	n.a.	20,896	n.a.	n.a.	n.a.	n.a.	1,107,604
	2003	202,577	193,336	216,571	180,749	105,327	95,328	n.a.	18,292	19,554	452	246	1,626	1,034,058
	2004	208,311	207,866	229,673	208,159	104,387	121,875	11,233	22,728	18,697	500	250	1,500	1,135,179
	2005	219,866	208,768	245,234	242,179	116,898	140,900	11,609	36,124	26,454	650	405	325	1,249,412
	2006	220,620	198,590	232,698	278,388	135,485	155,120	14,352	32,586	20,853	650	405	325	1,290,072
	2007	229,486	212,023	222,492	295,652	145,661	164,699	14,128	33,286	26,251	4,400	800	325	1,349,203
Estimate	2008	228,100	201,000	247,000	262,100	120,800	128,400	11,600	22,302	22,400	4,400	800	325	1,249,227
Forecast	2010	219,800	208,900	250,300	266,200	126,500	138,100	12,000	23,000	22,400	4,400	800	325	1,272,725
	2015	231,800	219,200	251,000	278,100	135,800	158,800	14,500	34,300	22,400	4,400	800	325	1,351,425
	2020	254,600	233,800	255,600	315,000	147,700	167,400	15,500	36,700	22,400	4,400	800	325	1,454,225
	2025	280,300	249,600	262,700	376,300	161,300	178,800	16,600	39,600	22,400	4,400	800	325	1,593,125
	2030	309,800	268,700	271,800	461,000	175,900	193,000	18,200	43,200	22,400	4,400	800	325	1,769,525
	Average Annual Growth Rate:													
	1990-2000	n.a.	0.0%	-0.7%	0.0%	-6.1%	1.9%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.0%
	2000-2007	1.5%	-2.6%	-1.7%	6.7%	3.7%	3.2%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.4%
	2007-2010	-1.4%	-0.5%	4.0%	-3.4%	-4.6%	-5.7%	-5.3%	-11.6%	-5.2%	0.0%	0.0%	0.0%	-1.9%
	2010-2020	1.5%	1.1%	0.2%	1.7%	1.6%	1.9%	2.6%	4.8%	0.0%	0.0%	0.0%	0.0%	1.3%
	2020-2030	2.0%	1.4%	0.6%	3.9%	1.8%	1.4%	1.6%	1.6%	0.0%	0.0%	0.0%	0.0%	2.0%
	2007-2030	1.3%	1.0%	0.9%	2.0%	0.8%	0.7%	1.1%	1.1%	-0.7%	0.0%	0.0%	0.0%	1.2%

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Note: Miramar, Camp Pendleton, Imperial Beach and Halsey Field military airports are not included in this table due to lack of data.
Source: Landrum & Brown analysis.

Legend:

SDIA – San Diego International Airport
CRQ – McClellan-Palomar Airport
MYF – Montgomery Field
SEE – Gillespie Field
SDM – Brown Field Municipal Airport
RNM – Ramona Airport
OKB – Oceanside Municipal Airport
L18 – Fallbrook Community Airpark
L08 – Borrego Valley Airport
L54 – Agua Caliente Airport
L90 – Ocotillo Airport
L78 – Jacumba Airport

Table 5.5-2
HIGH SCENARIO TOTAL AIRCRAFT OPERATIONS FORECAST
San Diego County Public-Use Airports

	Calendar Year	Total Operations - High Scenario												
		SDIA	CRQ	MYF	SEE	SDM	RNM	OKB	L18	L08	L54	L90	L78	Total
Actual	1990	n.a.	255,369	269,623	188,533	212,293	110,168	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,035,986
	1995	226,994	204,191	227,847	184,291	125,034	133,778	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,102,135
	2000	206,889	255,096	251,645	187,751	112,800	132,407	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,146,588
	2001	206,988	221,898	215,189	175,392	123,761	110,413	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,053,641
	2002	206,380	204,289	245,643	183,145	140,822	106,429	n.a.	20,896	n.a.	n.a.	n.a.	n.a.	1,107,604
	2003	202,577	193,336	216,571	180,749	105,327	95,328	n.a.	18,292	19,554	452	246	1,626	1,034,058
	2004	208,311	207,866	229,673	208,159	104,387	121,875	11,233	22,728	18,697	500	250	1,500	1,135,179
	2005	219,866	208,768	245,234	242,179	116,898	140,900	11,609	36,124	26,454	650	405	325	1,249,412
	2006	220,620	198,590	232,698	278,388	135,485	155,120	14,352	32,586	20,853	650	405	325	1,290,072
	2007	229,486	212,023	222,492	295,652	145,661	164,699	14,128	33,286	26,251	4,400	800	325	1,349,203
Estimate	2008	228,100	201,000	247,000	262,100	120,800	128,400	11,600	22,302	22,400	4,400	800	325	1,249,227
Forecast	2010	241,100	208,900	250,300	290,800	126,500	138,100	14,400	23,000	22,400	4,400	800	325	1,321,025
	2015	261,200	226,000	251,000	339,800	200,000	158,800	26,600	34,300	22,400	4,400	800	325	1,525,625
	2020	290,600	245,000	255,600	388,800	235,500	208,000	31,000	36,700	22,400	4,400	800	325	1,719,125
	2025	325,000	260,800	262,700	437,800	257,500	223,200	33,400	39,600	22,400	4,400	800	325	1,867,925
	2030	363,400	279,900	271,800	489,600	281,500	242,100	36,500	43,200	22,400	4,400	800	325	2,035,925
	Average Annual Growth Rate:													
	1990-2000	n.a.	0.0%	-0.7%	0.0%	-6.1%	1.9%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.0%
	2000-2007	1.5%	-2.6%	-1.7%	6.7%	3.7%	3.2%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.4%
	2007-2010	1.7%	-0.5%	4.0%	-0.6%	-4.6%	-5.7%	0.6%	-11.6%	-5.2%	0.0%	0.0%	0.0%	-0.7%
	2010-2020	1.9%	1.6%	0.2%	2.9%	6.4%	4.2%	8.0%	4.8%	0.0%	0.0%	0.0%	0.0%	2.7%
	2020-2030	2.3%	1.3%	0.6%	2.3%	1.8%	1.5%	1.6%	1.6%	0.0%	0.0%	0.0%	0.0%	1.7%
	2007-2030	2.0%	1.2%	0.9%	2.2%	2.9%	1.7%	4.2%	1.1%	-0.7%	0.0%	0.0%	0.0%	1.8%

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